



## **2011 San Francisco CMP Technical Appendices**

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# **APPENDIX 1:**

## **MTC Guidance**

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Attachment A  
Resolution No. 3000  
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**GUIDANCE FOR CONSISTENCY OF  
CONGESTION MANAGEMENT PROGRAMS  
WITH THE REGIONAL TRANSPORTATION PLAN**

Metropolitan Transportation Commission

June 2011

**GUIDANCE FOR CONSISTENCY OF  
CONGESTION MANAGEMENT PROGRAMS  
WITH THE REGIONAL TRANSPORTATION PLAN**

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# **I. INTRODUCTION**

## **A. Purpose of This Guidance**

The Congestion Management Program (CMP) statutes establish specific requirements for the content and development process for CMPs, for the relationship between CMPs and the metropolitan planning process, for CMA monitoring and other responsibilities, and for the responsibilities of MTC as the regional transportation agency. CMPs are not required in a county if a majority of local governments and the Board of Supervisors adopt resolutions electing to be exempt from this requirement (AB 2419 (Bowler) Chapter 293, Statutes of 1996). This Guidance is for those counties that prepare a CMP in accordance with state statutes. For counties that opt out of preparing a CMP, MTC will directly work with the appropriate county agencies to establish project priorities for funding.

CMP statutes also specify particular responsibilities involving CMPs for the regional transportation agency, in the Bay Area, MTC. These responsibilities include review of the consistency of the CMPs with the RTP, evaluation of the consistency and compatibility of the CMPs in the Bay Area, and inclusion of the CMP projects in the Regional Transportation Improvement Program (RTIP).

The purpose of this guidance is to focus on the relationship of the CMPs to the regional planning process and MTC's role in determining consistency of CMPs with the Regional Transportation Plan (RTP).

## **B. Legislative Requirement for Congestion Management Programs**

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

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

### **C. The Role of CMPs in the Metropolitan Planning Process**

CMPs play a role in the countywide and regional transportation planning processes:

- CMPs can identify specific near term projects to implement the longer-range vision established in a countywide plan.
- Through CMPs, the transportation investment priorities of the multiple jurisdictions in each county can be addressed in a countywide context.
- CMPs establish a link between local land use decision making and the transportation planning process.
- CMPs are a building block for the federally required Congestion Management Program.<sup>1</sup>

## **II. MTC's ROLE and RESPONSIBILITIES**

### **A. MTC's Responsibilities regarding CMPs**

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

*“The regional agency shall evaluate the consistency between the program (i.e., the CMP) and the regional transportation plans required pursuant to Section 65080. In the case of a multicounty regional transportation planning agency, that agency shall evaluate the consistency and compatibility of the programs within the region. (Section 65089.2 (a))*

*The regional agency, upon finding that the program is consistent, shall incorporate the program into the regional transportation improvement program as provided for in Section 65082. If the regional agency finds the program is inconsistent, it may exclude any project in the congestion management program from inclusion in the regional transportation improvement program. (Section 65089.2(b))*

*It is the intent of the Legislature that the regional agency, when its boundaries include areas in more than one county, should resolve inconsistencies and mediate disputes which arise between agencies related to congestion management programs adopted for those areas.” Section 65089.2.(d)(1))*

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<sup>1</sup> The federal Congestion Management Program referred to here is a federal requirement that is separate from the county level congestion management programs.

## **B. The Regional Transportation Plan (RTP) Regulatory Setting and Goals**

### Federal Requirements

The primary federal requirements regarding RTPs are addressed in the metropolitan transportation planning rules in Title 23 of the Code of Federal Regulations (CFR) Part 450 and 500 and Title 49 CFR Part 613. These federal regulations have been updated to reflect the metropolitan transportation planning regulations called out in SAFETEA-LU. These requirements call for the metropolitan transportation planning process to include the development of a transportation plan addressing no less than a 20-year planning horizon. The transportation plan shall include both long-range and short-range strategies/actions that lead to the development of an integrated multimodal transportation system to facilitate the safe and efficient movement of people and goods in addressing current and future transportation demand.

According to these requirements, the metropolitan transportation planning process shall be continuous, cooperative, and comprehensive, and provide for consideration and implementation of projects, strategies, and services that will address the factors listed below:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- Increase the safety of the transportation system for motorized and non-motorized users;
- Increase accessibility and mobility of people and freight;
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- Promote efficient system management and operation; and
- Emphasize the preservation of the existing transportation system.

### State Requirements

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

The regional agencies, particularly MTC, the Association of Bay Area Governments, the Bay Area Air Quality Management District, and the Bay Conservation and Development Commission, will also address new requirements flowing from California's 2008 Senate Bill 375 (Steinberg), which calls on each of the state's 18 metropolitan areas to reduce greenhouse gas (GHG) emissions from cars and light trucks. The mechanism for achieving these reductions will be a Sustainable Communities Strategy (SCS) that promotes compact, mixed-use commercial and

residential development that is walkable and bikable and close to mass transit, jobs, schools, shopping, parks, recreation and other amenities. The next RTP will be developed in an integrative process with the SCS, with the Bay Area's regional and local partners.

#### State Regional Transportation Plan (RTP) Guidelines

The RTP Guidelines adopted by the California Transportation Commission (CTC) state that the CTC cannot program projects that are not identified in the RTP.

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

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

The Transportation 2035 Plan serves all the specific planning purposes outlined in the CTC RTP Guidelines

### **C. Consistency Findings**

MTC's findings for the consistency of CMPs focus on five areas:

- Goals and objectives established in the RTP,
- Consistency of the system definition with adjoining counties,
- Consistency with federal and state air quality plans,
- Consistency with the MTC travel demand modeling database and methodologies; and
- RTP financial assumptions.

#### **1) Goals and objectives established in the RTP**

The Transportation 2035 Plan represents the adopted transportation policy and action statement of how the Bay Area will approach the region's transportation needs over the next 25 years. It was prepared by MTC in partnership with the Association of Bay Area Governments (ABAG), the Bay Area Air Quality Management District (BAAQMD), and the Bay Conservation and Development Commission (BCDC) and in collaboration with Caltrans, the nine county-level Congestion Management Agencies (CMAs) or substitute agencies, over two dozen Bay Area transit operators, and numerous transportation stakeholders and the public.

At the core of the proposed Transportation 2035 Plan is a vision of what the Bay Area transportation network should look like in 2035. The purpose and goals of the



Transportation 2035 Plan provide the framework for this vision. The purpose of the Transportation 2035 Plan is to encourage and promote the safe and efficient management, operation and development of a regional intermodal transportation system that will serve the mobility needs of people and goods. The Commission adopted a Statement of Vision for the Transportation 2035 Plan which can be read in full in the RTP.

The RTP includes the following principles: Economy, Environment and Equity, referred to as the Three Es, and associated goals. The plan goals are not entirely confined to any one of the Three Es, but rather cut across and reinforce all three principles; these are further explained in the RTP.

### **Three E Principles and Goals**

<i>Principle</i>	<i>Goal</i>
<b>Economy</b>	Maintenance & Safety Reliability Efficient Freight Travel Security & Emergency Management
<b>Environment</b>	Clean Air Climate Protection
<b>Equity</b>	Equitable Access Livable Communities

Further, the RTP incorporates a set of performance objectives for each of the Three E principles as quantifiable measures against which progress may be evaluated, as shown below:

**RTP Performance Objectives**

<i>Principle</i>	<i>Goal</i>	<i>Performance Objectives</i>
<b>Economy</b>	Maintenance & Safety	<p><i>Maintenance</i></p> <ul style="list-style-type: none"> <li>• Maintain local road pavement condition index (PCI) of 75 or greater for local streets and roads</li> <li>• State highway distressed pavement condition lane-miles not to exceed 10% of total system</li> <li>• Achieve an average age for all transit asset types that is no more than 50% of their useful life</li> <li>• Increase the average number of miles between service calls for transit service in the region to 8,000 miles</li> </ul> <p><i>Collisions/Fatalities</i></p> <ul style="list-style-type: none"> <li>• Reduce fatalities from motor-vehicle collisions by 15 percent from today by 2035</li> <li>• Reduce bicycle and pedestrian fatalities attributed to motor vehicle collisions by 25 percent each from 2000 by 2035</li> <li>• Reduce bicycle and pedestrian injuries attributed to motor vehicle collisions by 25 percent each from 2000 by 2035</li> </ul>
	Reliability; Efficient Freight Travel; Security & Emergency Management	<ul style="list-style-type: none"> <li>• Reduce per-capita delay by 20 percent from today by 2035</li> </ul>

<b>Environment</b>	Clean Air; Climate Protection	<ul style="list-style-type: none"> <li>• Reduce daily per-capita vehicle miles traveled (VMT) by 10 percent from today by 2035</li> <li>• Reduce emissions of finer particulates (PM<sub>2.5</sub>) by 10 percent from today by 2035</li> <li>• Reduce emissions of coarse particulates (PM<sub>10</sub>) by 45 percent from today by 2035</li> <li>• Reduce carbon dioxide (CO<sub>2</sub>) emissions to 40 percent below 1990 levels by 2035</li> </ul>
<b>Equity</b>	Equitable Access; Livable Communities	<ul style="list-style-type: none"> <li>• Decrease by 10 percent the combined share of low-income and lower-middle income residents' household income consumed by transportation and housing</li> </ul>

Note that these performance objectives do not constitute legal mandates, nor do they constitute thresholds of significance under CEQA.

The region is now engaged in developing a detailed 25-year transportation investment and land-use strategy for 2015-2040 that will be the region's first plan to incorporate an SCS. The SCS, scheduled for adoption in 2013, will be an integrated long-range land use and transportation plan for the nine-county region. The CMPs would be strengthened by acknowledging the SCS process, along with the regional FOCUS approach, and specifically recognizing the planned and potential Priority Development Areas (PDAs) and Priority Conservation Areas (PCAs) within the county.

Regional Transit Expansion Program

The Regional Transit Expansion Program – adopted by the Commission as Resolution 3434 – calls for a nearly \$12 billion investment in new rail and bus projects that will improve mobility and enhance connectivity for residents throughout the Bay Area. MTC has adopted a Transportation and Land Use Platform that calls for supportive land use plans and policies to support transit extensions in Res. 3434. Further, MTC has adopted a Transit Oriented Development Policy, as part of Res. 3434, that established specific housing thresholds for these extensions, requires station area plans and establishes corridor working groups. These regional policies and specific projects within the county should be recognized in the CMP (attached as Appendix C).

## **2) Consistency of the system definition with adjoining counties**

The CMP statutes require that the CMA designate a system of highways and roadways which shall be subject to the CMP requirements. Consistency requires the regional continuity of the CMP designated system for facilities that cross county borders.

## **3) Consistency with pertinent Air Quality Plans, as incorporated in the RTP**

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

A reference to the lists of federal and state TCMs is provided in Table 1 of Attachment B. The lists may be updated from time to time to reflect changes in the list of TCMs.

In particular, TCMs that require local implementation should be identified in the CMP, specifically in the CIP. If needed MTC will indicate TCMs that need to be emphasized to help achieve federal and state air quality standards.

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

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

It should also be noted that starting on January 1, 2010, cities, counties and air districts have the option of enforcing the State Parking Cash-Out statutes (Section 43845 of the Health and Safety Code), as per SB 728 (Lowenthal ). This provides

local jurisdictions with another tool to craft their own approaches to support multi-modal transportation systems, address congestion and green house gasses.

#### **4) Consistency with the MTC Travel Demand Modeling Databases and Methodologies**

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

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

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

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

The Checklist is included in Attachment B, and addresses:

- Demographic/econometric forecasts
- Pricing assumptions
- Network assumptions
- Travel demand methodologies; and,
- Traffic assignment methodologies

#### **4) Level of Service Methodology**

CMP statutory requirements regarding level of service are as follows

*“Level of service (LOS) shall be measured by Circular 212, by the most recent version of the Highway Capacity Manual, or by a uniform methodology adopted by the agency that is consistent with the Highway Capacity Manual.”*  
(Section 65089 (b))

The most recently adopted version of the Highway Capacity Manual is HCM2010, which significantly enhances how engineers and planners assess the traffic and environmental effects of highway projects by:

- providing an integrated multimodal approach to the analysis and evaluation of urban streets from the points of view of automobile drivers, transit passengers, bicyclists, and pedestrians;
- addressing the proper application of micro-simulation analysis and the evaluation of those results; and
- examining active traffic management in relation to both demand and capacity.

Use of HCM2010 is encouraged, especially for the integrated multimodal approach to analysis of streets for various users.

#### **6) RTP Financial Requirements and Projections**

Under the federal SAFETEA, the actions, programs and projects in the RTP must be financially deliverable within reasonable estimates of public and private resources. While CMPs are not required by legislation to be financially constrained, recognition of financial constraints, including the costs for maintaining, rehabilitating, and operating the existing multi-modal system and the status of specific major projects, will strengthen the consistency and linkage between the regional planning process and the CMP. The CMA may submit project proposals for consideration by MTC in developing future financially constrained RTPs.

#### **D. Consistency and Compatibility of the Programs within the Region**

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

To the extent useful and necessary, MTC will identify differences in methodologies and approaches between the CMPs on such issues as performance measures and land use impacts.

#### **E. Incorporation of the CMP Projects into the RTIP**

State transportation statutes require that the MTC, in partnership with the State and local agencies, develop the Regional Transportation Improvement Program (RTIP) on a biennial cycle. The RTIP is the regional proposal for State and federal funding, adopted by MTC and provided to the California Transportation Commission (CTC) for the development of the State Transportation Improvement Program (STIP). In

1997, SB 45 (Statutes 1997, Chapter 622) significantly revised State transportation funding policies, delegating project selection and delivery responsibilities for a major portion of funding to regions and counties. Subsequent changes to state law (AB 2928 – Statutes 2000, Chapter 91) made the RTIP a five-year proposal of specific projects, developed for specific fund sources and programs. The RTIP is required to be consistent with the RTP that is currently in effect. The RTP is revised periodically.

The CMP statutes establish a direct linkage between CMPs that have been found to be consistent with the RTP, and the RTIP. MTC will review the projects in the Capital Improvement Program (CIP) of the CMP for consistency with the RTP. MTC's consistency findings for projects in the CMPs will be limited to those projects that are included in the RTP, and do not extend to other projects that may be included in the CMP. Some projects may be found consistent with a program category in the RTP. MTC, upon finding that the CMP is consistent with the RTP, shall incorporate the program into the RTIP, subject to specific programming and funding requirements. If MTC finds the program inconsistent, it may exclude any project in the program from inclusion in the RTIP. Since the RTIP must be consistent with the RTP, projects that are not consistent with the RTP will not be included in the RTIP. MTC may include certain projects or programs in the RTIP which are not in a CIP, but which are in the RTP. In addition, SB 45 requires projects included in the Interregional Transportation Improvement Program (ITIP) to be consistent with the RTP.

MTC will establish funding targets for specific funds, based upon the fund estimate as adopted by the California Transportation Commission (CTC). Project proposals can only be included in the RTIP within these funding bid targets. MTC will also provide information on other relevant RTIP processes and requirements, including coordination between city, county, and transit districts for project applications, schedule, evaluations and recommendations of project submittals, as appropriate for the RTIP.

As per CTC's Guidelines, MTC will evaluate the projects in the RTIP based on specific performance indicators and measures as established in the RTP, and provide this evaluation to the CTC along with the RTIP. CMAs are encouraged to consider the performance measures in Transportation 2035 when developing specific project proposals for the RTIP; more details will be provided in the RTIP Policies and Procedures document, adopted by MTC for the development of the RTIP.

### **III. CMP PREPARATION AND SUBMITTAL TO MTC**

#### **A. CMP Preparation**

If prepared, the CMP shall be developed by the CMA in consultation with, and with the cooperation of, MTC, transportation providers, local governments, Caltrans, and the BAAQMD, and adopted at a noticed public hearing of the CMA. As established in SB 45, the RTIP is scheduled to be adopted by December 15 of each odd numbered

year. If circumstances arise that change this schedule, MTC will work with the CMAs and substitute agencies in determining an appropriate schedule and mechanism to provide input to the RTIP.

### **B. Regional Coordination**

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

### **C. Submittal to MTC**

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

### **D. MTC Consistency Findings for CMPs**

MTC will evaluate consistency of the CMP every two years with the RTP that is in effect when the CMP is submitted; for the 2011 CMP the RTP in effect will be Transportation 2035. MTC will evaluate the consistency of draft CMPs when received, based upon the areas specified in this guidance, and will provide staff comments of any significant concerns. MTC can only make final consistency findings on CMPs that have been officially adopted.



## **Appendix A: Federal and State Transportation Control Measures (TCMs)**

### **Federal TCMs:**

For a list and description of current Federal TCMs, see the “Federal Ozone Attainment Plan for the 1-Hour National Ozone Standard” adopted Oct. 24, 2001, and “2004 Revision to the California State Implementation Plan for Carbon Monoxide, Updated Maintenance Plan for Ten Federal Planning Areas,” approved January 30, 2006.

The current Federal TCMs have been fully implemented. Refer to the "Final Transportation-Air Quality Conformity Analysis Transportation 2035 Plan and 2011 Transportation Improvement Program" at [http://www.mtc.ca.gov/funding/tip/Final\\_AQ\\_conformity\\_Analysis.pdf](http://www.mtc.ca.gov/funding/tip/Final_AQ_conformity_Analysis.pdf) (page 15) for the specific implementation steps in the advancement of these Federal TCMs.

### **State TCMs:**

For a list and description of current State TCMs, see “Bay Area 2010 Ozone Strategy,” or subsequent revisions as adopted by the Bay Area Air Quality Management.

### **CMAQ Evaluation and Assessment Report:**

MTC participated in a federal evaluation and assessment of the direct and indirect impacts of a representative sample of Congestion Mitigation and Air Quality (CMAQ) – funded projects on air quality and congestion levels. The study estimated the impact of these projects on emissions of transportation related pollutants, including carbon monoxide (CO), ozone precursors – oxides of nitrogen (NO<sub>x</sub>), volatile organic compounds (VOCs), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and carbon dioxide (CO<sub>2</sub>) for information purposes, as well as on traffic congestion and mobility. There is also additional analysis of the selected set of CMAQ-funded projects to estimate of the cost effectiveness at reducing emissions of each pollutant. This report may be of interest to CMAs; it is available on line at:

<http://www.fhwa.dot.gov/environment/cmaqpgs/safetealu1808/index.htm>  
or from the MTC/ABAG Library.

## **Appendix B: MTC Checklist for Modeling Consistency for CMPs**

### **Overall approach**

MTC's goal is to establish regionally consistent model "sets" for application by MTC and the CMAs. In the winter of 2010/2011, MTC replaced the modeling tool – named *BAYCAST-90* – that had been in place, with relatively minor modifications, for the past two decades with a more sophisticated, so-called "activity-based" model – named *Travel Model One*. This change required a broad re-thinking of these guidelines as they now require a framework in which trip-based and activity-based models can be aligned. The approach remains the same: a checklist is used to adjudge consistency across model components.

### **Checklist**

This checklist guides the CMAs through their model development and consistency review process by providing an inventory of specific products to be developed and submitted to MTC, and by describing standard practices and assumptions.

Because of the complexity of the topic, the checklist may need additional detailed information to explain differences in methodologies or data. Significant differences will be resolved between MTC and the CMA, taking advantage of the Regional Model Working Group. Standard formats for model comparisons will be developed by MTC for use in future guidelines.

### **Incremental updates**

The CMA forecasts must be updated every two years to be consistent with MTC's forecasts. Alternative approaches to fully re-running the entire model are available, including incremental approaches through the application of factors to demographic inputs and/or trip tables. Similarly, the horizon year must be the same as the TIP horizon year. However, interpolation and extrapolation approaches are acceptable, with appropriate attention to network changes. These alternatives to re-running the entire model should be discussed with MTC before the CMP is adopted by the CMA.

### **Defining the MTC model sets**

The MTC model sets referred to below are defined as those in use on December 31st of the year preceding the CMP update.

## Key Assumptions

Please report the following information.

### A. General approach:

Discuss the general approach to travel demand modeling by the CMA and the CMA model's relationship to either *BAYCAST-90* or *Travel Model One*.

**PRODUCT 1:** Description of the above.

### B. Demographic/economic/land use forecasts:

Both base and forecast year demographic/economic/land use ("land use") inputs must be consistent – though not identical – to the census tract-level data provided by ABAG. Specifically, if CMAs wish to reallocate land use within their own county (or counties), they must consult with the affected city (or cities) as well as with ABAG and MTC. Further, the resulting deviation in the subject county (or counties) should be no greater than plus or minus one percent from the county-level totals provided by ABAG for the following variables: population, households, jobs, and employed residents. Outside the subject county (or counties), the land use variables in the travel analysis zones used by the county must match either ABAG's estimates exactly when aggregated/disaggregated to census tracts or the county-in-question's estimates per the revision process noted above (e.g. Santa Clara county could use the revised estimates San Mateo developed through consultation with local cities, ABAG, and MTC). Forecast year demand estimates should use either the *Projections 2009* or Current Regional Plans land use data, both generated by ABAG. CMAs may also analyze additional, alternative land use scenarios that will not be subject to consistency review.

**PRODUCTS:** 2) A statement establishing that the differences between key ABAG land use variables and those of the CMA do not differ by more than one percent at the county level for the subject county. A statement establishing that no differences exist at the census-tract-level outside the county between the ABAG forecast or the ABAG/CMA revised forecast.

3) A table comparing the ABAG land use estimates with the CMA land use estimates by county for population, households, jobs, and employed residents for both the base year and the horizon year.

4) If land use estimates within the CMA's county are modified from ABAG's projections, agendas, discussion summaries, and action items from each meeting held with cities, MTC, and/or ABAG at which the redistribution was discussed, as well as before/after census-tract-level data summaries and maps.

### C. Pricing Assumptions:

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

**PRODUCT 5:** Table comparing the assumed automobile operating cost, key transit fares, and bridge tolls to MTC's values for the horizon year.

**D. Network Assumptions:**

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

**PRODUCT 6:** Statement establishing satisfaction of the above.

**E. Automobile ownership:**

Use *Travel Model One* automobile ownership models or forecasts, *BAYCAST-90* automobile ownership models, or submit alternative models to MTC for review and comment.

**PRODUCT 7:** County-level table comparing estimates of households by automobile ownership level (zero, one, two or more automobiles) to MTC's estimates for the horizon year.

**F. Tour/trip generation:**

Use *Travel Model One* tour generation models or forecasts, *BAYCAST-90* trip generation models, or submit alternative models to MTC for review and comment.

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

**G. Activity/trip location:**

Use *Travel Model One* activity location models or forecasts, *BAYCAST-90* trip distribution models, or submit alternative models to MTC for review and comment.

**PRODUCTS:** 9) Region-level tables comparing estimates of average trip distance by tour/trip purpose to MTC's estimates for the horizon year.

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

**H. Travel mode choice:**

Use *Travel Model One* models or forecasts, *BAYCAST-90* models, or submit alternative models to MTC for review and comment.

**PRODUCT 11:** Region-level tables comparing travel mode share estimates by tour/trip purpose to MTC's estimates for the horizon year.

**I. Traffic Assignment**

Use *Travel Model One* or *BAYCAST-90* models, or submit alternative models to MTC for review and comment.

**PRODUCTS:** 12) Region-level, time-period-specific comparison of vehicle miles traveled and vehicle hours traveled estimates by facility type to MTC's estimates for the horizon year.

13) Region-level, time-period-specific comparison of estimated average speed on freeways and all other facilities, separately, to MTC's estimates for the horizon year.

Alternatively, CMAs may elect to utilize MTC zone-to-zone vehicle trip tables, adding network and zonal details within the county as appropriate, and then re-run the assignment. In this case, only Products 12 and 13 are applicable.

**Appendix C: MTC's Regional Transit Expansion Program of Projects (MTC Resolution 3434) TOD Policy**

*Res. No. 3434, TOD Policy (Appendix D-2), revised Sept 24, 2007, is shown below; other associated Res. 3434 appendices are available upon request from the MTC library.*

Date: July 27, 2005  
W.I.: 12110  
Referred by: POC  
Revised:  
10/24/07-C

Attachment D-2  
Resolution No. 3434  
Page 1 of 7

**MTC RESOLUTION 3434 TOD POLICY  
FOR REGIONAL TRANSIT EXPANSION PROJECTS**

**1. Purpose**

The San Francisco Bay Area—widely recognized for its beauty and innovation—is projected to grow by almost two million people and one and a half million jobs by 2030. This presents a daunting challenge to the sustainability and the quality of life in the region. Where and how we accommodate this future growth, in particular where people live and work, will help determine how effectively the transportation system can handle this growth.

The more people who live, work and study in close proximity to public transit stations and corridors, the more likely they are to use the transit systems, and more transit riders means fewer vehicles competing for valuable road space. The policy also provides support for a growing market demand for more vibrant, walkable and transit convenient lifestyles by stimulating the construction of at least 42,000 new housing units along the region's major new transit corridors and will help to contribute to a forecasted 59% increase in transit ridership by the year 2030.

This TOD policy addresses multiple goals: improving the cost-effectiveness of regional investments in new transit expansions, easing the Bay Area's chronic housing shortage, creating vibrant new communities, and helping preserve regional open space. The policy ensures that transportation agencies, local jurisdictions, members of the public and the private sector work together to create development patterns that are more supportive of transit.

There are three key elements of the regional TOD policy:

- (a) Corridor-level thresholds to quantify appropriate minimum levels of development around transit stations along new corridors;

(b) Local station area plans that address future land use changes, station access needs, circulation improvements, pedestrian-friendly design, and other key features in a transit-oriented development; and

(c) Corridor working groups that bring together CMAs, city and county planning staff, transit agencies, and other key stakeholders to define expectations, timelines, roles and responsibilities for key stages of the transit project development process.

## 2. TOD Policy Application

The TOD policy only applies to physical transit extensions funded in Resolution 3434 (see Table 1). The policy applies to any physical transit extension project with regional discretionary funds, regardless of level of funding. Resolution 3434 investments that only entail level of service improvements or other enhancements without physically extending the system are not subject to the TOD policy requirements. Single station extensions to international airports are not subject to the TOD policy due to the infeasibility of housing development.

**TABLE 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)?
<p>BART East Contra Costa Rail Extension (eBART)</p> <p>(a) Phase 1 Pittsburg to Antioch</p> <p>(b) Future phases</p>	BART/CCTA	Commuter Rail	No No	Yes No
<p>BART – Downtown Fremont to San Jose / Santa Clara</p> <p>(a) Fremont to Berryessa</p> <p>(b) Berryessa to San Jose/Santa Clara</p>	(a) BART (b) VTA	BART extension	No No	Not yet determined; planning is underway Not yet determined
AC Transit Berkeley/Oakland/San Leandro Bus Rapid Transit: Phase 1	AC Transit	Bus Rapid Transit	Yes	Yes
Caltrain Downtown Extension/Rebuilt Transbay Terminal	TJPA	Commuter Rail	Yes	Yes
MUNI Third Street LRT Project Phase 2 – New Central Subway	MUNI	Light Rail	Yes	Yes
<p>Sonoma-Marin Rail</p> <p>(a) Phase 1 downtown San Rafael to downtown Santa Rosa</p> <p>(b) Future phases tbd</p>	SMART	Commuter Rail	No	Not yet determined; planning is underway Not yet being planned



Dumbarton Rail	SMTA, ACCMA, VTA, ACTIA, Capitol Corridor	Commuter Rail	No	Not yet determined; planning is underway
Expanded Ferry Service to Berkeley, Alameda/Oakland/Harbor Bay, Hercules, Richmond, and South San Francisco; and other improvements.	WTA	Ferry	No	Line specific

\* Ferry terminals where development is feasible shall meet a housing threshold of 2500 units. MTC staff will make the determination of development feasibility on a case by case basis.

### 3. Definitions and Conditions of Funding

For purposes of this policy “regional discretionary funding” consists of the following sources identified in the Resolution 3434 funding plan:

FTA Section 5309- New Starts  
FTA Section 5309- Bus and Bus Facilities Discretionary  
FTA Section 5309- Rail Modernization  
Regional Measure 1- Rail (bridge tolls)  
Regional Measure 2 (bridge tolls)  
Interregional Transportation Improvement Program  
Interregional Transportation Improvement Program-Intercity rail  
Federal Ferryboat Discretionary  
AB 1171 (bridge tolls)  
CARB-Carl Moyer/AB434 (Bay Area Air Quality Management District)<sup>2</sup>

These regional funds may be programmed and allocated for environmental and design related work, in preparation for addressing the requirements of the TOD policy. Regional funds may be programmed and allocated for right-of-way acquisition in advance of meeting all requirements in the policy, if land preservation for TOD or project delivery purposes is essential. No regional funds will be programmed and allocated for construction until the requirements of this policy have been satisfied. See Table 2 for a more detailed overview of the planning process.

### 4. Corridor-Level Thresholds

Each transit extension project funded in Resolution 3434 must plan for a minimum number of housing units along the corridor. These corridor-level thresholds vary by mode of transit, with more capital-intensive modes requiring higher numbers of housing units (see Table 3). The corridor thresholds have been developed based on potential for increased transit ridership, exemplary existing station sites in the Bay Area, local general plan data, predicted market demand for TOD-oriented housing in each county, and an independent analysis of feasible development potential in each transit corridor.

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<sup>2</sup> The Carl Moyer funds and AB 434 funds are controlled directly by the California Air Resources Board and Bay Area Air Management District. Res. 3434 identifies these funds for the Caltrain electrification project, which is not subject to the TOD policy.

**TABLE 2  
REGIONAL TOD POLICY IMPLEMENTATION PROCESS  
FOR TRANSIT EXTENSION PROJECTS**



Transit Agency Action	City Action	MTC/CMA/ABAG Action
<p>All parties in corridors that do not currently meet thresholds (see Table 1) establish Corridor Working Group to address corridor threshold. Conduct initial corridor performance evaluation, initiate station area planning.</p> <p style="text-align: center;"></p>		
Environmental Review/ Preliminary Engineering /Right-of-Way	Conduct Station Area Plans	Coordination of corridor working group, funding of station area plans
<p><i>Step 1 Threshold Check: the combination of new Station Area Plans and existing development patterns exceeds corridor housing thresholds .</i></p>		
Final Design	Adopt Station Area Plans. Revise general plan policies and zoning, environmental reviews	Regional and county agencies assist local jurisdictions in implementing station area plans
<p><i>Step 2 Threshold Check: (a) local policies adopted for station areas; (b) implementation mechanisms in place per adopted Station Area Plan by the time Final Design is completed.</i></p> <p style="text-align: center;"></p>		
Construction	Implementation (financing, MOUs) Solicit development	TLC planning and capital funding, HIP funding

TABLE 3: CORRIDOR THRESHOLDS  
HOUSING UNITS – AVERAGE PER STATION AREA

Project Type	BART	Light Rail	Bus Rapid Transit	Commuter Rail	Ferry
Threshold					
Housing Threshold	3,850	3,300	2,750	2,200	2,500*

*Each corridor is evaluated for the Housing Threshold. For example, a four station commuter rail extension (including the existing end-of-the-line station) would be required to meet a corridor-level threshold of 8,800 housing units.*

*Threshold figures above are an average per station area for all modes except ferries based on both existing land uses and planned development within a half mile of all stations. New below market rate housing is provided a 50% bonus towards meeting housing unit threshold.*

*\* Ferry terminals where development is feasible shall meet a housing threshold of 2500 units. MTC staff will make the determination of development feasibility on a case by case basis.*

Meeting the corridor level thresholds requires that within a half mile of all stations, a combination of existing land uses and planned land uses meets or exceeds the overall corridor threshold for housing (listed in Table 3);

Physical transit extension projects that do not currently meet the corridor thresholds with development that is already built will receive the highest priority for the award of MTC's Station Area Planning Grants.

To be counted toward the threshold, planned land uses must be adopted through general plans, and the appropriate implementation processes must be put in place, such as zoning codes. General plan language alone without supportive implementation policies, such as zoning, is not sufficient for the purposes of this policy. Ideally, planned land uses will be formally adopted through a specific plan (or equivalent), zoning codes and general plan amendments along with an accompanying programmatic Environmental Impact Report (EIR) as part of the overall station area planning process. Minimum densities will be used in the calculations to assess achievement of the thresholds.

An existing end station is included as part of the transit corridor for the purposes of calculating the corridor thresholds; optional stations will not be included in calculating the corridor thresholds.

New below-market housing units will receive a 50 percent bonus toward meeting the corridor threshold (i.e. one planned below-market housing unit counts for 1.5 housing units for the purposes of meeting the corridor threshold. Below market for the purposes of the Resolution 3434 TOD policy is affordable to 60% of area median income for rental units and 100% of area median income for owner-occupied units);

The local jurisdictions in each corridor will determine job and housing placement, type, density, and design.

The Corridor Working Groups are encouraged to plan for a level of housing that will significantly exceed the housing unit thresholds stated here during the planning process. This will ensure that the Housing Unit Threshold is exceeded corridor-wide and that the ridership potential from TOD is maximized.

### 5. Station Area Plans

Each proposed physical transit extension project seeking funding through Resolution 3434 must demonstrate that the thresholds for the corridor are met through existing development and adopted station area plans that commit local jurisdictions to a level of housing that meets the threshold. This requirement may be met by existing station area plans accompanied by appropriate zoning and implementation mechanisms. If new station area plans are needed to meet the corridor threshold, MTC will assist in funding the plans. The Station Area Plans shall be conducted by local governments in coordination with transit agencies, Association of Bay Area Governments (ABAG), MTC and the Congestion Management Agencies (CMAs).

Station Area Plans are opportunities to define vibrant mixed use, accessible transit villages and quality transit-oriented development – places where people will want to live, work, shop and spend time. These plans should incorporate mixed-use developments, including new housing, neighborhood serving retail, employment, schools, day care centers, parks and other amenities to serve the local community.

At a minimum, Station Area Plans will define both the land use plan for the area as well as the policies—zoning, design standards, parking policies, etc.—for implementation. The plans shall at a minimum include the following elements:

Current and proposed land use by type of use and density within the ½ mile radius, with a clear identification of the number of existing and planned housing units and jobs;  
Station access and circulation plans for motorized, non-motorized and transit access. The station area plan should clearly identify any barriers for pedestrian, bicycle and wheelchair access to the station from surrounding neighborhoods (e.g., freeways, railroad tracks, arterials with inadequate pedestrian crossings), and should propose strategies that will remove these barriers and maximize the number of residents and employees that can access the station by these means. The station area and transit village public spaces shall be made accessible to persons with disabilities.

Estimates of transit riders walking from the half mile station area to the transit station to use transit;

Transit village design policies and standards, including mixed use developments and pedestrian-scaled block size, to promote the livability and walkability of the station area; TOD-oriented parking demand and parking requirements for station area land uses, including consideration of pricing and provisions for shared parking; Implementation plan for the station area plan, including local policies required for development per the plan, market demand for the proposed development, potential phasing of development and demand analysis for proposed development.

The Station Area Plans shall be conducted according to the guidelines established in MTC's Station Area Planning Manual.

## 6. Corridor Working Groups

The goal of the Corridor Working Groups is to create a more coordinated approach to planning for transit-oriented development along Resolution 3434 transit corridors. Each of the transit extensions subject to the corridor threshold process, as identified in Table 1, will need a Corridor Working Group, unless the current level of development already meets the corridor threshold. Many of the corridors already have a transit project working group that may be adjusted to take on this role. The Corridor Working Group shall be coordinated by the relevant CMAs, and will include the sponsoring transit agency, the local jurisdictions in the corridor, and representatives from ABAG, MTC, and other parties as appropriate.

The Corridor Working Group will assess whether the planned level of development satisfies the corridor threshold as defined for the mode, and assist in addressing any deficit in meeting the threshold by working to identify opportunities and strategies at the local level. This will include the key task of distributing the required housing units to each of the affected station sites within the defined corridor. The Corridor Working Group will continue with corridor evaluation, station area planning, and any necessary refinements to station locations until the corridor threshold is met and supporting Station Area Plans are adopted by the local jurisdictions.

MTC will confirm that each corridor meets the housing threshold prior to the release of regional discretionary funds for construction of the transit project.

## 7. Review of the TOD Policy

MTC staff will conduct a review of the TOD policy and its application to each of the affected Resolution 3434 corridors, and present findings to the Commission, within 12 months of the adoption of the TOD policy.

# **APPENDIX 2:**

## **CMP Legislation**

# CALIFORNIA GOVERNMENT CODE

## SECTION 65088-65089.10

65088. The Legislature finds and declares all of the following:

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

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

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

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

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

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

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

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

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

65088.1(a) Unless the context requires otherwise, "regional agency" means the agency responsible for preparation of the regional transportation improvement program.

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

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

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

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

(f) "Parking cash-out program" means an employer-funded program



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

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

(g) "Infill opportunity zone" means a specific area designated by a city or county, pursuant to subdivision (c) of Section 65088.4, zoned for new compact residential or mixed use development within one-third mile of a site with an existing or future rail transit station, a ferry terminal served by either a bus or rail transit service, an intersection of at least two major bus routes, or within 300 feet of a bus rapid transit corridor, in counties with a population over 400,000. The mixed use development zoning shall consist of three or more land uses that facilitate significant human interaction in close proximity, with residential use as the primary land use supported by other land uses such as office, hotel, health care, hospital, entertainment, restaurant, retail, and service uses. The transit service shall have maximum scheduled headways of 15 minutes for at least 5 hours per day. A qualifying future rail station shall have broken ground on construction of the station and programmed operational funds to provide maximum scheduled headways of 15 minutes for at least 5 hours per day.

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

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

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

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

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

(m) "Bus rapid transit corridor" means a bus service that includes

at least four of the following attributes:

- (1) Coordination with land use planning.
- (2) Exclusive right-of-way.
- (3) Improved passenger boarding facilities.
- (4) Limited stops.
- (5) Passenger boarding at the same height as the bus.
- (6) Prepaid fares.
- (7) Real-time passenger information.
- (8) Traffic priority at intersections.
- (9) Signal priority.
- (10) Unique vehicles.

65088.3 This chapter does not apply in a county in which a majority of local governments, collectively comprised of the city councils and the county board of supervisors, which in total also represent a majority of the population in the county, each adopt resolutions electing to be exempt from the congestion management program.

65088.4 (a) It is the intent of the Legislature to balance the need for level of service standards for traffic with the need to build infill housing and mixed use commercial developments within walking distance of mass transit facilities, downtowns, and town centers and to provide greater flexibility to local governments to balance these sometimes competing needs.

(b) Notwithstanding any other provision of law, level of service standards described in Section 65089 shall not apply to the streets and highways within an infill opportunity zone. The city or county shall do either of the following:

(1) Include these streets and highways under an alternative areawide level of service standard or multimodal composite or personal level of service standard that takes into account both of the following:

(A) The broader benefits of regional traffic congestion reduction by siting new residential development within walking distance of, and no more than one-third mile from, mass transit stations, shops, and services, in a manner that reduces the need for long vehicle commutes and improves the jobs-housing balance.

(B) Increased use of alternative transportation modes, such as mass transit, bicycling, and walking.

(2) Approve a list of flexible level of service mitigation options that includes roadway expansion and investments in alternate modes of transportation that may include, but are not limited to, transit infrastructure, pedestrian infrastructure, and ridesharing, vanpool, or shuttle programs.

(c) The city or county may designate an infill opportunity zone by adopting a resolution after determining that the infill opportunity zone is consistent with the general plan and any applicable specific plan. A city or county may not designate an infill opportunity zone after December 31, 2009.

(d) The city or county in which the infill opportunity zone is located shall ensure that a development project shall be completed within the infill opportunity zone not more than four years after the date on which the city or county adopted its resolution pursuant to subdivision (c). If no development project is completed within an infill opportunity zone by the time limit imposed by this subdivision, the infill opportunity zone shall automatically

terminate.

65088.5 Congestion management programs, if prepared by county transportation commissions and transportation authorities created pursuant to Division 12 (commencing with Section 130000) of the Public Utilities Code, shall be used by the regional transportation planning agency to meet federal requirements for a congestion management system, and shall be incorporated into the congestion management system.

65089 (a) A congestion management program shall be developed, adopted, and updated biennially, consistent with the schedule for adopting and updating the regional transportation improvement program, for every county that includes an urbanized area, and shall include every city and the county. The program shall be adopted at a noticed public hearing of the agency. The program shall be developed in consultation with, and with the cooperation of, the transportation planning agency, regional transportation providers, local governments, the department, and the air pollution control district or the air quality management district, either by the county transportation commission, or by another public agency, as designated by resolutions adopted by the county board of supervisors and the city councils of a majority of the cities representing a majority of the population in the incorporated area of the county.

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

(1) (A) Traffic level of service standards established for a system of highways and roadways designated by the agency. The highway and roadway system shall include at a minimum all state highways and principal arterials. No highway or roadway designated as a part of the system shall be removed from the system. All new state highways and principal arterials shall be designated as part of the system, except when it is within an infill opportunity zone. Level of service (LOS) shall be measured by Circular 212, by the most recent version of the Highway Capacity Manual, or by a uniform methodology adopted by the agency that is consistent with the Highway Capacity Manual. The determination as to whether an alternative method is consistent with the Highway Capacity Manual shall be made by the regional agency, except that the department instead shall make this determination if either (i) the regional agency is also the agency, as those terms are defined in Section 65088.1, or (ii) the department is responsible for preparing the regional transportation improvement plan for the county.

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

(2) A performance element that includes performance measures to evaluate current and future multimodal system performance for the movement of people and goods. At a minimum, these performance measures shall incorporate highway and roadway system performance, and measures established for the frequency and routing of public transit, and for the coordination of transit service provided by separate operators. These performance measures shall support mobility, air quality, land use, and economic objectives, and shall

be used in the development of the capital improvement program required pursuant to paragraph (5), deficiency plans required pursuant to Section 65089.4, and the land use analysis program required pursuant to paragraph (4).

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

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

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

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

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

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

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

65089.1 (a) For purposes of this section, "plan" means a trip reduction plan or a related or similar proposal submitted by an employer to a local public agency for adoption or approval that is designed to facilitate employee ridesharing, the use of public transit, and other means of travel that do not employ a single-occupant vehicle.

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

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

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

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

(f) This section shall not be interpreted to relieve any employer of the responsibility to prepare a plan that conforms with trip reduction goals specified in Division 26 (commencing with Section 39000) of the Health and Safety Code, or the Clean Air Act (42 U.S.C. Sec. 7401 et seq.).

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

65089.2 (a) Congestion management programs shall be submitted to

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

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

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

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

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

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

(e) At the request of the agency, a local jurisdiction that owns, or is responsible for operation of, a trip-generating facility in another county shall participate in the congestion management program of the county where the facility is located. If a dispute arises involving a local jurisdiction, the agency may request the regional agency to mediate the dispute through procedures pursuant to subdivision (d) of Section 65089.2. Failure to resolve the dispute does not invalidate the congestion management program.

65089.3 The agency shall monitor the implementation of all elements of the congestion management program. The department is responsible for data collection and analysis on state highways, unless the agency designates that responsibility to another entity. The agency may also assign data collection and analysis responsibilities to other owners and operators of facilities or services if the responsibilities are specified in its adopted program. The agency shall consult with the department and other

affected owners and operators in developing data collection and analysis procedures and schedules prior to program adoption. At least biennially, the agency shall determine if the county and cities are conforming to the congestion management program, including, but not limited to, all of the following:

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

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

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

65089.4 (a) A local jurisdiction shall prepare a deficiency plan when highway or roadway level of service standards are not maintained on segments or intersections of the designated system. The deficiency plan shall be adopted by the city or county at a noticed public hearing.

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

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

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

(A) Identification of the cause of the deficiency.

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

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

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

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

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

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

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

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

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

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

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

(1) Interregional travel.

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

(3) Freeway ramp metering.

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



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

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

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

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

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

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

65089.5 (a) If, pursuant to the monitoring provided for in Section 65089.3, the agency determines, following a noticed public hearing, that a city or county is not conforming with the requirements of the congestion management program, the agency shall notify the city or county in writing of the specific areas of nonconformance. If, within 90 days of the receipt of the written notice of nonconformance, the city or county has not come into conformance with the congestion management program, the governing body of the agency shall make a finding of nonconformance and shall submit the finding to the commission and to the Controller.

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

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

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

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

65089.6 Failure to complete or implement a congestion management program shall not give rise to a cause of action against a city or county for failing to conform with its general plan, unless the city or county incorporates the congestion management program into the circulation element of its general plan.

65089.7 A proposed development specified in a development agreement entered into prior to July 10, 1989, shall not be subject to any action taken to comply with this chapter, except actions required to be taken with respect to the trip reduction and travel demand element of a congestion management program pursuant to paragraph (3) of subdivision (b) of Section 65089.

65089.9 The study steering committee established pursuant to Section 6 of Chapter 444 of the Statutes of 1992 may designate at least two congestion management agencies to participate in a demonstration study comparing multimodal performance standards to highway level of service standards. The department shall make available, from existing resources, fifty thousand dollars (\$50,000) from the Transportation Planning and Development Account in the State Transportation Fund to fund each of the demonstration projects. The designated agencies shall submit a report to the Legislature not later than June 30, 1997, regarding the findings of each demonstration project.

65089.10 Any congestion management agency that is located in the Bay Area Air Quality Management District and receives funds pursuant to Section 44241 of the Health and Safety Code for the purpose of implementing paragraph (3) of subdivision (b) of Section 65089 shall ensure that those funds are expended as part of an overall program for improving air quality and for the purposes of this chapter.

# **APPENDIX 3:**

## **CMP Segments**

CMP NETWORK - ARTERIALS

Rationale for Segmentation

Street Name	Land Use	Speed Limit	Major Cross Street	Change In Volume	Free-way Ramp
<b>1st Street</b>					
Market-Harrison					
<b>3rd Street</b>					
Jamestown-Evans *		x	x		
Evans-China Basin		x			
China Basin-Market		x		x	
<b>4th Street</b>					
Market-Harrison					x
Harrison-3rd St					x
<b>5th Street</b>					
Market-Brannan					
<b>6th Street</b>					
Market-Brannan					
<b>7th Street</b>					
Brannan-Market					
<b>8th Street</b>					
Market-Bryant					
<b>9th Street</b>					
Brannan-Market					
<b>10th Street</b>					
Market-Brannan					
<b>19th Avenue/Park Presidio Blvd</b>					
U.S.101-Lake		x			
Lake-Lincoln		x	x		
Lincoln-Sloat			x		
Sloat-J.Serra			x		
<b>Alemanly Blvd</b>					
C & C limit-Lyell *		x			
Lyell-Bayshore		x			
<b>Army Street</b>					
Guerrero-Kansas *	x	x			x
Kansas-Bryant *					x
Bryant-3rd St.					x
<b>Bay Street</b>					
Van Ness-Embarcadero					
<b>Bayshore Blvd</b>					
Army-Industrial *			x		x
Industrial- C & C limit			x		x
<b>Beale/Davis</b>					
Clay-Mission					
<b>Brannan Street</b>					
Division-9th St					
6th St-5th St					
<b>Broadway</b>					
Gough-Larkin	x				

Street Name	Land Use	Speed Limit	Major Cross Street	Change In Volume	Free-way Ramp
Larkin-Powell (Tunnel)	x	x			
Powell-Montgomery		x			
Montgomery-Embarcadero			x		
Brotherhood Way					
J.Serra-Alemanay					
Bryant Street					
Division-4th St					x
4th St-Embarcadero					x
Bush Street					
Masonic-Gough	x				
Gough-Market *	x		x		
Castro/Divisadero Street					
Pine-Geary			x		
Geary-14th St	x		x		
14th St-Market	x		x		
Clay Street					
Kearny-Davis					
Columbus Avenue					
North Point-Greenwich				x	
Greenwich-Montgomery			x		
Drumm Street					
Washington-Market					
Duboce Avenue					
Market-Mission *	x				
Mission-Potrero	x				
The Embarcadero					
Townsend-North Point					
Evans Avenue					
Army-3rd St *					
Fell Street					
Gough-Laguna					x
Laguna-Stanyan					x
Franklin Street					
Market-Pine			x		
Pine-Lombard	x				
Fremont Street					
Harrison-Market *					
Fulton Street					
Masonic-Arguello		x	x		
Arguello-Park Presidio *		x	x		
Geary Blvd					
Market-Gough	x	x			
Gough-Arguello		x			
Arguello-25th Ave			x		
25th Ave-Great Hwy	x		x		

Street Name	Land Use	Speed Limit	Major Cross Street	Change In Volume	Free-way Ramp
<b>Geneva Avenue</b>					
Phelan-Cayuga	x				
Cayuga-Paris	x				
Paris-Santos	x				
<b>Golden Gate Avenue</b>					
Masonic-Franklin	x	x	x		
Franklin-Market	x	x	x		
<b>Gough Street</b>					
Pine-Geary			x		
Geary-Golden Gate *	x				
Golden Gate-Market	x				
<b>San Jose Avenue/Guerrero</b>					
Army-29th St	x	x			
29th St-Monterey Blvd					x
<b>Harrison Street</b>					
Embarcadero-1st St *					x
1st St-4th St					x
4th St-8th St					x
8th St-13th St					x
<b>Hayes Street</b>					
Market-Gough					
<b>Howard Street</b>					
Embarcadero-S.Van Ness					
<b>Junipero Serra Blvd</b>					
Sloat-19th Ave *		x	x		
19th Ave-Brotherhood Way			x		
Brotherhood-C & C limit			x		
<b>Kearny Street</b>					
Market-Columbus					
<b>King Street</b>					
6th St-Embarcadero					
<b>Lincoln Blvd/Kezar Drive</b>					
19th Ave-5th Ave	x				
5th Ave-Stanyan	x				
<b>Lombard Street</b>					
Francisco-Van Ness *					
<b>Main Street</b>					
Mission-Market					
<b>Market/Portola</b>					
Sloat-Santa Clara	x				
Santa Clara-Clipper *	Grade Change				
Clipper-Castro	x				
Castro-Guerrero	x				
Guerrero-Van Ness			x	x	
Van Ness-Drumm	x				

Street Name	Land Use	Speed Limit	Major Cross Street	Change In Volume	Free-way Ramp
<b>Masonic Avenue</b>					
Pine-Geary			X		
Geary-Page			X		
<b>Mission/Otis</b>					
Embarcadero-3rd St	X				
3rd St-9th St	X				
9th St-14th St	X				
14th St-Army *	X				
Army-Ocean *			X		
Ocean-Sickles	X				
<b>Montgomery Street</b>					
Broadway-Bush					
<b>North Point Street</b>					
Van Ness-Columbus			X		
Columbus-Embarcadero			X		
<b>O'Farrell Street</b>					
Gough-Mason *	X				
Mason-Market	X				
<b>Oak Street</b>					
Stanyan-Divisadero *	X		X		
Divisadero-Laguna	X		X		X
Laguna-Franklin					X
<b>Ocean Avenue</b>					
19th Ave-Miramar *	X				
Miramar-I-280	X				
<b>Pine Street</b>					
Market-Kearny	X				
Kearny-Leavenworth	X				
Leavenworth-Franklin	X				
Franklin-Presidio	X				
<b>Potrero Avenue</b>					
Division-21st St	X			X	
21st St-Army	X			X	
<b>Skyline Drive</b>					
Sloat-City & County limit					
<b>Sloat Boulevard</b>					
<b>Skyline-J.Serra</b>					
<b>Stanyan Street</b>					
Fulton-Turk					
<b>Sutter Street</b>					
Market-Mason *	X				
Mason-Gough	X				
Gough-Divisadero	X		X		
<b>Turk Street</b>					
Market-Hyde	X				
Hyde-Gough	X				

Street Name	Land Use	Speed Limit	Major Cross Street	Change In Volume	Free-way Ramp
Hyde-Gough	x				
Gough-Divisadero	x				
Divisadero-Stanyan			x		
<b>Van Ness Avenue</b>					
Lombard-Washington		Sig.	Syst.	Change	
Washington-GoldenGate Av *	x				
Golden Gate Ave-13th St *					x
13th St-Army					x
<b>Washington Street</b>					
<b>Kearny-Drumm</b>					
<b>West Portal Avenue</b>					
<b>Sloat-Ulloa</b>					

\* indicates change in segment boundary.



CMP NETWORK - FREEWAYS

Rationale for Segmentation

Freeway	Split	Off-ramp	On-ramp
<b>I-280</b>			
C & C limit- U.S. 101	x		
101/280 -6th/Brannan	x		
<b>U.S.101</b>			
C & C limit- I-280	x		
I-280- I-80	x		
I-80- Fell/Laguna	x		
<b>I-80</b>			
U.S. 101- Fremont		x	
Fremont- Treasure Island		x	

Table II  
Rationale for Changes to Arterial Segmentation  
Since 1991

Third Street	Eliminated Fairfax Street as a break point. Evans Avenue is the new break point because of the change in speed limit and because Evans is a major cross street.
Alemaný Boulevard	Lyell Street is a necessary break point because of a speed limit change.
Army Street (César Chávez)	Because of the size of the U.S. 101 interchange at Army Street circle, a break point was established on each side of it. One is at Kansas Street and a second is at Bryant Street.
Bayshore Boulevard	Industrial is a necessary break point because of nearby off and on-ramps.
Bush Street	Gough is the best divider to break Bush into two segments because land use changes occur at Gough and because it is a major cross street.
Duboce Avenue	Folsom Street was eliminated as a break point and replaced with Mission Street, because of the presence of on and off ramps to 101.
Evans Avenue and Fremont Street	The 1991 intermediate segment limits could not be justified and were eliminated (no apparent change in traffic flow conditions)
Fulton Street	Arguello was identified as an intermediate segment limit because it is a major cross street and because of a speed limit change.
Harrison Street	Eliminated 2nd Street and substituted First Street is the first break point because of the I-80 on-ramp.
Junipero Serra Boulevard	The first segment boundary is 19th Avenue instead of Holloway, as justified by the change in speed limit and also because 19th Avenue is a major cross street.
Lombard Street	Eliminated intermediate segment boundaries because land uses and traffic conditions are uniform along this street.
Market Street	Established a new segment boundary at Clipper because of a change in grade on each side of Clipper. Eliminated unjustified breaks at Danvers, Sanchez and Gough.
Mission Street	Eliminated intermediate boundaries between 14th and Army and between Army and Ocean to better reflect land use.
O'Farrell Street	Eliminated intermediate segment boundaries at Van Ness, Leavenworth and Taylor, which created segments too short for accurate measurement. Mason is the new break point because of land use changes.
Van Ness Avenue	Added Golden Gate Avenue as an intermediate segment boundary because of land use changes (start of the Civic Center area).



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January 10, 2007 REC'D JAN 12 2007

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Deputy Director for Planning  
San Francisco Transportation Authority  
100 Van Ness Avenue, 26<sup>th</sup> floor  
San Francisco, CA 94102

RE: San Francisco CMP Segment Modification

Dear Tilly:

Thank you for the letter dated January 4, 2007 regarding CMP monitoring on Brannan Street. After reviewing your letter and the CMP monitoring map for the area, MTC supports the proposed changes to make monitoring on Brannan in this area consistent with SFCTA's standard CMP segment definitions while continuing to monitor Brannan Street consistent with overall CMP guidance.





MTC expects monitoring on Brannan will take place on Brannan from Division to 6<sup>th</sup> Street and from 6<sup>th</sup> Street to 3<sup>rd</sup> Street effective spring 2007. Please let me know if there are any questions.

Yours truly,  
  
Doug Johnson

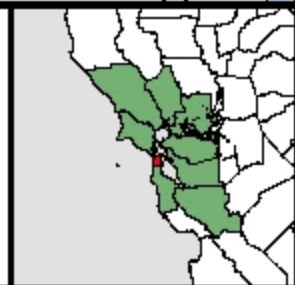
J:\Section\Planning\djohnson\SFCTA\CMP\_modifications\_Jan\_2007.doc

cc: Sean Co, MTC  
Valerie Knepper, MTC  
Doug Kimsey, MTC

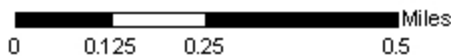


-  Existing Brannan Street segment from Division to 9th
-  New Brannan Street segment from Division to 6th
-  Existing Brannan Street segment from 6th to 5th
-  New Brannan Street segment from 6th to 3rd

Two-way street segments are represented by two parallel lines.



**Proposed new CMP monitoring segments**  
**San Francisco County**  
**Congestion Management Program**



This map is intended for planning purposes only.

Map Produced: 11/27/2006 KNS



# **APPENDIX 4:**

## **LOS Results**

## APPENDIX 4

### LOS MONITORING METHODOLOGY AND RESULTS

#### Key Topics:

- **LOS Standard and Exempt Facilities**
- **Methodology**
- **Network Segmentation**
- **Travel Speed Results**
- **LOS F Segments**
- **Future Monitoring Considerations**

The Authority monitors LOS biennially on the CMP network. The Authority, as the CMA, assesses the City's conformance with LOS standards based on the monitoring results. The CMA ensures that LOS measurement methods used by its contractors, Caltrans, or other agencies involved in monitoring the CMP network are consistent with State law.

The 2011 LOS monitoring effort was conducted on behalf of the Authority by Jacobs Engineering Group.

#### A.4.1. LOS Standard and Exempt Facilities

The traffic LOS standard for San Francisco is consistent with CMP mandated criteria and was established at E in the initial (1991) CMP network. Facilities that were already operating at LOS F at the time of baseline monitoring, conducted to develop the first CMP in 1991, are legislatively exempt from the LOS standards. CMP segments that are within a designated IOZ are also exempt from LOS conformance requirements.

For LOS monitoring purposes, the CMP segments are categorized by exempt or non-exempt status:

- **Exempt** – segments which either: a) were at LOS F during the first monitoring cycle (1991 or 1992/93) or b) are located within an IOZ and are legislatively exempted from the LOS E standard.
- **Non-exempt** – all other segments. If a non-exempt segment fails for three consecutive CMP cycles, it is classified as deficient.

Since 2005, monitoring has included the exempt facilities in addition to the rest of the CMP network.

#### A.4.2. Methodology

All freeway and arterial segments were monitored using the floating vehicle method, which allows for determination of LOS on the basis of average operating speed.

The Authority has historically used the 1985 HCM methodology to monitor LOS on the CMP network and continues to calculate LOS using this method. The 1985 HCM methodology was utilized in the baseline monitoring cycle and is necessary to maintain historical comparisons, identify exempt segments, and monitor potential network deficiencies. As part of the 2009 and 2011 studies, all the arterial segments were also evaluated using HCM 2000 classification. Both the HCM 1985 and 2000 results are presented in Appendix 4.

For freeways, only HCM 1985 LOS was calculated, as the HCM 2000 methodology requires traffic volume information for all unique freeway segments and ramps. Collection of comprehensive freeway traffic volumes is beyond the scope of the CMP monitoring effort. However, HCM 2000-based segmentation was determined, and speed information for these segments is included in Appendix 4.

#### A.4.2.1. Mapping Runs

As part of the 2009 monitoring cycle, roadway mapping was conducted in-vehicle using GPS equipment and software. Mapping was done in one direction for each roadway segment during off-peak periods.

During mapping, certain traffic elements were recorded such as the posted speed limit, presence of traffic signals, number of through lanes, and construction areas.

#### A.4.2.2. Travel Time Runs

As in previous cycles, travel time runs for the 2011 cycle were conducted using the floating car method. In the floating car method, the driver of the test vehicle “floats” with the traffic by attempting to safely pass as many vehicles as pass the test vehicle.

This is the third consecutive monitoring cycle during which the Authority has used GPS technology to collect travel time data. The GPS receivers use differential GPS (DGPS) to provide position information with sub-meter precision during floating car runs, enabling calculation of accurate travel speeds.

Travel time runs were conducted during the morning and afternoon peak periods on all roadway segments; runs were only conducted on Tuesdays, Wednesdays, or Thursdays; and holidays and school district spring break periods were avoided. Four runs were made in each direction during each peak period. Where arterial LOS F was found, two additional runs in the respective direction were performed to verify results. During the travel time runs, the monitoring equipment recorded position and time at one-second intervals. The driver of the monitoring vehicle drove the speed limit if no other cars were present.

Where the positional accuracy of the vehicle did not meet the system requirements due to the “urban canyon effect” (where the Global Positioning System (GPS) signals are blocked by high buildings and there are not enough satellites signals to accurately estimate the positions of the user), the driver used the GPS display as a stop-watch and called out the times into a tape recorder for later coding of the GPS points in the Geographic Information System (GIS).

For quality control purposes, precautions were taken to ensure that outliers were excluded from the calculations.

#### A.4.2.3. Factors That May Affect Results

Construction on roadways can potentially affect travel times. In 2011, construction and related lane closures were observed on the segments shown in Table 1.

**Table 1 – Arterial Segments with Observed Construction**

Street Name	Construction From	Construction To
1st St	Mission	Howard
3rd St	20th St	19th St
3rd St	16th St	Mariposa
4th/Stockton	O’Farrell	Market/Portola
4th/Stockton	Howard	Folsom
4th/Stockton	Harrison	Bryant
Bush St	Castro/ Divisadero	Steiner
Bush St	Webster	Buchanan
Bush St	Mason	Powell
Fremont St	Folsom St	Mission
Geary St	Grant	Stockton
Kearny St	Washington	Jackson
Montgomery St	Sacramento	California
Turk St	Webster	Fillmore
Van Ness	California	Pine

#### A.4.3. Network Segmentation Documentation of Method and Criteria

The 1993 CMP documented the criteria used in 1991 to segment the CMP roadway network in San Francisco, including freeway facilities (see Appendix 3). The following five criteria determined segment limits for the city arterials in the CMP: predominant development patterns (e.g., number of driveways, institutional uses); changes in speed limits; major cross streets; significant changes in traffic volumes; and freeway ramps. These criteria are generally recognized as significant in explaining the operating profile of a roadway.

For freeway facilities the segmentation criteria are simpler. They include major interchange on and off ramps, and points where two freeway facilities merge or bifurcate.

Appendix 3 also lists all CMP arterials where segmentation changes have been made since 1991, including a technical justification. All CMP network segments were evaluated in the Spring 2011 monitoring cycle with no segmentation changes.

#### A.4.4. Travel Speed Results

Table 2, below, presents the change in CMP Network Average Travel Speeds between 2009 and 2011. Figures 1 and 2 display all LOS results graphically for the AM Peak and PM Peak periods, respectively.

**Table 2. CMP Network Average Travel Speed**

Category	2009	2011
Arterial AM	18.6 mph	17.7 mph
Arterial PM	16.9 mph	16.6 mph
Freeway AM	48.9 mph	40.6 mph
Freeway PM	31.7 mph	31.4 mph

Average travel speeds on the CMP network have changed little compared to 2009, except on freeways in the AM. Average arterial travel speeds have decreased 5 percent from 18.6 mph to 17.7 mph in the AM peak and decreased 2 percent from 16.9 mph to 16.6 mph in the PM peak. The average travel speed on freeways decreased 17 percent from 48.9 mph to 40.6 mph in the AM peak. The large change in travel speed for these AM freeway segments could be an indication of the low sample size of the monitoring data collection effort - the few travel runs performed as part of this exercise may not be indicative of cyclical fluctuation in speeds. In the PM peak, average freeway speeds decreased 1 percent from 31.7 mph to 31.4 mph.

Average speed on I-280 in the AM peak between Brannan and Junipero Serra dropped significantly this year compared to 2009 in both directions. Also, average speed on US 101 Northbound in the AM peak on all segments dropped significantly this year compared to 2009. These conditions are contributing to the marked decline in the average AM peak freeway speed as compared to 2009.

Out of 249 CMP arterial segments, average AM peak speeds increased on 104 segments and decreased on 145 segments. In the PM peak, average arterial speeds increased on 123 CMP segments and decreased on 126 segments.

The mixed outcome of the analysis, with some arterial segments showing increased speeds since 2009 while others showing decreased speeds may again reflect the small sampling nature of the LOS monitoring. In addition, these results indicate the natural equilibrium of San Francisco's grid network which allows traffic numerous paths of travel; if one segment becomes congested, traffic will often switch to a parallel, less congested segment.



Figure 1: 2011 LOS Monitoring: AM Peak

## 2011 LOS Monitoring: AM Peak

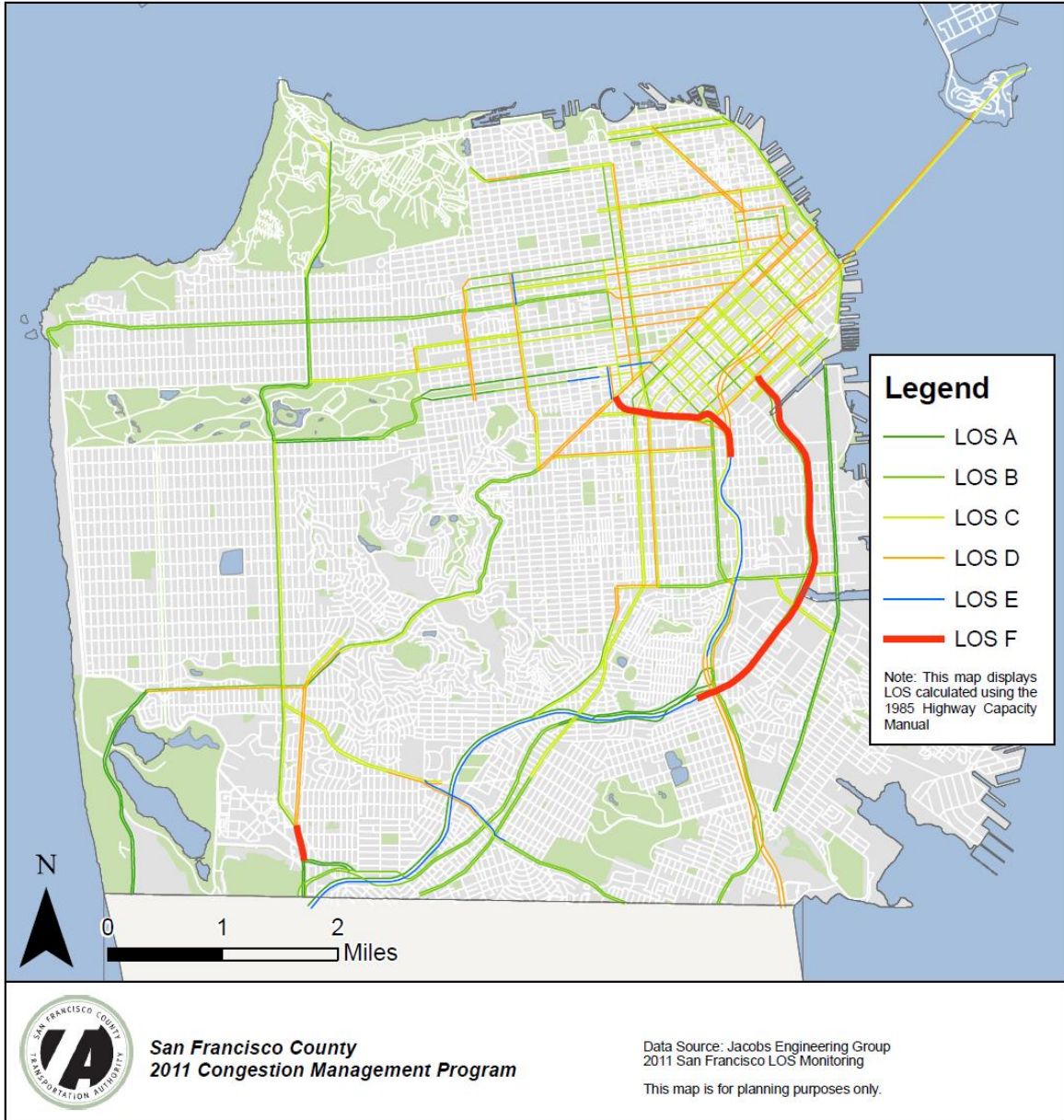


Figure 2: 2011 LOS Monitoring: PM Peak

## 2011 LOS Monitoring: PM Peak

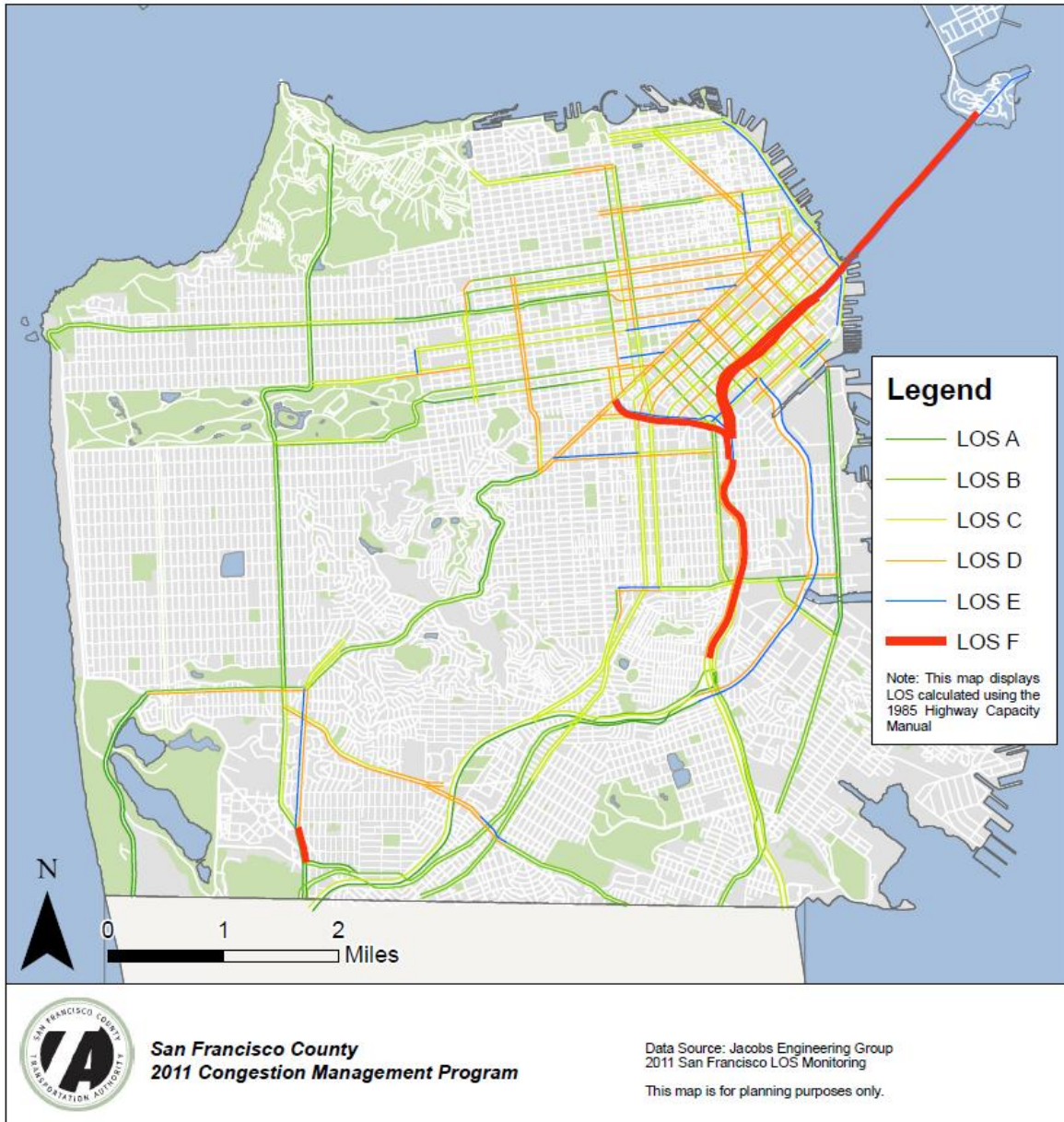


Figure 3: Segments Exempt in AM Due to Monitoring at LOS F in Inaugural Cycle



Figure 4: Segments Exempt in PM Due to Monitoring at LOS F in Inaugural Cycle

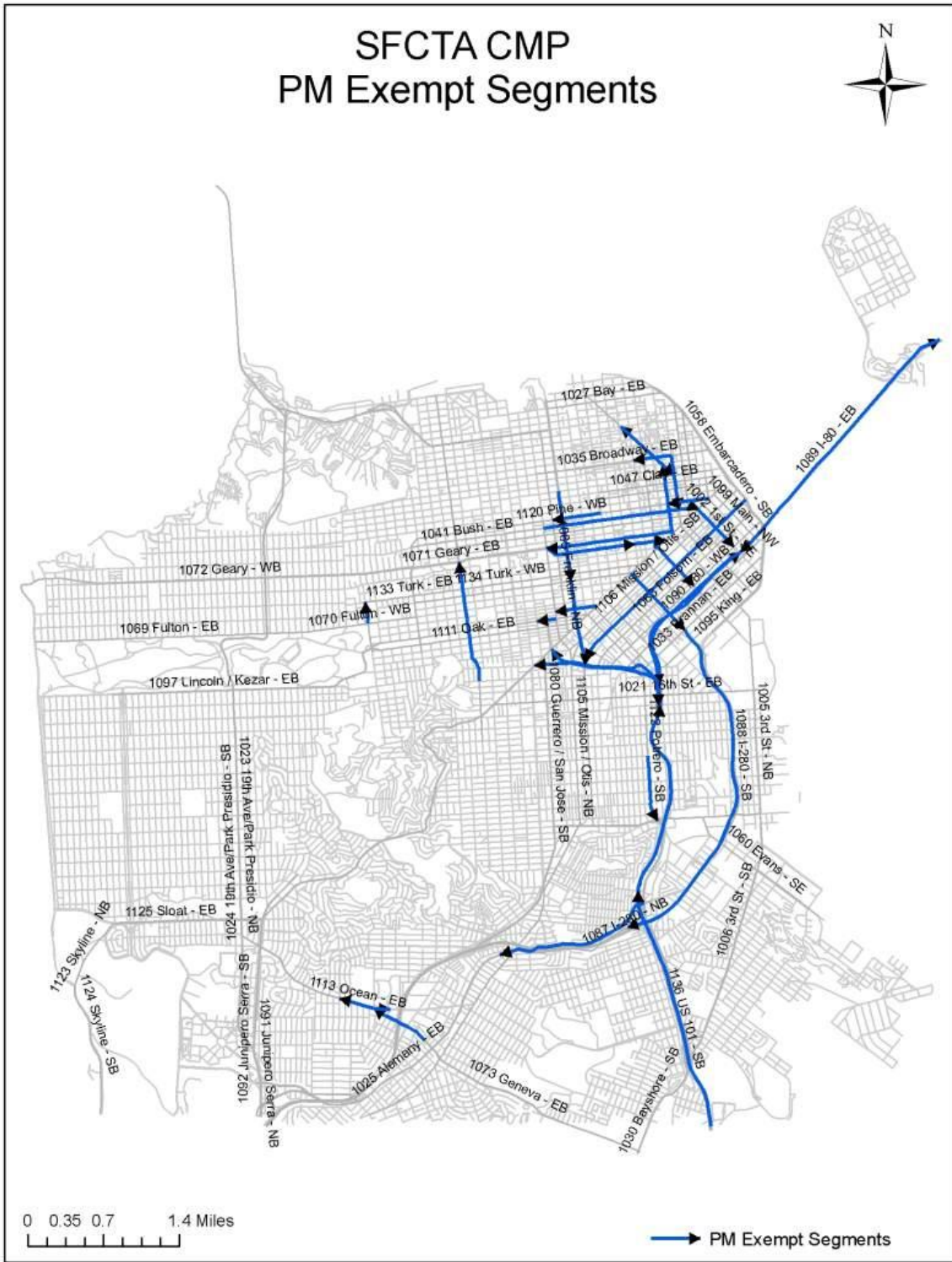


Figure 5 – Segments Exempt Due to Location within Infill Opportunity Zone



### A.4.5. LOS F Segments

The segments monitored at LOS F (1985 HCM method) are shown in Table 3 and Table 4. As noted above, the Authority uses the 1985 HCM for calculating LOS when making historical comparisons to the baseline cycle.

Tables A-1, A-2, and A-3 present LOS monitoring results for all segments of arterials and freeways in the CMP network. For arterials, results are presented for both the 1985 and 2000 HCM methodologies. The information includes segment length, direction of travel, time of day (AM and PM peak), average operating speed measured, and LOS results for all monitoring cycles.

As shown in Table 3, only one arterial CMP route segment and two freeway segments evaluated during the morning peak period were found to operate at LOS F. One arterial segment was measured at LOS F, but is located within an IOZ and is therefore exempt from automobile LOS standards. The LOS on this arterial segment dropped three grades from C to F relative to the last monitoring cycle in 2009. The freeway segments on US-101 and I-280 measured LOS F during the baseline 1991 monitoring cycle and are therefore exempt from constituting a deficiency. The segment on US 101 monitored at LOS F in the previous cycle in 2009 as well. The freeway segment on I-280 dropped two grades from D to F relative to the last monitoring cycle.

Table 4 shows the 2011 CMP route segments that had LOS F during the PM Peak based on HCM 1985. One arterial CMP segment and four freeway segments evaluated during the evening peak period were found to operate at LOS F. The one arterial segment is located within an IOZ, and is therefore exempt from automobile LOS. The four freeway segments operating at LOS F in the 2011 cycle were also operating at LOS F during the baseline 1991 monitoring cycle and therefore are exempt from constituting a deficiency. The four freeway segments that operated at LOS F in 2011 also were operating at LOS F in 2009.

**Table 3**  
**2011 Roadway Monitoring Results – LOS F Segments (1985 HCM), AM Peak**

Route	From	To	Dir.	Ave Speed (mph)	LOS	Status/Comments
I-280	Weldon St	Brannan St	N	1991: 29.1 2007: 34.3 2009: 41.6 2011: 28.1	F E D F	<b>Exempt:</b> Segment monitored at LOS F during baseline cycle and therefore does not constitute a deficiency.
Junipero Serra	Brotherhood Way	19th Ave	N	1991: 9.7 2007: 29.2 2009: 22.1 2011: 10.8	D B C F	<b>Exempt:</b> Segment is within an IOZ and therefore does not constitute a deficiency.
US-101*	I-80	Market	N	1991: 18.7 2007: 20.9 2009: 21.9 2011: 13.9	F F F F	<b>Exempt:</b> Segment monitored at LOS F during baseline cycle and therefore does not constitute a deficiency.

*\* Study Results prior to 2004 are for the US-101 segment from/ to I-80 to/ from Fell/Laguna.*

**Table 4**  
**2011 Roadway Monitoring Results – LOS F Segments (1985 HCM), PM Peak**

Route	From	To	Dir.	Ave Speed (mph)	LOS	Status/Comments
I-80	Fremont St	US-101	SW	1991: 18.6 2007: 18.2 2009: 24.5 2011: 19.9	F F F F	<b>Exempt:</b> Segment monitored at LOS F during baseline cycle and therefore does not constitute a deficiency
I-80	US-101	Fremont	N	1991: 19.0 2007: 19.6 2009: 7.0 2011: 10.8	F F F F	<b>Exempt:</b> Segment monitored at LOS F during baseline cycle and therefore does not constitute a deficiency
Junipero Serra	Brotherhood	19 <sup>th</sup> Ave	N	1991: n/a 2007: 16.4 2009: 15.2 2011: 10.5	n/a E E F	<b>Exempt:</b> Segment is within an IOZ and therefore does not constitute a deficiency.
US-101	Cortland Ave	I-80	N	1991: 24.6 2007: 48.6 2009: 23.6 2011: 18.3	F D F F	<b>Exempt:</b> Segment monitored at LOS F during baseline cycle and therefore does not constitute a deficiency
US-101*	Market	I-80	S	1991: 18.8 2007: 18.9 2009: 21.3 2011: 13.1	F F F F	<b>Exempt:</b> Segment monitored at LOS F during baseline cycle and therefore does not constitute a deficiency

\* Study Results prior to 2004 are for the US-101 segment from/ to I-80 to/from Fell/Laguna.



## A.4.6. Future Monitoring Considerations

### A.4.6.1. Private Commercial Data

In recent years, there has been a proliferation in the use and availability of archived private commercial travel speed data. As more data is collected and its reliability is verified relative to results obtained using more established methods, the use of this archived data may be able to serve as a robust and cost-effective sampling alternative to the traditional floating car method for monitoring CMP network LOS in future cycles.

#### i. Summary of Methodology

As a supplemental effort to the 2011 CMP, the Authority analyzed archived data, compiled by a data vendor (INRIX), from the same time period as the official LOS monitoring period (April and May 2011) for the PM peak period. The INRIX data is collected through real-time GPS monitoring of a variety of sources such as delivery vehicles, navigational devices, and highway performance monitoring systems. INRIX uses these data points and its inference model to calculate travel speeds for traffic message channel (TMC) segments.

The LOS Monitoring Consultant (Jacobs) coded the data into a GIS database for analysis and comparison with the official floating car results. The TMC segments were split at CMP boundaries and the distance of each TMC within a CMP segment was used to weight the average speed over the segment. Most CMP segments correspond closely with one or more TMC segments. In very few cases, a TMC segment is longer than the corresponding CMP segment, requiring interpolation to calculate the CMP speed.

In addition to the PM Peak Period, the 2011 CMP also includes a comparison of INRIX average travel speeds in the peak period versus the overnight off-peak period, which represent free-flow speeds on the CMP network.

#### ii. Results Comparison

For CMP purposes, the floating car travel time runs constitute the official monitoring results. As part of the CMP effort, the Authority conducted a

preliminary comparison of both data sources to inform methodology for future monitoring cycles.

Table 5 displays the PM peak average speed across the CMP network as calculated by both the 2011 LOS Monitoring floating car data and the INRIX data. With few exceptions, the results of both methods are very similar. As shown in Table 5, for the PM peak period analyzed using INRIX data, the difference in average speed across the CMP network using the two methods was about 5% for arterials (16.6 mph vs. 17.5 mph) and less than 9% for freeways (31.4 mph vs. 34.2 mph).

**Table 5. Comparison of LOS Monitoring Results with INRIX Data for PM Peak CMP Network Average Travel Speed**

Category	LOS Monitoring Results	INRIX
PM Arterials	16.6 mph	17.5 mph
PM Freeways	31.4 mph	34.2 mph

Results from the two methods were also similar for individual roadway segments. Table 6 compares the 2011 PM LOS Monitoring results with INRIX results for each segment in the CMP network. In addition to weighted average travel speeds, for each CMP segment the Authority also obtained the number of INRIX samples and their standard deviation, which describes the variability of the speed samples for the segment. On all but two CMP segments (identified in Table 6), the average speed from the floating car runs fell within two standard deviations of the INRIX average speed, indicating that the difference between the two methods is minimal given the variability in samples obtained using either approach.

Table 7 presents overnight off-peak INRIX average travel speed results for each CMP network segment compared with the PM peak results. Initial results indicate that average speeds on CMP network arterials are more than 40% faster in the off peak (average more than 24 mph) than during the PM peak while average speeds on freeway CMP segments are more than 70% faster during off-peak periods (average more than 58 mph).

### iii. Discussion

Archived commercial data offers several potential advantages compared to floating car data collection for congestion monitoring:

- Thousands of sampled data points are available for all freeway segments and most arterial segments in San Francisco during the PM peak over the spring monitoring period, providing potentially more reliable and consistent data.
- Data is available for all times of day, including peak, shoulder, midday, evening, and overnight periods.
- Obtaining commercial data is cost effective, providing significant savings that could be re-invested in data collection for more robust multimodal performance metrics.

The primary disadvantage of using private commercial data is that the sampled speeds aggregated at the TMC level do not allow detailed analysis of traffic flow and congestion at a more granular level.

Overall, preliminary analysis indicates that private commercial data would provide an equally acceptable data source to meet the requirements of the CMP legislation. Other agencies in the region are also considering using private commercial data for CMP congestion monitoring, providing opportunities for coordination and consistent analysis across jurisdictional boundaries.

#### A.4.6.2. HCM 2010

The HCM 2010 has become available and is ready to be applied. The Freeway methodology in HCM 2010 is similar to HCM 2000. There are some differences in the Urban Streets (arterial) methodology of HCM 2010 in comparison to HCM 2000 and HCM 1985. For example, HCM 2010 does not classify Urban Streets into separate classes like HCM 2000 and HCM 1985. Instead, LOS is based on percent free-flow speed (derived from the speed limit for each segment) for all types of Urban Streets in HCM 2010. For the 2013 CMP update, the Authority will consider the use of the 2010 HCM methodology.

**Table 6**  
**Comparison of LOS Monitoring Results with INRIX Data for PM Peak Average Travel Speed**  
**by CMP Network Segment**

CMP Route Name	Start Intersection	End Intersection	Travel Dir.	PM Peak Average Speed	
				LOS Monitoring	INRIX
1st St	Market St	Harrison St	SE	18.2	9.6
3rd St	Evans Ave	Terry A Francois Blvd	S	22.7	23.3
3rd St	Jamestown Ave	Evans Ave	N	30.0	20.0
3rd St	Terry A Francois Blvd	Market St	N	24.0	17.5
3rd St	Evans Ave	Jamestown Ave	S	29.5	22.7
3rd St	Terry A Francois Blvd	Evans Ave	N	12.9	12.8
4th St / Stockton	Harrison	Channel	S	14.9	11.2
4th St / Stockton	O'Farrell	Harrison	S	15.1	11.5
6th St	Brannan St	Market St	N	11.0	14.1
6th St	Market St	Brannan St	S	9.6	13.1
7th St	Brannan St	Market St	N	20.9	17.1
8th St	Market St	Bryant St	SE	23.8	15.1
9th St	Brannan St	Market St	N	13.4	14.6
10th St	Market St	Brannan St	SE	20.4	21.6
16th St	Market St	Mission St	E	11.9	12.4
16th St	Mission St	Potrero Ave	W	8.4	17.2
16th St	Mission St	Market St	E	11.7	13.7
16th St	Potrero Ave	Mission St	W	13.4	14.4
19th Ave/Park Presidio	Junipero Serra Blvd	Sloat Blvd	N	17.7	19.2
19th Ave/Park Presidio	Lake	US 101	S	24.6	23.3
19th Ave/Park Presidio	Lincoln Way	Lake	N	43.0	36.9
19th Ave/Park Presidio	Sloat Blvd	Lincoln Way	N	29.3	25.6
19th Ave/Park Presidio	Lake	Lincoln Way	S	21.4	19.3
19th Ave/Park Presidio	Lincoln Way	Sloat Blvd	S	23.2	21.8
19th Ave/Park Presidio	Sloat Blvd	Junipero Serra Blvd	N	27.7	20.0
19th Ave/Park Presidio	US 101	Lake	S	30.9	33.7
Alemaný	County Line	Lyell St	W	24.7	27.9
Alemaný	Lyell St	Bay Shore Blvd	E	22.0	22.7
Alemaný	Bay Shore Blvd	Lyell St	E	30.2	30.0
Alemaný	Lyell St	County Line	W	22.5	22.9
Bay	Van Ness Ave	The Embarcadero	W	16.4	18.8
Bay	The Embarcadero	Van Ness	E	18.2	19.5
Bayshore	County Line	Industrial St	S	15.3	21.1
Bayshore	Industrial St	Cesar Chavez	N	23.1	26.7
Bayshore	Cesar Chavez	Industrial St	N	15.5	19.7
Bayshore	Industrial St	County Line	S	21.8	24.2

CMP Route Name	Start Intersection	End Intersection	Travel Dir.	PM Peak Average Speed	
				LOS Monitoring	INRIX
Brannan	10th St	6th St	E	13.6	16.4
Brannan	6th St	3rd St	W	16.4	18.5
Brannan	3rd St	6th St	W	8.8	18.1
Brannan	6th St	10th St	E	17.2	17.0
Brotherhood	Junipero Serra	Alemany Blvd	W	31.5	31.2
Brotherhood	Alemany Blvd	Junipero Serra	E	24.6	30.3
Bryant	4th St	The Embarcadero	E	14.0	17.8
Bryant	Division St	4th St	E	14.3	15.3
Bush	Gough St	Market St	E	11.3	15.4
Bush	Masonic Ave	Gough St	E	21.9	23.4
Castro / Divisadero	14th St	Geary Blvd	N	11.6	14.0
Castro / Divisadero	Geary Blvd	Pine St	S	11.6	14.8
Castro / Divisadero	Market St	14th St	S	10.3	12.2
Castro / Divisadero	14th St	Market St	N	9.2	11.7
Castro / Divisadero	Geary Blvd	14th St	N	15.2	14.2
Castro / Divisadero	Pine St	Geary Blvd	S	10.1	11.5
Cesar Chavez	Evans Ave	Pennsylvania Ave	W	11.6	20.1
Cesar Chavez	Guerrero St	South Van Ness Ave	E	24.0	24.0
Cesar Chavez	Pennsylvania Ave	3rd St	W	23.4	20.5
Cesar Chavez	South Van Ness Ave	Evans Ave	E	10.7	14.7
Cesar Chavez	3rd St	Pennsylvania Ave	E	22.4	19.5
Cesar Chavez	Evans Ave	South Van Ness Ave	W	26.9	18.2
Cesar Chavez	Pennsylvania Ave	Evans Ave	E	16.8	20.5
Cesar Chavez	South Van Ness Ave	Guerrero St	W	8.0	13.1
Columbus	Greenwich St	North Point St	SE	12.3	12.3
Columbus	Montgomery St	Greenwich St	NW	13.4	13.0
Columbus	Greenwich St	Montgomery St	NW	12.7	12.6
Columbus	North Point St	Greenwich St	SE	14.0	12.0
Doyle / Lombard / Richardson	Broderick	Francisco	NW	14.8	16.5
Doyle / Lombard / Richardson	Laguna	Pierce St	SE	16.3	18.6
Doyle / Lombard / Richardson	Pierce St	Broderick	SE	15.2	17.4
Doyle / Lombard / Richardson	Van Ness Ave	Laguna	NW	21.4	16.0
Doyle / Lombard / Richardson	Broderick	Pierce St	SE	12.0	19.5
Doyle / Lombard / Richardson	Francisco	Broderick	NW	18.1	14.8
Doyle / Lombard / Richardson	Laguna	Van Ness Ave	SE	18.8	19.5
Doyle / Lombard / Richardson	Pierce St	Laguna	NW	12.6	14.8
Duboce / Division	Market St	Mission St	W	16.2	10.5

CMP Route Name	Start Intersection	End Intersection	Travel Dir.	PM Peak Average Speed	
				LOS Monitoring	INRIX
Duboce / Division	Mission St	Brannan	E	16.7	20.6
Duboce / Division	Brannan	Mission St	E	18.5*	**
Duboce / Division	Mission St	Market St	W	9.6	10.5
Embarcadero	Townsend St	North Point St	S	8.9	15.2
Embarcadero	North Point St	Townsend St	N	17.6	15.8
Fell	Gough St	10th St	W	3.8	5.9
Fell	Franklin St	Gough St	E	12.9	15.7
Fell	Gough St	Laguna St	W	9.3	17.9
Fell	Laguna St	Stanyan St	W	24.1	22.8
Folsom	13th St	8th St	E	14.6	16.2
Folsom	1st St	The Embarcadero	E	12.1	11.3
Folsom	4th St	1st St	E	16.9	15.8
Folsom	8th St	4th St	E	19.4	18.5
Franklin	Market St	Pine St	N	13.4	15.3
Franklin	Pine St	Lombard St	N	20.8	18.1
Fremont	Harrison St	Market St	N	10.6	9.1
Fulton	Arguello	Masonic	E	12.2	16.4
Fulton	Park Presidio Blvd	Arguello	W	15.3	17.5
Fulton	Arguello	Park Presidio Blvd	W	13.8	17.4
Fulton	Masonic	Arguello	E	16.9	18.8
Geary	25th Ave	Arguello	E	21.5	20.7
Geary	Arguello	Gough St	W	22.7	18.4
Geary	Great Hwy	25th Ave	W	17.1	17.6
Geary	25th Ave	Great Hwy	E	20.1	20.5
Geary	Arguello	25th Ave	W	25.1	18.6
Geary	Gough St	Arguello	E	23.8	20.9
Geary	Kearny St	Gough St	W	12.9	13.0
Geneva	Cayuga Ave	Paris St	W	10.2	12.4
Geneva	Ocean Ave	Cayuga Ave	E	11.5	13.8
Geneva	Paris St	Santos St	E	12.9	13.7
Geneva	Cayuga Ave	Ocean Ave	W	8.1	15.3
Geneva	Paris St	Cayuga Ave	E	22.0	19.6
Geneva	Santos St	Paris St	W	23.4	18.7
Golden Gate	Franklin	Market St	E	8.9	14.3
Golden Gate	Masonic Ave	Franklin	E	13.8	20.1
Gough	Geary Blvd	Golden Gate Ave	S	20.2	16.5
Gough	Golden Gate Ave	Market St	S	12.3	13.4

CMP Route Name	Start Intersection	End Intersection	Travel Dir.	PM Peak Average Speed	
				LOS Monitoring	INRIX
Gough	Pine St	Geary Blvd	S	23.0	18.2
Guerrero / San Jose	29th St	Cesar Chavez St	N	12.7	17.6
Guerrero / San Jose	Monterey Blvd	29th St	S	27.6	22.6
Guerrero / San Jose	29th St	Monterey Blvd	S	20.8	18.7
Guerrero / San Jose	Cesar Chavez St	29th St	N	24.2	25.4
Harrison	2nd St	4th St	W	20.8	14.8
Harrison	4th St	8th St	W	14.9	16.1
Harrison	8th St	Division/13th	W	11.6	14.0
Harrison	The Embarcadero	2nd St	W	13.7	13.0
Hayes	Market St	Gough	W	8.8	9.3
Howard	The Embarcadero	South Van Ness Ave	W	12.0	13.2
I-280	Junipero Serra	Weldon St	S	41.5	42.0
I-280	Weldon St	Brannan St	N	61.3	58.8
I-280	Brannan St	Weldon St	N	35.6	50.8
I-280	Weldon St	Junipero Serra	S	50.6	53.0
I-80	Fremont Exit	Treasure Island End Point	E	32.0	22.3
I-80	US 101	Fremont Exit	W	19.9	20.1
I-80	Fremont Exit	US 101	W	28.6	24.6
I-80	Treasure Island End Point	Fremont Exit	E	10.8	17.2
Junipero Serra	19th Ave	Sloat Blvd	S	40.3	29.9
Junipero Serra	Brotherhood Way	19th Ave	N	22.0	17.9
Junipero Serra	County Line	Brotherhood Way	N	10.5*	15.1*
Junipero Serra	19th Ave	Brotherhood Way	S	45.3	41.0
Junipero Serra	Brotherhood Way	County Line	N	47.1	22.4
Junipero Serra	Sloat Blvd	19th Ave	S	16.8	23.9
Kearny	Market St	Columbus	N	14.8	11.9
King	5th St	2nd St	W	8.3	13.1
King	2nd St	5th St	E	19.8	14.4
Lincoln / Kezar	19th Ave	5th Ave	E	20.6	23.4
Lincoln / Kezar	5th Ave	Stanyan St	W	18.9	19.1
Lincoln / Kezar	5th Ave	19th Ave	E	22.8	22.3
Lincoln / Kezar	Stanyan St	5th Ave	W	24.8	22.3
Market / Portola	Burnett Ave	Castro St	E	23.5	21.1
Market / Portola	Castro St	Laguna St	W	21.4	23.7
Market / Portola	Laguna St	South Van Ness Ave	W	30.1	18.9
Market / Portola	Sloat Blvd	Vicente St	E	10.3	14.5
Market / Portola	South Van Ness Ave	Drumm St	W	12.1	12.5

CMP Route Name	Start Intersection	End Intersection	Travel Dir.	PM Peak Average Speed	
				LOS Monitoring	INRIX
Market / Portola	Vicente St	Burnett Ave	W	12.7	14.3
Market / Portola	Burnett Ave	Vicente St	E	14.8	12.4
Market / Portola	Castro St	Burnett Ave	E	21.1	21.4
Market / Portola	Drumm St	South Van Ness Ave	E	10.6	12.3
Market / Portola	Laguna St	Castro St	W	11.3	12.0
Market / Portola	South Van Ness Ave	Laguna St	W	14.0	18.5
Market / Portola	Vicente St	Sloat Blvd	E	20.0	21.3
Masonic	Geary Blvd	Euclid Ave	N	22.4	22.9
Masonic	Page St	Geary Blvd	S	13.5	15.2
Masonic	Geary Blvd	Page St	N	17.2	16.1
Masonic	Presidio Ave	Geary Blvd	S	9.2	13.8
Mission / Otis	14th St	9th St	N	12.2	13.9
Mission / Otis	3rd St	The Embarcadero	S	13.8	12.9
Mission / Otis	9th St	3rd St	S	14.4	13.7
Mission / Otis	Cesar Chavez St	14th St	N	10.9	11.7
Mission / Otis	Ocean Ave	Cesar Chavez St	S	13.5	14.3
Mission / Otis	Sickles Ave	Ocean Ave	N	12.4	14.4
Mission / Otis	14th St	Cesar Chavez St	N	14.2	13.1
Mission / Otis	3rd St	9th St	S	15.5	14.8
Mission / Otis	9th St	14th St	N	16.3	15.5
Mission / Otis	Cesar Chavez St	Ocean Ave	S	19.4	16.4
Mission / Otis	Ocean Ave	Sickles Ave	N	20.3	16.9
Mission / Otis	The Embarcadero	3rd St	S	11.0	9.4
Montgomery	Broadway	Bush St	S	7.2	9.1
Oak	Divisadero St	Fillmore St	E	26.4	24.3
Oak	Fillmore St	Laguna St	E	24.5	18.5
Oak	Laguna St	Franklin St	E	16.4	19.0
Oak	Lyon St	Divisadero St	E	16.4	19.6
Oak	Stanyan St	Lyon St	E	27.0	26.5
Ocean	19th Ave	Miramar	E	12.8	13.4
Ocean	Miramar	Howth	W	11.9	12.8
Ocean	Howth	Miramar	W	14.5	13.4
Ocean	Miramar	19th Ave	E	12.7	14.1
O'Farrell	Gough St	Mason	E	11.2	14.0
O'Farrell	Mason	Market St	E	8.0	11.7
Skyline	County Line	Sloat Blvd	N	42.2	40.3
Skyline	Sloat Blvd	County Line	S	38.3	32.7

CMP Route Name	Start Intersection	End Intersection	Travel Dir.	PM Peak Average Speed	
				LOS Monitoring	INRIX
Sloat	Skyline Blvd	Junipero Serra Blvd	W	29.6	25.6
Sloat	Junipero Serra Blvd	Skyline Blvd	E	17.0	22.2
Stanyan	Fulton St	Turk Blvd	N	15.6	19.9
Stanyan	Turk Blvd	Fulton St	S	8.6	14.3
Sutter	Divisadero St	Gough St	E	13.4	13.1
Sutter	Gough St	Divisadero St	W	13.6	13.4
Sutter	Market St	Mason St	W	12.7	10.3
Sutter	Mason St	Gough St	W	11.8	11.2
Townsend	7th St	2nd St	W	11.4	15.0
Townsend	2nd St	7th St	E	15.9	14.3
Turk	Stanyan St	Divisadero St	W	17.4	17.9
Turk	Divisadero St	Stanyan St	W	18.3	20.2
Turk	Gough St	Divisadero St	W	11.3	13.7
Turk	Hyde	Gough St	W	11.4	14.7
Turk	Market	Hyde	E	17.2	19.2
US 101	17th St	Market St	S	46.9	43.8
US 101	Cortland Ave	17th St	N	30.5	26.8
US 101	County Line	Cortland Ave	N	18.3	35.0
US 101	17th St	Cortland Ave	S	51.3	52.4
US 101	Cortland Ave	County Line	N	49.0	48.4
US 101	Market St	17th St	S	13.1	16.7
Van Ness / South Van Ness	Cesar Chavez St	US 101	N	13.9	19.2
Van Ness / South Van Ness	Golden Gate Ave	Washington St	S	16.5	14.5
Van Ness / South Van Ness	US 101	Golden Gate Ave	N	21.9	13.3
Van Ness / South Van Ness	Washington St	Lombard St	S	17.1	14.4
Van Ness / South Van Ness	Golden Gate Ave	US 101	S	18.7	17.0
Van Ness / South Van Ness	Lombard St	Washington St	N	13.7	12.5
Van Ness / South Van Ness	US 101	Cesar Chavez St	S	11.5	13.4
Van Ness / South Van Ness	Washington St	Golden Gate Ave	N	24.5	18.8

\* LOS Monitoring weighted average speed falls more than two standard deviations from INRIX weighted average speed.  
\*\* Very few INRIX samples due to poor GPS reception underneath Central Freeway.



**Table 7**  
**Comparison of INRIX PM Peak Average Travel Speed with INRIX Off-Peak Average Travel Speed by CMP Network Segment**

CMP Route Name	Start Intersection	End Intersection	Travel Dir.	INRIX Average Speed	
				PM Peak	Off-Peak
1st St	Market St	Harrison St	SE	9.6	14.6
3rd St	Evans Ave	Jamestown Ave	S	23.3	25.3
3rd St	Evans Ave	Terry A Francois Blvd	N	20.0	19.9
3rd St	Jamestown Ave	Evans Ave	N	17.5	18.6
3rd St	Terry A Francois Blvd	Evans Ave	S	22.7	23.6
3rd St	Terry A Francois Blvd	Market St	N	12.8	16.0
4th St / Stockton	Harrison	Channel	S	11.2	14.0
4th St / Stockton	O'Farrell	Harrison	S	11.5	14.3
6th St	Brannan St	Market St	N	14.1	16.8
6th St	Market St	Brannan St	S	13.1	18.2
7th St	Brannan St	Market St	N	17.1	18.6
8th St	Market St	Bryant St	SE	15.1	16.5
9th St	Brannan St	Market St	N	14.6	16.3
10th St	Market St	Brannan St	SE	21.6	18.4
16th St	Market St	Mission St	E	12.4	14.1
16th St	Mission St	Market St	W	17.2	18.8
16th St	Mission St	Potrero Ave	E	13.7	15.8
16th St	Potrero Ave	Mission St	W	14.4	15.7
19th Ave/Park Presidio	Junipero Serra Blvd	Sloat Blvd	N	19.2	22.9
19th Ave/Park Presidio	Lake	Lincoln Way	S	23.3	26.4
19th Ave/Park Presidio	Lake	US 101	N	36.9	37.4
19th Ave/Park Presidio	Lincoln Way	Lake	N	25.6	26.1
19th Ave/Park Presidio	Lincoln Way	Sloat Blvd	S	19.3	24.0
19th Ave/Park Presidio	Sloat Blvd	Junipero Serra Blvd	S	21.8	25.4
19th Ave/Park Presidio	Sloat Blvd	Lincoln Way	N	20.0	23.3
19th Ave/Park Presidio	US 101	Lake	S	33.7	34.4
Alemany	Bay Shore Blvd	Lyell St	W	27.9	31.7
Alemany	County Line	Lyell St	E	22.7	24.1
Alemany	Lyell St	Bay Shore Blvd	E	30.0	28.9
Alemany	Lyell St	County Line	W	22.9	24.3
Bay	The Embarcadero	Van Ness Ave	W	18.8	16.7
Bay	Van Ness Ave	The Embarcadero	E	19.5	17.9
Bayshore	Cesar Chavez	Industrial St	S	21.1	23.7

CMP Route Name	Start Intersection	End Intersection	Travel Dir.	INRIX Average Speed	
				PM Peak	Off-Peak
Bayshore	County Line	Industrial St	N	26.7	25.5
Bayshore	Industrial St	Cesar Chavez	N	19.7	22.8
Bayshore	Industrial St	County Line	S	24.2	25.0
Brannan	10th St	6th St	E	16.4	16.8
Brannan	3rd St	6th St	W	18.5	15.5
Brannan	6th St	10th St	W	18.1	15.0
Brannan	6th St	3rd St	E	17.0	17.5
Brotherhood	Alemany Blvd	Junipero Serra	W	31.2	34.4
Brotherhood	Junipero Serra	Alemany Blvd	E	30.3	30.9
Bryant	4th St	The Embarcadero	E	17.8	16.8
Bryant	Division St	4th St	E	15.3	18.3
Bush	Gough St	Market St	E	15.4	14.9
Bush	Masonic Ave	Gough St	E	23.4	24.0
Castro / Divisadero	14th St	Geary Blvd	N	14.0	15.2
Castro / Divisadero	14th St	Market St	S	14.8	16.8
Castro / Divisadero	Geary Blvd	14th St	S	12.2	14.5
Castro / Divisadero	Geary Blvd	Pine St	N	11.7	12.9
Castro / Divisadero	Market St	14th St	N	14.2	16.2
Castro / Divisadero	Pine St	Geary Blvd	S	11.5	13.0
Cesar Chavez	3rd St	Pennsylvania Ave	W	20.1	19.9
Cesar Chavez	Evans Ave	Pennsylvania Ave	E	24.0	27.5
Cesar Chavez	Evans Ave	South Van Ness Ave	W	20.5	22.2
Cesar Chavez	Guerrero St	South Van Ness Ave	E	14.7	14.6
Cesar Chavez	Pennsylvania Ave	3rd St	E	19.5	21.4
Cesar Chavez	Pennsylvania Ave	Evans Ave	W	18.2	21.5
Cesar Chavez	South Van Ness Ave	Evans Ave	E	20.5	22.8
Cesar Chavez	South Van Ness Ave	Guerrero St	W	13.1	16.8
Columbus	Greenwich St	Montgomery St	SE	12.3	13.1
Columbus	Greenwich St	North Point St	NW	13.0	14.1
Columbus	Montgomery St	Greenwich St	NW	12.6	13.3
Columbus	North Point St	Greenwich St	SE	12.0	13.5
Doyle / Lombard / Richardson	Broderick	Francisco	NW	16.5	23.3
Doyle / Lombard / Richardson	Broderick	Pierce St	SE	18.6	20.7
Doyle / Lombard / Richardson	Francisco	Broderick	SE	17.4	23.5
Doyle / Lombard / Richardson	Laguna	Pierce St	NW	16.0	21.8
Doyle / Lombard / Richardson	Laguna	Van Ness Ave	SE	19.5	22.1
Doyle / Lombard / Richardson	Pierce St	Broderick	NW	14.8	19.9

CMP Route Name	Start Intersection	End Intersection	Travel Dir.	INRIX Average Speed	
				PM Peak	Off-Peak
Doyle / Lombard / Richardson	Pierce St	Laguna	SE	19.5	21.6
Doyle / Lombard / Richardson	Van Ness Ave	Laguna	NW	14.8	21.1
Duboce / Division	Brannan	Mission St	W	10.5	21.7
Duboce / Division	Market St	Mission St	E	20.6	17.2
Duboce / Division	Mission St	Market St	W	10.5	19.6
Embarcadero	North Point St	Townsend St	S	15.2	20.8
Embarcadero	Townsend St	North Point St	N	15.8	18.8
Fell	Gough St	10th St	E	15.7	10.8
Fell	Gough St	Laguna St	W	17.9	18.8
Fell	Laguna St	Stanyan St	W	22.8	23.8
Folsom	13th St	8th St	E	16.2	17.9
Folsom	1st St	The Embarcadero	E	11.3	14.3
Folsom	4th St	1st St	E	15.8	19.9
Folsom	8th St	4th St	E	18.5	20.8
Franklin	Market St	Pine St	N	15.3	19.0
Franklin	Pine St	Lombard St	N	18.1	18.7
Fremont	Harrison St	Market St	N	9.1	12.6
Fulton	Arguello	Masonic	E	16.4	18.2
Fulton	Arguello	Park Presidio Blvd	W	17.5	19.8
Fulton	Masonic	Arguello	W	17.4	18.9
Fulton	Park Presidio Blvd	Arguello	E	18.8	20.8
Geary	25th Ave	Arguello	E	20.7	20.8
Geary	25th Ave	Great Hwy	W	18.4	19.6
Geary	Arguello	25th Ave	W	17.6	19.4
Geary	Arguello	Gough St	E	20.5	23.5
Geary	Gough St	Arguello	W	18.6	22.3
Geary	Great Hwy	25th Ave	E	20.9	21.3
Geary	Kearny St	Gough St	W	13.0	13.6
Geneva	Cayuga Ave	Ocean Ave	W	12.4	17.2
Geneva	Cayuga Ave	Paris St	E	13.8	17.7
Geneva	Ocean Ave	Cayuga Ave	E	13.7	16.5
Geneva	Paris St	Cayuga Ave	W	15.3	19.6
Geneva	Paris St	Santos St	E	19.6	23.4
Geneva	Santos St	Paris St	W	18.7	23.9
Golden Gate	Franklin	Market St	E	14.3	16.1
Golden Gate	Masonic Ave	Franklin	E	20.1	19.7
Gough	Geary Blvd	Golden Gate Ave	S	16.5	18.6

CMP Route Name	Start Intersection	End Intersection	Travel Dir.	INRIX Average Speed	
				PM Peak	Off-Peak
Gough	Golden Gate Ave	Market St	S	13.4	19.9
Gough	Pine St	Geary Blvd	S	18.2	21.1
Guerrero / San Jose	29th St	Cesar Chavez St	N	17.6	16.6
Guerrero / San Jose	29th St	Monterey Blvd	S	22.6	24.0
Guerrero / San Jose	Cesar Chavez St	29th St	S	18.7	18.9
Guerrero / San Jose	Monterey Blvd	29th St	N	25.4	21.8
Harrison	2nd St	4th St	W	14.8	20.2
Harrison	4th St	8th St	W	16.1	19.4
Harrison	8th St	Division/13th	W	14.0	16.2
Harrison	The Embarcadero	2nd St	W	13.0	16.6
Hayes	Market St	Gough	W	9.3	11.9
Howard	The Embarcadero	South Van Ness Ave	W	13.2	15.7
I-280	Brannan St	Weldon St	S	42.0	49.4
I-80	Fremont Exit	Treasure Island End Point	E	22.3	45.2
I-80	Fremont Exit	US 101	W	20.1	48.4
I-280	Junipero Serra	Weldon St	N	58.8	55.9
I-80	Treasure Island End Point	Fremont Exit	W	24.6	47.3
I-80	US 101	Fremont Exit	E	17.2	47.1
I-280	Weldon St	Brannan St	N	50.8	53.5
I-280	Weldon St	Junipero Serra	S	53.0	54.0
Junipero Serra	19th Ave	Brotherhood Way	S	29.9	29.8
Junipero Serra	19th Ave	Sloat Blvd	N	17.9	22.9
Junipero Serra	Brotherhood Way	19th Ave	N	15.1	30.7
Junipero Serra	Brotherhood Way	County Line	S	41.0	40.5
Junipero Serra	County Line	Brotherhood Way	N	22.4	41.5
Junipero Serra	Sloat Blvd	19th Ave	S	23.9	27.7
Kearny	Market St	Columbus	N	11.9	13.1
King	2nd St	5th St	W	13.1	16.2
King	5th St	2nd St	E	14.4	15.0
Lincoln / Kezar	19th Ave	5th Ave	E	23.4	22.6
Lincoln / Kezar	5th Ave	19th Ave	W	19.1	23.3
Lincoln / Kezar	5th Ave	Stanyan St	E	22.3	23.7
Lincoln / Kezar	Stanyan St	5th Ave	W	22.3	25.3
Market / Portola	Burnett Ave	Castro St	E	21.1	24.6
Market / Portola	Burnett Ave	Vicente St	W	23.7	25.9
Market / Portola	Castro St	Burnett Ave	W	18.9	23.3
Market / Portola	Castro St	Laguna St	E	14.5	16.2

CMP Route Name	Start Intersection	End Intersection	Travel Dir.	INRIX Average Speed	
				PM Peak	Off-Peak
Market / Portola	Drumm St	South Van Ness Ave	W	12.5	13.5
Market / Portola	Laguna St	Castro St	W	14.3	17.4
Market / Portola	Laguna St	South Van Ness Ave	E	12.4	13.9
Market / Portola	Sloat Blvd	Vicente St	E	21.4	24.6
Market / Portola	South Van Ness Ave	Drumm St	E	12.3	13.4
Market / Portola	South Van Ness Ave	Laguna St	W	12.0	15.2
Market / Portola	Vicente St	Burnett Ave	E	21.3	24.0
Market / Portola	Vicente St	Sloat Blvd	W	18.5	21.0
Masonic	Geary Blvd	Euclid Ave	N	22.9	19.2
Masonic	Geary Blvd	Page St	S	15.2	16.8
Masonic	Page St	Geary Blvd	N	16.1	17.0
Masonic	Presidio Ave	Geary Blvd	S	13.8	8.7
Mission / Otis	14th St	9th St	N	13.9	13.6
Mission / Otis	14th St	Cesar Chavez St	S	12.9	13.9
Mission / Otis	3rd St	9th St	S	13.7	16.2
Mission / Otis	3rd St	The Embarcadero	N	11.7	12.8
Mission / Otis	9th St	14th St	S	14.3	14.2
Mission / Otis	9th St	3rd St	N	14.4	16.8
Mission / Otis	Cesar Chavez St	14th St	N	13.1	14.0
Mission / Otis	Cesar Chavez St	Ocean Ave	S	14.8	16.3
Mission / Otis	Ocean Ave	Cesar Chavez St	N	15.5	17.1
Mission / Otis	Ocean Ave	Sickles Ave	S	16.4	18.7
Mission / Otis	Sickles Ave	Ocean Ave	N	16.9	19.0
Mission / Otis	The Embarcadero	3rd St	S	9.4	11.8
Montgomery	Broadway	Bush St	S	9.1	11.6
Oak	Divisadero St	Fillmore St	E	24.3	22.6
Oak	Fillmore St	Laguna St	E	18.5	19.2
Oak	Laguna St	Franklin St	E	19.0	18.4
Oak	Lyon St	Divisadero St	E	19.6	23.7
Oak	Stanyan St	Lyon St	E	26.5	27.1
Ocean	19th Ave	Miramar	E	13.4	14.0
Ocean	Howth	Miramar	W	12.8	15.6
Ocean	Miramar	19th Ave	W	13.4	16.1
Ocean	Miramar	Howth	E	14.1	17.0
O'Farrell	Gough St	Mason	E	14.0	14.1
O'Farrell	Mason	Market St	E	11.7	12.3
Skyline	County Line	Sloat Blvd	N	40.3	42.3

CMP Route Name	Start Intersection	End Intersection	Travel Dir.	INRIX Average Speed	
				PM Peak	Off-Peak
Skyline	Sloat Blvd	County Line	S	32.7	34.1
Sloat	Junipero Serra Blvd	Skyline Blvd	W	25.6	28.9
Sloat	Skyline Blvd	Junipero Serra Blvd	E	22.2	27.0
Stanyan	Fulton St	Turk Blvd	N	19.9	11.0
Stanyan	Turk Blvd	Fulton St	S	14.3	16.3
Sutter	Divisadero St	Gough St	E	13.1	14.5
Sutter	Gough St	Divisadero St	W	13.4	15.1
Sutter	Market St	Mason St	W	10.3	11.4
Sutter	Mason St	Gough St	W	11.2	13.3
Townsend	2nd St	7th St	W	15.0	17.6
Townsend	7th St	2nd St	E	14.3	17.0
Turk	Divisadero St	Stanyan St	W	17.9	20.6
Turk	Gough St	Divisadero St	W	20.2	24.0
Turk	Hyde	Gough St	W	13.7	15.9
Turk	Market	Hyde	W	14.7	14.3
Turk	Stanyan St	Divisadero St	E	19.2	21.4
US 101	17th St	Cortland Ave	S	43.8	52.3
US 101	17th St	Market St	N	26.8	36.8
US 101	Cortland Ave	17th St	N	35.0	48.7
US 101	Cortland Ave	County Line	S	52.4	57.6
US 101	County Line	Cortland Ave	N	48.4	56.6
US 101	Market St	17th St	S	16.7	34.0
Van Ness / South Van Ness	Cesar Chavez St	US 101	N	19.2	18.1
Van Ness / South Van Ness	Golden Gate Ave	US 101	S	14.5	15.5
Van Ness / South Van Ness	Golden Gate Ave	Washington St	N	13.3	14.8
Van Ness / South Van Ness	Lombard St	Washington St	S	14.4	15.6
Van Ness / South Van Ness	US 101	Cesar Chavez St	S	17.0	17.9
Van Ness / South Van Ness	US 101	Golden Gate Ave	N	12.5	16.2
Van Ness / South Van Ness	Washington St	Golden Gate Ave	S	13.4	15.1
Van Ness / South Van Ness	Washington St	Lombard St	N	18.8	16.4



**Table A1 - AM CMP Segments Level of Service Monitoring  
(1991 - 2011)**

Name	From	To	Class	Travel Dir.	Dist. (mi)	Ave Speed	LOS	Ave Speed	LOS	Ave Speed	LOS	Ave Speed	LOS	Ave Speed	LOS	Ave Speed	LOS	Ave Speed	LOS	Ave Speed	LOS	2007 LOS	Ave Speed	2009 LOS (HCM-1985)	2009 LOS	Ave Speed	2011 LOS (HCM-1985)	2011 LOS		
						91	91	92/3	92/3	95	95	97	97	99	99	2001	2001	2004	2004	2006	2006	07	07	Changes	2009	Changes	2011	Changes	2011	Changes
Castro/ Divisadero	Pine	Geary	3	S	0.27		*	14.2	C																					
	Geary	Pine	3	N	0.27		*	10.8	D	7.7	E	7.5	E	7.4	E	7.3	E	7.8	E	11.7	D	15.6	C	C	C to C	13.0	D	C to D		
	Geary	14th	3	S	1.13		*	14.8	C																					
	14th	Geary	3	N	1.13	4.5	F	14.0	C																					
	14th Street	Market	3	S	0.32		*	11.9	D	10.4	D	13.3	C																	
	Market	14th Street	3	N	0.32		*	17.5	C																					
Cesar Chavez	Guerrero	Bryant	3	E	0.75			19.0	B																					
	Bryant	Guerrero	3	W	0.75			19.6	B																					
	Kansas	Bryant	3	W	0.37			17.7	C																					
	Bryant	Kansas	3	E	0.37			19.9	B																					
	Kansas	3rd Street	3	E	0.79			17.6	C																					
	3rd Street	Kansas	3	W	0.79			19.4	B																					





**Table A1 - AM CMP Segments Level of Service Monitoring  
(1991 - 2011)**

Name	From	To	Class	Travel Dir.	Dist. (mi)	Ave Speed	LOS	Ave Speed	LOS	Ave Speed	LOS	Ave Speed	LOS	Ave Speed	LOS	Ave Speed	LOS	Ave Speed	LOS	Ave Speed	LOS	2007 LOS	Ave Speed	2009 LOS (HCM-1985)	2009 LOS	Ave Speed	2011 LOS (HCM-1985)	2011 LOS
						91	91	92/3	92/3	95	95	97	97	99	99	2001	2001	2004	2004	2006	2006	07	07	Changes	2009	Changes	2011	Changes
	Franklin	Market	3	E	0.65	12.2	D	16.9	C							13.2	C	12.2	D	12.4	D	D to D	10.7	D	D to D	12.3	D	D TO D
Gough	Pine	Geary	3	S	0.26	9.5	D	25.6	A							28.4	A	21.5	B	23.6	B	B to B	20.6	B	B to B	16.4	C	B TO C
	Geary	Golden Gate	3	S	0.33		*	20.1	B							20.1	B	15.3	C	22.5	B	C to B	23.2	B	B to B	19.1	B	B TO B
	Golden Gate	Market	3	S	0.52	8.3	E	12.8	D	11.1	D	6.5	F	18.9	C			8.9	B	15.4	C	13.8	C	C to C	15.7	C	C TO C	
Guerrero/ San Jose	Cesar Chavez	29th Street	3	S	0.28		*	26.3	A							20.5	B	19.9	C	22.4	B	C to B	21.2	B	B to B	12.2	D	B TO D
	29th Street	Cesar Chavez	3	N	0.28	6.2	F	19.3	B							15.2	C	22.6	C	19.9	B	C to B	24.5	B	B to B	10.2	D	B TO D
	29th Street	Monterey	1	S	1.19		*	23.7	B							31.6	B	23.1	C	26.1	C	C to C	30.3	B	C to B	30.0	B	B TO B
	29th Street	Monterey	1	N	1.19		*	17.3	C							33.8	B	28.3	B	27.3	C	B to C	25.6	C	C to C	24.4	C	C TO C
Harrison	Embarcadero	1st Street	3	W	0.34			34.8	A							13.8	C	18.6	C	12.7	D	C to D	20.1	B	D to B	17.5	C	B TO C
	1st Street	4th Street	3	W	0.56			27.6	A							15.2	C	17.3	C	24.4	B	C to B	11.4	D	B to D	14.0	C	D TO C
	4th Street	8th Street	3	W	0.69			28.9	A							26.2	A	19.1	B	16.0	C		15.8	C	C to C	19.5	B	C TO B
	8th Street	Division	3	W	0.40			14.4	C							13.6	C	14.3	C	15.3	C		13.3	C	C to C	14.4	C	C TO C



**Table A1 - AM CMP Segments Level of Service Monitoring  
(1991 - 2011)**

Name	From	To	Class	Travel Dir.	Dist. (mi)	Ave	LOS	Ave	LOS	Ave	LOS	Ave	LOS	Ave	LOS	Ave	LOS	Ave	LOS	Ave	LOS	2007	Ave	2009 LOS	2009	Ave	2011 LOS	2011		
						Speed		Speed		Speed		Speed		Speed		Speed		Speed		Speed		Speed		Speed		LOS	Speed	(HCM-1985)	LOS	Speed
Octavia	Fell	Market	3	S	0.27																									
	Market	Fell	3	N	0.27																									
O'Farrell	Gough	Mason	3	E	0.85	*		16.6	C							13.5	C													
	Mason	Market	3	E	0.28	*		18.7	C							10.9	D	8.3	E											
Pine	Market	Kearny	3	W	0.38	4.6	F	9.9	D	7.3	E	8.1	E	8.3	E	7.9	E	7.2	E	7.5	E	7.3	E	E to E	8.8	E	E to E	10.5	D	E to D
	Kearny	Leavenworth	3	W	0.63		*	16.2	C							15.6	C						A	C to A	18.2	C	A to C	24.1	B	C to B
	Leavenworth	Franklin	3	W	0.46		*	17.2	C							9.4	D	9.4	D				C	D to C	17.7	C	C to C	17.7	C	C to C
	Franklin	Presidio	3	W	1.27		*	20.0	B							20.4	B						B	B to B	21.3	B	B to B	21.8	B	B to B
Potrero	Division	21st Street	3	S	0.80		*	24.8	B																					
	21st Street	Division	3	N	0.80		*	21.4	B							18.2	C													
	21st Street	C. Chavez	3	S	0.62		*	20.1	B																					
	C. Chavez	21st Street	3	N	0.62		*	25.2	A																					
Skyline	Sloat	County Line	3	S	1.94		*	41.6	A							41.6	A													
	County Line	Sloat	3	N	1.94		*	43.7	A							41.8	A													
Sloat	Skyline	J. Serra	1	E	1.38		*	19.8	D	21.5	D	14.5	E	18.1	D	23.4	C													
	J. Serra	Skyline	1	W	1.38		*	23.3	C							23.5	C													











**Table A2 - PM CMP Segments Level of Service Monitoring  
(1991 - 2011)**

Name	From	To	Class	Travel Dir.	Old Dist. (mi)	Dist. (mi)	Ave Speed 91	LOS 91	Ave Speed 92/3	LOS 92/3	Ave Speed 95	LOS 95	Ave Speed 97	LOS 97	Ave Speed 99	LOS 99	Ave Speed 2001	LOS 2001	Ave Speed 2004	LOS 2004	Ave Speed 2006	LOS 2006	Ave Speed 2007	LOS 2007	2007 LOS Changes	Ave Speed 2009	2009 LOS (HCM-1985) Changes	Ave Speed 2011	2011 LOS (HCM-1985) Changes	2011 LOS		
	14th Street	Cesar Chavez	3	S		1.39	10.9	D	14.9	C																						
	Cesar Chavez	14th Street	3	N		1.39	10.9	*	15.6	C	12.3	D	13.0	C	13.2	C																
	Cesar Chavez	Ocean	3	S		1.96		*	17.3	C																						
	Ocean	Cesar Chavez	3	N		1.96		*	17.3	C																						
	Ocean	Sickles	3	S	1.88	1.45		*	15.1	C																						
	Sickles	Ocean	3	N	1.88	1.45		*	18.1	C																						
Montgomery	Broadway	Bush	3	S	0.38	0.51	6.2	F	2.4	F							12.4	D	8.2	E	8.2	E	5.5	F	E to F	9.2	D	F to D	7.2	E	D TO E	
	Van Ness	Columbus	3	E		0.38		*	15.4	C							7.4	E	11.0	D	11.4	D	15.0	C	D to C	15.5	C	C to C	14.4	C	C TO C	
North Point	Van Ness	Van Ness	3	W		0.38	8.5	E	20.9	B							10.4	D	9.8	D	19.5	B	12.6	D	D to D	16.4	C	D to C	13.2	C	C TO C	
	Columbus	Embarcadero	3	E		0.61		*	14.5	C							11.4	D	9.9	D	12.8	D	20.3	B	D to B	15.9	C	B to C	16.3	C	C TO C	
	Embarcadero	Columbus	3	W		0.61		*	16.9	C							12.2	D	10.3	D	19.5	B	21.3	B	B to B	15.8	C	B to C	20.2	B	C TO B	
	Divisadero	Fillmore	3	E		0.37		*	-	-							16.9	C		24.6	B	26.7	A	B to A	25.3	A	A to A	26.4	A	A TO A		
	Fillmore	Laguna	3	E		0.27	8.2	E	-	-							15.3	C	15.7	C	23.8	B	27.8	A	B to A	22.3	B	A to B	24.5	B	B TO B	
	Stanyan	Divisadero	3	E		0.91		*	21.6	B							15.6	C		23.0	B	27.4	A	B to A	21.5	B	A to B	22.6	B	B TO B		
	Laguna	Franklin	3	E		0.27		*	23.1	B							13.0	C	11.8	D	16.2	C	13.5	C	C to C	11.8	D	C to D	16.4	C	D TO C	
	19th Avenue	Miramar	3	E		1.11		*	17.1	C							9.4	D	12.5	D	12.4	D	14.9	C	D to C	12.9	D	C to D	12.8	D	D TO D	
	Miramar	19th Avenue	3	W		1.11		*	14.6	C							8.8	E	10.3	D	12.5	D	15.4	C	D to C	12.4	D	C to D	14.5	C	D TO C	
	Miramar	Howth	3	E		0.48	0.8	F	21.0	B							10.7	D	13.2	C	14.2	C	13.7	C	C to C	14.8	C	C to C	12.7	D	C TO D	
	Howth	Miramar	3	W		0.48	6.1	F	14.9	C							9.1	D	11.2	D	8.4	E	10.7	D	E to D	13.0	D	D to D	11.9	D	D TO D	
Octavia	Fill	Market	3	S		0.27		*	14.2	D											14.2	C	12.6	D	C to D	11.6	D	D to D	9.9	D	D TO D	
	Market	Fill	3	N		0.27		*	13.7	C											8.2	E	14.5	C	E to C	16.1	C	C to C	13.6	C	C TO C	
O'Farrell	Gough	Mason	3	E		0.85	5.7	F	13.7	C							12.6	D	14.6	C	9.9	D	10.0	D	D to D	11.2	D	D to D	11.2	D	D TO D	
	Mason	Market	3	E		0.28	6.9	F	7.9	E							4.2	F	6.7	F	6.7	F	6.1	F	F to F	9.0	E	F to E	8.0	E	E TO E	



**Table A-3 - Average Speed and LOS for all Arterial HCM 2000 Segments**

Route Name	Start Intersection	End Intersection	Length (mi)	HCM 2000 Class	2009				2011			
					AM Avg. Speed (mph)	AM LOS	PM Avg. Speed (mph)	PM LOS	AM Avg. Speed (mph)	AM LOS	PM Avg. Speed (mph)	PM LOS
1st St - SE	Market St	Harrison St	0.48	4	14.2	C	13.1	C	13.8	C	18.2	C
2nd St - NW	Branan	Market St	0.72	4	12.2	D	10.4	D	13.9	C	13.3	C
2nd St - SE	Market St	Branan	0.72	4	16.3	C	10.6	D	20.8	B	12.2	D
3rd St - NB	Jamestown Ave	Evans Ave	1.62	4	24.6	B	22.1	B	23.9	B	24.0	B
3rd St - NB	Evans Ave	Terry A Francois Blvd	2.33	3	28.4	B	30.1	A	27.6	B	30.0	A
3rd St - NB	Terry A Francois Blvd	Berry St	0.11	3	21.3	C	21.3	C	16.2	D	21.4	C
3rd St - NB	Berry St	Market St	0.97	4	19.9	B	15.7	C	15.0	C	12.3	D
3rd St - SB	Terry A Francois Blvd	Evans Ave	2.33	3	28.6	B	27.8	B	27.3	B	29.5	B
3rd St - SB	Evans Ave	Jamestown Ave	1.62	4	23.2	B	22.3	B	25.4	A	22.7	B
4th St / Stockton - SB	O'farrell	Harrison	0.56	4	13.4	C	8.5	E	17.0	C	15.1	C
4th St / Stockton - SB	Harrison	Channel	0.62	4	13.8	C	14.3	C	16.8	C	14.9	C
5th St - NW	Brannan	Market St	0.72	4	14.7	C	15.6	C	16.3	C	15.7	C
5th St - SE	Market St	Brannan	0.72	4	19.3	B	13.2	C	16.1	C	13.8	C
6th St - NB	Brannan St	Market St	0.72	4	11.2	D	11.1	D	15.7	C	11.0	D
6th St - SB	Market St	Brannan St	0.72	4	15.1	C	12.3	D	16.5	C	9.6	D
7th St - NB	Brannan St	Market St	0.72	4	18.9	C	16.4	C	19.3	B	20.9	B
8th St - SE	Market St	Bryant St	0.60	3	15.0	D	17.0	D	17.9	D	23.8	C
9th St - NB	Brannan St	Market St	0.72	4	11.4	D	14.6	C	13.8	C	13.4	C
10th St - SE	Market St	Brannan St	0.73	3	21.9	C	16.3	D	21.4	C	20.4	C
16th St - EB	Market St	Mission St	0.74	4	12.1	D	10.7	D	13.7	C	11.9	D
16th St - EB	Mission St	Potrero Ave	0.67	4	14.1	C	12.8	D	13.6	C	11.7	D
16th St - WB	Potrero Ave	Mission St	0.67	4	13.5	C	15.2	C	12.1	D	13.4	C
16th St - WB	Mission St	Market St	0.74	4	13.4	C	12.3	D	12.7	D	8.4	E
19th Ave/Park Presidio - NB	Junipero Serra Blvd	Sloat Blvd	1.25	3	18.2	C	12.1	E	16.9	D	17.7	D
19th Ave/Park Presidio - NB	Sloat Blvd	Lincoln Way	2.13	3	13.8	E	23.6	C	15.4	D	27.7	B
19th Ave/Park Presidio - NB	Lincoln Way	Fulton	0.93	2	20.0	D	32.5	B	22.3	C	30.1	B
19th Ave/Park Presidio - NB	Fulton	Lake	0.91	3	19.8	C	25.3	B	22.0	C	28.5	B
19th Ave/Park Presidio - NB	Lake	Us 101	1.21	1	45.3	A	46.0	A	43.6	A	43.0	A
19th Ave/Park Presidio - SB	Us 101	Lake	1.32	1	40.7	B	35.2	B	24.4	D	30.9	C
19th Ave/Park Presidio - SB	Lake	Fulton	0.91	3	24.0	B	21.7	C	25.6	B	23.4	C
19th Ave/Park Presidio - SB	Fulton	Lincoln Way	0.93	2	29.0	B	18.2	D	30.9	B	25.8	C
19th Ave/Park Presidio - SB	Lincoln Way	Sloat Blvd	2.13	3	19.2	C	23.0	C	19.3	C	21.4	C
19th Ave/Park Presidio - SB	Sloat Blvd	Junipero Serra Blvd	1.25	3	21.6	C	13.5	E	23.6	C	23.2	C
Alemaný - EB	County Line	Lyell St	3.01	2	28.3	B	22.4	C	23.2	C	22.0	C
Alemaný - EB	Lyell St	Bay Shore Blvd	1.59	2	26.1	C	29.9	B	28.5	B	30.2	B
Alemaný - WB	Bay Shore Blvd	Lyell St	1.51	2	30.7	B	31.4	B	28.1	B	24.7	C

Route Name	Start Intersection	End Intersection	Length (mi)	HCM 2000 Class	2009				2011			
					AM Avg. Speed (mph)	AM LOS	PM Avg. Speed (mph)	PM LOS	AM Avg. Speed (mph)	AM LOS	PM Avg. Speed (mph)	PM LOS
Alemanly - WB	Lyell St	County Line	3.03	2	25.3	C	22.2	C	21.4	D	22.5	C
Bay - EB	Van Ness Ave	The Embarcadero	1.08	4	18.9	C	16.5	C	14.1	C	18.2	C
Bay - WB	The Embarcadero	Van Ness Ave	1.08	4	19.3	B	16.2	C	20.1	B	16.4	C
Bayshore - NB	County Line	Industrial St	2.26	3	17.4	D	21.5	C	19.1	C	23.1	C
Bayshore - NB	Industrial St	Cesar Chavez	0.83	3	17.5	D	14.4	D	12.6	E	15.5	D
Bayshore - SB	Cesar Chavez	Industrial St	0.83	3	25.4	B	22.3	C	19.4	C	15.3	D
Bayshore - SB	Industrial St	County Line	2.26	3	27.8	B	26.3	B	24.1	B	21.8	C
Beale / Davis - SB	Clay St	Mission St	0.33	4	12.8	D	11.2	D	12.3	D	11.7	D
Brannan - EB	10th St	06th St	0.54	4	13.8	C	13.6	C	11.7	D	13.6	C
Brannan - EB	06th St	03rd St	0.52	4	15.8	C	10.3	D	14.7	C	17.2	C
Brannan - WB	03rd St	06th St	0.52	4	17.0	C	14.0	C	12.8	D	16.4	C
Brannan - WB	06th St	10th St	0.54	4	16.9	C	9.8	D	14.1	C	8.8	E
Broadway - EB	Gough St	Larkin St	0.36	4	15.1	C	10.5	D	16.3	C	10.2	D
Broadway - EB	Larkin St	Powell St	0.55	1	32.8	C	36.1	B	23.2	D	33.6	C
Broadway - EB	Powell St	Montgomery St	0.35	4	20.1	B	13.3	C	15.8	C	14.2	C
Broadway - EB	Montgomery St	The Embarcadero	0.35	4	13.9	C	14.7	C	15.3	C	13.2	C
Broadway - WB	The Embarcadero	Montgomery St	0.35	4	19.9	B	14.9	C	17.1	C	13.3	C
Broadway - WB	Montgomery St	Powell St	0.35	4	13.3	C	7.7	E	11.7	D	11.8	D
Broadway - WB	Powell St	Larkin St	0.55	1	32.9	C	32.3	C	31.6	C	29.6	C
Broadway - WB	Larkin St	Gough St	0.36	4	19.5	B	11.3	D	15.0	C	11.1	D
Brotherhood - EB	Junipero Serra	Alemanly Blvd	0.44	3	25.8	B	26.6	B	29.2	B	24.6	B
Brotherhood - WB	Alemanly Blvd	Junipero Serra	0.47	3	29.7	B	33.4	A	28.8	B	31.5	A
Bryant - EB	Division St	4th St	0.99	3	13.1	E	12.7	E	19.4	C	14.3	D
Bryant - EB	4th St	02nd St	0.34	3	24.5	B	19.1	C	26.4	B	20.9	C
Bryant - EB	02nd St	The Embarcadero	0.43	4	19.2	B	13.7	C	15.5	C	11.1	D
Bush - EB	Masonic Ave	Gough St	1.24	3	18.0	C	21.2	C	23.3	C	21.9	C
Bush - EB	Gough St	Market St	1.46	3	10.9	E	14.3	D	13.8	E	11.3	E
Castro / Divisadero - NB	Market St	14th St	0.32	4	14.8	C	15.7	C	15.6	C	15.2	C
Castro / Divisadero - NB	14th St	Geary Blvd	1.13	4	15.0	C	12.3	D	14.9	C	11.6	D
Castro / Divisadero - NB	Geary Blvd	Pine St	0.27	4	11.1	D	10.7	D	8.1	E	9.2	D
Castro / Divisadero - SB	Pine St	Geary Blvd	0.27	4	14.5	C	13.5	C	13.0	D	10.1	D
Castro / Divisadero - SB	Geary Blvd	14th St	1.13	4	16.6	C	11.1	D	12.8	D	10.3	D
Castro / Divisadero - SB	14th St	Market St	0.32	4	9.9	D	15.2	C	16.0	C	11.6	D
Cesar Chavez - EB	Guerrero St	South Van Ness Ave	0.36	4	20.3	B	13.5	C	14.6	C	10.7	D
Cesar Chavez - EB	South Van Ness Ave	Evans Ave	1.03	4	18.6	C	22.1	B	22.6	B	16.8	C
Cesar Chavez - EB	Evans Ave	Pennsylvania Ave	0.27	4	21.3	B	30.8	A	24.3	B	24.0	B
Cesar Chavez - EB	Pennsylvania Ave	03rd St	0.26	4	17.5	C	20.5	B	15.8	C	22.4	B
Cesar Chavez - WB	03rd St	Pennsylvania Ave	0.26	4	13.6	C	16.3	C	21.0	B	11.6	D

Route Name	Start Intersection	End Intersection	Length (mi)	HCM 2000 Class	2009				2011			
					AM Avg. Speed (mph)	AM LOS	PM Avg. Speed (mph)	PM LOS	AM Avg. Speed (mph)	AM LOS	PM Avg. Speed (mph)	PM LOS
Cesar Chavez - WB	Pennsylvania Ave	Evans Ave	0.27	4	22.2	B	25.7	A	23.6	B	26.9	A
Cesar Chavez - WB	Evans Ave	South Van Ness Ave	1.03	4	21.2	B	22.7	B	23.4	B	23.4	B
Cesar Chavez - WB	South Van Ness Ave	Guerrero St	0.36	4	10.9	D	13.7	C	11.2	D	8.0	E
Clay - EB	Kearny St	Davis St	0.38	4	19.1	B	11.6	D	19.0	B	16.2	C
Columbus - NW	Montgomery St	Greenwich St	0.67	4	14.9	C	14.1	C	12.6	D	12.7	D
Columbus - NW	Greenwich St	North Point St	0.42	4	10.6	D	9.2	D	10.5	D	13.4	C
Columbus - SE	North Point St	Greenwich St	0.42	4	18.7	C	13.3	C	18.4	C	14.0	C
Columbus - SE	Greenwich St	Montgomery St	0.67	4	11.6	D	7.1	E	12.0	D	12.3	D
Doyle / Lombard / Richardson - SE	Francisco	Broderick	0.19	3	14.9	D	18.9	C	16.1	D	15.2	D
Doyle / Lombard / Richardson - SE	Broderick	Pierce St	0.28	3	23.3	C	20.4	C	23.0	C	16.3	D
Doyle / Lombard / Richardson - SE	Pierce St	Laguna	0.46	3	25.1	B	21.1	C	22.6	C	18.8	C
Doyle / Lombard / Richardson - SE	Laguna	Van Ness Ave	0.36	3	19.1	C	14.3	D	15.8	D	12.0	E
Doyle / Lombard / Richardson - NW	Van Ness Ave	Laguna	0.36	3	12.1	E	11.7	E	13.3	E	12.6	E
Doyle / Lombard / Richardson - NW	Laguna	Pierce St	0.46	3	22.1	C	17.6	D	22.7	C	21.4	C
Doyle / Lombard / Richardson - NW	Pierce St	Broderick	0.28	3	21.6	C	16.9	D	12.6	E	18.1	C
Doyle / Lombard / Richardson - NW	Broderick	Francisco	0.19	3	20.9	C	22.0	C	23.5	C	14.8	D
Drumm - NB	Market St	Washington St	0.22	4	16.8	C	16.2	C	16.1	C	17.2	C
Drumm - SB	Washington St	Market St	0.22	4	8.7	E	7.6	E	20.3	B	17.7	C
Duboce / Division - EB	Market St	Mission St	0.35	4	9.7	D	14.8	C	16.6	C	16.7	C
Duboce / Division - EB	Mission St	Brannan	0.66	4	13.8	C	13.3	C	23.5	B	18.5	C
Duboce / Division - WB	Brannan	Mission St	0.66	4	12.8	D	9.6	D	18.0	C	16.2	C
Duboce / Division - WB	Mission St	Market St	0.35	4	14.6	C	10.6	D	14.1	C	9.6	D
Embarcadero - NB	Townsend St	Bay St	2.06	3	20.9	C	21.0	C	20.6	C	17.5	D
Embarcadero - NB	Bay St	North Point St	0.10	4	26.7	A	11.4	D	16.8	C	21.0	B
Embarcadero - SB	North Point St	Bay St	0.10	4	13.7	C	11.6	D	9.0	D	17.5	C
Embarcadero - SB	Bay St	Townsend St	2.06	3	13.2	E	14.2	D	14.5	D	8.7	F
Evans - NW	03rd St	Cesar Chavez St	0.73	4	22.5	B	20.1	B	15.9	C	21.5	B
Evans - SE	Cesar Chavez St	03rd St	0.73	4	20.7	B	21.6	B	15.7	C	17.5	C
Fell - EB	Gough St	10th St	0.29	4	11.4	D	12.6	D	8.7	E	12.9	D
Fell - WB	Franklin St	Gough St	0.09	4	15.1	C	4.3	F	13.2	C	3.8	F

Route Name	Start Intersection	End Intersection	Length (mi)	HCM 2000 Class	2009				2011			
					AM Avg. Speed (mph)	AM LOS	PM Avg. Speed (mph)	PM LOS	AM Avg. Speed (mph)	AM LOS	PM Avg. Speed (mph)	PM LOS
Fell - WB	Gough St	Laguna St	0.18	3	12.9	E	9.0	F	15.2	D	9.3	F
Fell - WB	Laguna St	Stanyan St	1.56	3	26.4	B	23.7	C	26.3	B	24.1	B
Folsom - EB	11th St	08th St	0.31	3	17.2	D	16.9	D	18.0	D	14.7	D
Folsom - EB	08th St	04th St	0.69	3	14.9	D	17.2	D	17.0	D	19.4	C
Folsom - EB	04th St	01st St	0.52	3	20.7	C	15.0	D	18.8	C	16.9	D
Folsom - EB	01st St	The Embarcadero	0.34	3	13.2	E	12.1	E	10.8	E	12.1	E
Franklin - NB	Market St	Pine St	1.06	4	14.9	C	15.6	C	12.7	D	13.4	C
Franklin - NB	Pine St	Lombard St	0.83	4	20.5	B	23.8	B	21.1	B	20.8	B
Fremont - NB	Harrison St	Market St	0.48	4	12.9	D	10.1	D	13.6	C	10.6	D
Fulton - EB	Park Presidio Blvd	Arguello	0.74	3	20.9	C	24.1	B	18.6	C	16.9	D
Fulton - EB	Arguello	Masonic	0.66	4	16.2	C	13.6	C	13.4	C	12.2	D
Fulton - WB	Masonic	Arguello	0.66	4	20.4	B	20.6	B	16.5	C	13.8	C
Fulton - WB	Arguello	Park Presidio Blvd	0.74	3	22.5	C	15.4	D	15.4	D	15.3	D
Geary - EB	Great Hwy	25th Ave	1.78	4	25.0	B	21.4	B	23.1	B	23.8	B
Geary - EB	25th Ave	Arguello	1.42	4	23.9	B	22.9	B	20.3	B	21.5	B
Geary - EB	Arguello	Collins	0.48	4	27.7	A	13.2	C	18.4	C	15.2	C
Geary - EB	Collins	Gough St	1.41	3	28.7	B	24.7	B	23.8	C	22.5	C
Geary - WB	Kearny St	Gough St	1.18	4	15.1	C	10.1	D	14.1	C	12.9	D
Geary - WB	Gough St	Collins	1.41	3	19.4	C	25.3	B	19.4	C	25.8	B
Geary - WB	Collins	Arguello	0.48	4	22.7	B	24.1	B	23.3	B	23.1	B
Geary - WB	Arguello	25th Ave	1.42	4	22.1	B	17.0	C	19.8	B	17.1	C
Geary - WB	25th Ave	Great Hwy	1.78	4	23.9	B	22.0	B	24.5	B	22.7	B
Geneva - EB	Ocean Ave	Cayuga Ave	0.56	4	8.8	E	8.4	E	11.9	D	12.9	D
Geneva - EB	Cayuga Ave	Paris St	0.33	4	13.4	C	10.8	D	15.3	C	11.5	D
Geneva - EB	Paris St	Moscow St	0.36	4	15.8	C	13.4	C	15.0	C	17.4	C
Geneva - EB	Moscow St	Santos St	0.83	3	23.8	C	28.5	B	29.7	B	24.8	B
Geneva - WB	Santos St	Moscow St	0.83	3	24.5	B	27.7	B	27.1	B	25.6	B
Geneva - WB	Moscow St	Paris St	0.36	4	21.3	B	17.7	C	16.4	C	19.6	B
Geneva - WB	Paris St	Cayuga Ave	0.33	4	8.2	E	10.5	D	8.7	E	8.1	E
Geneva - WB	Cayuga Ave	Ocean Ave	0.56	4	9.6	D	9.2	D	8.8	E	10.2	D
Golden Gate - EB	Masonic Ave	Divisadero St	0.46	4	16.0	C	16.5	C	13.3	C	13.5	C
Golden Gate - EB	Divisadero St	Franklin	0.91	3	17.6	D	20.5	C	16.7	D	14.0	D
Golden Gate - EB	Franklin	Market St	0.65	4	10.7	D	12.8	D	12.3	D	8.9	E
Gough - SB	Pine St	Geary Blvd	0.26	4	20.6	B	24.3	B	16.4	C	23.0	B
Gough - SB	Geary Blvd	Golden Gate Ave	0.33	4	23.2	B	18.3	C	19.1	B	20.2	B
Gough - SB	Golden Gate Ave	Market St	0.53	4	15.7	C	8.7	E	15.9	C	12.3	D
Guerrero / San Jose - NB	Monterey Blvd	Randall St	0.89	1	27.5	C	30.4	C	26.2	D	30.9	C
Guerrero / San Jose - NB	Randall St	29th St	0.29	2	21.3	D	14.2	E	20.0	D	14.6	E

Route Name	Start Intersection	End Intersection	Length (mi)	HCM 2000 Class	2009				2011			
					AM Avg. Speed (mph)	AM LOS	PM Avg. Speed (mph)	PM LOS	AM Avg. Speed (mph)	AM LOS	PM Avg. Speed (mph)	PM LOS
Guerrero / San Jose - NB	29th St	Cesar Chavez St	0.29	4	24.5	B	20.0	B	10.2	D	12.7	D
Guerrero / San Jose - SB	Cesar Chavez St	29th St	0.29	4	21.2	B	14.3	C	12.2	D	20.8	B
Guerrero / San Jose - SB	29th St	Randall St	0.29	2	16.6	E	12.1	F	17.8	D	15.0	E
Guerrero / San Jose - SB	Randall St	Monterey Blvd	0.89	1	41.6	B	41.9	B	38.7	B	38.2	B
Harrison - WB	The Embarcadero	02nd St	0.51	3	14.5	D	13.4	E	13.8	E	13.7	E
Harrison - WB	02nd St	04th St	0.34	3	12.8	E	16.3	D	17.9	D	20.8	C
Harrison - WB	04th St	08th St	0.69	3	15.8	D	11.6	E	19.5	C	14.9	D
Harrison - WB	08th St	10th St	0.21	3	12.8	E	13.5	E	12.1	E	13.2	E
Harrison - WB	10th St	Division/13th	0.19	4	13.9	C	13.0	D	18.5	C	10.2	D
Hayes - WB	Market St	Gough	0.39	4	12.4	D	9.6	D	12.5	D	8.8	E
Howard - WB	The Embarcadero	South Van Ness Ave	2.11	3	14.2	D	12.6	E	15.0	D	12.2	E
Junipero Serra - NB	County Line	Brotherhood Way	0.31	1	40.0	B	35.6	B	44.1	A	47.1	A
Junipero Serra - NB	Brotherhood Way	19th Ave	0.31	1	22.1	D	15.2	F	10.8	F	10.5	F
Junipero Serra - NB	19th Ave	Sloat Blvd	1.21	2	24.9	C	22.8	C	19.8	D	22.0	D
Junipero Serra - SB	Sloat Blvd	19th Ave	1.21	2	17.8	D	16.7	E	21.4	D	16.8	E
Junipero Serra - SB	19th Ave	Brotherhood Way	0.31	1	39.6	B	39.2	B	42.3	A	40.3	B
Junipero Serra - SB	Brotherhood Way	County Line	0.31	1	43.5	A	39.6	B	44.1	A	45.3	A
Kearny - NB	Market St	Columbus	0.65	4	13.8	C	13.0	C	14.7	C	14.8	C
King - EB	05th St	02nd St	0.52	4	19.2	B	17.8	C	22.2	B	19.8	B
King - WB	02nd St	05th St	0.52	4	24.2	B	18.5	C	21.3	B	8.3	E
Lincoln / Kezar - EB	19th Ave	05th Ave	0.83	3	22.4	C	23.1	C	26.9	B	20.6	C
Lincoln / Kezar - EB	05th Ave	Martin Luther King Jr Dr	0.22	3	22.8	C	21.0	C	29.3	B	18.9	C
Lincoln / Kezar - EB	Martin Luther King Jr Dr	Stanyan St	0.48	4	19.4	B	22.0	B	18.6	C	25.2	A
Lincoln / Kezar - WB	Stanyan St	Martin Luther King Jr Dr	0.48	4	28.4	A	29.2	A	32.7	A	25.1	A
Lincoln / Kezar - WB	05th Ave	19th Ave	0.83	3	25.9	B	12.9	E	29.2	B	18.9	C
Main - NW	Mission St	Market St	0.12	4	10.7	D	19.3	B	21.7	B	14.3	C
Market / Portola - EB	Sloat Blvd	Vicente St	0.43	3	20.3	C	20.2	C	25.1	B	21.1	C
Market / Portola - EB	Vicente St	Burnett Ave	1.34	3	19.5	C	24.0	C	18.5	C	20.0	C
Market / Portola - EB	Burnett Ave	Eureka St	1.43	3	29.8	B	23.4	C	28.7	B	24.5	B
Market / Portola - EB	Eureka St	Castro St	0.19	4	14.5	C	14.9	C	7.0	E	18.1	C
Market / Portola - EB	Castro St	Laguna St	0.79	3	15.7	D	9.9	F	9.2	F	10.3	E
Market / Portola - EB	Laguna St	Franklin St	0.32	3	17.7	D	11.0	E	13.6	E	16.3	D
Market / Portola - EB	Franklin St	South Van Ness Ave	0.11	4	12.5	D	17.2	C	11.3	D	11.7	D
Market / Portola - EB	South Van Ness Ave	Drumm St	1.77	4	12.5	D	9.5	D	11.6	D	10.6	D
Market / Portola - WB	Drumm St	South Van Ness Ave	1.77	4	14.9	C	13.5	C	15.7	C	12.1	D
Market / Portola - WB	South Van Ness Ave	Franklin St	0.11	4	23.9	B	10.1	D	22.8	B	12.8	D
Market / Portola - WB	Franklin St	Laguna St	0.32	3	12.4	E	13.1	E	12.1	E	10.9	E
Market / Portola - WB	Laguna St	Castro St	0.79	3	15.1	D	15.1	D	12.5	E	12.7	E

Route Name	Start Intersection	End Intersection	Length (mi)	HCM 2000 Class	2009				2011			
					AM Avg. Speed (mph)	AM LOS	PM Avg. Speed (mph)	PM LOS	AM Avg. Speed (mph)	AM LOS	PM Avg. Speed (mph)	PM LOS
Market / Portola - WB	Castro St	Eureka St	0.19	4	21.8	B	25.6	A	28.0	A	22.8	B
Market / Portola - WB	Eureka St	Burnett Ave	1.43	3	25.9	B	26.9	B	21.8	C	31.4	A
Market / Portola - WB	Burnett Ave	Vicente St	1.34	3	21.2	C	20.4	C	23.5	C	21.4	C
Market / Portola - WB	Vicente St	Sloat Blvd	0.43	3	10.4	E	8.3	F	12.5	E	14.0	D
Masonic - NB	Page St	Geary Blvd	0.79	3	19.9	C	18.8	C	12.8	E	17.2	D
Masonic - NB	Geary Blvd	Euclid Ave	0.19	3	27.0	B	27.0	B	15.4	D	22.4	C
Masonic - SB	Presidio Ave	Geary Blvd	0.29	3	19.7	C	14.5	D	10.0	E	9.2	F
Masonic - SB	Geary Blvd	Page St	0.79	3	17.2	D	16.9	D	11.1	E	13.5	E
Mission / Otis - NB	Sickles Ave	Ocean Ave	1.45	4	22.2	B	22.4	B	21.8	B	20.3	B
Mission / Otis - NB	Ocean Ave	Cesar Chavez St	1.95	4	19.3	B	17.8	C	17.2	C	16.3	C
Mission / Otis - NB	Cesar Chavez St	14th St	1.39	4	18.5	C	13.9	C	15.7	C	14.2	C
Mission / Otis - NB	14th St	09th St	0.65	4	15.1	C	13.3	C	16.3	C	12.2	D
Mission / Otis - NB	09th St	03rd St	0.98	4	17.1	C	13.7	C	16.2	C	12.4	D
Mission / Otis - NB	03rd St	The Embarcadero	0.74	4	17.3	C	13.0	D	12.2	D	10.9	D
Mission / Otis - SB	The Embarcadero	03rd St	0.74	4	13.8	C	13.9	C	10.1	D	11.0	D
Mission / Otis - SB	03rd St	09th St	0.98	4	15.4	C	15.1	C	15.4	C	14.4	C
Mission / Otis - SB	09th St	14th St	0.68	4	15.8	C	13.4	C	19.4	B	13.5	C
Mission / Otis - SB	14th St	Cesar Chavez St	1.39	4	17.9	C	15.2	C	15.0	C	13.8	C
Mission / Otis - SB	Cesar Chavez St	Ocean Ave	1.95	4	20.1	B	13.8	C	18.8	C	15.5	C
Mission / Otis - SB	Ocean Ave	Sickles Ave	1.45	4	22.3	B	20.3	B	22.0	B	19.4	B
Montgomery - SB	Broadway	Bush St	0.51	4	14.1	C	9.2	D	11.1	D	7.2	E
North Point - EB	Van Ness Ave	Columbus	0.38	4	17.5	C	15.5	C	18.9	C	14.4	C
North Point - EB	Columbus	The Embarcadero	0.61	4	18.7	C	15.9	C	22.2	B	16.3	C
North Point - WB	The Embarcadero	Columbus	0.61	4	15.7	C	15.8	C	18.6	C	20.2	B
North Point - WB	Columbus	Van Ness Ave	0.38	4	16.2	C	16.4	C	16.1	C	13.2	C
Oak - EB	Stanyan St	Lyon St	0.64	3	24.4	B	26.0	B	27.0	B	27.0	B
Oak - EB	Lyon St	Divisadero St	0.27	3	21.9	C	15.4	D	21.5	C	16.4	D
Oak - EB	Divisadero St	Fillmore St	0.37	3	19.7	C	25.3	B	20.4	C	26.4	B
Oak - EB	Fillmore St	Laguna St	0.27	3	17.0	D	22.3	C	8.8	F	24.5	B
Oak - EB	Laguna St	Franklin St	0.27	3	15.1	D	11.8	E	17.0	D	16.4	D
Ocean - EB	19th Ave	Miramar	1.11	4	18.7	C	12.9	D	13.9	C	12.8	D
Ocean - EB	Miramar	Howth	0.48	4	11.1	D	14.8	C	11.4	D	12.7	D
Ocean - WB	Howth	Miramar	0.48	4	14.8	C	13.0	D	15.8	C	11.9	D
Ocean - WB	Miramar	19th Ave	1.11	4	11.1	D	12.3	D	14.6	C	14.5	C
Octavia - NB	Octavia St	Fell St	0.28	4	11.0	D	16.1	C	10.1	D	13.6	C
Octavia - SB	Fell St	Octavia St	0.28	4	10.4	D	11.6	D	7.5	E	9.9	D
O'Farrell - EB	Gough St	Mason	0.85	4	13.4	C	11.2	D	12.2	D	11.2	D
O'Farrell - EB	Mason	Market St	0.28	4	11.6	D	9.0	E	9.6	D	8.0	E



Route Name	Start Intersection	End Intersection	Length (mi)	HCM 2000 Class	2009				2011			
					AM Avg. Speed (mph)	AM LOS	PM Avg. Speed (mph)	PM LOS	AM Avg. Speed (mph)	AM LOS	PM Avg. Speed (mph)	PM LOS
Pine - WB	Market St	Kearny St	0.38	3	8.8	F	8.9	F	10.5	E	13.2	E
Pine - WB	Kearny St	Leavenworth St	0.63	3	18.2	C	16.8	D	24.1	B	16.2	D
Pine - WB	Leavenworth St	Franklin St	0.46	3	17.7	D	14.3	D	17.7	D	14.5	D
Pine - WB	Franklin St	Presidio Ave	1.27	3	21.3	C	22.4	C	21.8	C	22.0	C
Potrero - NB	Cesar Chavez St	21st St	0.62	4	21.2	B	18.8	C	23.5	B	21.3	B
Potrero - NB	21st St	Division St	0.80	4	22.5	B	15.6	C	24.3	B	23.2	B
Potrero - SB	Division St	21st St	0.80	4	23.9	B	25.2	A	19.0	B	22.6	B
Potrero - SB	21st St	Cesar Chavez St	0.62	4	22.0	B	19.4	B	23.3	B	18.0	C
Skyline - NB	County Line	Sloat Blvd	1.94	1	46.7	A	46.8	A	44.5	A	42.2	A
Skyline - SB	Sloat Blvd	County Line	1.94	1	42.1	A	38.1	B	40.6	B	38.3	B
Sloat - EB	Skyline Blvd	Junipero Serra Blvd	1.37	2	22.6	C	20.7	D	19.0	D	17.7	D
Sloat - WB	Junipero Serra Blvd	Skyline Blvd	1.37	2	26.7	C	26.9	C	32.0	B	29.6	B
Stanyan - NB	Fulton St	Turk Blvd	0.20	4	15.6	C	12.6	D	14.2	C	15.6	C
Stanyan - SB	Turk Blvd	Fulton St	0.20	4	11.1	D	9.2	D	11.2	D	8.6	E
Sutter - EB	Divisadero St	Gough St	0.82	4	16.2	C	15.5	C	14.5	C	13.4	C
Sutter - WB	Market St	Mason St	0.56	4	17.5	C	11.3	D	17.8	C	12.7	D
Sutter - WB	Mason St	Gough St	0.82	4	8.9	E	14.6	C	10.5	D	11.8	D
Sutter - WB	Gough St	Divisadero St	0.82	4	15.0	C	14.9	C	13.6	C	13.6	C
Townsend - EB	07th St	02nd St	0.86	4	19.6	B	11.9	D	17.3	C	15.9	C
Townsend - WB	02nd St	07th St	0.86	4	18.4	C	12.8	D	13.9	C	11.4	D
Turk - EB	Stanyan St	Divisadero St	0.91	4	18.0	C	17.2	C	17.7	C	17.2	C
Turk - WB	Market	Hyde	0.38	4	14.7	C	11.1	D	12.8	D	11.4	D
Turk - WB	Hyde	Van Ness Ave	0.27	4	18.1	C	9.2	D	16.8	C	12.2	D
Turk - WB	Van Ness Ave	Gough St	0.18	3	8.8	F	9.5	F	9.4	F	10.3	E
Turk - WB	Gough St	Divisadero St	0.82	3	19.8	C	19.4	C	19.7	C	18.3	C
Turk - WB	Divisadero St	Stanyan St	0.91	4	21.3	B	25.6	A	16.3	C	17.4	C
Van Ness / South Van Ness - NB	Cesar Chavez St	Hwy 101	1.49	4	20.1	B	14.7	C	18.4	C	13.9	C
Van Ness / South Van Ness - NB	Hwy 101	Golden Gate Ave	0.79	4	15.0	C	14.7	C	20.2	B	13.7	C
Van Ness / South Van Ness - NB	Golden Gate Ave	Washington St	0.84	4	15.2	C	17.4	C	16.8	C	21.9	B
Van Ness / South Van Ness - NB	Washington St	Lombard St	0.58	4	13.6	C	26.4	A	11.3	D	24.5	B
Van Ness / South Van Ness - SB	Lombard St	Washington St	0.58	4	16.4	C	12.4	D	16.4	C	17.1	C
Van Ness / South Van Ness - SB	Washington St	Golden Gate Ave	0.84	4	21.2	B	12.2	D	21.6	B	11.5	D

Route Name	Start Intersection	End Intersection	Length (mi)	HCM 2000 Class	2009				2011			
					AM Avg. Speed (mph)	AM LOS	PM Avg. Speed (mph)	PM LOS	AM Avg. Speed (mph)	AM LOS	PM Avg. Speed (mph)	PM LOS
Van Ness / South Van Ness - SB	Golden Gate Ave	Hwy 101	0.79	4	15.7	C	12.3	D	14.0	C	16.5	C
Van Ness / South Van Ness - SB	Hwy 101	Cesar Chavez St	1.49	4	17.9	C	17.1	C	12.8	D	18.7	C
Washington - WB	Drumm St	Kearny St	0.44	4	14.6	C	11.3	D	12.8	D	14.9	C
West Portal - NB	Sloat Blvd	Ulloa St	0.54	4	15.5	C	12.6	D	16.8	C	15.4	C
West Portal - SB	Ulloa St	Sloat Blvd	0.54	4	17.5	C	15.2	C	17.4	C	16.7	C

# **APPENDIX 5:**

## **Deficiency Plans**

## APPENDIX 5

### DEFICIENCY PLANS

#### Key Topics:

- **Legislative Requirements**
- **Legislative Intent and Application to San Francisco**
- **Deficiency Planning Process**
- **Special Issues**
- **Work Program Items**

#### A.5.1. Legislative Requirements

The Authority, as CMA, is required by state law to ascertain the City's conformance with the CMP, including Deficiency Plans prepared by City departments. If the LOS of roadways on the CMP is not maintained to the established standard, state CMP legislation requires that the local jurisdiction develop a Deficiency Plan to improve operating conditions on the segment.<sup>1</sup>

Deficiency Plans must contain the following components:

- An analysis of the causes of the deficiency;
- A list of improvements that would have to be made to remedy the deficiency, including cost estimates;
- A list of proposed improvements; and
- An implementation plan including a schedule.<sup>2</sup>

<sup>1</sup> California Government Code section 65089.4(a) states "*A local jurisdiction shall prepare a Deficiency Plan when highway or roadway level of service standards are not maintained on segments or intersections of the designated system. The Deficiency Plan shall be adopted by the city or county at a noticed public hearing.*"

<sup>2</sup> 65089.4(c)

The Deficiency Plan must "measurably improve multimodal performance" on the designated CMP roadway network, and "contribute to significant improvements in air quality." Proposed improvements must be drawn from an inventory of acceptable actions compiled by the air quality management district. The statutes also require that the city or county forward the Deficiency Plan to the Congestion Management Agency, which must hold a public hearing within 60 days of receipt of the Deficiency Plan, and either accept or reject it, but not modify it. Rejection of a Deficiency Plan by the Congestion Management Agency will result in a finding of non-conformance with the CMP.

Unfortunately, the statutes make no provisions for funding City departments' deficiency plans, and similarly, CMAs do not receive state funding for their activities. In the absence of dedicated funding, the deficiency planning process has been designed to use existing data and coordinate with the City's budgetary process.

#### A.5.2. Legislative Intent and Application to San Francisco

This section provides background information on Deficiency Plans and their applicability to San Francisco.

##### A.5.2.A. About Deficiency Plans

In 1990, the California voters approved Proposition 111, increasing the gasoline tax by nine cents per gallon of gasoline sold in the state. The year prior to Proposition 111's approval, the State Legislature approved AB 471 (Katz), the original CMP legislation.<sup>3</sup> AB 471 required all local jurisdictions to maintain the adopted LOS standard on all CMP roadways or risk losing their Proposition 111 gas tax revenues. The Legislature then revised the original legislation to allow jurisdictions to continue to receive their share of Proposition 111 gas tax moneys when the level of service (LOS) on a CMP road segment or intersection falls be-

<sup>3</sup> The 1989 CMP legislation was part of the AB 471 legislation known as the Katz-Kopp-Baker-Campbell Transportation Blueprint for the 21st Century. Voter approval of Proposition 111 on June 5, 1990 effectively enacted the CMP legislation into law.

low LOS “E” provided local jurisdictions prepared Deficiency Plans for those segments.

The intent of Deficiency Plans, therefore, is to allow development to continue as long as any resulting traffic congestion is “offset.” Deficiency Plans are *reactive* solutions applied after the impacts to LOS are actually measured.

The Deficiency Plan legislation offers local jurisdictions two alternatives:

- 1) Eliminate the problem (correct the deficiency where it manifests itself). This is known as *direct remediation*, or
- 2) Implement other actions that improve the overall performance of the CMP network, even if the actions do not directly improve the original deficiency. These are known as *offsetting actions*.

A Deficiency Plan may include both remediation and offsetting actions. Direct mitigation involves removing the deficiency such that the LOS is improved above LOS F. Direct mitigations of LOS impacts may have prohibitive costs, regulatory obstacles, or overwhelming environmental consequences. Offsetting actions provide alternative compensations that may leave the facility no less deficient from an LOS perspective, but provide improvements in other part of the system. Offsetting actions, as opposed to direct remediation, include capital improvements, transportation programs, services, or other activities that improve the average countywide level of service.

One major legislative change to the deficiency plan process is SB 1636 (Figueroa), which was signed by the Governor in September 2002. This bill allows local jurisdictions to designate areas meeting certain land use and transportation requirements as Infill Opportunity Zones (IOZs). Network segments within these zones would be exempt from automobile LOS standards. Within a designated IOZ, the CMA must use an alternative to automobile LOS for CMP purposes

In December 2009, the Board of Supervisors adopted a resolution designating all eligible areas of San Francisco as an IOZ. CMP network seg-

ments within a designated IOZ are exempt from deficiency planning requirements.

### A.5.2.B. Deficiency Plans and Environmental Review

Deficiency Plans are distinct from City processes for review of development projects pursuant to the California Environmental Act (CEQA) and do not replace local Transportation Impact Analyses (TIAs). The San Francisco Planning Department requires project sponsors to prepare TIAs for projects that may have significant negative impacts on transportation conditions. The City’s TIA guidelines include some analyses that may be relevant for preparing CMP deficiency plans. However, while environmental analysis conducted pursuant to CEQA may provide information useful in the preparation of Deficiency Plans, these Plans serve a separate and distinct purpose. The Deficiency Plan process should avoid duplicating past CEQA analyses; these guidelines should not create additional review processes for individual development or public construction projects.

One fundamental difference between a TIA and the CMP is that a TIA *forecasts* the severity of a project’s expected impacts on facilities, while a Deficiency Plan *implements* actions to mitigate – or offset – problems already detected (i.e., deficiencies *actually measured* on a facility). A TIA or EIR is prepared prior to project implementation, in an attempt to predict a project’s future negative impacts.

A TIA or EIR considers the cumulative impacts on a transportation facility of a proposed project in combination with other foreseeable similar projects. The Deficiency Plan, because its focus is on a *facility* rather than an individual project, considers multiple causes of the existing deficiency.

### A.5.3. Deficiency Planning Process

This overview accompanies the flow charts in Figures 1, 2, and 3. These three figures represent the Deficiency Plan process from detection through Authority Board approval of the Plan.

### A.5.3.A. Deficiency Detection and City Notification

See Figure 1. The Authority monitors the CMP roadway network and reports a potential deficiency when the level of service (LOS) on any non-exempted segment of the CMP roadway network measures LOS F. LOS F is defined by travel speeds below a threshold set by the 1985 HCM for any of three specified arterial types.

The Authority determines whether a reported deficiency may have been caused by external, exempt, or temporary causes. State legislation requiring Deficiency Plans has specifically exempted the trips generated by specific activities [Government Code § 65089.4. (f)]. Exempt activities are:

- Inter-regional travel (i.e., pass through trips which have neither origin or destination in San Francisco);
- Construction, rehabilitation, or maintenance of facilities that impact the CMP roadway network;
- Impact of freeway ramp metering;
- Traffic signal coordination by the state or multi-jurisdictional agencies;
- Traffic generated by low- and very low-income housing;
- Traffic generated by high-density residential or mixed-use development located within a quarter mile of a fixed passenger rail station<sup>4</sup>; and
- Roadway segments located within infill opportunity zones.

<sup>4</sup> “High density residential development” means a minimum of 24 dwelling units per acre and equal to 120 percent of the maximum density allowed under the local general plan and zoning ordinance, or a minimum density of 75 dwelling units per acre. “Mixed use development” must have more than one half the land area or floor area used for high-density housing.

A detected deficiency may be corrected when a roadway improvement already programmed in the CIP increases the capacity of the deficient roadway. If the lead department determines that the effects of any CIP improvement scheduled to begin within the seven year time horizon of the CIP will remove the deficiency, the Authority – after review – can make a Finding of No Deficiency. The lead department, however, must demonstrate this CIP improvements will be completed and functioning within ten years of the current CIP.

If any trips are exempt and if the deficiency still exists after removing the exempt trips from the deficient roadway segment, a Deficiency Plan must be prepared. The Authority will consult with MTC to determine whether external or pass through trips may have caused the deficiency. It will also review all relevant CEQA traffic analysis and/or TIAs of recently completed projects. It will then use the San Francisco Travel Demand Forecasting Model, GIS analysis, sketch planning techniques, and other means to isolate and examine the cause(s) in more detail. If modeling suggests that a deficiency is not caused by any of the above, then the Authority Board must adopt a finding of “Deficiency” and notify the City (Mayor’s Office) of the nature and cause of the deficiency.

The Mayor’s Office assigns a City department to act as the lead department for the preparation of a Deficiency Plan. The timelines in Figure 1 assume that LOS is monitored in September and October, and that all follow up verification monitoring is completed by the following April. This schedule allows City Departments to incorporate funding requests for Deficiency Plan activities into the City’s budget process in April and May.

### A.5.3.B. Deficiency Analysis and Remediation Plan Preparation

Once the cause(s) of the deficiency have been determined, State law [Government Code § 65089.4 (c) (2)] requires that the lead department identify:

*“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.”*

The lead department will use sketch-planning methods consistent with both MTC and Authority practices and data to estimate the effects of capacity improvements on the level of service and whether the improvements provide capacity at an order-of-magnitude commensurate with the deficiency.

State law requires that a Deficiency Plan first seek direct action to correct a roadway LOS deficiency by preparing a Remediation Plan. The lead department prepares a Remediation Plan that includes: a) a description of the causes of the deficiency; b) a list of all improvements necessary to fully remediate the problem on the deficient roadway itself; and c) an estimate of the cost and available funding for those improvements. The lead department includes a statement as to the feasibility of the Remediation Plan (Section 4.2.1). A Remediation Plan usually involves adding sufficient capacity to the roadway to allow traffic to flow at LOS “E” or better. The Remediation Plan should include any relevant projects included in the CIP or CEQA mitigation measures included in specific EIRs as mitigation requirements. A proposed Remediation Plan may include improvements already specified and funded in an EIR, the CIP, or developer exactions or dedications found to be relevant, including scheduled implementation, project characteristics, and funding sources. This gives the City credit for any required EIR mitigation measures to remediate the deficiency.

The lead department should also prepare cost estimates for improvements to mitigate the deficiency as well as of the funding sources.

If the lead department finds that the package of remediation measures is feasible, it must prepare an Implementation Plan.

The lead department submits the Remediation Plan and an Implementation Plan to the Authority for evaluation and approval. The Authority will evaluate Deficiency Plans based on effectiveness, financial feasibility, environmental compatibility, and consistency with the City’s transportation planning priorities and policies. If the lead department finds it cannot remediate the deficiency

and the Authority concurs, the lead department prepares a Deficiency Plan (presented in Figure 3).

The resulting Remediation Plan must include estimates of the following:

- Extra roadway capacity needed to remove the deficiency;
- Total costs of the capacity increases; and
- Improvements already funded through the CIP or developer exactions or dedications.

The Authority evaluates the feasibility of the Remediation Plan and accepts or rejects the lead department’s findings. Within 30 days of receiving the Remediation Plan from the lead department, the Authority evaluates the adequacy of the Plan conclusions according to the following three criteria:

- 1) **Effectiveness:** Are the proposed improvements adding sufficient capacity to the roadway in question to increase the LOS to level “E” or better?
- 2) **Financially Reasonable:** Are the cost estimates for the proposed improvement reasonably accurate?
- 3) **Implementability:** In environmental, regulatory, and community terms? Is the Plan consistent with the General Plan?

The Lead Department prepares an Implementation Plan, identifying responsible departments, funding sources, and regulatory authority. If the Authority accepts the Implementation Plan, the Authority modifies the CIP to conform to reflect the remediation measures. All departments called upon to implement portions of the Remediation Plan must enter into an inter-agency agreement stating each department’s responsibility and funding sources. If the Authority finds that the Remediation Plan is feasible, the lead department will prepare an Implementation Plan. If the Authority finds that the Remediation Plan is not feasible, the lead department will prepare a Deficiency Plan Action List.

### A.5.3.C. Deficiency Plan Evaluation and Approval

If the Authority determines that the Remediation Plan is infeasible, the lead department prepares a list of offsetting actions that will improve the system-wide multimodal level of service but may have only limited effect on the deficient facility itself.

The lead department prepares a Deficiency Plan Action List. The lead department may select actions that have some direct mitigating effect on the deficiency; and/or actions that will improve system-wide LOS (as measured by the multimodal performance measures). The Bay Area Air Quality Management District (BAAQMD) has prepared a list of approved Deficiency Plan actions. The CMP legislation requires that all Deficiency Plan actions come from that list.

The lead department may choose to prepare (or Authority may request) one or more alternative action plans to explore alternative approaches.

For deficiencies caused by large projects, some of the analysis required in these steps may have been completed through the projects' EIRs. While the analysis and any other relevant documentation may be used *verbatim* for the Deficiency Plan or Implementation Plan, the Final Deficiency Plan documentation must conform to the requirements outlined in the six steps above and described in more detail below.

The lead department has 60 days to prepare a Preferred Action Plan List. Each action on the list must show its estimated capital (or start-up) and operating (or on-going) costs. The lead department submits this list to the Authority for its consideration.

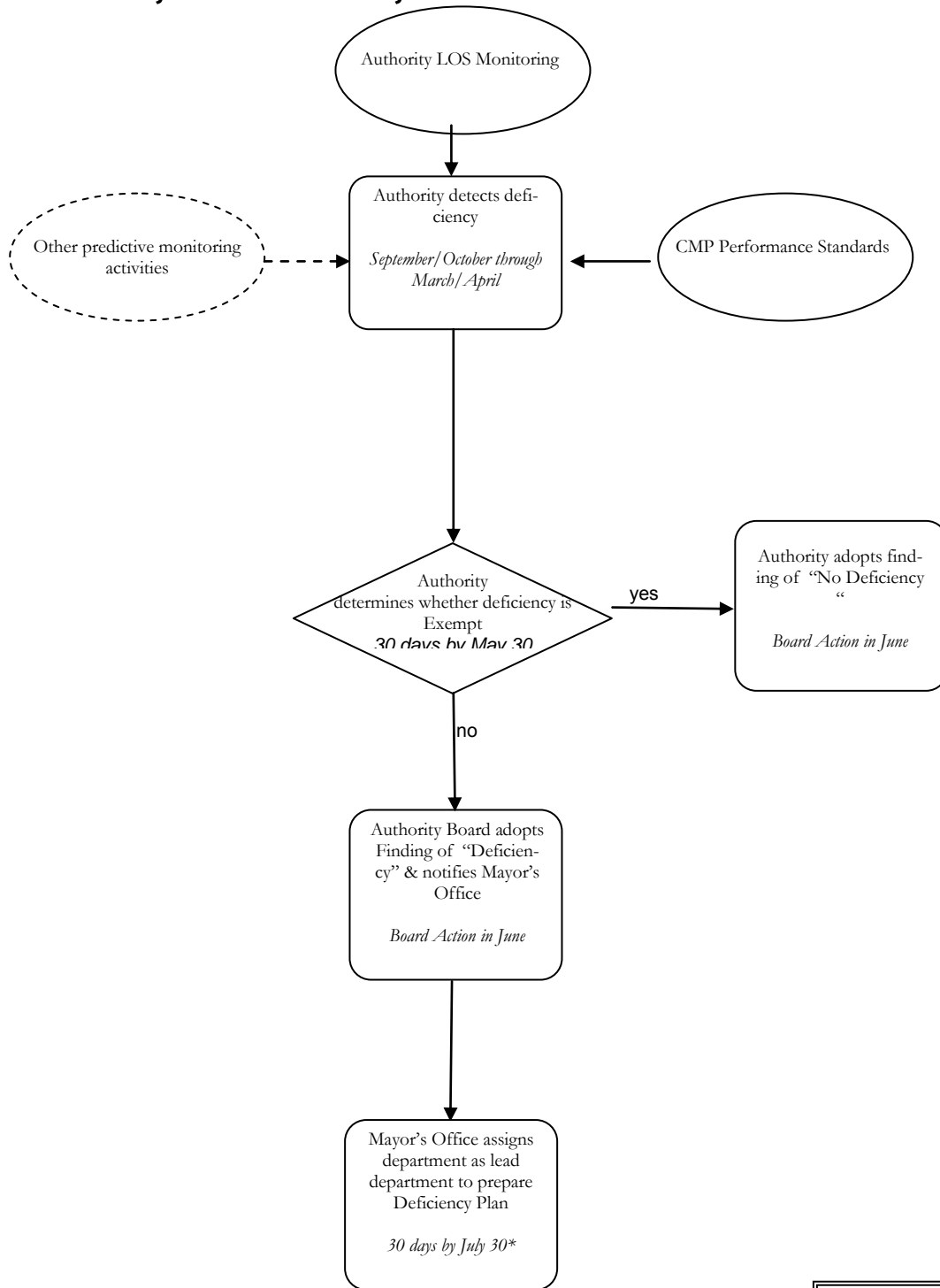
The Authority will review this proposed list and approve or reject it. The Authority will evaluate the preferred Deficiency Plan Action List, including each action's estimated cost within 30 days of submittal by the lead department. The Authority evaluates the effectiveness of the Action Plan and confirms General Plan consistency with the Planning Department. If the Authority accepts the

lead department's proposed list of Deficiency Plan actions, the lead department prepares an Implementation Plan and submits this plan for the Authority's approval.

The Authority evaluates Implementation plans using similar adequacy criteria as for Remediation Plans (Figure 2). If the Authority accepts the Implementation Plan, the Authority Board will hold a noticed public meeting and adopt a Finding of Conformance. If the Authority and the lead department are unable to agree on an Implementation Plan, the lead department may either try again, or submit its Final Deficiency Plan (including its Implementation Plan) to the Authority Board for Board action. If the Authority Board issues a Finding of Non-Conformance, the Authority must notify the State Controller to withhold funds. The funds are held in escrow for 12 months and then turned over to the Authority (as the City's Congestion Management Agency). Deficiency Plans must be completed within one year of the CMA's official notice of a deficiency.



**Figure 1: Deficiency Detection and City Notification**



**\*Go to Figure 2**

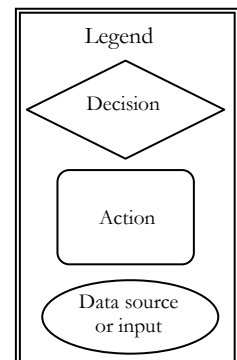
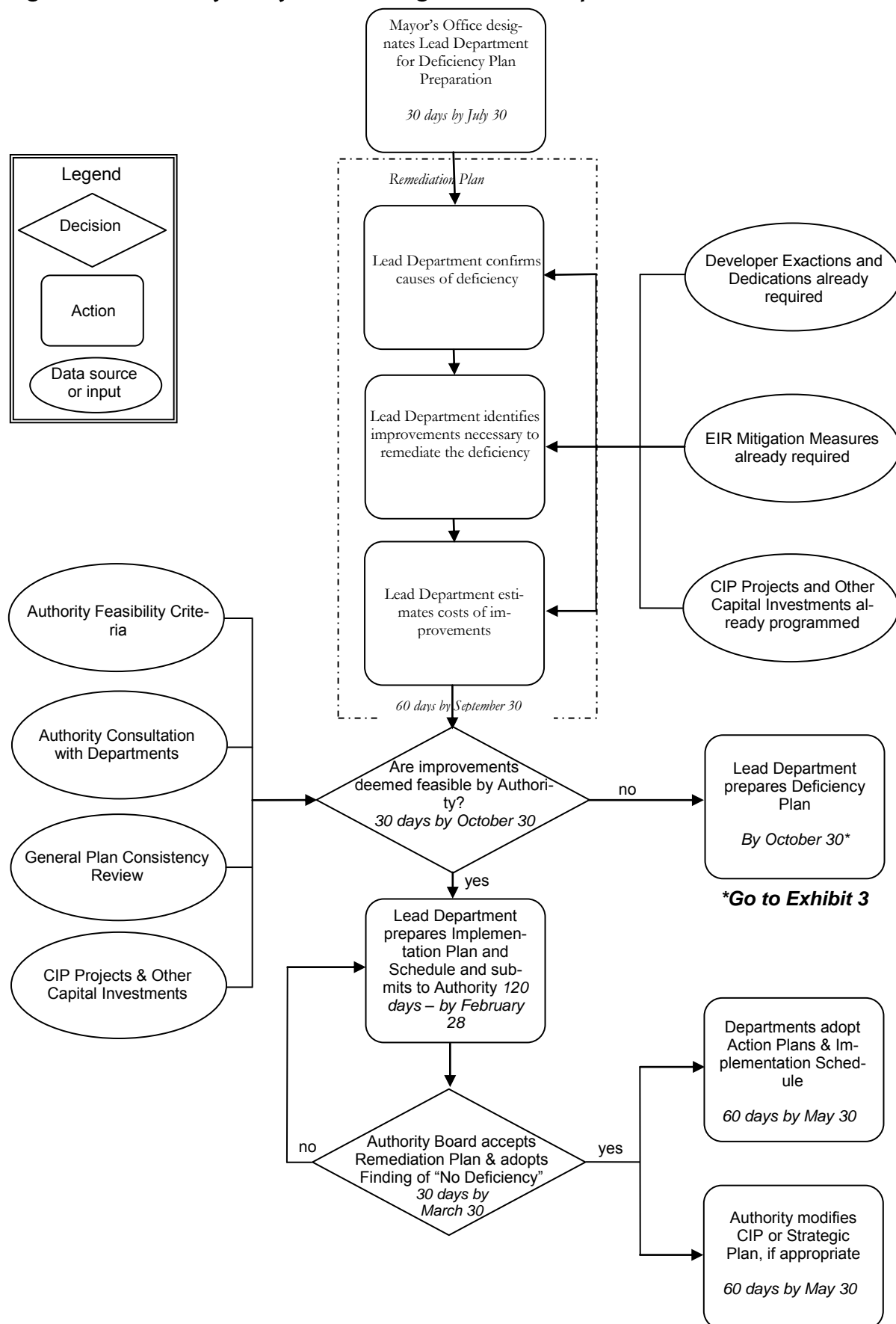
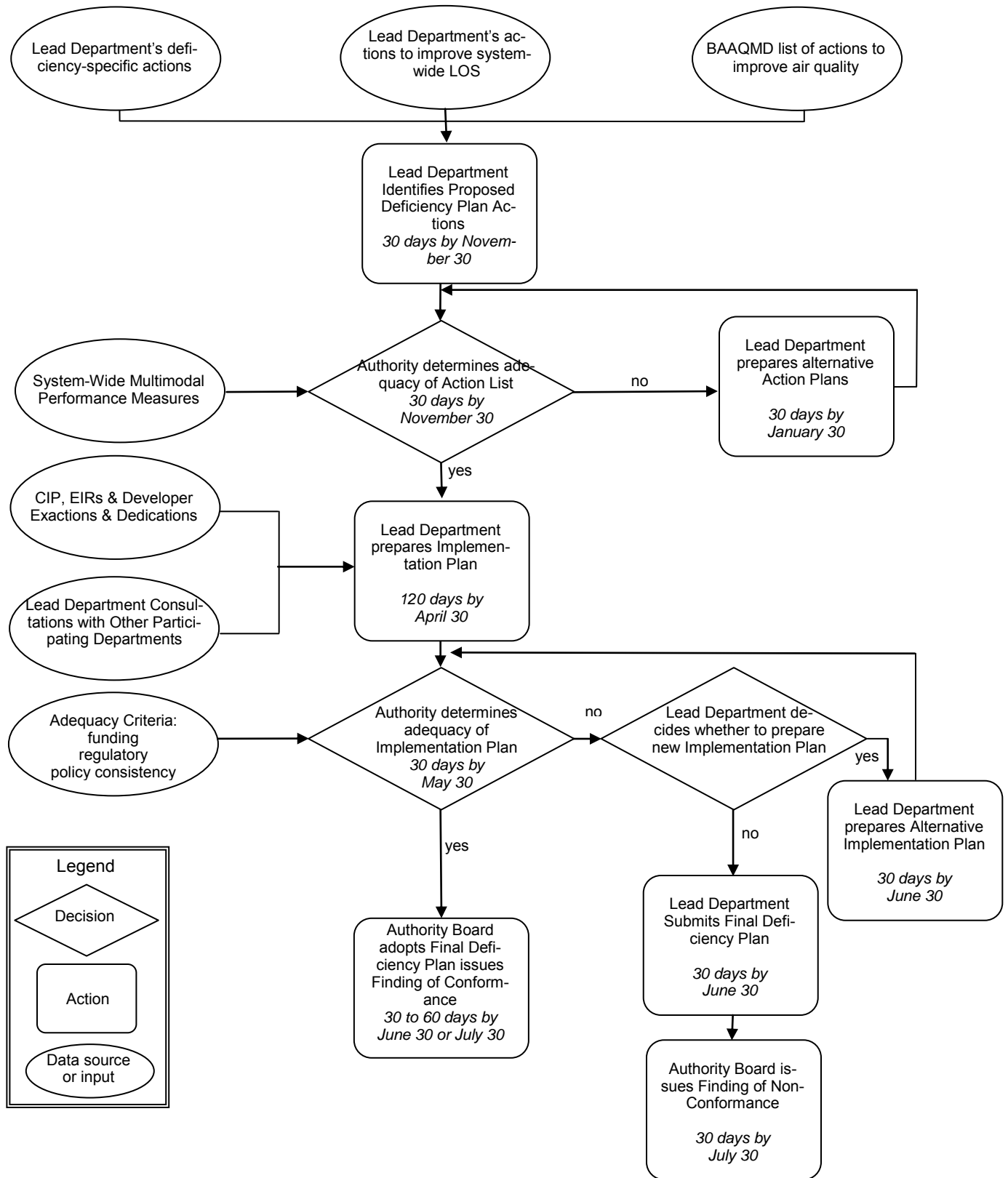


Figure 2: Deficiency Analysis and Mitigation Plan Preparation



**Figure 3: Deficiency Plan Evaluation and Approval**



### A.5.3.D. Adequacy Criteria

The CMP legislation, as amended, includes three transit performance measures (in addition to the LOS performance measure) for the evaluation of current and future system performance and the effectiveness of Deficiency Action Plans [Government Code § 65089. (b)(2)]: transit frequency, routing, and service coordination among separate operators.

As required by CMP legislation, the Authority has developed multimodal performance measures beyond the traditional roadway Level of Service (LOS) measures. Our emphasis has been on user-based measures that help explain mode choice in the City. The Authority Board adopted the first set of multimodal performance measures in August 1998 (see Chapter 4). These include bicycle and pedestrian safety, transit speed and reliability and other measures. After these measures have been further refined and fully tested, they will then be used to evaluate the proposed list of Deficiency Plan Actions. Additional measures may be developed in the future.

### A.5.3.E. Implementation Plan

The Authority requires the lead department to prepare an Implementation Plan within 90 days of the Authority's finding as part of the Deficiency Plan Document. The Implementation Plan identifies the responsible implementing department(s) for each action, and the sources of funding.

#### i. Implementation Plan Development

The lead department is responsible for developing the Implementation Plan. For each action in the Deficiency Plan, the lead department must specify the following:

- 1) The final cost of the actions and the sources of capital (up-front) and operating (on-going) funds. Note any correspondence with EIR mitigation measures or CIP projects.
- 2) A monitoring program that conforms to CEQA monitoring requirements.

- 3) An implementation schedule. All actions must be implemented within the seven-year time horizon for the current CIP. If a Deficiency Plan action is programmed for funding in the sixth or seventh year of the CIP, it will need to be fully implemented within three years of its initiation in order to be considered a feasible action within the Deficiency Plan's ten-year horizon.
- 4) Identification of city departments responsible for the action's funding, implementation, and on-going operations. Clear identification of all departments responsible for implementation, therefore, is essential for the Authority's approval of the Final Deficiency Plan. One way for partner agencies to demonstrate this would be through an interdepartmental agreement among all responsible implementing departments stating each department's agreement to fulfill their responsibilities for implementing Deficiency Plan actions.

#### ii. Identification of Funding

The Implementation Plan must include a detailed funding plan.

#### iii. Implementation Plan and Deficiency Plan Approval

Within 30 days of submittal by the lead department, the Authority will either accept or reject the Implementation Plan. The Authority will make its determination based on the required elements of the Implementation Plan discussed in 4.4.1. Implementation Plans without a funding plan will be rejected. Once the Authority has approved the Implementation Plan, the lead department will have additional 30 days to finalize and submit the Final Deficiency Plan for Authority Board approval. Upon submittal of the final Deficiency Plan by the lead department, the Authority Board will hold a noticed public meeting and either approve or reject it within 30 days. If the Authority rejects the Implementation Plan, the lead department may either propose an alternative Implementation Plan within 30 days, or choose to submit the Final Deficiency Plan with the Implementation Plan as is. In the latter case, the Authority will notify the Mayor's Office of its intent to reject the Final Deficiency Plan due to Implementation Plan inadequacy.

If the Authority Board rejects the Final Deficiency Plan and issues a finding of non-conformance, pursuant to the State law (Government Code 65089.5), the Authority must submit its findings to MTC and the State Controller for the withholding of State funds.

#### **iv. Deficiency Plan Document Structure**

A Deficiency Plan Report must include the following sections:

##### **1.0 Introduction Identification of the Deficiency's Causes, including:**

- 1.1 Description of the Deficiency (i.e., road segment);
- 1.2 Description of the adjacent facilities;
- 1.3 Analysis of the causes of the deficiency;
- 1.4 Description of the existing traffic conditions within the boundaries;
- 1.5 Projection of future transportation conditions for at least the next 10 years; and
- 1.6 A map of the area, the deficiency, and adjacent facilities and transit routes.

##### **2.0 Remediation Plan, consisting of:**

- 2.1 An estimate of the extra roadway capacity needed to remove the deficiency;
- 2.2 An estimate of the total costs (operating and capital) of the capacity improvements; and
- 2.3 A description of improvements that are already programmed through individual project conditions of approval, the CIP, or developer exactions or dedications.

##### **3.0 List of Actions, broken out into:**

- 3.1 Deficiency-Specific Action; and
- 3.2 Global Actions To Improve System-wide LOS.

##### **4.0 Implementation Plan, specifying the following:**

- 4.1 The final cost of the actions and the sources of capital (up-front) and operating (on-going) funds;
- 4.2 A monitoring program to verify the action's implementation;
- 4.3 A schedule for implementation; and
- 4.4 Identification of city departments responsible for the action's funding, implementation, and on-going support/operation.

##### **5.0 Identification of Other Departments' Responsibilities for Implementation**

##### **6.0 Identification of Funding**

###### **A.5.4. Special Issues**

The following sections discuss special circumstances where the Deficiency Plan process, as described in Section 4.0, may have to be modified. Treatment of these issues is not intended to be exhaustive. .

###### **A.5.4.A. Multi-County Deficiency Plans**

Deficiencies may occur because of the activities of other counties or they may occur on a regional facility (e.g., the Bay Bridge). Under such circumstances, the Authority will take the lead in coordinating the preparation of a Deficiency Plan, following MTC's process and mutual agreements with other agencies. More specifically, the Authority will coordinate with other congestion management agencies (CMAs) and regional agencies (e.g., MTC, BAAQMD, ABAG, etc.). The Authority may request the Mayor's Office to designate other city departments to prepare the Remediation Plan, Deficiency Plan Action List, or the Implementation Plan. Furthermore, other departments may be designated as the responsible agencies for the implementation of the Deficiency Plan.

#### **A.5.4.B. Deficiency Plans Addressing Multiple Deficiencies**

The Mayor's Office may request that the lead department prepare a Deficiency Plan that covers more than one deficient roadway segment.

Multiple deficiencies may be likely if an area or transportation corridor is impacted by large land use projects (e.g., Mission Bay), significant transportation infrastructure projects (e.g., demolition of the Central Freeway), or pronounced socioeconomic trends (e.g., increased commuting from the East Bay). When multiple deficiencies are within close geographical proximity, distributed along a single corridor (or parallel facility), or are functionally related, the Authority may encourage a single area-wide, or corridor Deficiency Plan.

The process would be similar to that described in Section 4.0. Nevertheless, the lead department must:

- 1) Review relevant EIRs for their assessment of impact and proposed mitigation measures;
- 2) Perform modeling of traffic within the area or corridor to determine the effectiveness of the Remediation Plan improvements;
- 3) Consider funding and/or regulatory feasibility of the proposed Implementation Plan; and
- 4) Coordinate with the CIP and other transportation programming and/or planning documents designed to address transportation planning for a subarea of the city, a specific corridor, or multiple facilities or modes.

#### **A.5.4.C. Future Deficiencies**

The legislation does not require that local jurisdictions address future anticipated deficiencies. Deficiency Plans are only based on actual CMP network conditions.

#### **Future Deficiencies Caused by Changes in Transportation Infrastructure or Land Use**

Future changes to the transportation infrastructure or services may cause deficiencies. There are many potential causes of deficiencies, particularly changes

to the transportation infrastructure in the City as well as land use changes.

The Planning Department is responsible for land use planning and development management. This role, stipulated in the City Charter, gives the Planning Department direct or oversight responsibility for every land use project from its initial design stages through environmental impact analysis, to final completion. Large-scale projects may have major impacts. Example of such projects include, but are not limited to:

- Mission Bay;
- Rincon Point South Beach Redevelopment Area;
- Candlestick Point and Hunters Point Shipyard Development Plan;
- Revised South of Market Specific Plan; and
- Transbay Terminal Replacement.

In addition, the Planning Department oversees preparation of Transportation Impact Analyses (TIAs) and its Office of Environmental Review (OER) coordinates CEQA review and EIR preparation for development projects. All of these documents are intended to anticipate the impacts of a proposed project on the transportation system; thus, they have direct relevance to the Deficiency Plan if a project's impacts cause a deficiency.

#### **A.5.5. Work Program Items**

- Monitor any potentially deficient segments again in Spring 2013. If "F" is registered for three consecutive cycles, and the segment is not exempt, then the deficiency planning process is triggered.

**APPENDIX 6:**  
**Transportation Impact Analysis Guidelines**

# **TRANSPORTATION IMPACT ANALYSIS GUIDELINES FOR ENVIRONMENTAL REVIEW**

October 2002

The Planning Department  
City and County of San Francisco



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## **I . Introduction**

These guidelines replace the Transportation Impact Analysis Guidelines which were originally prepared in 1991 and updated on an interim basis in 2000 to aid consultants in preparing transportation impact analysis for environmental evaluation in San Francisco, including both Environmental Impact Reports (EIRs) and Negative Declarations. In those cases where a transportation study is required for environmental analysis, it is normally necessary that a separate transportation report be prepared, based on these guidelines, as background for the Negative Declaration or EIR.

The Planning Department will make a determination whether a transportation study and report are necessary. In most cases, the department evaluates conditions in the PM peak hour of the PM peak period (4:00 to 6:00PM). This period was chosen because it is the time period when the maximum use of much the transportation system occurs. It is also the time when most of the transportation system capacity and service is at a maximum. Generally, a transportation report may be required for an environmental analysis if one or more of the following conditions apply. Not all conditions apply to all projects.

- 1) The project would potentially add at least 50 PM Peak Hour person trips;
- 2) The project would potentially increase existing traffic volumes on streets in its vicinity by at least 5 percent;
- 3) The project would potentially impact nearby intersections and/or arterials which are believed to presently operate at LOS "D" or worse;
- 4) The project would provide parking which would appear likely to be deficient relative to both the anticipated project demand and code requirements by at least 20 percent;
- 5) The project has elements which have potential to adversely impact transit operations or the carrying capacity of nearby transit services;
- 6) The project has elements which have potential to adversely affect pedestrian or bicycle safety or the adequacy of nearby pedestrian or bicycle facilities;
- 7) The project would not fully satisfy truck loading demand on-site, when the anticipated number of deliveries and service calls may exceed ten daily.

Transportation reports shall be prepared by qualified consultants, working at the direction of the Planning Department staff. The purpose of the transportation study is to provide the comprehensive information necessary to identify the transportation issues and impacts of a project (including those of importance and significance), and provide potential solutions or mitigations to problems and significant impacts in the context of the overall policies and objectives of the City.

## II . Overview of Process and Procedures

These guidelines update and revise the *Guidelines for Environmental Review: Transportation Impacts* (July, 1991) and *Interim Transportation Impact Analysis Guidelines for Environmental Review* (January 2000), and supersede all previously published transportation analysis guidelines. This document reflects the most current data available regarding San Francisco travel characteristics. A major portion of the analysis guidance is based on the findings of the *Citywide Travel Behavior Survey - Employees and Employers* (May, 1993), the *Citywide Travel Behavior Survey - Visitor Travel Behavior* (August, 1993), and updates or enhancements to those reports. In addition, the *Guidelines* employ certain findings and assumptions from major San Francisco study reports, including those for: Mission Bay (Case No. 1996.771E; EIR certified September 17, 1998); Transbay Terminal/Caltrain Extension (Case No. 2000.048E); and Van Ness Avenue (Case No. 1987.586; EIR certified on December 17, 1987). The data in the Citywide Travel Behavior Study (CTBS) was subsequently confirmed by the *1995 Citywide Travel Behavior Study* that was sponsored by the San Francisco County Transportation Authority.

It should be noted that these are only guidelines. It must not be assumed that the information provided herein constitutes a complete scope of work for any transportation analysis. The *Guidelines* provide a broad overview, while individual transportation study scopes of work are required to provide a level of detail tailored to fit the size and complexity of transportation issues associated with particular projects. Moreover, once a scope of work is prepared and approved under the direction of the Planning Department, the specific direction contained within that scope will provide a more precise focus than that which appears in these *Guidelines*.

For clarification, the following represents an overview of the process involved in the preparation of a transportation impact analysis for environmental review purposes. No estimate or assumption is made or inferred regarding time lines for the various steps.

- (1) The project sponsor or a designated representative files an Environmental Review (EE) application with the Planning Department following the instructions contained in that application form (available at the Department and on-line). When the application is accepted by the Department, a case number is assigned and a staff person from the Department's Major Environmental Analysis section is designated as the coordinator for environmental review. This individual will likely be different than the staff person handling the Transportation Impact Report. All Department staff assigned to the project will coordinate activities throughout the review process. Filing for environmental review generally (but not always) precedes starting the review of transportation issues.
- 2) Determination concerning whether a transportation impact report is required is based on the scale, location, and/or potential level of activity of the proposed

project. To make this determination and/or to prepare a transportation work scope, if one is required, the project sponsor should provide the following information to the assigned environmental coordinator or to a senior transportation planner in the Major Environmental Analysis section:

- existing and proposed specific gross square footage of space for each commercial use such as office, retail, restaurant, hotel (including number of rooms), industrial, etc;
- existing and proposed number and type of housing units (including live/work units) including the number of single and multiple bedroom units, and senior, affordable, rental, or owner-occupied designations;
- existing and proposed amount of off-street parking and loading space, including specification of supply relative to Planning Code requirements;
- existing and proposed location of driveways and site plan showing access to off-street parking and/or loading;
- location of bus stops, nearby curbside loading zones and designations for all curbside space along the frontage of the property.

Upon receipt of the above material, Department staff will determine whether a transportation study is required. This decision is generally based on factors such as those articulated in the introduction to these *Guidelines* and staff knowledge of transportation issues in the site vicinity.

- (3) If it is determined that preparation of a transportation report is warranted, a transportation scoping meeting will be scheduled with the transportation planner, the environmental staff coordinator (other Department staff may also be involved), the project sponsor, and the transportation consultant and environmental consultant hired by the project sponsor. The scoping meeting will determine the specific issues to be examined in the transportation impact report and determine other parameters as defined in these guidelines.

All fees are to be paid by the project sponsor to the Planning Department for the review of the Transportation Impact Report prior to scheduling a transportation scoping meeting for the project. The amount of these fees can be obtained from Department staff. (See Appendix A, Figure A-1 for details on this process.)

- (4) The transportation consultant will then prepare a draft transportation scope of work for Departmental review and revision(s), if necessary, for final approval. No work should be initiated by the transportation consultant until a written scope of work has been approved by the Department, including the

assigned transportation and environmental planners, by transmittal to the consultant of the Planning Department approval form. (See Figure 2 in Appendix A)

The Department will make every reasonable effort to anticipate and include in the scope of work typical concerns of other City agencies. However, it is not possible for the Department to anticipate all issues and concerns which later may be raised by other City Departments such as the Municipal Railway (MUNI) or the Department of Parking and Traffic (DPT). Ultimately, the scope of work may need to be revised after its approval so that it adequately addresses relevant issues raised by all other City agencies and other relevant issues that may arise in the course of preparing the study report. Any contractual arrangement between the project sponsor and its consultant preparing the transportation report should reflect the flexibility to address the above issues as they are raised.

(5) Based on the approved scope of work, the transportation consultant conducts the required analysis independent of the project sponsor, and submits five copies of all drafts directly to the environmental project coordinator for review, comment, and approval. Three copies will be used within the Planning Department, one copy will be provided to MUNI, and another to the Department of Parking and Traffic. It is recognized that more than one submittal of preliminary transportation findings will normally be necessary in order to achieve a satisfactory final transportation report. Under normal circumstances, two drafts of a transportation study will be required before it is accepted as final. The Planning Department staff will provide consultants with a coordinated set of comments from all City reviewers on each draft. Consultants should revise draft reports to reflect City comments as directed, and should provide a detailed written explanation if any comments are not reflected in subsequent submittals.

(6) Pertinent information from the final transportation report will be summarized for inclusion in an Environmental Impact Report (EIR) or Negative Declaration. The specific information to be extracted and summarized for inclusion in an EIR or Negative Declaration, will be determined on a case-by-case basis under the direction and guidance from the environmental staff person assigned to the project.

The selection of the transportation consultant is at the discretion of the project sponsor, contingent upon submittal of an acceptable work scope to Department staff. The consultant's work effort is, however, to be entirely under the direction of the assigned Department staff. All submittals by the consultant are to be made directly to the assigned coordinator of the overall environmental review in the Department's Major Environmental Analysis section. Any comments by the project sponsor or its representatives must be directed to Department staff rather than to the environmental and/or transportation consultants to ensure the objectivity of the analysis. The role of



the project sponsor and its representatives during the preparation of the transportation report should be limited to provision of details concerning the project, response to recommended changes affecting project circulation, and indication of support or lack of support for recommended mitigation measures and other transportation improvements identified in the impact report.

Transportation analysis can be a complex and lengthy process. The Department strongly advises that it begin as early as possible, to avoid unnecessary delays. The Department also recommends that the consultant follow the explicit parameters found in the scope of work.

### **III . Study Report Preparation Guidelines**

Each transportation impact report is to follow a consistent format, as presented here, and include all of the elements and information presented in these *Guidelines*. The appropriate level of detail needed for each project's transportation impact analysis with respect to particular issues will be specified in the transportation work scope developed at the scoping meeting. When these *Guidelines* are referenced in a transportation study report, we suggest using either the full title and date, or the "2002 Transportation Guidelines" so the version is properly identified.

#### **1. Project Description**

All analyses must include a detailed project description. This information is to be presented as the first section of the document. The project description typically includes the following information:

- Case file number for the project, as assigned by the Department.
- Location of the project site, address, Assessor's Block and Lot number(s), cross streets, and Superdistrict or C-3 District ( Refer to Appendix A for maps showing the Superdistricts and the C-3 District).
- Figure showing the site plan.
- Existing and proposed total gross square footage for each land use type and the number of units for residential, hotel/motel, and live/work projects including the net changes for each type of use.
- Existing and proposed estimated number of employees and/or dwelling units by type of use, including net changes, if available.
- Existing and proposed number of off-street parking spaces and whether any on-street or off-street parking spaces will be removed as a result of

the project.

- Existing and proposed number of off-street and on-street freight loading spaces as well as any proposed changes affecting on-street loading spaces.
- Description and plans for use (if any) of public rights-of-way by present or proposed uses, either above or below grade (e.g., air rights, surface or subsurface revocable permits, etc.) including sidewalk width changes, changes in width or number of traffic lanes, function of lanes in terms of traffic channelization, and/or direction of travel.
- Detailed plans showing vehicular and pedestrian site access, including location of curb cuts for both existing and proposed uses, and internal vehicular circulation, presented in standard architectural or engineering scale.
- Figure identifying parking spaces, the proposed egress and ingress to the parking garage or lot, the circulation pattern within the parking facility and the number and location of parking spaces for the disabled.
- Figure showing the location, dimensions and access to the off-street freight loading spaces as well as the on-site location for trash and garbage storage.
- Identification of all transportation-related approval actions required by any City department including use permits, variances, encroachment permits, and changes in public rights-of-way. Describe the specific action.
- Identification of the location, number and type of bicycle parking spaces provided.
- Information regarding the project site's lot area, existing and proposed zoning, and a figure with the location of the lot on the Assessor's Block.

## **2. Project Setting**

The setting information shall be presented immediately following the Project Description as a discrete chapter or report section. The goal is to provide a brief but complete description of existing transportation infrastructure and conditions in the vicinity of the project. Normally, the described vicinity is a radius between two blocks and 0.25 mile, however, a larger area may be determined in the scoping process.

The specific perimeters of the study area, for both setting and project impact analysis, are to be confirmed as part of the approval for the scope of work. It should be noted that when the boundaries of a study area are determined in a scope of work, the project area should include both sides of the streets designated as the project boundaries unless otherwise specified (e.g., for on-street parking surveys). Sometimes the study area differs for different purposes, e.g., traffic vs parking vs transit.

The Setting section typically includes the following text information but the level of detail to be provided should be according to specific direction in the transportation scoping meeting:

- Street designations and classifications as identified in the Transportation Element of the San Francisco General Plan. These designations can be found on the following maps in the General Plan: Vehicular Street Map; Congestion Management Network; Metropolitan Transportation System; Transit Preferential Streets; Citywide Pedestrian Network; Neighborhood Pedestrian Streets; and Bicycle Route Map.
- A description of the study area streets, including the number and width of lanes, direction of flow, and the presence of peak period tow-away lanes affecting roadway travel capacity, the presence of bicycle lanes, and any other significant street information.
- Access to regional highways and freeways, including location of, distance from, and routings to and from on-ramps and off-ramps.
- Description of public transit routes operating on streets within the study area, including: route character; service areas; hours of service; peak period headways; and type of vehicle (diesel coach, trolleybus, streetcar, light rail vehicle; etc.). For projects subject to Section 321 of the Planning Code (Office Development: Annual Limit), the report must specifically identify, by operator, all lines within 1/4, 1/3, and 1/2 mile radii of the site.
- Level of Service (LOS) analysis for existing conditions for the specific intersections identified in the scope of work for the PM peak hour or other hours if specified in the scope of work. Unless otherwise specified, the operations method of the 2000 Highway Capacity Manual (HCM) shall be used in the analysis of intersections. The date on which the data was collected for the analysis must be specified in the text and on the calculation sheets. The methodology for the calculation of the LOS for various types of intersection controls is provided in the Appendix B.
- Actual and effective widths of sidewalks immediately adjacent to the project site. For areas where the sidewalks are absent or known to be deficient, the official

sidewalk width should be included. (Information on the official or legislated widths is available from Department of Public Works, Maps and Surveys.) For the streets immediately adjacent to the project site, this may include the location of fire hydrants, light poles, MUNI poles, traffic control devices, and other significant physical items between the curb and property line.

- Characteristics of parking within the study area (typically within a two-block radius of the site, but as determined in the approved scope of work), including the number of on-street parking spaces, control of on-street parking (e.g., meters, signed for time limit, neighborhood residential permit parking, etc.) number of off-street parking facilities and spaces (public and private), and whether off-street parking is provided as independently-accessible stalls or tandem/stacked valet operation. On-street and off-street parking occupancy information should be provided for the time period(s) specified in the scope of work. The data collection periods for peak parking occupancies typically are mid-afternoon for commercial uses and early evening for residential uses. The effects of any special circumstances affecting the availability of parking in the vicinity of the proposed project (e.g., periods of peaking in parking demand, and large generators of localized parking demand, such as a major institution) should be identified.

The Setting section typically also provides graphics, including:

- Street maps of the study area showing: street names, number and direction of lanes; transit service by line number and with stop locations identified; the location and amount of parking facilities, and the location and class of bicycle lanes. For projects subject to Section 321 of the Planning Code, the transit map is to show transit lines and stops within 1/4, 1/3 and 1/2 mile radii lines.
- When appropriate, include mapping and supporting tables which show both off-street and on-street parking conditions in study area. For off-street parking inventories, the parking supply should be based on how facilities are actually operated, i.e., the number of spaces should be based on valet parking when this is used and on striped spaces when this would be appropriate. For on-street parking only, inventories should include parking on each side of all the streets within the parking study area. On-street parking inventories should identify spaces subject to Residential Permit Parking (RPP) areas, whether the proposed project would be eligible to participate in the RPP, and what the project's impact on area parking occupancy rates would be.
- All designated bicycle routes in the study area should be illustrated. The existing treatments for bicycles (e.g., Class 2 or Class 3) and any proposed treatments for bicycle routes as well as general characterization of the extent of bicycle usage should be described.

### 3. Travel Demand Analysis

Travel demand analysis shall include textual information, supported by tables or figures detailing the project's trip generation, trip distribution, trip assignment and modal split characteristics.

Net new travel demand generated by the project is to be estimated, based on the difference between existing and proposed land uses. Person trip generation rates per unit of square footage for each land use, or other unit as shown in Appendix C, are to be used for estimating levels of activity for the proposed project. The rates were developed by an examination of various studies and sources, including the Citywide Travel Behavior Study, the ITE Trip Generation manual and special purpose studies, many of which are specific to San Francisco. No single source or analysis provides, by itself, an adequate means to define trip generation for all the situations encountered in San Francisco. Trip generation rates may sometimes need to be determined by other means, such as surveys of similar land uses, if so specified in the scope of work.

To "net-out" existing land uses that will be replaced, the existing levels of trip activity should, in most cases, be based on actual observations rather than on estimates based on rates in these *Guidelines* or other sources.

Each analysis should apply the trip generation rates from the *Guidelines* individually to the proposed uses, compare the proposed trips to existing levels of trip activity, and show the differences ("net new") by land use and in aggregate.

The Travel Demand Analysis is to include the following, unless otherwise directed in the work scope (Note that different or additional analysis periods may be defined in the scope of work process.) :

- Trip Generation Information: Project trip generation information (total person trips) by land use for existing and proposed uses. The total unadjusted daily and P.M. peak hour trips by mode can be calculated. The number of daily and peak hour vehicles (autos) generated by the project should also be calculated by using the auto occupancy rates noted in the tables in Appendix E.
- Work and Non-Work Trip Generation Information: Since work and non-work trips have different characteristics in terms of distribution and the mode of travel, the number of work and non-work (visitor) trips should be calculated separately. Appendix C provides the methodology to compute the work and non-work

(visitor) trips for a specific land use.

- Trip Distribution, Assignment and Modal Split Information: Net new person trips distributed to various directions of travel and assigned to the appropriate modes of travel (auto, transit, walk, and other) should be calculated, presented in tables and a graphic diagram (for vehicle and transit trips), and discussed in the text. Modal assignments should also be calculated for daily and the P.M. Peak Hour.

The weekday P.M. Peak Period is generally 4:00-6:00, and traffic counts shall generally be conducted during this period, unless otherwise specified in the scope of work. The peak hour must be determined from the counts (normally recorded in 15 minute intervals) for the entire peak period, and should represent the single hour within the peak period with the highest counts. The Planning Department may also request data for other periods to reflect the peak period of trip generation by the land use.

#### **4. Transportation Impact Analysis**

Analysis for all projects is to be conducted for project-specific impacts, and for cumulative impacts.

##### **A. Traffic Impacts**

Project-Specific Impacts. The project generated traffic impacts must be calculated for intersections identified in the scope of work using the methodologies explained in Appendix B. LOS levels for the specified intersections must be discussed in the text and presented in a table showing Existing, Existing plus Project and Cumulative intersection levels of service. The traffic attributable to the project is normally assumed to be included in the cumulative forecast, and should not be added to the cumulative totals. The percent contribution of the project should be shown both as a percentage of the total cumulative traffic and as a percentage of the growth in traffic (cumulative less existing) for each intersection.

The specific intersections to be analyzed will be identified in the approved scope of work for the transportation analysis, and based on an initial assessment of areas that could be impacted by the project. When a wide area may be impacted, the intersections selected for analysis may only be those that would experience the greatest change or have the greatest likelihood of degrading to an unacceptable LOS with the addition of the project traffic.

Cumulative (Horizon Year) Impacts. The transportation impact analysis should present and discuss the cumulative traffic impacts. The horizon year (normally 10 to 20 years in the future, depending on the location) should be used for the cumulative analysis year unless otherwise specified in the scope of work. The analysis is to assume a growth factor of one percent per year for "background" traffic, unless an areawide cumulative

forecast is defined during the scoping process. Traffic generated by the project, and by nearby projects when applicable, are to be expressed as a percentage of this overall growth factor. If the localized share seems to represent an unreasonable share of the anticipated overall horizon year growth, the consultant will need to discuss the issue with Department staff who will determine the appropriate approach to determining the cumulative conditions.

Figures should be included for each intersection analyzed which clearly indicate growth for each movement generated by the project and from cumulative conditions compared to existing conditions. For each analysis scenario (i.e., typically, Existing, Existing plus Project, and Cumulative), each of the critical movements at each intersection should be clearly indicated in the intersection calculation sheets and preferably in the figures which show volumes for each movement. The presence or absence of significant traffic impacts shall be determined according to direction from MEA transportation staff.

## B. Transit Impacts

The specific methodology for analyzing transit impacts is included in Appendix F. For projects within the greater downtown area (C-3, SOMA and Mission Bay districts), the methodology for the cumulative (horizon year) condition for MUNI and the regional transit operators uses an approach based on a screenline analysis. For projects outside the greater downtown area, the level of analysis will depend on the nature of the project and the transit service within the study area.

Transit trips, as determined by the travel demand analysis outlined in Section 3, need to be assigned to transit routes (aggregated or individual) based on the trip distribution data, and in accordance with the transit analysis methodology outlined in Appendix F. Trips on both MUNI and regional carriers must be accounted for. The normal evaluation requires a determination of the loading at maximum load points in relation to the available capacity for the Existing, Existing plus Project, and possibly a Cumulative condition. The frequency and load standards of the affected transit vehicles needs to be known if not contained within the aggregated data. Similar to traffic impact analyses, the focus is on conditions for the p.m. peak hour. Net new transit trips generated by the project should be cited and also expressed as a percentage of cumulative growth, by operator.

Any transit analysis needs to consider the access to transit service from the project site. Normally, transit riders need to walk to a transit stop or station from the project site. This walk trip can influence the choice of a particular line, or even the mode itself, especially if the walk link is a difficult or unpleasant experience due to inadequate sidewalks, unsafe pedestrian crossings or other related circumstances. The analysis should determine whether sidewalk improvements or other pedestrian-related improvements are necessary in order to provide adequate access to transit service.

Also, any potential transit conflicts or delays resulting from site-related activities need to be examined and described.

### C. Parking Impacts

Parking supply, parking demand, and Code-required parking should be clearly distinguished. If there is already existing parking on the site, the amount of net new parking should be noted. The project's parking supply is the amount of on-site parking spaces provided by the project that will be available for use by the project's residents, employees or visitors. Parking demand is the amount of daily parking need generated by the proposed uses. The Code required parking is the number of parking spaces required by Section 151 of the San Francisco Planning Code for the proposed uses.

Project parking demand is to be calculated for long-term demand (employees) and short-term demand (visitors) for commercial projects, and for resident parking demand for residential projects.

In some situations (e.g., when overlapping work shifts of the project or adjacent uses cause an accumulation of parking demand greater than the daily average total), accumulated peak parking demand should also be quantified.

Parking demand for commercial projects should be generally calculated based on the number of auto trips and auto occupancy rates from Appendix E for each superdistrict. Turn-over rates should be taken into consideration in calculating the daily short-term parking demand. Appendix G explains the methodology for parking demand calculations in more detail. In cases where more accurate information about parking demand and employee shift changes are available, this information may be used instead of derived from Appendix E, if incorporated in the scope of work.

Residential parking demand should be calculated based on the information provided in Appendix G of this report.

If a proposed project would displace existing parking, the report should identify:

- 1) the amount of parking which is required parking for the current uses on-site;
- 2) the amount of parking which is accessory parking to an off-site use; and
- 3) the amount of parking which is available to the general public (specifically identify as: short term; long-term; independently accessible; or valet parking.)

Project parking demand (including, if appropriate, demand for parking displaced) should be compared to the amount of parking provided by the project (supply), and the parking required by the Planning Code.



Deficiencies or surpluses in the number of parking spaces relative to demand and/or Code requirements should be quantified. The manner in which any parking deficiency will be addressed, and its impact on the existing on-street and off-street parking supply in the study area, should also be identified.

The impact of any deficiency in parking supply relative to the estimated demand, including current users of public parking to be displaced by the project, should be quantified in terms of the estimated increase in occupancy of available on-street and off-street facilities.

The amount of parking to be provided for bicycles and the disabled should be cited and compared with Code requirements. Any designated on-street parking spaces for the disabled that may be used by those accessing the project should be noted.

Parking access (ingress and egress) should be identified and the dimensions noted. Any impacts or conflicts of parking access with Transit Preferential Streets, other streets identified in the General Plan, streets identified for full or partial priority for pedestrians or bicycles, and any potential conflicts affecting transit, pedestrian, bicycle or vehicular flow should be identified. In cases where there are exceptional peaks in the traffic entering or leaving a garage, a queuing analysis may be necessary.

Whenever on-site parking is proposed, sufficient details should be included to the extent possible in order to assess:

- potential for conflicts between ingress and egress traffic;
- location of control gates, ticket dispensing facilities, and payment/validation facilities;
- adequacy of on-site space to avoid the potential for queueing onto adjacent sidewalks and streets;
- potential for conflicts with pedestrians, transit, bicycles, autos, and access for other projects;
- measures to functionally separate parking spaces for residential and commercial uses;
- quantity, locations, access, safe and secure character, and provisions for associated showers and lockers for all bicycle parking spaces whenever required or provided; and quantity, dimensions and locations for all disabled parking spaces.

Any special circumstances affecting the availability of parking in the vicinity of the proposed project as identified in the Setting Section are to be taken into consideration in the analysis and noted.

#### D. Pedestrian Impacts

Pedestrian conditions and the project impact should be discussed qualitatively or quantitatively based on the project size and existing circumstances. The Planning Department will determine if a qualitative or quantitative analysis is necessary.

If a quantitative analysis is required, pedestrian trips generated by the proposed project should be estimated for P.M. Peak Hour, plus the peak period of pedestrian activity for the immediate area (often in the midday), and/or the proposed project's peak period of trip generation. Level of Service conditions, when appropriate, for existing and existing plus project scenarios are to be calculated. Pushkarev and Zupan *Pedestrian Level of Service Standards and Methodology for Average Flow Characteristics Related to Flow In Platoons*, or the 2000 Highway Capacity Manual methodology are considered acceptable methodologies for the analysis; appropriate references are to be included. Midblock sidewalk or corner pedestrian Level of Service analyses may, in some situations, be requested in addition to or instead of Level of Service analysis at pedestrian crosswalk (intersection) locations.

Pedestrian safety issues related to the project should be assessed. The study should examine potential conflicts between pedestrian movements at driveways, localized pedestrian hazards and, more generally, between pedestrians and vehicles. Any proposed changes affecting the public rights-of-way such as new or modified sidewalks or streets should be detailed and based on advance consultations with relevant City departments, including the Department of Public Works and the Department of Parking and Traffic.

Pedestrian access to the project by the disabled should be discussed. Points of ingress and egress that are accessible to the disabled should be identified. Also, accessible curb-cuts or ramps, and other on-street aids for the disabled, on the adjacent streets should be noted.

#### E. Bicycle Impacts

The existence of current or future bicycle facilities in the area should be identified from the San Francisco Bicycle Plan and by consultation with the Department of Parking and Traffic. The analysis should examine possible impacts on bicycle traffic on the streets in the vicinity of the project. This would include potential conflicts between auto, truck and bus traffic serving the project during loading and unloading, and potential conflicts due to turning movements across bicycle lanes or routes. Potential barriers or hazards to safe bicycle operations near the project should also be identified. Other conditions that may have a notable negative or positive impact on use, such as bicycle parking or the provision of shower facilities, should also be stated. Details regarding the location and access to any bicycle facilities included in the project should be described in the textual discussion and clearly shown on the site plan included in the background transportation

report. The information provided needs to be sufficient to ascertain whether the proposed bicycle facilities would be secure and practical for bicyclists to use.

If sufficient bicycle traffic exists or is anticipated on a study area street, it may be necessary to include a quantitative analysis of the impacts using the methodology in the 2000 Highway Capacity Manual or some similar technique.

#### F. Freight Loading and Service Impacts

Off-street truck loading requirements should be specified according to the Planning Code. The analysis should include a description of the frequency of the service deliveries and the estimated mix in the types of vehicles that will be utilized in the freight loading activities for the project. If it is expected that the project will attract a high level of courier and other service deliveries, the report should discuss how these will be accommodated. The analysis of the project should compare the amount of loading space provided by the project (supply) with truck loading demand generated by the project and with the off-street freight loading requirements in the Planning Code.

Project truck loading demand and service rate for the peak loading period (which should be specified) and the entire day should be estimated based on proposed uses on the site (using the data shown in Appendix H), and compared with Planning Code requirements and the proposed on-site facilities. The truck loading supply is the number and sizes of off-street truck loading spaces provided by the project on-site. It should be compared to the truck loading demand that the proposed use would generate. The number and sizes of off-street freight loading spaces required should be determined based on Section 152 of the San Francisco Planning Code.

The location, number and dimensions (including vertical clearance) of all spaces provided for freight and service functions, including van size spaces substituted for full size spaces, should be specified in the text and on a figure. The figure should indicate the location of freight elevators relative to all loading and service parking and clearly identify the circulation path between the loading/service stalls and elevators.

If truck loading demand exceeds supply and/or if no off-street loading facilities are proposed to be included as part of the project, a quantification of the resulting impacts (e.g., time of day, number of instances and duration of double-parked vehicles) should be provided, and details may be required regarding how service needs would be accommodated.

If truck movements would require backing into or out of the site on public rights-of-way, the resultant delays to traffic, transit vehicles and pedestrians should be characterized.

Truck loading access affecting a Transit Preferential Street, or any street identified in the General Plan for full or partial priority for pedestrians, and any potential conflicts affecting transit, pedestrian or vehicular flow should be identified.

In any case in which a project proposes to rely on curbside yellow loading zones, an occupancy and turnover analysis is to be conducted for existing curbside loading spaces in the immediate vicinity of the project site to estimate the probable availability of such spaces to serve the needs of the proposed project, based on the specific use(s) proposed and area conditions.

Details should be provided adequate for analysis of garbage needs including dedicated on-site storage independent of loading areas, measures to avoid use of public rights-of-way for garbage storage in accordance with DPW requirements, and well-defined access to accommodate garbage pick-up in order to minimize disruptions to streets and sidewalks.

#### G. Passenger Loading Zones

If applicable, the extent of taxi, tour bus, or other types of passenger loading and unloading needs should be specified including details regarding how these functions would be served. Where a porte cochere or other off-street passenger loading area is required or provided, plans should be included showing the location, traffic and parking lanes, adjacent sidewalks, circulation patterns, and all dimensions. Any plans to seek colored, marked curbside areas from the Department of Parking and Traffic should be noted.

For cases in which a project proposes to rely on curbside pedestrian loading zones, an occupancy and turnover analysis for similar curbside passenger loading spaces should be made to estimate the probable availability of such spaces to serve the needs of the proposed project, based on the specific use(s) proposed and area conditions.

#### H. Construction Impacts

The number of daily and peak period construction truck trips by construction phase should be cited, with proposed truck routings and operating hours indicated.

Any proposed closures or temporary use of pedestrian ways, parking lanes or traffic lanes are to be identified, as well as the extent and duration of such closure or temporary use. Impacts associated with such occupation of public rights-of-way should be identified, in terms of parking lost, effect on transit operations, loading needs, or temporary degradation in levels of service for intersections and/or pedestrians. The need to remove or move any transit stops should also be noted. For large projects, the staging plans of construction trucks for materials delivery should be cited, and methods for addressing the parking needs of construction workers should be identified.

## 5. Transportation Mitigation Measures

Transportation reports are frequently used not only for environmental evaluation but also in the conditional use and other permit processes. It is important to recognize the differences between these processes.

There are also cases in which the transportation analysis for a specific project may conclude that significant transportation impacts are unlikely and that mitigation is not required. If the project has impacts, but they are not considered "significant" as defined by CEQA standards, the analysis should clearly state this at the beginning of the significant impacts and mitigation section. These impacts may be referred to as "non-significant" impacts, and the corresponding measures to alleviate them, as "improvement" measures. They may include desirable measures to improve transportation conditions which may be recommended and subsequently included as conditions of approval. Any recommended improvement measures should be listed, accompanied by identification of the appropriate entity responsible for implementation. Such measures are not to be identified as "mitigation" measures.

Mitigation measures required to deal with impacts determined to be environmentally significant according to CEQA standards should be clearly identified as such.

If a mitigation or improvement is proposed for an intersection that will change the Level of Service (LOS), then the corresponding LOS calculation sheets need to be included in the report. The calculation sheet (or an attachment) should identify the parameters that were changed, and what specific changes are proposed, including consultation with DPT regarding the feasibility of the proposed changes.

Whenever either type of measure is identified, the following should be cited:

- If the implementation would be the responsibility of the project sponsor, indicate whether the project sponsor supports or fails to support each specific recommendation.
- If implementation would be the responsibility of the City or another agency, the responsible department or agency should be identified and its position on each recommendation should be stated.
- The timing and linkages for implementation of each measure, and whether a monitoring plan is needed, should be specified.

In some unique situations, a cost estimate for a mitigation or improvement measure may be required. Every attempt will be made to identify these cases during the scoping process. If an estimate is deemed necessary, it should be prepared at a “planning level” of detail, which would be more general and less rigorous than a construction cost estimate. Such estimates should indicate the month and year in which they were prepared, so they can be adequately assessed at some future date.

Typical transportation mitigation measures for downtown area projects, to address significant impacts as defined by CEQA standards, are shown in Appendix I. While some of these may be appropriate for projects outside of the downtown area, mitigation measures for such projects would generally be a function of the specific conditions and impacts identified by the transportation study for each project.

A transportation management program and on-site brokerage services are required for office developments of 100,000 square feet or larger (25,000 square feet in the SSO District) that are located in the C-3 or South of Market Districts. (Reference the Zoning Map of the City and County of San Francisco.) An agreement for the transportation brokerage services and a transportation management plan must be executed with the Planning Department prior to the issuance of a permit of occupancy. The transportation study report should recognize this requirement when applicable. The actual transportation management plan need not be included in the study report, but could be added at the discretion of the project sponsor. Appendix J contains the Planning Code requirements for the plan and services.

## **6. Appendices for Inclusion in Transportation Reports**

As appropriate, all transportation analyses should include the following appendices:

- Transportation Study Acknowledgment and Approval form, (Appendix A, Figure A-2) completed by the Planning Department (signed and dated), and a copy of the approved scope of work.
- Complete sets of all required traffic and pedestrian counts and estimated volumes. These should include Existing, Existing plus Project, and Cumulative conditions, at a minimum. The counts should include the date on which the data were collected.
- Complete sets of all traffic and pedestrian Level of Service calculations. Each Calculation sheet should indicate the date on which the data was collected. A summary of the rationales for use of adjustments or default values for the variables used in the calculations should be included.
- Complete sets of all analysis assumptions (including trip generation rates, transit patronage and capacities, parking turnover rates, mode splits, trip distribution, trip assignment, auto occupancy, etc.)
- Intersection LOS definitions and descriptions.
- Pedestrian LOS definitions and descriptions.

**APPENDIX 7:**  
**Downtown Transit Impact Development Fee**

1 [Transit Impact Development Fee]

2  
3 **Ordinance repealing San Francisco Administrative Code Chapter 38 (Transit Impact**  
4 **Development Fee) and replacing it with a new Chapter 38 (Sections 38.1 through 38.14),**  
5 **to enact a new Transit Impact Development Fee.**

6 Be it ordained by the People of the City and County of San Francisco:

7 Section 1. The San Francisco Administrative Code is hereby amended by repealing  
8 Chapter 38 in its entirety; provided, however, that any sponsor who has been issued a  
9 building or site permit to develop office use that was subject to the Transit Impact  
10 Development Fee imposed by Ordinance No. 224-81, as amended, shall remain subject to all  
11 the terms and conditions of that ordinance, as amended. Chapter 38 of the Administrative  
12 Code shall be replaced with a new Chapter 38 to read as follows:

13 **SEC. 38.1. DEFINITIONS.**

14 For the purposes of this Chapter, the following definitions shall apply:

15 A. Accessory Use. A related minor use which is either necessary to the operation  
16 or enjoyment of a lawful principal use or conditional use, or is appropriate, incidental and  
17 subordinate to any such use and is located on the same lot as the principal or conditional use.

18 B. Base Service Standard. The relationship between revenue service hours  
19 offered by the Municipal Railway and the number of automobile and transit trips estimated to  
20 be generated by certain non-residential uses, expressed as a ratio where the numerator  
21 equals the average daily revenue service hours offered by MUNI, and the denominator equals  
22 the daily automobile and transit trips generated by non-residential land uses as estimated by  
23 the TIDF Study or updated under Section 38.7 of this ordinance.

24 C. Base Service Standard Fee Rate. The transit impact development fee that  
25 would allow the City to recover the estimated costs incurred by the Municipal Railway to meet



1 the demand for public transit resulting from new development in the economic activity  
2 categories for which the fee is charged, after deducting government grants, fare revenue, and  
3 costs for non-vehicle maintenance and general administration.

4 D. Board. The Board of Supervisors of the City and County of San Francisco.

5 E. Certificate of Final Completion and Occupancy. A certificate of final completion  
6 and occupancy issued by any authorized entity or official of the City, including the Director of  
7 the Department of Building Inspection, under the Building Code.

8 F. City. The City and County of San Francisco.

9 G. Covered Use. Any use subject to the TIDF.

10 H. Cultural/Institution/Education (CIE). An economic activity category that includes  
11 but is not limited to, schools, as defined in subsections (g), (h), and (i) of Section 209.3 of the  
12 Planning Code and subsections (f) - (i) of Section 217 of the Planning Code; child care  
13 facilities, as defined in subsections (e) and (f) of Section 209.3 of the Planning Code and  
14 subsection (e) of Section 217 of the Planning Code; museums and zoos; and community  
15 facilities, as defined in Section 209.4 of the Planning Code and subsections (a) – (c) of  
16 Section 221 of the Planning Code.

17 I. Director. The Director of Transportation of the MTA, or his or her designee.

18 J. Economic Activity Category. One of the following six categories of non-  
19 residential uses: Cultural/Institution/Education (CIE), Management, Information and  
20 Professional Services (MIPS), Medical and Health Services, Production/Distribution/Repair  
21 (PDR), Retail/Entertainment, and Visitor Services.

22 K. Gross Floor Area. The total area of each floor within the building's exterior  
23 walls, as defined in Section 102.9 of the San Francisco Planning Code.

24 L. Gross Square Feet of Use. The total square feet of gross floor area in a building  
25 and/or space within or adjacent to a structure devoted to all covered uses, including any

1 common areas exclusively serving such uses and not serving residential uses. Where a  
2 structure contains more than one use, areas common to two or more uses, such as lobbies,  
3 stairs, elevators, restrooms, and other ancillary space included in gross floor area that are not  
4 exclusively assigned to one use shall be apportioned among the two or more uses in  
5 accordance with the relative amounts of gross floor area, excluding such space, in the  
6 structure or on any floor thereof directly assignable to each use.

7 M. Management, Information and Professional Services (MIPS). An economic  
8 activity category that includes, but is not limited to, office use as defined in Section 313.1(35)  
9 of the Planning Code; medical offices and clinics, as defined in Section 890.114 of the  
10 Planning Code; and business services, as defined in Section 890.111 of the Planning Code.

11 N. Medical and Health Services. An economic activity category that includes, but is  
12 not limited to, those non-residential uses defined in Sections 209.3(a) and 217(a) of the  
13 Planning Code; animal services, as defined in subsections (a) and (b) of Section 224 of the  
14 Planning Code; and social and charitable services, as defined in subsection (d) of Section  
15 209.3 of the Planning Code and subsection (d) of Section 217 of the Planning Code.

16 O. Municipal Railway; MUNI. The public transit system owned by City and under  
17 the jurisdiction of the Municipal Transportation Agency.

18 P. Municipal Transportation Agency; MTA. The agency of City created under  
19 Article 8A of the San Francisco Charter.

20 Q. Municipal Transportation Agency Board of Directors; MTA Board. The  
21 governing board of the MTA.

22 R. New Development. Any new construction, or addition to or conversion of an  
23 existing structure under a building or site permit issued after the effective date of this  
24 ordinance that results in 3,000 gross square feet or more of a covered use. In the case of  
25 mixed use development that includes residential development, the term "new development"

1 shall refer to only the non-residential portion of such development. "Existing structure" shall  
2 include a structure for which a sponsor already paid a fee under the prior TIDF ordinance, as  
3 well as a structure for which no TIDF was paid.

4 S. Planning Code. The Planning Code of the City and County of San Francisco, as  
5 it may be amended from time to time.

6 T. Production/Distribution/Repair (PDR). An economic activity category that  
7 includes, but is not limited to, manufacturing and processing, as defined in Section 226 of the  
8 Planning Code; those uses listed in Section 222 of the Planning Code; automotive services,  
9 as defined in Section 223(a) - (k) of the Planning Code; arts activities and spaces, as defined  
10 in Section 102.2 of the Planning Code; and research and development, as defined in Section  
11 313.1(42) of the Planning Code.

12 U. Residential. Any type of use containing dwellings as defined in Section 209.1 of  
13 the Planning Code or containing group housing as defined in Section 209.2(a) - (c) of the  
14 Planning Code.

15 V. Retail/Entertainment. An economic activity category that includes, but is not  
16 limited to, retail use, as defined in Section 218 of the Planning Code; entertainment use, as  
17 defined in Section 313.1(15) of the Planning Code; massage establishments, as defined in  
18 Section 218.1 of the Planning Code; laundering, cleaning and pressing, as defined in Section  
19 220 of the Planning Code; and wholesale sales, as defined in Section 890.54(b) of the  
20 Planning Code.

21 W. Revenue Service Hours. The number of hours that the Municipal Railway  
22 provides service to the public with its entire fleet of buses, light rail (including streetcars), and  
23 cable cars.

1 X. Sponsor. An applicant seeking approval for construction of new development  
2 subject to this Chapter, such applicant's successors and assigns, and/or any person or entity  
3 that controls or is under common control with such applicant.

4 Y. TIDF Study. The study commissioned by the San Francisco Planning  
5 Department and performed by Nelson/Nygaard Associates entitled "Transit Impact  
6 Development Fee Analysis - Final Report," dated May 2001, including all the Technical  
7 Memoranda supporting the Final Report and the Nelson/Nygaard update materials contained  
8 in Board of Supervisors File No. 040141.

9 Z. Transit Impact Development Fee; TIDF. The development fee that is the subject  
10 of this ordinance.

11 AA. Treasurer. Treasurer of the City and County of San Francisco.

12 BB. Trip Generation Rate. The total number of automobile and Municipal Railway  
13 trips generated for each 1,000 square feet of development in a particular economic activity  
14 category as established in the TIDF Study, or pursuant to the five-year review process  
15 established in Section 38.7 of this ordinance.

16 CC. Use. The purpose for which land or a structure, or both, are legally designed,  
17 constructed, arranged or intended, or for which they are legally occupied or maintained, let or  
18 leased.

19 DD. Visitor Services. An economic activity category that includes, but is not limited  
20 to, hotel use, as defined in Section 313.1(18) of the Planning Code; motel use, as defined in  
21 subsections (c) and (d) of Section 216 of the Planning Code; and time-share projects, as  
22 defined in Section 11003.5(a) of the California Business and Professions Code.

23 **SEC. 38.2. FINDINGS.**

24 A. In 1981, the City enacted an ordinance imposing a Transit Impact Development  
25 Fee ("TIDF") on new office development in the Downtown area of San Francisco. The

1 ordinance established a rate of \$5.00 for each square foot of new office development. The  
2 TIDF was based on studies showing that the development of new office uses places a burden  
3 on the Municipal Railway, especially in the downtown area of San Francisco during commute  
4 hours, known as "peak periods." The TIDF was based on two cost analyses: one by the  
5 Finance Bureau of the City's former Public Utilities Commission, performed in 1981, and one  
6 by the accounting firm of Touche-Ross, performed in March 1983 to defend a legal challenge  
7 to the TIDF. The studies showed that the cost per square foot of new office development to  
8 provide public transit service was \$9.18 and \$8.36, respectively. The California Court of  
9 Appeal upheld the TIDF ordinance against legal challenges in *Russ Bldg. Partnership v. City*  
10 *and County of San Francisco*, 199 Cal.App.3d 1496 (1987), reprinted as directed by the  
11 California Supreme Court in *Russ Bldg. Partnership v. City and County of San Francisco*, 44  
12 Cal.3d 839, 845-55 (1988). Among other things, the Court of Appeal found that the TIDF was  
13 a valid condition of development of real property, and not a special tax requiring voter  
14 approval. The Court also upheld the TIDF against equal protection and substantive due  
15 process challenges. Additionally, the California Supreme Court upheld the constitutionality of  
16 the TIDF as applied to development of new office uses approved before passage of the TIDF  
17 ordinance, where the City had conditioned approval of the new development on the  
18 developer's payment of a contemplated, but yet unknown, transit mitigation fee.

19 B. In 2000, the City's Planning Department, with assistance from the Municipal  
20 Transportation Agency, commissioned a study of the TIDF. The Planning Department issued  
21 a request for proposals for a consultant to consider various issues involving the TIDF,  
22 including: (1) whether the TIDF should be expanded to include types of land uses in addition  
23 to offices; (2) whether the TIDF should be expanded geographically beyond the Downtown  
24 area; (3) whether fee amounts should vary by geographic or land use categories; (4) what  
25 standards should be used for measuring the baseline performance of the Municipal Railway

1 ("MUNI"); and (5) the developer fees that would be necessary to fund public transit to meet  
2 the additional demand resulting from new development.

3 C. In 2001, the Planning Department selected Nelson/Nygaard Associates, a  
4 nationally recognized transportation consulting firm, to perform the study. Later in 2001,  
5 Nelson/Nygaard issued its final report ("TIDF Study"). Before issuing the TIDF Study,  
6 Nelson/Nygaard prepared several Technical Memoranda, which provided detailed analyses of  
7 the methodology and assumptions used in the TIDF Study.

8 D. The TIDF Study concluded that new non-residential uses in San Francisco will  
9 generate demand for a substantial number of auto and transit trips on MUNI by the year 2020.  
10 The TIDF Study confirmed that while new office construction will ~~generate~~ have a substantial  
11 demand for impact on MUNI services, new development in a number of other land uses will  
12 ~~generate more trips on~~ also require MUNI to increase the number of revenue service hours.  
13 The TIDF Study recommended that the TIDF be extended to apply to most non-residential  
14 land uses ~~to address the increased demand for impact on public transportation~~. The TIDF  
15 Study found that certain types of new development generate very few daily transit trips and  
16 therefore may not appropriately be charged a new TIDF.

17 E. The TIDF Study also determined that the need to expand MUNI services to  
18 accommodate new development extends to all times of the day, not just peak periods, and  
19 therefore recommended that any measure of the existing level of service and additional  
20 service required by new development include service at all times of the day.

21 F. The former TIDF Ordinance applied the fee to developments in the traditional  
22 "Downtown" area of the City. The TIDF Study noted that since 1981, however, development  
23 has expanded out of the Downtown area of the City, and that such development has required  
24 MUNI to build transit infrastructure in areas outside of the boundary defined in the former  
25 TIDF Ordinance.

1 G. To meet the increased demand for public transit projected by the TIDF Study,  
2 MUNI must build new infrastructure and add or adjust service. For example, MUNI's 2002  
3 publication, "A Vision for Rapid Transit in San Francisco" ("Vision Plan"), proposes transit  
4 projects along 12 major corridors in San Francisco, covering all areas of the City.

5 H. Even where employees and others drawn to new development use private  
6 transportation, their trips will increase the cost of maintaining MUNI's existing service level  
7 ("base service standard") because increasing traffic congestion will result in slower travel  
8 speeds for MUNI and require MUNI to add more service hours to maintain its base service  
9 standard. Accordingly, new development will require MUNI to add service hours to maintain  
10 schedules and reliability that extends beyond the new riders seeking to use MUNI service.

11 I. New development will directly and indirectly require MUNI to (a) maintain and  
12 expand service capacity through adding revenue service hours; (b) purchase, maintain and  
13 repair rolling stock; (c) install new lines; and (d) add service to existing lines.

14 J. The TIDF Study recommended that the City enact an ordinance to impose  
15 transit impact fees that would allow MUNI to maintain its base service standard as new  
16 development occurs throughout the City. The proposed ordinance would require sponsors of  
17 new development in the City to pay a fee that is reasonably related to the financial burden  
18 imposed on MUNI by the new development. This financial burden is measured by the cost  
19 that will be incurred by MUNI to provide increased service to maintain the applicable base  
20 service standard over the life of such new development.

21 K. The TIDF Study expressed the base service standard as a ratio in which the  
22 numerator is the number of hours that MUNI provides service to the public on its entire fleet of  
23 vehicles ("revenue service hours"), and the denominator is the number of trips generated by  
24 all non-residential land uses. An increase in trips resulting from new non-residential  
25 development will reduce the ratio of revenue service hours to overall trips generated by new

1 development. To maintain the base service standard to accommodate the new development,  
2 MUNI must increase revenue service hours.

3 L. The TIDF Study developed a daily trip generation rate for each of six economic  
4 activity categories developed in the "Citywide Land Use Study," prepared for the Planning  
5 Department in 1998. The daily trip generation rate included automobile and public transit  
6 trips, but excluded non-motorized trips because such trips do not materially affect traffic  
7 congestion. The TIDF Study determined that the trip generation rates in each economic  
8 activity category do not vary geographically within the City. Therefore, the TIDF Study  
9 concluded that developer fee rates should not vary in different districts within the City. The  
10 trip generation rates contained in the TIDF Study represent the most reasonable rates  
11 available for the economic activity categories in the Study.

12 M. Using data obtained from MUNI and the fiscal year 2000 National Transit  
13 Database, the TIDF Study calculated the base service standard fee rates for each of the six  
14 economic activity categories in the following way:

15 (1) To calculate MUNI's total annual costs, the TIDF Study combined MUNI's  
16 fiscal year 2000 operating costs with an average annual capital budget, estimated by  
17 averaging the prior five years of MUNI's capital expenditures.

<b>FY 2000 Operating Costs</b>	\$384,113,000
<b>Average Annual Capital Costs</b>	\$310,000,000
<b>Total Annual Costs</b>	\$694,113,000

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22 (2) The Study calculated MUNI's net annual costs for fiscal year 2000 by  
23 subtracting fare box revenue and federal and state grant funds from MUNI's total costs.  
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<b>Total Annual Costs</b>	\$ 694,113,000
<b>FY 2000 Fare Box Revenue</b>	(\$101,310,000)
<b>FY 2000 Federal/State Grant Funds</b>	(\$182,900,000)
<b>Net Annual Costs</b>	\$ 409,903,000

(3) The Study then determined MUNI's net annual cost per revenue service hour by dividing MUNI's net annual costs by MUNI's average daily revenue service hours, as reported to the National Transit Database.

<b>Net Annual Costs</b>	<b>Average Daily Revenue Service Hours</b>	<b>Net Annual Cost Per Revenue Service Hour</b>
\$ 409,903,000	÷ 8,436	\$48,600

(4) The TIDF Study estimated the number of daily auto and transit trips within the City (9,035,282) by using trip generation rates and 2000 employment data supplied by the Planning Department. By dividing MUNI's average daily revenue service hours (8,436) by the estimated daily auto and transit trips within the City (9,035,282), the TIDF Study determined that MUNI provided approximately 0.9336 service hours for every 1,000 transit and auto trips. The TIDF Study multiplied the net annual cost per revenue service hour by 0.9336 to determine a net annual cost per trip.

<b>Net Annual Cost Per Revenue Service Hour</b>	<b>Revenue Service Hours Per 1,000 Trips</b>	<b>Net Annual Cost Per Trip</b>
\$48,600	x 0.9336	\$45.37

(5) The Study multiplied the net annual cost per trip by an adjusted daily trip rate per economic activity category to calculate a net annual cost per gross square foot (gsf) of new development for each economic activity category. The TIDF Study adjusted the daily trip rate to eliminate bicycle and pedestrian trips.

<b>Economic Activity Category</b>	<b>Adjusted Daily Trip Rate Per 1,000 gsf</b>	<b>Net Annual Cost Per Trip</b>	<b>Net Annual Cost per gsf of Development</b>
Cultural/Institution/Education	42.3	\$45.37	\$1.92
Management, Information and Professional Services	15.1	\$45.37	\$0.68
Medical and Health Services	23.9	\$45.37	\$1.08
Production/Distribution/Repair	9.6	\$45.37	\$0.44
Retail/Entertainment	166.8	\$45.37	\$7.57
Visitor Services	13.3	\$45.37	\$0.61

(6) Finally, the Study multiplied the net annual cost per gross square foot of development for each economic activity category by a net present value factor of 20.69 (based on a U.S. transportation industry index inflation rate of 2.05%, earning on an invested funds rate of 6.14%, and a building life span of 45 years) to establish the base service standard rates for each economic activity category that would be necessary to pay for increased transit services for the 45-year useful life of a new development.

<b>Economic Activity Category</b>	<b>Net Present Value Factor</b>	<b>Net Annual Cost per gsf of Development</b>	<b>Base Service Standard Rates</b>
Cultural/Institution/Education	20.69	\$1.92	\$39.67
Management, Information and Professional Services	20.69	\$0.68	\$14.17
Medical and Health Services	20.69	\$1.08	\$22.40
Production/Distribution/Repair	20.69	\$0.44	\$9.04
Retail/Entertainment	20.69	\$7.57	\$156.61
Visitor Services	20.69	\$0.61	\$12.53

N. In 2004, MUNI updated the base service standard rates established in the TIDF Study with fiscal year 2003 data (the "updated base service standard rates"). To calculate the

1 updated base service standard rates, MUNI modified certain variables in the TIDF Study's  
2 formula to reflect current information, as follows.

3 (1) Rather than using an estimated average annual capital budget (the  
4 methodology employed in the TIDF Study), MUNI used its actual capital costs for fiscal years  
5 1999-2003, as reported to the fiscal year 2003 National Transit Database, in determining the  
6 average annual capital costs.

<b>Operating Costs</b>	\$449,283,888
<b>Average Capital Costs</b>	\$192,468,200
<b>Total Costs</b>	\$641,752,088

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11 (2) California Government Code Section 65913.8 prohibits including costs for  
12 facility maintenance and operations in a fee imposed on a developer for a public capital facility  
13 improvement. It is not clear whether this limitation applies to the TIDF. To comply with  
14 Government Code Section 65913.8, if applicable, and to achieve a more conservative  
15 estimate of the recoverable costs, MUNI deducted its costs for non-vehicle (facility)  
16 maintenance and general administration. MUNI could not separate general administration  
17 attributable to facility operations, so MUNI deducted 100% of the general administration costs  
18 for the entire department. Accordingly, the updated base service standard rates are even  
19 more conservative than may be required under Section 65913.8.

20 (3) MUNI applied its updated assumptions to the TIDF Study's methodology  
21 by deducting non-vehicle maintenance and general administration (in addition to farebox  
22 revenues and grant funds) from its total costs to calculate its annual net costs:  
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<b>Total Annual Costs FY 2003</b>	\$ 641,752,088
<b>Farebox Revenue FY 2003</b>	(\$97,779,333)
<b>Federal/State Grant Funds FY 2003</b>	(\$89,445,000)
<b>Non-Vehicle Maintenance FY 2003</b>	(\$34,173,560)
<b>General Administration FY 2003</b>	(\$92,197,116)
<b>Net Annual Costs FY 2003</b>	\$ 328,157,079

(4) To determine the net annual cost per revenue service hour, MUNI used the average daily revenue service hours for Fiscal Year 2003 (10,062), as reported to the National Transit Database:

<b>Net Annual Costs</b>	<b>Average Daily Revenue Service Hours</b>	<b>Net Annual Cost Per Revenue Service Hour</b>
\$ 328,157,079	÷ 10,062	\$32,614

(5) MUNI then calculated the net annual cost per trip by multiplying the net annual cost per revenue service hour by the number of revenue service hours per 1,000 trips:

<b>Net Annual Cost Per Revenue Service Hour</b>	<b>Revenue Service Hours Per 1,000 Trips</b>	<b>Net Annual Cost Per Trip</b>
\$32,614	x 1.1136	\$36.32

(6) MUNI multiplied the net annual cost per trip by the adjusted daily trip rate for each economic activity category to arrive at a net annual cost per gross square foot of new development for each category:

<b>Economic Activity Category</b>	<b>Adjusted Daily Trip Rate Per 1,000 gsf</b>	<b>Net Updated Annual Cost Per Trip</b>	<b>Net Updated Annual Cost per gsf of Development</b>
Cultural/Institution/Education	42.3	\$36.32	\$1.54
Management, Information and Professional Services	15.1	\$36.32	\$0.55
Medical and Health Services	23.9	\$36.32	\$0.87
Production/Distribution/Repair	9.6	\$36.32	\$0.35
Retail/Entertainment	166.8	\$36.32	\$6.06
Visitor Services	13.3	\$36.32	\$0.48

(7) MUNI also updated the net present value factor the TIDF Study used to calculate the updated base service standard rates by calculating the lump sum amount needed to fund \$1.00 (in today's dollars) in annual costs over 45 years, increasing at a current inflation rate of 3.50% (the five-year Bay Area Consumer Price Index as calculated by the Association for Bay Area Governments), with the remaining fund balance invested at a current interest rate of 4.93% (the five-year average interest rate earned by the City's Treasurer's Department on pooled funds). Both the TIDF Study and MUNI used the interest rate earned by the City's Treasurer for the respective years. But MUNI elected to use the Bay Area Consumer Price Index rather than the U.S. Transportation Index on which the TIDF Study relied because the Bay Area index more accurately reflects the local inflation rate. The use of the different net present value factor yields the following updated base service standard rates:

<b>Economic Activity Category</b>	<b>Net Annual Cost per gsf of Development</b>	<b>Net Present Value Factor</b>	<b>Updated Base Service Standard Rates</b>
Cultural/Institution/Education	\$1.54	33.36	\$51.25
Management, Information and Professional Services	\$0.55	33.36	\$18.30
Medical and Health Services	\$0.87	33.36	\$28.96
Production/Distribution/Repair	\$0.35	33.36	\$11.63
Retail/Entertainment	\$6.06	33.36	\$202.10
Visitor Services	\$0.48	33.36	\$16.11

O. In setting the TIDF rates, the City considered the updated base service standard rates and input from a variety of stakeholders, including business groups, developers, and civic organizations. The City set the TIDF rates well below the updated base service standard rates to reduce the costs of the TIDF to sponsors of new developments, who are subject to other development fees imposed by the City, and to guarantee that the TIDF does not exceed the reasonable cost to fund the additional transit improvements necessitated by new development. The TIDF rates are as follows:

<b>Economic Activity Category</b>	<b>Updated Base Service Standard Rates</b>	<b>TIDF Schedule (from Sec. 38.4)</b>
Cultural/Institution/Education	\$51.25	\$10.00
Management, Information and Professional Services	\$18.30	\$10.00
Medical and Health Services	\$28.96	\$10.00
Production/Distribution/Repair	\$11.63	\$8.00
Retail/Entertainment	\$202.10	\$10.00
Visitor Services	\$16.11	\$8.00

P. Based on projected new development over the next 20 years, the TIDF will provide revenue to MUNI that is significantly below the costs that MUNI will incur to mitigate the transit impacts resulting from the new development.

1 Q. The TIDF is the most practical and equitable method of meeting a portion of the  
2 demand for additional Municipal Railway service and capital improvements for the City caused  
3 by new non-residential development.

4 R. Based on the above findings, the City determines that the TIDF satisfies the  
5 requirements of the Mitigation Fee Act, California Government Code Section 66001, as  
6 follows:

7 (1) The purpose of the fee is to meet a portion of the demand for additional  
8 Municipal Railway service and capital improvements for the City caused by new non-  
9 residential development.

10 (2) Funds from collection of the TIDF will be used to increase revenue  
11 service hours reasonably necessary to mitigate the impacts of new non-residential  
12 development on public transit and maintain the applicable base service standard.

13 (3) There is a reasonable relationship between the proposed uses of the  
14 TIDF and the impact on transit of the new developments on which the TIDF will be imposed.

15 (4) There is a reasonable relationship between the types of new  
16 development on which the TIDF will be imposed and the need to fund public transit for the  
17 uses specified in Section 38.8 of this ordinance.

18 (5) There is a reasonable relationship between the amount of the TIDF to be  
19 imposed on new developments and the impact on public transit from the new developments.

20 **SEC. 38.3. IMPOSITION OF TRANSIT IMPACT DEVELOPMENT FEE.**

21 A. Subject to the exceptions set forth in subsections D and E below, each sponsor  
22 of a new development in the City shall pay to the City and deliver to the Treasurer upon  
23 issuance of any temporary certificate of occupancy, and as a condition precedent to issuance  
24 for such new development of any certificate of final completion and occupancy, whichever  
25 occurs first, a TIDF. The TIDF shall be calculated on the basis of the number of gross square

1 feet of new development, multiplied by the square foot rate then in effect for each of the  
2 applicable economic activity categories within the new development, as provided in Section  
3 38.4 of this ordinance. An accessory use shall be charged at the same rate as the underlying  
4 use to which it is accessory. Whenever any new development or series of new developments  
5 results in more than 3,000 gross square feet of covered use within a structure, the TIDF shall  
6 be imposed on every square foot of such covered use (including any portion that was part of  
7 prior new development below the 3,000 square foot threshold).

8 B. No City official or agency, including the Department of Building Inspection  
9 (“DBI”) and the Port of San Francisco, may issue a certificate of final completion and  
10 occupancy for any new development subject to the TIDF until it has received notification from  
11 the Treasurer that the TIDF in accordance with Section 38.4 of this Chapter has been paid.

12 C. Except as provided in Sections 38.3(D) and (E) below, the TIDF shall be  
13 payable with respect to any new development in the City for which a building or site permit is  
14 issued on or after the effective date of this ordinance.

15 D. The TIDF shall not be payable on new development, or any portion thereof, for  
16 which a transit impact development fee has been paid, in full or in part, under the prior Transit  
17 Impact Development Fee Ordinance adopted in 1981 (Ordinance No. 224-81; former Chapter  
18 38 of this Administrative Code), except where (1) gross square feet of use is being added to  
19 the building; or (2) the TIDF rate for the new development is in an economic activity category  
20 with a higher fee rate than the rate set for MIPS, as set forth in Section 38.4.

21 E. No TIDF shall be payable on the following types of new development.

22 (1) New development on property owned (including beneficially owned) by  
23 the City, except for that portion of the new development that may be developed by a private  
24 sponsor and not intended to be occupied by the City or other agency or entity exempted under  
25 this ordinance, in which case the TIDF shall apply only to such non-exempted portion. New



1 development on property owned by a private person or entity and leased to the City shall be  
2 subject to the fee, unless the City is the beneficial owner of such new development or unless  
3 such new development is otherwise exempted under this Section.

4 (2) Any new development in Mission Bay North or South to the extent  
5 application of this ordinance would be inconsistent with the Mission Bay North Redevelopment  
6 Plan and Interagency Cooperation Agreement or the Mission Bay South Redevelopment Plan  
7 and Interagency Cooperation Agreement, as applicable.

8 (3) New development located on property owned by the United States or any  
9 of its agencies to be used exclusively for governmental purposes.

10 (4) New development located on property owned by the State of California or  
11 any of its agencies to be used exclusively for governmental purposes.

12 (5) New development for which an application for environmental evaluation  
13 or an application for a categorical exemption has been filed prior to April 1, 2004.

14 (6) The following types of new developments:

- 15 (a) Public facilities/ utilities, as defined in Section 209.6 of the  
16 Planning Code;
- 17 (b) Open recreation/horticulture, as defined in Section 209.5 of the  
18 Planning Code, including private noncommercial recreation open  
19 use, as referred to in Section 221(g) of the Planning Code;
- 20 (c) Vehicle storage and access, as defined in Section 209.7 of the  
21 Planning Code;
- 22 (d) Automotive services, as defined in Section 223(I) - (v) of the  
23 Planning Code;
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- (e) Wholesaling, storage, distribution, and open-air handling of materials and equipment, as defined in Section 225 of the Planning Code;
- (f) Other Uses, as defined in Section 227 of the Planning Code;

In reviewing whether a development is subject to the fee, the Director shall consider the project in its entirety. A sponsor may not seek multiple building permits to evade paying the TIDF.

F. The sponsor shall pay, or cause to be paid, the TIDF to the Treasurer on the earliest of the following dates:

- (1) The date when 50 percent of the net rentable area of the project has been occupied;
- (2) The date of issuance of the first temporary permit of occupancy in the new development;
- (3) Five days prior to the date of issuance of a final certificate of occupancy.

G. Upon payment of the fee in full to the Treasurer, and upon request of the sponsor, the Treasurer shall issue a certificate that the fee has been paid. The sponsor shall present such certification to DBI before the issuance of the final certificate of occupancy for the new development. DBI shall provide notice in writing to the Treasurer, the Planning Department, and MUNI at least five business days before issuing the final certificate of occupancy for any new development project. DBI may not issue a final certificate of occupancy for any new development until DBI has received notice from the Treasurer that the TIDF has been paid.

**SEC. 38.4. TRANSIT IMPACT DEVELOPMENT FEE SCHEDULE.**

A. TIDF Schedule. The TIDF Schedule shall be as follows:

Economic Activity Category	TIDF Per Gross Square Foot of Development
Cultural/Institution/Education	\$10.00
Management, Information and Professional Services	\$10.00
Medical and Health Services	\$10.00
Production/Distribution/Repair	\$8.00
Retail/Entertainment	\$10.00
Visitor Services	\$8.00

B. Biennial Adjustment. Biennially, beginning July 1, 2005, the TIDF Schedule shall be adjusted, without further action by the Board of Supervisors, to reflect the average annual change in the Bay Area Consumer Price Index for the prior two years, as reported by the Association of Bay Area Governments, and as determined by the Director.

**SEC. 38.5. SETTING OF TIDF.** Before obtaining the first building or site permit for any new development in the City after the effective date of this ordinance, each sponsor shall file with the Director, on such form as the Director may develop, a report indicating the number of gross square feet of use of the new development and any other information the Director may require to determine the sponsor's obligation to pay the TIDF. Each sponsor of a new development who had applied for a building or site permit, but who had not obtained an approval of the building permit or site permit before the effective date of this ordinance, shall file the same report prior to obtaining a final certificate of occupancy. Except where an exemption otherwise applies under this ordinance, the Director shall determine the number of gross square feet of use in each applicable economic activity category, disregarding the number of pre-existing gross square feet of use being retained in each such category, apply the fee schedule, and determine the fee. The Director shall mail a copy of his or her written determination to the sponsor. The sponsor may appeal the determination of the number of gross square feet of use subject to the fee, the economic activity category, or the credits described in Section 38.6, to the MTA Board. If the sponsor notifies the Director of its

1 acceptance of the determination, or does not submit an appeal to the MTA Board within 15  
2 days following the date of mailing of notice of the Director's determination, the Director's  
3 determination shall be final, and a notice of such determination shall be provided to DBI and  
4 the Treasurer. DBI may not issue a site or building permit for any new development until it  
5 has received notice from the MTA of the final determination of the amount of the Transit  
6 Impact Development Fee to be paid. The MTA shall not change the amount of the TIDF  
7 based on changes to the amount of gross square feet of new development during construction  
8 of the new development unless the sponsor applies for a new building permit to reflect such  
9 changes.

10 **SEC. 38.6. CREDITS.** In determining the number of gross square feet of use to which  
11 the TIDF applies, the Director shall provide a credit for prior uses eliminated on the site,  
12 provided that a TIDF has not been paid for any prior use of the property. The credit shall be  
13 calculated according to the following formula:

14 (a) There shall be a credit for the number of gross square feet of use being  
15 eliminated by the new development, multiplied by an adjustment factor to reflect the difference  
16 in the fee rate of the use being added and the use being eliminated. The adjustment factor  
17 shall be determined by the Director as follows:

18 (1) The adjustment factor shall be a fraction, the numerator of which shall be  
19 the fee rate which the Director shall determine, in consultation with the Department of City  
20 Planning, if necessary, applies to the economic activity category in the most recent calculation  
21 of the TIDF Schedule approved by the MTA Board for the prior use being eliminated by the  
22 project.

23 (2) The denominator of the fraction shall be the fee rate for the use being  
24 added, as set forth in the most recent calculation of the TIDF Schedule approved by the MTA  
25 Board.

1 (b) A credit for a prior use may be given only if the prior use was active on  
2 the site within five years before the date of the application for a building or site permit for the  
3 proposed use.

4 (c) As of the effective date of this ordinance, no sponsor shall be entitled to a  
5 refund of the TIDF on a building for which the fee was paid under the former Chapter 38.

6 **SEC. 38.7. REVIEW OF FEE SCHEDULE.**

7 A. Five-Year Review.

8 (1) Commencing five years after the effective date of this ordinance, and  
9 every five years thereafter, or more often as the MTA Board may deem necessary, the  
10 Director shall prepare a report for the MTA Board and the Board of Supervisors with  
11 recommendations regarding whether the TIDF for each economic activity category should be  
12 increased, decreased, or remain the same. In making such recommendations, and to the  
13 extent that new information is available, the Director shall update the following information and  
14 estimates that were used in the TIDF Study to calculate the base service standard fee rates,  
15 and any other information that the Director deems appropriate.

- 16 (a) The base service standard;
- 17 (b) Capital and operating costs;
- 18 (c) Federal and state grant funds received by MUNI;
- 19 (d) Passenger fare revenue;
- 20 (e) Daily revenue service hours;
- 21 (f) Cost per revenue service hour;
- 22 (g) Trip generation rates by economic activity category;
- 23 (h) Cost per trip;
- 24 (i) Cost per gross square foot of development by economic activity  
25 category;

- 1 (j) Net present value factor;
- 2 (k) Useful life period(s) for new development by economic activity
- 3 category;
- 4 (l) Estimated annual rate of return on the proceeds of the fee;
- 5 (m) The placement of particular land uses in economic activity
- 6 categories.

7 Where applicable, the Director shall use the most recent MUNI information as submitted to the  
8 National Transit Database. The denominator of the revised base service standard shall be  
9 calculated using the most recent estimates of daily automobile and transit trips developed by  
10 the City's Planning Department or other City or state agency.

11 (2) In the report, the Director shall (a) identify the base service standard fee  
12 rates per gross square foot in each economic activity category; and (b) propose a fee for each  
13 economic activity category.

14 (3) After receiving this report and making it available for public distribution,  
15 the Board of Supervisors shall conduct a public hearing in which it shall consider the  
16 Director's report, hear testimony from any interested members of the public, and receive such  
17 other evidence as it may deem necessary. At the conclusion of that hearing, the Board shall  
18 make findings regarding whether the revenues projected to be recovered under the proposed  
19 Fee Schedule would be reasonably related to and would not exceed the costs incurred by  
20 MUNI to maintain the applicable base service standard, in light of demands caused by new  
21 development. The Board of Supervisors shall then make any necessary or appropriate  
22 revisions to the TIDF Schedule.

23 (4) The Board shall consider the Director's report in light of the most recent  
24 five-year review of the Housing Fee (Planning Code § 313.15), Child Care Fee (Planning  
25 Code § 314.7) and Inclusionary Housing Fee (Planning Code § 315.8(e)). MUNI and the

1 [Transit Impact Development Fee]

2  
3 **Ordinance repealing San Francisco Administrative Code Chapter 38 (Transit Impact**  
4 **Development Fee) and replacing it with a new Chapter 38 (Sections 38.1 through 38.14),**  
5 **to enact a new Transit Impact Development Fee.**

6 Be it ordained by the People of the City and County of San Francisco:

7 Section 1. The San Francisco Administrative Code is hereby amended by repealing  
8 Chapter 38 in its entirety; provided, however, that any sponsor who has been issued a  
9 building or site permit to develop office use that was subject to the Transit Impact  
10 Development Fee imposed by Ordinance No. 224-81, as amended, shall remain subject to all  
11 the terms and conditions of that ordinance, as amended. Chapter 38 of the Administrative  
12 Code shall be replaced with a new Chapter 38 to read as follows:

13 **SEC. 38.1. DEFINITIONS.**

14 For the purposes of this Chapter, the following definitions shall apply:

15 A. Accessory Use. A related minor use which is either necessary to the operation  
16 or enjoyment of a lawful principal use or conditional use, or is appropriate, incidental and  
17 subordinate to any such use and is located on the same lot as the principal or conditional use.

18 B. Base Service Standard. The relationship between revenue service hours  
19 offered by the Municipal Railway and the number of automobile and transit trips estimated to  
20 be generated by certain non-residential uses, expressed as a ratio where the numerator  
21 equals the average daily revenue service hours offered by MUNI, and the denominator equals  
22 the daily automobile and transit trips generated by non-residential land uses as estimated by  
23 the TIDF Study or updated under Section 38.7 of this ordinance.

24 C. Base Service Standard Fee Rate. The transit impact development fee that  
25 would allow the City to recover the estimated costs incurred by the Municipal Railway to meet

1 the demand for public transit resulting from new development in the economic activity  
2 categories for which the fee is charged, after deducting government grants, fare revenue, and  
3 costs for non-vehicle maintenance and general administration.

4 D. Board. The Board of Supervisors of the City and County of San Francisco.

5 E. Certificate of Final Completion and Occupancy. A certificate of final completion  
6 and occupancy issued by any authorized entity or official of the City, including the Director of  
7 the Department of Building Inspection, under the Building Code.

8 F. City. The City and County of San Francisco.

9 G. Covered Use. Any use subject to the TIDF.

10 H. Cultural/Institution/Education (CIE). An economic activity category that includes,  
11 but is not limited to, schools, as defined in subsections (g), (h), and (i) of Section 209.3 of the  
12 Planning Code and subsections (f) - (i) of Section 217 of the Planning Code; child care  
13 facilities, as defined in subsections (e) and (f) of Section 209.3 of the Planning Code and  
14 subsection (e) of Section 217 of the Planning Code; museums and zoos; and community  
15 facilities, as defined in Section 209.4 of the Planning Code and subsections (a) – (c) of  
16 Section 221 of the Planning Code.

17 I. Director. The Director of Transportation of the MTA, or his or her designee.

18 J. Economic Activity Category. One of the following six categories of non-  
19 residential uses: Cultural/Institution/Education (CIE), Management, Information and  
20 Professional Services (MIPS), Medical and Health Services, Production/Distribution/Repair  
21 (PDR), Retail/Entertainment, and Visitor Services.

22 K. Gross Floor Area. The total area of each floor within the building's exterior  
23 walls, as defined in Section 102.9 of the San Francisco Planning Code.

24 L. Gross Square Feet of Use. The total square feet of gross floor area in a building  
25 and/or space within or adjacent to a structure devoted to all covered uses, including any



1 common areas exclusively serving such uses and not serving residential uses. Where a  
2 structure contains more than one use, areas common to two or more uses, such as lobbies,  
3 stairs, elevators, restrooms, and other ancillary space included in gross floor area that are not  
4 exclusively assigned to one use shall be apportioned among the two or more uses in  
5 accordance with the relative amounts of gross floor area, excluding such space, in the  
6 structure or on any floor thereof directly assignable to each use.

7 M. Management, Information and Professional Services (MIPS). An economic  
8 activity category that includes, but is not limited to, office use as defined in Section 313.1(35)  
9 of the Planning Code; medical offices and clinics, as defined in Section 890.114 of the  
10 Planning Code; and business services, as defined in Section 890.111 of the Planning Code.

11 N. Medical and Health Services. An economic activity category that includes, but is  
12 not limited to, those non-residential uses defined in Sections 209.3(a) and 217(a) of the  
13 Planning Code; animal services, as defined in subsections (a) and (b) of Section 224 of the  
14 Planning Code; and social and charitable services, as defined in subsection (d) of Section  
15 209.3 of the Planning Code and subsection (d) of Section 217 of the Planning Code.

16 O. Municipal Railway; MUNI. The public transit system owned by City and under  
17 the jurisdiction of the Municipal Transportation Agency.

18 P. Municipal Transportation Agency; MTA. The agency of City created under  
19 Article 8A of the San Francisco Charter.

20 Q. Municipal Transportation Agency Board of Directors; MTA Board. The  
21 governing board of the MTA.

22 R. New Development. Any new construction, or addition to or conversion of an  
23 existing structure under a building or site permit issued after the effective date of this  
24 ordinance that results in 3,000 gross square feet or more of a covered use. In the case of  
25 mixed use development that includes residential development, the term "new development"

1 shall refer to only the non-residential portion of such development. "Existing structure" shall  
2 include a structure for which a sponsor already paid a fee under the prior TIDF ordinance, as  
3 well as a structure for which no TIDF was paid.

4 S. Planning Code. The Planning Code of the City and County of San Francisco, as  
5 it may be amended from time to time.

6 T. Production/Distribution/Repair (PDR). An economic activity category that  
7 includes, but is not limited to, manufacturing and processing, as defined in Section 226 of the  
8 Planning Code; those uses listed in Section 222 of the Planning Code; automotive services,  
9 as defined in Section 223(a) - (k) of the Planning Code; arts activities and spaces, as defined  
10 in Section 102.2 of the Planning Code; and research and development, as defined in Section  
11 313.1(42) of the Planning Code.

12 U. Residential. Any type of use containing dwellings as defined in Section 209.1 of  
13 the Planning Code or containing group housing as defined in Section 209.2(a) - (c) of the  
14 Planning Code.

15 V. Retail/Entertainment. An economic activity category that includes, but is not  
16 limited to, retail use, as defined in Section 218 of the Planning Code; entertainment use, as  
17 defined in Section 313.1(15) of the Planning Code; massage establishments, as defined in  
18 Section 218.1 of the Planning Code; laundering, cleaning and pressing, as defined in Section  
19 220 of the Planning Code; and wholesale sales, as defined in Section 890.54(b) of the  
20 Planning Code.

21 W. Revenue Service Hours. The number of hours that the Municipal Railway  
22 provides service to the public with its entire fleet of buses, light rail (including streetcars), and  
23 cable cars.

1 X. Sponsor. An applicant seeking approval for construction of new development  
2 subject to this Chapter, such applicant's successors and assigns, and/or any person or entity  
3 that controls or is under common control with such applicant.

4 Y. TIDF Study. The study commissioned by the San Francisco Planning  
5 Department and performed by Nelson/Nygaard Associates entitled "Transit Impact  
6 Development Fee Analysis - Final Report," dated May 2001, including all the Technical  
7 Memoranda supporting the Final Report and the Nelson/Nygaard update materials contained  
8 in Board of Supervisors File No. 040141.

9 Z. Transit Impact Development Fee; TIDF. The development fee that is the subject  
10 of this ordinance.

11 AA. Treasurer. Treasurer of the City and County of San Francisco.

12 BB. Trip Generation Rate. The total number of automobile and Municipal Railway  
13 trips generated for each 1,000 square feet of development in a particular economic activity  
14 category as established in the TIDF Study, or pursuant to the five-year review process  
15 established in Section 38.7 of this ordinance.

16 CC. Use. The purpose for which land or a structure, or both, are legally designed,  
17 constructed, arranged or intended, or for which they are legally occupied or maintained, let or  
18 leased.

19 DD. Visitor Services. An economic activity category that includes, but is not limited  
20 to, hotel use, as defined in Section 313.1(18) of the Planning Code; motel use, as defined in  
21 subsections (c) and (d) of Section 216 of the Planning Code; and time-share projects, as  
22 defined in Section 11003.5(a) of the California Business and Professions Code.

23 **SEC. 38.2. FINDINGS.**

24 A. In 1981, the City enacted an ordinance imposing a Transit Impact Development  
25 Fee ("TIDF") on new office development in the Downtown area of San Francisco. The

1 ordinance established a rate of \$5.00 for each square foot of new office development. The  
2 TIDF was based on studies showing that the development of new office uses places a burden  
3 on the Municipal Railway, especially in the downtown area of San Francisco during commute  
4 hours, known as "peak periods." The TIDF was based on two cost analyses: one by the  
5 Finance Bureau of the City's former Public Utilities Commission, performed in 1981, and one  
6 by the accounting firm of Touche-Ross, performed in March 1983 to defend a legal challenge  
7 to the TIDF. The studies showed that the cost per square foot of new office development to  
8 provide public transit service was \$9.18 and \$8.36, respectively. The California Court of  
9 Appeal upheld the TIDF ordinance against legal challenges in *Russ Bldg. Partnership v. City*  
10 *and County of San Francisco*, 199 Cal.App.3d 1496 (1987), reprinted as directed by the  
11 California Supreme Court in *Russ Bldg. Partnership v. City and County of San Francisco*, 44  
12 Cal.3d 839, 845-55 (1988). Among other things, the Court of Appeal found that the TIDF was  
13 a valid condition of development of real property, and not a special tax requiring voter  
14 approval. The Court also upheld the TIDF against equal protection and substantive due  
15 process challenges. Additionally, the California Supreme Court upheld the constitutionality of  
16 the TIDF as applied to development of new office uses approved before passage of the TIDF  
17 ordinance, where the City had conditioned approval of the new development on the  
18 developer's payment of a contemplated, but yet unknown, transit mitigation fee.

19 B. In 2000, the City's Planning Department, with assistance from the Municipal  
20 Transportation Agency, commissioned a study of the TIDF. The Planning Department issued  
21 a request for proposals for a consultant to consider various issues involving the TIDF,  
22 including: (1) whether the TIDF should be expanded to include types of land uses in addition  
23 to offices; (2) whether the TIDF should be expanded geographically beyond the Downtown  
24 area; (3) whether fee amounts should vary by geographic or land use categories; (4) what  
25 standards should be used for measuring the baseline performance of the Municipal Railway

1 ("MUNI"); and (5) the developer fees that would be necessary to fund public transit to meet  
2 the additional demand resulting from new development.

3 C. In 2001, the Planning Department selected Nelson/Nygaard Associates, a  
4 nationally recognized transportation consulting firm, to perform the study. Later in 2001,  
5 Nelson/Nygaard issued its final report ("TIDF Study"). Before issuing the TIDF Study,  
6 Nelson/Nygaard prepared several Technical Memoranda, which provided detailed analyses of  
7 the methodology and assumptions used in the TIDF Study.

8 D. The TIDF Study concluded that new non-residential uses in San Francisco will  
9 generate demand for a substantial number of auto and transit trips ~~on MUNI~~ by the year 2020.  
10 The TIDF Study confirmed that while new office construction will ~~generate~~ have a substantial  
11 demand for impact on MUNI services, new development in a number of other land uses will  
12 ~~generate more trips on~~ also require MUNI to increase the number of revenue service hours.  
13 The TIDF Study recommended that the TIDF be extended to apply to most non-residential  
14 land uses ~~to address the increased demand for impact on public transportation.~~ The TIDF  
15 Study found that certain types of new development generate very few daily ~~transit~~ trips and  
16 therefore may not appropriately be charged a new TIDF.

17 E. The TIDF Study also determined that the need to expand MUNI services to  
18 accommodate new development extends to all times of the day, not just peak periods, and  
19 therefore recommended that any measure of the existing level of service and additional  
20 service required by new development include service at all times of the day.

21 F. The former TIDF Ordinance applied the fee to developments in the traditional  
22 "Downtown" area of the City. The TIDF Study noted that since 1981, however, development  
23 has expanded out of the Downtown area of the City, and that such development has required  
24 MUNI to build transit infrastructure in areas outside of the boundary defined in the former  
25 TIDF Ordinance.

1 G. To meet the increased demand for public transit projected by the TIDF Study,  
2 MUNI must build new infrastructure and add or adjust service. For example, MUNI's 2002  
3 publication, "A Vision for Rapid Transit in San Francisco" ("Vision Plan"), proposes transit  
4 projects along 12 major corridors in San Francisco, covering all areas of the City.

5 H. Even where employees and others drawn to new development use private  
6 transportation, their trips will increase the cost of maintaining MUNI's existing service level  
7 ("base service standard") because increasing traffic congestion will result in slower travel  
8 speeds for MUNI and require MUNI to add more service hours to maintain its base service  
9 standard. Accordingly, new development will require MUNI to add service hours to maintain  
10 schedules and reliability that extends beyond the new riders seeking to use MUNI service.

11 I. New development will directly and indirectly require MUNI to (a) maintain and  
12 expand service capacity through adding revenue service hours; (b) purchase, maintain and  
13 repair rolling stock; (c) install new lines; and (d) add service to existing lines.

14 J. The TIDF Study recommended that the City enact an ordinance to impose  
15 transit impact fees that would allow MUNI to maintain its base service standard as new  
16 development occurs throughout the City. The proposed ordinance would require sponsors of  
17 new development in the City to pay a fee that is reasonably related to the financial burden  
18 imposed on MUNI by the new development. This financial burden is measured by the cost  
19 that will be incurred by MUNI to provide increased service to maintain the applicable base  
20 service standard over the life of such new development.

21 K. The TIDF Study expressed the base service standard as a ratio in which the  
22 numerator is the number of hours that MUNI provides service to the public on its entire fleet of  
23 vehicles ("revenue service hours"), and the denominator is the number of trips generated by  
24 all non-residential land uses. An increase in trips resulting from new non-residential  
25 development will reduce the ratio of revenue service hours to overall trips generated by new

1 development. To maintain the base service standard to accommodate the new development,  
2 MUNI must increase revenue service hours.

3 L. The TIDF Study developed a daily trip generation rate for each of six economic  
4 activity categories developed in the "Citywide Land Use Study," prepared for the Planning  
5 Department in 1998. The daily trip generation rate included automobile and public transit  
6 trips, but excluded non-motorized trips because such trips do not materially affect traffic  
7 congestion. The TIDF Study determined that the trip generation rates in each economic  
8 activity category do not vary geographically within the City. Therefore, the TIDF Study  
9 concluded that developer fee rates should not vary in different districts within the City. The  
10 trip generation rates contained in the TIDF Study represent the most reasonable rates  
11 available for the economic activity categories in the Study.

12 M. Using data obtained from MUNI and the fiscal year 2000 National Transit  
13 Database, the TIDF Study calculated the base service standard fee rates for each of the six  
14 economic activity categories in the following way:

15 (1) To calculate MUNI's total annual costs, the TIDF Study combined MUNI's  
16 fiscal year 2000 operating costs with an average annual capital budget, estimated by  
17 averaging the prior five years of MUNI's capital expenditures.

18

<b>FY 2000 Operating Costs</b>	\$384,113,000
<b>Average Annual Capital Costs</b>	\$310,000,000
<b>Total Annual Costs</b>	\$694,113,000

19  
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21

22 (2) The Study calculated MUNI's net annual costs for fiscal year 2000 by  
23 subtracting fare box revenue and federal and state grant funds from MUNI's total costs.

<b>Total Annual Costs</b>	\$ 694,113,000
<b>FY 2000 Fare Box Revenue</b>	(\$101,310,000)
<b>FY 2000 Federal/State Grant Funds</b>	(\$182,900,000)
<b>Net Annual Costs</b>	\$ 409,903,000

(3) The Study then determined MUNI's net annual cost per revenue service hour by dividing MUNI's net annual costs by MUNI's average daily revenue service hours, as reported to the National Transit Database.

<b>Net Annual Costs</b>	<b>Average Daily Revenue Service Hours</b>	<b>Net Annual Cost Per Revenue Service Hour</b>
\$ 409,903,000	÷ 8,436	\$48,600

(4) The TIDF Study estimated the number of daily auto and transit trips within the City (9,035,282) by using trip generation rates and 2000 employment data supplied by the Planning Department. By dividing MUNI's average daily revenue service hours (8,436) by the estimated daily auto and transit trips within the City (9,035,282), the TIDF Study determined that MUNI provided approximately 0.9336 service hours for every 1,000 transit and auto trips. The TIDF Study multiplied the net annual cost per revenue service hour by 0.9336 to determine a net annual cost per trip.

<b>Net Annual Cost Per Revenue Service Hour</b>	<b>Revenue Service Hours Per 1,000 Trips</b>	<b>Net Annual Cost Per Trip</b>
\$48,600	x 0.9336	\$45.37

(5) The Study multiplied the net annual cost per trip by an adjusted daily trip rate per economic activity category to calculate a net annual cost per gross square foot (gsf) of new development for each economic activity category. The TIDF Study adjusted the daily trip rate to eliminate bicycle and pedestrian trips.



<b>Economic Activity Category</b>	<b>Adjusted Daily Trip Rate Per 1,000 gsf</b>	<b>Net Annual Cost Per Trip</b>	<b>Net Annual Cost per gsf of Development</b>
Cultural/Institution/Education	42.3	\$45.37	\$1.92
Management, Information and Professional Services	15.1	\$45.37	\$0.68
Medical and Health Services	23.9	\$45.37	\$1.08
Production/Distribution/Repair	9.6	\$45.37	\$0.44
Retail/Entertainment	166.8	\$45.37	\$7.57
Visitor Services	13.3	\$45.37	\$0.61

(6) Finally, the Study multiplied the net annual cost per gross square foot of development for each economic activity category by a net present value factor of 20.69 (based on a U.S. transportation industry index inflation rate of 2.05%, earning on an invested funds rate of 6.14%, and a building life span of 45 years) to establish the base service standard rates for each economic activity category that would be necessary to pay for increased transit services for the 45-year useful life of a new development.

<b>Economic Activity Category</b>	<b>Net Present Value Factor</b>	<b>Net Annual Cost per gsf of Development</b>	<b>Base Service Standard Rates</b>
Cultural/Institution/Education	20.69	\$1.92	\$39.67
Management, Information and Professional Services	20.69	\$0.68	\$14.17
Medical and Health Services	20.69	\$1.08	\$22.40
Production/Distribution/Repair	20.69	\$0.44	\$9.04
Retail/Entertainment	20.69	\$7.57	\$156.61
Visitor Services	20.69	\$0.61	\$12.53

N. In 2004, MUNI updated the base service standard rates established in the TIDF Study with fiscal year 2003 data (the "updated base service standard rates"). To calculate the

1 updated base service standard rates, MUNI modified certain variables in the TIDF Study's  
2 formula to reflect current information, as follows.

3 (1) Rather than using an estimated average annual capital budget (the  
4 methodology employed in the TIDF Study), MUNI used its actual capital costs for fiscal years  
5 1999-2003, as reported to the fiscal year 2003 National Transit Database, in determining the  
6 average annual capital costs.

<b>Operating Costs</b>	\$449,283,888
<b>Average Capital Costs</b>	\$192,468,200
<b>Total Costs</b>	\$641,752,088

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11 (2) California Government Code Section 65913.8 prohibits including costs for  
12 facility maintenance and operations in a fee imposed on a developer for a public capital facility  
13 improvement. It is not clear whether this limitation applies to the TIDF. To comply with  
14 Government Code Section 65913.8, if applicable, and to achieve a more conservative  
15 estimate of the recoverable costs, MUNI deducted its costs for non-vehicle (facility)  
16 maintenance and general administration. MUNI could not separate general administration  
17 attributable to facility operations, so MUNI deducted 100% of the general administration costs  
18 for the entire department. Accordingly, the updated base service standard rates are even  
19 more conservative than may be required under Section 65913.8.

20 (3) MUNI applied its updated assumptions to the TIDF Study's methodology  
21 by deducting non-vehicle maintenance and general administration (in addition to farebox  
22 revenues and grant funds) from its total costs to calculate its annual net costs:  
23  
24  
25

<b>Total Annual Costs FY 2003</b>	\$ 641,752,088
<b>Farebox Revenue FY 2003</b>	(\$97,779,333)
<b>Federal/State Grant Funds FY 2003</b>	(\$89,445,000)
<b>Non-Vehicle Maintenance FY 2003</b>	(\$34,173,560)
<b>General Administration FY 2003</b>	(\$92,197,116)
<b>Net Annual Costs FY 2003</b>	\$ 328,157,079

(4) To determine the net annual cost per revenue service hour, MUNI used the average daily revenue service hours for Fiscal Year 2003 (10,062), as reported to the National Transit Database:

<b>Net Annual Costs</b>	<b>Average Daily Revenue Service Hours</b>	<b>Net Annual Cost Per Revenue Service Hour</b>
\$ 328,157,079	÷ 10,062	\$32,614

(5) MUNI then calculated the net annual cost per trip by multiplying the net annual cost per revenue service hour by the number of revenue service hours per 1,000 trips:

<b>Net Annual Cost Per Revenue Service Hour</b>	<b>Revenue Service Hours Per 1,000 Trips</b>	<b>Net Annual Cost Per Trip</b>
\$32,614	x 1.1136	\$36.32

(6) MUNI multiplied the net annual cost per trip by the adjusted daily trip rate for each economic activity category to arrive at a net annual cost per gross square foot of new development for each category:

Economic Activity Category	Adjusted Daily Trip Rate Per 1,000 gsf	Net Updated Annual Cost Per Trip	Net Updated Annual Cost per gsf of Development
Cultural/Institution/Education	42.3	\$36.32	\$1.54
Management, Information and Professional Services	15.1	\$36.32	\$0.55
Medical and Health Services	23.9	\$36.32	\$0.87
Production/Distribution/Repair	9.6	\$36.32	\$0.35
Retail/Entertainment	166.8	\$36.32	\$6.06
Visitor Services	13.3	\$36.32	\$0.48

(7) MUNI also updated the net present value factor the TIDF Study used to calculate the updated base service standard rates by calculating the lump sum amount needed to fund \$1.00 (in today's dollars) in annual costs over 45 years, increasing at a current inflation rate of 3.50% (the five-year Bay Area Consumer Price Index as calculated by the Association for Bay Area Governments), with the remaining fund balance invested at a current interest rate of 4.93% (the five-year average interest rate earned by the City's Treasurer's Department on pooled funds). Both the TIDF Study and MUNI used the interest rate earned by the City's Treasurer for the respective years. But MUNI elected to use the Bay Area Consumer Price Index rather than the U.S. Transportation Index on which the TIDF Study relied because the Bay Area index more accurately reflects the local inflation rate. The use of the different net present value factor yields the following updated base service standard rates:

<b>Economic Activity Category</b>	<b>Net Annual Cost per gsf of Development</b>	<b>Net Present Value Factor</b>	<b>Updated Base Service Standard Rates</b>
Cultural/Institution/Education	\$1.54	33.36	\$51.25
Management, Information and Professional Services	\$0.55	33.36	\$18.30
Medical and Health Services	\$0.87	33.36	\$28.96
Production/Distribution/Repair	\$0.35	33.36	\$11.63
Retail/Entertainment	\$6.06	33.36	\$202.10
Visitor Services	\$0.48	33.36	\$16.11

O. In setting the TIDF rates, the City considered the updated base service standard rates and input from a variety of stakeholders, including business groups, developers, and civic organizations. The City set the TIDF rates well below the updated base service standard rates to reduce the costs of the TIDF to sponsors of new developments, who are subject to other development fees imposed by the City, and to guarantee that the TIDF does not exceed the reasonable cost to fund the additional transit improvements necessitated by new development. The TIDF rates are as follows:

<b>Economic Activity Category</b>	<b>Updated Base Service Standard Rates</b>	<b>TIDF Schedule (from Sec. 38.4)</b>
Cultural/Institution/Education	\$51.25	\$10.00
Management, Information and Professional Services	\$18.30	\$10.00
Medical and Health Services	\$28.96	\$10.00
Production/Distribution/Repair	\$11.63	\$8.00
Retail/Entertainment	\$202.10	\$10.00
Visitor Services	\$16.11	\$8.00

P. Based on projected new development over the next 20 years, the TIDF will provide revenue to MUNI that is significantly below the costs that MUNI will incur to mitigate the transit impacts resulting from the new development.

1 Q. The TIDF is the most practical and equitable method of meeting a portion of the  
2 demand for additional Municipal Railway service and capital improvements for the City caused  
3 by new non-residential development.

4 R. Based on the above findings, the City determines that the TIDF satisfies the  
5 requirements of the Mitigation Fee Act, California Government Code Section 66001, as  
6 follows:

7 (1) The purpose of the fee is to meet a portion of the demand for additional  
8 Municipal Railway service and capital improvements for the City caused by new non-  
9 residential development.

10 (2) Funds from collection of the TIDF will be used to increase revenue  
11 service hours reasonably necessary to mitigate the impacts of new non-residential  
12 development on public transit and maintain the applicable base service standard.

13 (3) There is a reasonable relationship between the proposed uses of the  
14 TIDF and the impact on transit of the new developments on which the TIDF will be imposed.

15 (4) There is a reasonable relationship between the types of new  
16 development on which the TIDF will be imposed and the need to fund public transit for the  
17 uses specified in Section 38.8 of this ordinance.

18 (5) There is a reasonable relationship between the amount of the TIDF to be  
19 imposed on new developments and the impact on public transit from the new developments.

20 **SEC. 38.3. IMPOSITION OF TRANSIT IMPACT DEVELOPMENT FEE.**

21 A. Subject to the exceptions set forth in subsections D and E below, each sponsor  
22 of a new development in the City shall pay to the City and deliver to the Treasurer upon  
23 issuance of any temporary certificate of occupancy, and as a condition precedent to issuance  
24 for such new development of any certificate of final completion and occupancy, whichever  
25 occurs first, a TIDF. The TIDF shall be calculated on the basis of the number of gross square

1 feet of new development, multiplied by the square foot rate then in effect for each of the  
2 applicable economic activity categories within the new development, as provided in Section  
3 38.4 of this ordinance. An accessory use shall be charged at the same rate as the underlying  
4 use to which it is accessory. Whenever any new development or series of new developments  
5 results in more than 3,000 gross square feet of covered use within a structure, the TIDF shall  
6 be imposed on every square foot of such covered use (including any portion that was part of  
7 prior new development below the 3,000 square foot threshold).

8 B. No City official or agency, including the Department of Building Inspection  
9 (“DBI”) and the Port of San Francisco, may issue a certificate of final completion and  
10 occupancy for any new development subject to the TIDF until it has received notification from  
11 the Treasurer that the TIDF in accordance with Section 38.4 of this Chapter has been paid.

12 C. Except as provided in Sections 38.3(D) and (E) below, the TIDF shall be  
13 payable with respect to any new development in the City for which a building or site permit is  
14 issued on or after the effective date of this ordinance.

15 D. The TIDF shall not be payable on new development, or any portion thereof, for  
16 which a transit impact development fee has been paid, in full or in part, under the prior Transit  
17 Impact Development Fee Ordinance adopted in 1981 (Ordinance No. 224-81; former Chapter  
18 38 of this Administrative Code), except where (1) gross square feet of use is being added to  
19 the building; or (2) the TIDF rate for the new development is in an economic activity category  
20 with a higher fee rate than the rate set for MIPS, as set forth in Section 38.4.

21 E. No TIDF shall be payable on the following types of new development.

22 (1) New development on property owned (including beneficially owned) by  
23 the City, except for that portion of the new development that may be developed by a private  
24 sponsor and not intended to be occupied by the City or other agency or entity exempted under  
25 this ordinance, in which case the TIDF shall apply only to such non-exempted portion. New

1 development on property owned by a private person or entity and leased to the City shall be  
2 subject to the fee, unless the City is the beneficial owner of such new development or unless  
3 such new development is otherwise exempted under this Section.

4 (2) Any new development in Mission Bay North or South to the extent  
5 application of this ordinance would be inconsistent with the Mission Bay North Redevelopment  
6 Plan and Interagency Cooperation Agreement or the Mission Bay South Redevelopment Plan  
7 and Interagency Cooperation Agreement, as applicable.

8 (3) New development located on property owned by the United States or any  
9 of its agencies to be used exclusively for governmental purposes.

10 (4) New development located on property owned by the State of California or  
11 any of its agencies to be used exclusively for governmental purposes.

12 (5) New development for which an application for environmental evaluation  
13 or an application for a categorical exemption has been filed prior to April 1, 2004.

14 (6) The following types of new developments:

15 (a) Public facilities/ utilities, as defined in Section 209.6 of the  
16 Planning Code;

17 (b) Open recreation/horticulture, as defined in Section 209.5 of the  
18 Planning Code, including private noncommercial recreation open  
19 use, as referred to in Section 221(g) of the Planning Code;

20 (c) Vehicle storage and access, as defined in Section 209.7 of the  
21 Planning Code;

22 (d) Automotive services, as defined in Section 223(I) - (v) of the  
23 Planning Code;



1 (e) Wholesaling, storage, distribution, and open-air handling of  
2 materials and equipment, as defined in Section 225 of the  
3 Planning Code;

4 (f) Other Uses, as defined in Section 227 of the Planning Code;

5 In reviewing whether a development is subject to the fee, the Director shall  
6 consider the project in its entirety. A sponsor may not seek multiple building permits to evade  
7 paying the TIDF.

8 F. The sponsor shall pay, or cause to be paid, the TIDF to the Treasurer on the  
9 earliest of the following dates:

10 (1) The date when 50 percent of the net rentable area of the project has  
11 been occupied;

12 (2) The date of issuance of the first temporary permit of occupancy in the  
13 new development;

14 (3) Five days prior to the date of issuance of a final certificate of occupancy.

15 G. Upon payment of the fee in full to the Treasurer, and upon request of the  
16 sponsor, the Treasurer shall issue a certificate that the fee has been paid. The sponsor shall  
17 present such certification to DBI before the issuance of the final certificate of occupancy for  
18 the new development. DBI shall provide notice in writing to the Treasurer, the Planning  
19 Department, and MUNI at least five business days before issuing the final certificate of  
20 occupancy for any new development project. DBI may not issue a final certificate of  
21 occupancy for any new development until DBI has received notice from the Treasurer that the  
22 TIDF has been paid.

23 **SEC. 38.4. TRANSIT IMPACT DEVELOPMENT FEE SCHEDULE.**

24 A. TIDF Schedule. The TIDF Schedule shall be as follows:

25

Economic Activity Category	TIDF Per Gross Square Foot of Development
Cultural/Institution/Education	\$10.00
Management, Information and Professional Services	\$10.00
Medical and Health Services	\$10.00
Production/Distribution/Repair	\$8.00
Retail/Entertainment	\$10.00
Visitor Services	\$8.00

B. Biennial Adjustment. Biennially, beginning July 1, 2005, the TIDF Schedule shall be adjusted, without further action by the Board of Supervisors, to reflect the average annual change in the Bay Area Consumer Price Index for the prior two years, as reported by the Association of Bay Area Governments, and as determined by the Director.

**SEC. 38.5. SETTING OF TIDF.** Before obtaining the first building or site permit for any new development in the City after the effective date of this ordinance, each sponsor shall file with the Director, on such form as the Director may develop, a report indicating the number of gross square feet of use of the new development and any other information the Director may require to determine the sponsor's obligation to pay the TIDF. Each sponsor of a new development who had applied for a building or site permit, but who had not obtained an approval of the building permit or site permit before the effective date of this ordinance, shall file the same report prior to obtaining a final certificate of occupancy. Except where an exemption otherwise applies under this ordinance, the Director shall determine the number of gross square feet of use in each applicable economic activity category, disregarding the number of pre-existing gross square feet of use being retained in each such category, apply the fee schedule, and determine the fee. The Director shall mail a copy of his or her written determination to the sponsor. The sponsor may appeal the determination of the number of gross square feet of use subject to the fee, the economic activity category, or the credits described in Section 38.6, to the MTA Board. If the sponsor notifies the Director of its

1 acceptance of the determination, or does not submit an appeal to the MTA Board within 15  
2 days following the date of mailing of notice of the Director's determination, the Director's  
3 determination shall be final, and a notice of such determination shall be provided to DBI and  
4 the Treasurer. DBI may not issue a site or building permit for any new development until it  
5 has received notice from the MTA of the final determination of the amount of the Transit  
6 Impact Development Fee to be paid. The MTA shall not change the amount of the TIDF  
7 based on changes to the amount of gross square feet of new development during construction  
8 of the new development unless the sponsor applies for a new building permit to reflect such  
9 changes.

10 **SEC. 38.6. CREDITS.** In determining the number of gross square feet of use to which  
11 the TIDF applies, the Director shall provide a credit for prior uses eliminated on the site,  
12 provided that a TIDF has not been paid for any prior use of the property. The credit shall be  
13 calculated according to the following formula:

14 (a) There shall be a credit for the number of gross square feet of use being  
15 eliminated by the new development, multiplied by an adjustment factor to reflect the difference  
16 in the fee rate of the use being added and the use being eliminated. The adjustment factor  
17 shall be determined by the Director as follows:

18 (1) The adjustment factor shall be a fraction, the numerator of which shall be  
19 the fee rate which the Director shall determine, in consultation with the Department of City  
20 Planning, if necessary, applies to the economic activity category in the most recent calculation  
21 of the TIDF Schedule approved by the MTA Board for the prior use being eliminated by the  
22 project.

23 (2) The denominator of the fraction shall be the fee rate for the use being  
24 added, as set forth in the most recent calculation of the TIDF Schedule approved by the MTA  
25 Board.

1 (b) A credit for a prior use may be given only if the prior use was active on  
2 the site within five years before the date of the application for a building or site permit for the  
3 proposed use.

4 (c) As of the effective date of this ordinance, no sponsor shall be entitled to a  
5 refund of the TIDF on a building for which the fee was paid under the former Chapter 38.

6 **SEC. 38.7. REVIEW OF FEE SCHEDULE.**

7 A. Five-Year Review.

8 (1) Commencing five years after the effective date of this ordinance, and  
9 every five years thereafter, or more often as the MTA Board may deem necessary, the  
10 Director shall prepare a report for the MTA Board and the Board of Supervisors with  
11 recommendations regarding whether the TIDF for each economic activity category should be  
12 increased, decreased, or remain the same. In making such recommendations, and to the  
13 extent that new information is available, the Director shall update the following information and  
14 estimates that were used in the TIDF Study to calculate the base service standard fee rates,  
15 and any other information that the Director deems appropriate.

- 16 (a) The base service standard;
- 17 (b) Capital and operating costs;
- 18 (c) Federal and state grant funds received by MUNI;
- 19 (d) Passenger fare revenue;
- 20 (e) Daily revenue service hours;
- 21 (f) Cost per revenue service hour;
- 22 (g) Trip generation rates by economic activity category;
- 23 (h) Cost per trip;
- 24 (i) Cost per gross square foot of development by economic activity  
25 category;

- 1 (j) Net present value factor;
- 2 (k) Useful life period(s) for new development by economic activity
- 3 category;
- 4 (l) Estimated annual rate of return on the proceeds of the fee;
- 5 (m) The placement of particular land uses in economic activity
- 6 categories.

7 Where applicable, the Director shall use the most recent MUNI information as submitted to the  
8 National Transit Database. The denominator of the revised base service standard shall be  
9 calculated using the most recent estimates of daily automobile and transit trips developed by  
10 the City's Planning Department or other City or state agency.

11 (2) In the report, the Director shall (a) identify the base service standard fee  
12 rates per gross square foot in each economic activity category; and (b) propose a fee for each  
13 economic activity category.

14 (3) After receiving this report and making it available for public distribution,  
15 the Board of Supervisors shall conduct a public hearing in which it shall consider the  
16 Director's report, hear testimony from any interested members of the public, and receive such  
17 other evidence as it may deem necessary. At the conclusion of that hearing, the Board shall  
18 make findings regarding whether the revenues projected to be recovered under the proposed  
19 Fee Schedule would be reasonably related to and would not exceed the costs incurred by  
20 MUNI to maintain the applicable base service standard, in light of demands caused by new  
21 development. The Board of Supervisors shall then make any necessary or appropriate  
22 revisions to the TIDF Schedule.

23 (4) The Board shall consider the Director's report in light of the most recent  
24 five-year review of the Housing Fee (Planning Code § 313.15), Child Care Fee (Planning  
25 Code § 314.7) and Inclusionary Housing Fee (Planning Code § 315.8(e)). MUNI and the

1 Planning Department shall make every effort to coordinate application of the TIDF with the  
2 City's other developer fees to avoid unnecessarily encumbering sponsors of new  
3 development.

4 B. Principles in Calculating Fee. The following principles have been and shall in  
5 the future be observed in calculating the TIDF:

6 (1) Actual cost information provided to the National Transit Database shall be  
7 used in calculating the fee rates. Where estimates must be made, those estimates should be  
8 based on such information as the Director or his or her delegate considers reasonable for the  
9 purpose.

10 (2) The rates shall be set at an actuarially sound level to ensure that the  
11 proceeds, including such earnings as may be derived from investment of the proceeds and  
12 amortization thereof, do not exceed the capital and operating costs incurred in order to  
13 maintain the applicable base service standard in light of the demands created by new  
14 development subject to the fee over the estimated useful life of such new development. For  
15 purposes of this Ordinance, the estimated useful life of a new development is 45 years.

16 **SEC. 38.8. USE OF PROCEEDS FROM TRANSIT IMPACT DEVELOPMENT FEE.**

17 Money received from collection of the TIDF, including earnings from investments of the  
18 TIDF, shall be held in trust by the Treasurer under Section 66006 of the Mitigation Fee Act  
19 (Cal. Gov. Code §§ 60000 *et seq.*) and shall be distributed according to the fiscal and  
20 budgetary provisions of the San Francisco Charter and the Mitigation Fee Act, subject to the  
21 following conditions and limitations. TIDF funds may be used to increase revenue service  
22 hours reasonably necessary to mitigate the impacts of new non-residential development on  
23 public transit and maintain the applicable base service standard, including, but not limited to:  
24 capital costs associated with establishing new transit routes, expanding transit routes, and  
25 increasing service on existing transit routes, including, but not limited to, procurement of

1 related items such as rolling stock, and design and construction of bus shelters, stations,  
2 tracks, and overhead wires; operation and maintenance of rolling stock associated with new  
3 or expanded transit routes or increases in service on existing routes; capital or operating costs  
4 required to add revenue service hours to existing routes; and related overhead costs.  
5 Proceeds from the TIDF may also be used for all costs required to administer, enforce, or  
6 defend this ordinance.

7 **SEC. 38.9. RULES AND REGULATIONS.**

8 The MTA is empowered to adopt such rules, regulations, and administrative  
9 procedures as it deems necessary to implement this Chapter. In the event of a conflict  
10 between any MTA rule, regulation or procedure and this ordinance, this ordinance shall  
11 prevail.

12 **SEC. 38.10. NONPAYMENT, RECORDATION OF NOTICE OF FEE AND NOTICE**  
13 **OF DELINQUENCY, ADDITIONAL REQUEST; NOTICE OF ASSESSMENT OF INTEREST,**  
14 **AND INSTITUTION OF LIEN PROCEEDINGS.**

15 A. Upon the Director's determination that a development is subject to this  
16 ordinance, he or she may cause the County Recorder to record a notice that such  
17 development is subject to the TIDF. The County Recorder shall serve or mail a copy of such  
18 notice to the persons liable for payment of the fee and the owners of the real property  
19 described in the notice. The notice shall include (1) a description of the real property subject  
20 to the fee; (2) a statement that the development is subject to the imposition of the fee; and (3)  
21 a statement that the amount of the fee to which the building is subject is determined under  
22 Sections 38.4, 38.5 and related provisions of this ordinance.

23 B. When the Director determines that the fee is due, the Director shall notify the  
24 Treasurer, who shall send a request for payment to the sponsor.

1 C. Payment of the TIDF imposed by this ordinance is delinquent if (1) in the case of  
2 a fee not payable in installments, the fee is not paid within 30 days of request for payment; (2)  
3 in the case of a fee payable in installments (for a fee determined prior to the effective date of  
4 this Ordinance), the fee installment is not paid within 30 days of the date fixed for payment.

5 D. Where the TIDF is not paid within 30 days of request for payment, and where  
6 the TIDF is payable in installments (for a fee determined prior to the effective date of this  
7 Ordinance) and any installment is not paid within 30 days of the date fixed for payment:

8 (1) The Treasurer or his or her designee may cause the County Recorder to  
9 record a notice of delinquent TIDF which shall include: (a) the amount of the delinquent fee;  
10 (b) the amount of the entire fee as reflected on the final determination and a statement of  
11 whether the fee is payable in installments; (c) the fee interest and penalty then due; (d) the  
12 interest and penalties that shall accrue on the delinquent fee if not promptly paid; (e) a  
13 description of the real property subject to the fee; (f) notification that if the fee is not promptly  
14 paid proceedings will be instituted before the Board of Supervisors to impose a lien for the  
15 unpaid fee together with any penalties and interest against the real property described in the  
16 delinquency notice; (g) notification of the fee payer's right to appeal the delinquency  
17 determination to the MTA Board within 15 days of the notice to the fee payer.

18 (2) Where the Treasurer determines to record a notice of delinquency, he or  
19 she shall also serve or mail the notice of delinquent TIDF to the persons liable for the fee and  
20 to the owners of the real property described on the notice.

21 (3) Where a notice of TIDF delinquency has been recorded and the  
22 delinquent fee is paid or the Treasurer's determination of delinquency is reversed by appeal to  
23 the MTA Board or the delinquency is otherwise cured, the Treasurer shall promptly cause the  
24 County Recorder to record a notice that the TIDF delinquency has been cured. Said notice  
25 shall include: (a) description of the real property affected; (b) the book and page number of



1 the county record wherein the notice of delinquency was recorded; (c) the date the notice of  
2 delinquency was recorded; (d) notification that the delinquency reflected on the notice of  
3 delinquency was cured and the date of cure; (e) the amount of the entire fee as reflected on  
4 the final determination; (f) if applicable, the amount of the fee paid to effect the cure; and (g) if  
5 applicable, a statement that the fee was payable in installments and specification of the  
6 delinquency installments cured; (h) if applicable, the amount of the fee paid to effect the cure.

7 (4) The Treasurer shall serve or mail the notice that the TIDF delinquency  
8 has been cured, referred to in Section 38.10.D(3) of this ordinance, to the persons liable for  
9 the fee and to the owners of the real property described in such notice.

10 E. Where the TIDF, not payable in installments, is not paid within 30 days of  
11 request for payment, and where the TIDF is payable in installments (for a fee determined prior  
12 to the effective date of this Ordinance) and the installment is not paid within 30 days of the  
13 date fixed for payment, the Treasurer or his or her designee shall mail an additional request  
14 for payment and notice to the owner stating the following:

15 (1) If the amount due is not paid within 30 days of the date of mailing the  
16 additional request and notice, interest at the rate of one and one-half percent per month or  
17 portion thereof shall be assessed upon the fee or installment due.

18 (2) With respect to both non-installment and installment fees, if the account is  
19 not current within 60 days of the date of mailing the additional request and notice, the  
20 Treasurer shall institute proceedings to record a lien in accordance with Section 38.11 for the  
21 entire balance and any accrued interest against the property upon which the fee is owed.

22 F. Thirty days after mailing the additional request for payment, the Treasurer may  
23 assess interest as specified in paragraph 38.10.E(1) above. Sixty days after mailing the  
24 additional request for payment and notice, the Treasurer may institute lien proceedings as  
25 specified in Section 38.11.

1           G.       The Treasurer shall submit a report to the Director on a quarterly basis of all  
2 fees collected for the previous quarter, which report shall include the property address, name  
3 of sponsor or owner of the property, and the amount of the fee, including interest, if any,  
4 collected.

5           **SEC. 38.11. LIEN PROCEEDINGS; NOTICE.** If payment of the fee not payable in  
6 installments is not received within 30 days following mailing of the additional request and  
7 notice, or if with respect to installment payments, the account is not brought current within 60  
8 days of the mailing of the additional request and notice, the Treasurer shall initiate  
9 proceedings in accordance with Article XX of Chapter 10 of the San Francisco Administrative  
10 Code to make the entire unpaid balance of the TIDF, including interest on the unpaid fee or  
11 installments, a lien against all parcels used for the development project. The Treasurer shall  
12 send all notices required by that Article to the owner of the property as well as the sponsor.  
13 The Treasurer shall also prepare a preliminary report notifying the sponsor of a hearing to  
14 confirm such report by the Board of Supervisors at least 10 days before the date of the  
15 hearing. The report to the sponsor shall contain the sponsor's name, a description of the  
16 sponsor's development project, a description of the parcels of real property to be encumbered  
17 as set forth in the Assessor's Map Books for the current year, a description of the alleged  
18 violation of this ordinance, and shall fix a time, date, and place for hearing. The Treasurer  
19 shall cause this report to be mailed to the sponsor and each owner of record of the parcels of  
20 real property subject to lien. Except for the release of the lien recording fee authorized by  
21 Administrative Code Section 10.237, all sums collected by the Tax Collector under this  
22 ordinance shall be held in trust by the Treasurer and distributed as provided in Section 38.6 of  
23 this Chapter.  
24  
25

1           **SEC. 38.12. MANNER OF GIVING NOTICES.**

2           Any notice required to be given under this ordinance to a sponsor or owner shall be  
3 sufficiently given or served upon the sponsor or owner for all purposes under this ordinance if  
4 personally served upon the sponsor or owner, or if deposited, postage prepaid, in a post office  
5 letter box addressed in the name of the sponsor or owner at the official address of the  
6 sponsor or owner maintained by the Tax Collector of the City and County for the mailing of tax  
7 bills; or, if no such address is available, to the sponsor at the address of the development  
8 project, and to the applicant for the site or building permit at the address on the permit  
9 application.

10           **SEC. 38.13. CHARITABLE EXEMPTIONS.**

11           A.       When the property or a portion thereof will be exempt from real property taxation  
12 or possessory interest taxation under California Constitution, Article XIII, Section 4, as  
13 implemented by California Revenue and Taxation Code Section 214, then the sponsor shall  
14 not be required to pay the TIDF attributed to the new development in the exempt property or  
15 portion thereof, so long as the property or portion thereof continues to enjoy the  
16 aforementioned exemption from real property taxation.

17           B.       The TIDF shall be calculated for exempt structures in the same manner and at  
18 the same time as for all other structures. The sponsor may apply to the MTA for an  
19 exemption under the standards set forth in subsection A above. In the event the Agency  
20 determines that the sponsor is entitled to an exemption under this Section, it shall cause to be  
21 recorded a notice advising that the TIDF has been calculated and imposed upon the structure  
22 and that the structure or a portion thereof has been exempted from payment of the fee but  
23 that if the property or portion thereof loses its exempt status during the 10-year period  
24 commencing with the date of the imposition of the TIDF, then the building owner shall be  
25 subject to the requirement to pay the fee.

1 C. If within 10 years from the date of the issuance of the Certificate of Final  
2 Completion and Occupancy, the exempt property or portion thereof loses its exempt status,  
3 then the sponsor shall, within 90 days thereafter, be obligated to pay the TIDF, reduced by an  
4 amount reflecting the duration of the charitable exempt status in relation to the useful life  
5 estimate used in determining the TIDF for that structure. The amount remaining to be paid  
6 shall be determined by recalculating the fee using a useful life equal to the useful life used in  
7 the initial calculation minus the number of years during which the exempt status has been in  
8 effect. After the TIDF has been paid, the Agency shall record a release of the notice recorded  
9 under subsection B. above.

10 D. In the event a property owner fails to pay a fee within the 90-day period, a notice  
11 for request of payment shall be served by the Treasurer under Section 38.10.B of this  
12 Chapter. Thereafter, upon nonpayment, a lien proceeding shall be instituted under Section  
13 38.11 of this Chapter.

14 **SEC. 38.14. SEVERABILITY.**


15 The provisions of this ordinance shall not apply to any person, association, corporation  
16 or to any property as to whom or which it is beyond the power of the City to impose the fee  
17 herein provided. If any sentence, clause, section or part of this ordinance, or any fee imposed  
18 upon any person or entity is found to be unconstitutional, illegal or invalid, such  
19 unconstitutionality, illegality, or invalidity shall affect only such clause, sentence, section or  
20 part of this ordinance, or person or entity; and shall not affect or impair any of the remaining  
21 provisions, sentences, clauses, sections or other parts of this ordinance, or its effect on other  
22 persons or entities. It is hereby declared to be the intention of the Board of Supervisors of the  
23 City that this ordinance would have been adopted had such unconstitutional, illegal or invalid  
24 sentence, clause, section or part of this ordinance not been included herein; or had such  
25

1 person or entity been expressly exempted from the application of this ordinance. To this end  
2 the provisions of this ordinance are severable.

3 Section 2. This ordinance shall become effective 60 days after the date of final  
4 approval of the ordinance.

5  
6 APPROVED AS TO FORM:  
7 DENNIS J. HERRERA, City Attorney

8  
9 By:

  
10 Robin M. Reitzes  
11 Deputy City Attorney  
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# City and County of San Francisco

City Hall  
1 Dr. Carlton B. Goodlett Place  
San Francisco, CA 94102-4689

## Tails Ordinance

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**File Number:** 040141

**Date Passed:**

Ordinance repealing San Francisco Administrative Code Chapter 38 (Transit Impact Development Fee) and replacing it with a new Chapter 38 (Sections 38.1, through 38.14), to enact a new Transit Impact Development Fee.

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July 20, 2004 Board of Supervisors — PASSED ON FIRST READING

Ayes: 10 - Alioto-Pier, Ammiano, Daly, Dufty, Gonzalez, Ma, Maxwell,  
McGoldrick, Peskin, Sandoval  
Noes: 1 - Hall

July 27, 2004 Board of Supervisors — FINALLY PASSED

Ayes: 10 - Alioto-Pier, Ammiano, Daly, Dufty, Gonzalez, Ma, Maxwell,  
McGoldrick, Peskin, Sandoval  
Noes: 1 - Hall

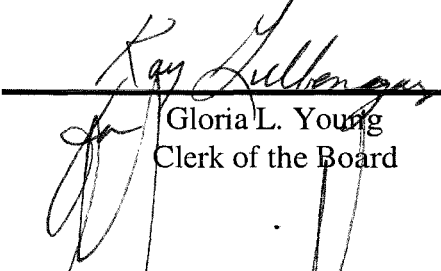
File No. 040141


I hereby certify that the foregoing Ordinance was **FINALLY PASSED** on July 27, 2004 by the Board of Supervisors of the City and County of San Francisco.

JUL 28 2004

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Date Approved

  
Gloria L. Young  
Clerk of the Board

  
Mayor Gavin Newsom

**APPENDIX 8:**  
**San Francisco Trip Reduction Efforts: Relationship to  
Regional TCMs**



**San Francisco Trip Reduction Efforts:  
Relationship to Regional Transportation Control Measures (TCMs)  
in the 2010 Clean Air Plan**

Regional TCM	Local Implementation
<p><b>A-1. Improve Local and Areawide Bus Service.</b></p>	<p>The San Francisco Municipal Transportation Agency (SFMTA), in coordination with the San Francisco Planning Department, is currently undergoing environmental review of the implementation for the Transit Effectiveness Project (TEP), setting the stage for improvement of the Muni system with a focus on critical ridership corridors across the City. In addition, the City has undertaken the Better Market Street Project, with a goal of implementing multimodal improvements in conjunction with the repaving of the street in 2015. Since more than 20 Muni routes travel on or across Market Street in the study area, the expected transit operational benefits will ripple throughout the Muni system. Muni has also implemented the Nx express bus to supplement light rail service from the Sunset districts. The Authority is currently leading environmental review of bus rapid transit (BRT) for the Van Ness and Geary corridors. BRT would bring operational and ridership benefits and improvements to these priority routes, which include regional Golden Gate Transit routes.</p> <p>SFMTA is also in the process of replacing its fleet with a goal towards zero emissions.</p>
<p><b>A-2. Improve Local &amp; Regional Rail Service</b></p>	<p>The Authority continues to advocate and program funds for Phase 2 of the Third Street Light Rail Project (Central Subway) and the downtown extension of Caltrain and High Speed Rail kto the rebuilt Transbay Terminal. Construction on Central Subway began in 2011 while construction on the Transbay Terminal began in 2010.</p>

**San Francisco Trip Reduction Efforts:  
Relationship to Regional Transportation Control Measures**

TCM	Local Implementation
<b>B-1. Freeway &amp; Arterial Operations Strategies</b>	Implementation of this TCM is being coordinated by Caltrans and the Metropolitan Transportation Commission (MTC). MTA's SFgo program is developing an integrated traffic management system managed from a centralized transportation control center. In addition, the Program is working with Caltrans to coordinate freeway improvements with the City's traffic management systems. As part of this project, will replace aging signal controllers and install signals with transit priority capabilities on key transit routes. MTC has programmed \$20 million for SFGo in the Van Ness Avenue corridor, which will be implemented in coordination with Van Ness BRT.
<b>B-2. Transit Efficiency &amp; Use Strategies</b>	Major transit operators in San Francisco, including Muni, BART, AC Transit, Golden Gate Transit, Caltrain, and SamTrans, all accept the Clipper card for fare payment. In addition, two BART Stations (Civic Center and Montgomery) are participating in the Transit Hub Signage Program. San Francisco has also worked to have discounted or free transit passes be part of TDM and mitigation programs required of new developers such as Candlestick Point/Hunters Point Shipyard, Treasure Island, California Pacific Medical Center, and Park Merced.
<b>B-3. Bay Area Express Lane Network</b>	Implementation of this TCM is being led by MTC. An HOV pricing structure exists on the approaches to San Francisco via the San Francisco Oakland Bay Bridge and the Golden Gate Bridge during peak commute hours, with separate HOV lanes on the Bay Bridge. Express buses will continue to operate in San Francisco and will be prioritized through the new Transbay Terminal.
<b>B-4. Goods movement Improvements &amp; Emission Reduction Strategies</b>	Implementation of this TCM is being led by MTC and BAAQMD. San Francisco will work with BAAQMD to implement grant programs that fund diesel emission reduction programs.

**San Francisco Trip Reduction Efforts:  
Relationship to Regional Transportation Control Measures**

TCM	Local Implementation
<p><b>C-1. Voluntary Employer-Based Trip Reduction Programs.</b></p>	<p>The San Francisco transportation demand management (TDM) program, funded in part through Prop K, focuses on the following activities: 1) compliance monitoring of office buildings required to have a TDM program; 2) commuter benefits program; 3) emergency ride Home program; 4) bicycle fleet program; and 5) regional ridesharing program.</p> <p>The SFCTA has been awarded \$750,000 in funds through the Metropolitan Transportation Commission’s Climate Initiatives Innovative Grant Program to fund an integrated public-private transportation demand management (TDM) partnership. This program will streamline public agency TDM programs and policies while assisting groups of employers to offer shared transportation solutions to their employees.</p>
<p><b>C-2. Safe Routes to School &amp; Safe Routes to Transit</b></p>	<p>San Francisco’s Safe Routes to School Program launched in 2009, and more than 15 schools have participated to help institutionalize best practices for encouraging walking to school. In addition, the SF Unified School District has implemented a policy that prioritizes children that live close to their school. The San Francisco Safe Routes to School program has a broad based coalition of more than 8 agencies. San Francisco is also testing the effectiveness of 15mph signs in select school zones.</p> <p>San Francisco agencies have been the recipient of numerous Safe Routes to Transit grants, including most recently a planning study in support of the Better Market Street project, which aims to improve multimodal operations on Market Street between Octavia Boulevard and the Embarcadero.</p>

**San Francisco Trip Reduction Efforts:  
Relationship to Regional Transportation Control Measures**

TCM	Local Implementation
<p><b>C-3. Rideshare Services &amp; Incentives</b></p>	<p>SFMTA promotes the use of carpools and vanpools during the morning and evening commutes. The City provides a casual carpool pick-up locations on the east side of Beale Street between Howard and Folsom Streets. MTA also administers a program through which major employers may provide parking for employee carpool vehicles (3 or more riders) in City-owned garages at a reduced rate. The City also provides a limited amount of designated on-street parking in the downtown area for registered vanpool vehicles. The City has also required recent major developers to include car sharing as part of their transportation improvement programs.</p>
<p><b>C-4. Conduct Public Outreach &amp; Education</b></p>	<p>Implementation of this TCM (e.g., Spare the Air Days) is occurring through the Air District, MTC, and transit operators throughout the region. San Francisco is increasingly using pilot approaches to demonstrate projects that improve transportation system performance and improve air quality. The City's pavement-to-parks initiative is one such example.</p>
<p><b>C-5. Smart Driving</b></p>	<p>Implementation of this TCM is being led by MTC. San Francisco does have a traffic calming program, funded through Prop K and implemented by SFMTA, which includes speed reduction arterials streets. However, speeding on freeways in San Francisco is generally not a major concern due to relatively full conditions within the city limits.</p>

**San Francisco Trip Reduction Efforts:  
Relationship to Regional Transportation Control Measures**

TCM	Local Implementation
<p><b>D-1. Improve Bicycle Access and Facilities.</b></p>	<p>Since the Bicycle Plan injunction was lifted in 2010, the City and County have moved rapidly to implement it. The SFMTA installed nearly 15 miles of bicycle lanes from January 2010 through June 2011, with Prop K as well as regional funding for many projects. Progress on the Plan has also included sharrows and pilot installation of separated bikeways, bike boxes at intersections, colored pavement treatments to increase the visibility and safety of bicycling on City streets.</p> <p>As of November 2010, the completed network included 234 miles of bike routes, of which 10 percent were Class I paths and 27 percent were Class II designated bicycle lanes. The remainder are Class III signed routes in shared lanes, many of which have wide shoulders or are marked with sharrows.</p> <p>Prop K also funds bicycle parking and Bike to Work Day promotion.</p>
<p><b>D-2. Improve Pedestrian Access and Facilities.</b></p>	<p>The General Plan and Planning Code have supported pedestrian friendly, transit-oriented development for decades, which is referred to as the City's Transit First Policy. The Authority funds pedestrian-related projects through Prop K and programs other fund sources to support pedestrian improvements. Many of these projects fall under SFMTA's programs related to traffic calming, pedestrian and bicycle safety, and school area safety.</p> <p>In 2010, the Mayor signed Executive Directive 10-03, which established targets for the reduction of serious and fatal pedestrian injuries of 25 percent by 2016 and a 50 percent reduction by 2021. The Directive also established a multi-agency Pedestrian Safety Task Force to implement a set of short-term actions to improve pedestrian safety. The Task Force has received funding to pilot 15mph speed zones around select schools and has also ..., The executive order also directed the Task Force to develop a Pedestrian Action Plan with short, medium, and long term goals and identify how to achieve them.</p>

**San Francisco Trip Reduction Efforts:  
Relationship to Regional Transportation Control Measures**

TCM	Local Implementation
<p><b>D-3. Local Land Use Strategies.</b></p>	<p>The Authority promotes legislative activities that encourage smart growth and more sustainable transportation and development-related investment decisions by the City and developers. In 2007, the Authority, together with the San Francisco Mayor’s Office of Housing, and in cooperation with several City and regional agencies, submitted an application for Priority Development Area (PDA) designation across a largely-continuous network of approved, proposed, and potential transit-oriented development zones. The Authority continues to work closely with City agencies to plan multimodal transportation improvements to support planned PDA growth. The Authority is also cooperating with City agencies to reform CEQA transportation impact analysis by replacing the automobile LOS impact measure with a new Transit Sustainability Fee (TSF) that addresses the effects of new development on the entire City transportation system.</p>
<p><b>E-1. Value Pricing Strategies</b></p>	<p>In December, 2010, the Authority adopted the final report of the San Francisco Mobility, Access and Pricing Study (MAPS), which found that an area-wide congestion pricing program for San Francisco would be technically and financially feasible. The Authority is now seeking funding for environmental analysis and system design. Further study will include detailed economic evaluation, analysis of parking alternatives, an expenditure plan for investments, an implementation plan for improvements, and additional outreach. In addition, state legislation would be necessary to implement any pricing system.</p>

**San Francisco Trip Reduction Efforts:  
Relationship to Regional Transportation Control Measures**

TCM	Local Implementation
<p><b>E-2. Promote Parking Policies to Reduce Motor Vehicle Travel</b></p>	<p>In September 2009, the Authority adopted the San Francisco On-Street Parking Management and Pricing Study. SFMTA is implementing the study’s key recommendations through the <i>SFpark</i> program pilots. The pilots, launched in April 2011, utilize new pricing approaches and technology to improve the management of San Francisco’s on- and off-street parking supply in eight neighborhoods in the city. The City has also addressed private off-street parking by eliminating minimum parking requirements downtown and in specific neighborhoods and commercial corridors, in some cases replacing them with maximum parking requirements. Unbundled parking, bicycle parking, and carshare parking requirements have also been implemented.</p>
<p><b>E-3. Implement Transportation Pricing Reform.</b></p>	<p>The Authority continues to work with MTC and the Bay Area Partnership to identify new revenues sources. The Authority has developed two major transportation pricing studies, the On-Street Parking Management and Pricing Study and the Mobility, Access, and Pricing Study. These studies examine the potential for pricing to be used in combination with new technology and transportation enhancements to improve system performance and reduce emissions. As noted in TCM E-2, <i>SFpark</i> is currently implementing variable parking pricing pilots.</p>

**APPENDIX 9:**  
**Prop K Transportation Sales Tax Expenditure Plan**





## SF Prop K Expenditure Plan Summary

## Summary

2003 \$Millions	Total Prop K <sup>1</sup>	Percentage of Prop K Funding <sup>2</sup>	Other Expected Funds	Total Expected Funding <sup>2</sup>
<b>A. TRANSIT</b>	<b>1,781.1</b>	<b>65.5%</b>	<b>8163.2</b>	<b>9,944.3</b>
<b>I. Major Capital Projects</b>	<b>689.6</b>		<b>3059.1</b>	<b>3,748.7</b>
a. MUNI	361.0		1041.0	1,402.0
Bus Rapid Transit/MUNI Metro Network	110.0		490.0	600.0
3rd Street Light Rail (Phase 1)	70.0		30.0	100.0
Central Subway (3rd St. LRT Phase 2)	126.0		521.0	647.0
Geary LRT	55.0		0.0	55.0
b. Caltrain	313.1		1827.9	2,141.0
Downtown Extension to a Rebuilt Transbay Terminal	270.0		1615.0	1,885.0
Electrification	20.5		162.0	182.5
Capital Improvement Program	22.6		50.9	73.5
c. BART Station Access, Safety and Capacity	10.5		89.5	100.0
d. Ferry	5.0		100.7	105.7
<b>ii. Transit Enhancements</b>	<b>52.5</b>		<b>148.2</b>	<b>200.7</b>
<b>iii. System Maintenance and Renovation</b>	<b>1,039.0</b>		<b>4955.9</b>	<b>5,994.9</b>
a. Vehicles	575.0		2911.0	3,486.0
b. Facilities	115.7		830.0	945.7
c. Guideways	348.3		1214.9	1,563.2
<b>B. PARATRANSIT <sup>4</sup></b>	<b>291.0</b>	<b>8.6%</b>	<b>105.3</b>	<b>396.3</b>
<b>C. STREETS AND TRAFFIC SAFETY</b>	<b>714.7</b>	<b>24.6%</b>	<b>1318.3</b>	<b>2,033.0</b>
<b>I Major Capital Projects</b>	<b>117.5</b>		<b>422.2</b>	<b>539.7</b>
a. Golden Gate Bridge South Access (Doyle Drive)	90.0		330.0	420.0
b. New and Upgraded Streets	27.5		92.2	119.7
<b>ii. System Operations, Efficiency and Safety</b>	<b>60.6</b>		<b>94.9</b>	<b>155.5</b>
a. New Signals and Signs	41.0		14.5	55.5
b. Advanced Technology and Information Systems (SFgo)	19.6		80.4	100.0
<b>iii. System Maintenance and Renovation</b>	<b>281.6</b>		<b>605.9</b>	<b>887.5</b>
a. Signals and Signs	99.8		70.7	170.5
b. Street Resurfacing, Rehabilitation, and Maintenance	162.7		517.5	680.2
c. Pedestrian and Bicycle Facility Maintenance	19.1		17.7	36.8
<b>iv. Bicycle and Pedestrian Improvements</b>	<b>255.0</b>		<b>195.3</b>	<b>450.3</b>
a. Traffic Calming	70.0		72.0	142.0
b. Bicycle Circulation/Safety	56.0		21.6	77.6
c. Pedestrian Circulation/Safety	52.0		17.7	69.7
d. Curb Ramps	36.0		30.0	66.0
e. Tree Planting and Maintenance	41.0		54.0	95.0
<b>D. TRANSPORTATION SYSTEM MANAGEMENT/STRATEGIC INITIATIVES</b>	<b>33.2</b>	<b>1.3%</b>	<b>29.3</b>	<b>62.5</b>
<b>I. Transportation Demand Management/Parking Management</b>	<b>13.2</b>		<b>15.7</b>	<b>28.9</b>
<b>ii. Transportation/Land Use Coordination</b>	<b>20.0</b>		<b>13.6</b>	<b>33.6</b>
<b>TOTAL</b>	<b>2,820</b>	<b>100%</b>	<b>9616.1</b>	<b>12,436</b>
Total Prop K Priority 1 (conservative forecast)	2,350			
Total Prop K Priority 1 + 2 (medium forecast; most likely to materialize)	2,626			
Total Prop K Priority 1+2+3 (optimistic forecast) <sup>5</sup>	2,820			

## NOTES

<sup>1</sup> The "Total Prop K" column fulfills the requirements in Section 131051(d) of the Public Utilities Code.

<sup>2</sup> Percentages are based Prop K Priority 1 and 2 forecasts of \$2.626 billion.

<sup>3</sup> Total Expected Funding represents project costs or implementable phases of multi-phase projects and programs based on a 30-year forecast of expected revenues from existing federal, state and local sources, plus \$2.82B in reauthorized sales tax revenues, \$230M from a BART General Obligation Bond, and approximately \$199M from the proposed 3rd dollar toll on the Bay Area state-owned toll bridges. The amounts in this column are provided in fulfillment of Sections 131051 (a)(1), (b) and (c) of the Public Utilities Code.

<sup>4</sup> With very limited exceptions, the funds included in the 30-year forecast of expected revenues are for capital projects rather than operations. Of all the funding sources that make up the \$12.4B in expected funding, paratransit operating support is only eligible for Prop K and and up to 10% of MUNI's annual share of Federal Section 5307 funds (currently about \$3.5 M annually). Therefore, total expected funding for Paratransit only reflects Prop K and Section 5307. The remaining paratransit operating costs for the next 30-years will be funded using other sources of operating funds, such as those currently included in MUNI's \$460M annual operating budget.

<sup>5</sup> Priority 3 projects will only be funded if the revenues materialize under the optimistic scenario for sales tax revenues. They are also included in case Priority 1 or 2 projects realize cost savings, identify other unanticipated sources of funding, experience delays or are canceled.

**APPENDIX 10:**  
**Expenditure Plan Categories**  
**with 5-Year Prioritization Programs**

## Expenditure Plan Categories with 5-Year Prioritization Programs (5YPPs)

The Prop K Expenditure Plan requires that all programmatic categories have a 5YPP that includes among other elements a prioritization methodology and a 5-year program of projects with scope, schedule, cost, and funding (including funds to be leveraged by Prop K). The 5YPPs are developed by eligible Prop K project sponsors and are approved by the Authority Board. Current 5YPPs for all 21 Prop K programmatic categories can be found on the Authority's website at [www.sfcta.org/fiveyears](http://www.sfcta.org/fiveyears).

EP Line(s) No. <sup>1</sup>	Programmatic Category	Eligible Sponsors <sup>2</sup>
1	Bus Rapid Transit/Transit Preferential Streets/MUNI Metro Network	SFMTA, SFCTA
7	Caltrain Capital Improvement Program	PCJPB
8	BART Station Access, Safety and Capacity	BART, SFMTA, SFMTA, DPW
9	Ferry	Port of San Francisco, GGBHTD
10 - 16	Transit Enhancements	SFMTA, BART, SFMTA, PCJPB
17	New and Renovated Vehicles	SFMTA, BART, PCJPB
20	Facilities	SFMTA, BART, PCJPB
22	Guideways	SFMTA, BART, PCJPB
26 - 30	New and Upgraded Streets	DPW, SFMTA, SFCTA, PCJPB, Caltrans, SFCTA
31	New Signals and Signs	SFMTA, SFMTA
32	Advanced Technology and Information Systems (SFgo)	SFMTA, SFMTA
33	Signals and Signs	SFMTA
34 - 35	Street Resurfacing, Rehabilitation, and Maintenance	DPW
37	Pedestrian and Bicycle Facility Maintenance	SFMTA, DPW, SFMTA
38	Traffic Calming	SFMTA, DPW
39	Bicycle Circulation/Safety	SFMTA, DPW, BART, PCJPB
40	Pedestrian Circulation/Safety	SFMTA, SFMTA, DPW, BART, PCJPB
41	Curb Ramps	DPW, SFMTA
42	Tree Planting and Maintenance	DPW
43	Transportation Demand Management/Parking Management	SFMTA, SFMTA, Planning, SFCTA, DOE, DAS
44	Transportation/Land Use Coordination	SFMTA, DPW, SFMTA, Planning, SFCTA, BART, PCJPB

Notes:

<sup>1</sup>"EP Line No." corresponds to Expenditure Plan line numbers used in the 2009 Prop K Strategic Plan.

<sup>2</sup>The first sponsor listed is the lead agency responsible for coordinating development of the 5YPP. Sponsor acronyms include: Bay Area Rapid Transit District (BART), California Department of Transportation (Caltrans), Department of Administrative Services (DAS), Department of the Environment (DOE), Department of Public Works (DPW), Golden Gate Bridge Highway and Transportation District (GGBHTD), Peninsula Corridor Joint Powers Board (PCJPB), Planning Department (Planning), San Francisco County Transportation Authority (SFCTA), and San Francisco Municipal Transportation Agency (SFMTA).

**APPENDIX 11:**  
**Discretionary Grants**

**San Francisco CMP Discretionary Grant Programs – Non-Prop K  
Project Grants Issued Since Publication of the 2009 CMP**

San Francisco Transportation For Clean Air (TFCA) - County Program Manager Projects

TFCA Project	Sponsor <sup>1</sup>	TFCA Funds Programmed	Total Project Cost
City Bicycle Fleet	DOE	\$31,500	\$49,500
Coastal Trail Bicycle Lane	Presidio Trust	\$78,979	\$923,063
Illinois Street Bicycle Lanes	SFMTA	\$158,000	\$190,000
Laguna Honda Bicycle Lanes	SFMTA	\$82,000	\$82,000
Market Street Bicycle Lanes	SFMTA	\$110,000	\$118,000
Market and Valencia Bicycle Improvements and Gap Closure	SFMTA	\$177,000	\$177,000
Bike Racks for San Francisco Schools	SFUSD	\$135,000	\$135,000
Bike Cage - Parnassus Campus	UCSF	\$50,000	\$100,000
25 CNG Taxis	Yellow Cab	\$39,000	\$394,000
City Bicycle Fleet	DOE	\$38,479	\$58,478
Commuter Benefits Program	DOE	\$59,915	\$398,957
Emergency Ride Home Program	DOE	\$18,000	\$54,000
MTC School Ridematching Program	DOE	\$103,596	\$103,596
Solar Electric Vehicle Charging Stations	DOE	\$28,000	\$74,967
Bayview Hunters Point Shuttle Service	DPH	\$174,300	\$174,300
Integrated Public-Private Travel Demand Management (TDM) Partnership Project	SFCTA	\$132,194	\$1,024,900
Level 3 DC Electric Vehicle Charging Stations	SFMTA	\$90,000	\$180,000
Regional Bicycle Sharing Pilot	SFMTA	\$401,250	\$3,814,750
	<b>Total</b>	<b>\$1,907,213</b>	<b>\$8,052,511</b>

<sup>1</sup> Project sponsor acronyms refer to the San Francisco Department of the Environment (DOE); the San Francisco Department of Public Health (DPH); the San Francisco County Transportation Authority (SFCTA); the San Francisco Municipal Transportation Agency (SFMTA); the San Francisco United School District (SFUSD); and the University of California, San Francisco (UCSF).

## San Francisco Share 2008 Lifeline Transportation Program Projects (LTP) – Revised

LTP Project	Sponsor <sup>1</sup>	LTP Funds Programmed	Total Project Cost
Balboa Park Station Eastside Connections Project	BART	\$ 1,906,050	\$ 2,801,050
	SFMTA <sup>2</sup>	\$ 1,083,277	\$ 2,125,000
Bus Restoration Project <sup>4,5</sup>	SFMTA	\$ 1,691,391	\$ 2,309,000
Hunters View Revitalization Transit Stop Connection <sup>2</sup>	MOH	\$ 510,160	\$ 708,176
Shopper Shuttle	SFMTA	\$ 1,560,000	\$ 2,894,000
Route 108 Treasure Island Enhanced Service <sup>2,3</sup>	SFMTA	\$ 1,165,712	\$ 1,971,094
Route 29 Reliability Improvement Project	SFMTA	\$ 727,200	\$ 1,672,560
Persia Triangle Transit Access Improvements Project	SFMTA	\$ 802,734	\$ 1,003,418
Randolph/Farallones/ Orizaba Transit Access Project	SFMTA	\$ 480,000	\$ 600,000
San Bruno Avenue Transit Preferential Streets (IPS) Improvements <sup>2</sup>	SFMTA	\$ 216,000	\$ 2,500,000
<b>Total Available</b>		\$ 10,142,524	
<b>Total Programmed</b>		\$ 10,142,524	
<b>Difference</b>		\$ 0	

<sup>1</sup> Project sponsor acronyms include the Bay Area Rapid Transit District (BART), Mayor's Office of Housing (MOH), and the San Francisco Municipal Transportation Agency (SFMTA).

<sup>2</sup> In March 2010, through Resolution 10-50, the second amendment to the LTP project priorities programmed \$1,122,118 in new LTP funds and reprogrammed \$1,348,919 from the construction phase of the SFMTA's San Bruno TPS project to two new projects (the SFMTA's Balboa Park Station Eastside Connections and MOH's Hunters View Revitalization Transit Stop Connection) and one existing project (the SFMTA's Route 108 Treasure Island Enhanced Service). In addition, \$1,348,919 in future LTP funds was committed to the SFMTA's San Bruno TPS project when it is ready to receive funds.

<sup>3</sup> In July 2010, through an administrative adjustment, \$25,884 in additional apportionment that the Metropolitan Transportation Commission (MTC) received in Fiscal Year 2009/10 Jobs Access Reverse Commute (JARC) funds was added to the SFMTA's Route 108 Treasure Island Enhanced Service Project. Given the small amount of funds and that the Route 108 Project was the only one programmed to receive Fiscal Year 2009/10 JARC funds, MTC requested programming all the additional JARC funds to this project, and SFMTA and Authority staff concurred.

<sup>4</sup> In July 2010, through Resolution 11-07, the third amendment programmed new LTP funds consisting of State Transit Assistance (STA) funds to the SFMTA's Bus Restoration Project.

<sup>5</sup> In January 2011, through an administrative adjustment, with SFMTA staff's concurrence, an additional \$6,881 in STA funds that the MTC made available to San Francisco's LTP was added to the SFMTA's Bus Service Restoration Project.

## San Francisco 2010 Congestion Management Agency (CMA) Block Grant Projects

<b>CMA Block Grant Project</b>	<b>Sponsor <sup>1</sup></b>	<b>CMA Block Grant Funds Programmed</b>	<b>Total Project Cost</b>
Broadway Streetscape Improvements Project - Phase III	DPW	\$ 1,454,000	\$ 1,812,000
Cargo Way Bicycle Project	Port	\$ 185,000	\$ 430,781
Folsom Streetscape Improvements Project	DPW	\$ 4,265,000	\$ 5,443,000
Marina Green Bicycle Trail Project	DPW	\$ 988,000	\$ 1,157,000
Second Street Streetscape Improvements Project	DPW	\$ 4,846,000	\$ 6,076,000
<b>Total Available</b>		\$ 11,738,000	
<b>Total Programmed</b>		\$ 11,738,000	
<b>Difference</b>		\$ 0	

<sup>1</sup> Project sponsor acronyms include the Department of Public Works (DPW) and the Port of San Francisco (Port).

## San Francisco 2010 Safe Routes to School (SR2S) Projects

<b>SR2S Project</b>	<b>Sponsor <sup>1</sup></b>	<b>SR2S Funds Programmed</b>	<b>Total Project Cost</b>
San Francisco SR2S Education and Outreach Program	DPH	\$ 500,000	\$ 590,000
Sunset Elementary and AP Giannini Middle SR2S	SFMTA	\$ 579,000	\$ 804,000
<b>Total Available</b>		\$ 1,079,000	
<b>Total Programmed</b>		\$ 1,079,000	
<b>Difference</b>		\$ 0	

<sup>1</sup> Project sponsor acronyms include the Department of Public Health (DPH) and the San Francisco Municipal Transportation Agency (SFMTA).



## San Francisco 2012 Regional Improvement Program (RIP) Projects<sup>1</sup>

RIP Project	Sponsor <sup>2</sup>	RIP Funds Programmed	Total Project Cost
Presidio Parkway (Doyle Drive Replacement) <sup>3</sup>	Caltrans	\$ 44,791,000	\$1,939,112,537
Planning, Programming, and Monitoring	MTC	\$ 131,000	\$ 131,000
Planning, Programming, and Monitoring	SFCTA	\$ 608,000	\$ 608,000
<b>Total Available</b>		\$ 10,912,000	
<b>Total Programmed<sup>3</sup></b>		\$ 45,530,000	
<b>Difference (Shortfall)</b>		\$ (34,618,000)	

<sup>1</sup> The proposed programming is subject to approval by MTC in December 2011 and the California Transportation Commission (CTC) in March 2012.

<sup>2</sup> Project sponsor acronyms include the California Department of Transportation (Caltrans), the Metropolitan Transportation Commission (MTC), and the San Francisco County Transportation Authority (SFCTA).

<sup>3</sup> Programming \$44.791 million to Presidio Parkway Phase 2 construction in FY 2014/15 would fulfill San Francisco's entire RIP commitment to the project. It would require MTC and CTC approval of an advance of \$34.618 million in future San Francisco RIP funds. To partially offset the advance, the proposed 2-year delay of the \$54 million currently programmed to the Presidio Parkway in FY 2012/13 to FY 2014/15 would help MTC and CTC address statewide deficits in some of the early years of the 2012 STIP that would otherwise cause projects to be delayed.

Total project cost for Presidio Parkway Phase 2 includes 30 years of availability payment for operations, maintenance, and repayment of Transportation Infrastructure Finance and Innovation Act loan.

## San Francisco 2012 Transportation Enhancements (TE) Projects

TE Project	Sponsor <sup>1</sup>	TE Funds Programmed	Total Project Cost
Pedestrian Safety and Encouragement Campaign	SFMTA	\$ 851,000	\$ 851,000
Crosswalk Conversion Project	SFMTA	\$ 250,000	\$ 250,000
TE Reserve	MTC	\$ 1,101,000	\$ 1,101,000
<b>Total Available</b>		\$ 2,202,000	
<b>Total Programmed<sup>2</sup></b>		\$ 2,202,000	
<b>Difference</b>		\$ 0	

<sup>1</sup> Project sponsor acronyms include the Metropolitan Transportation Commission (MTC) and the San Francisco Municipal Transportation Agency (SFMTA).

<sup>2</sup> The proposed programming is subject to approval by MTC in December 2011 and the California Transportation Commission in March 2012.

**APPENDIX 12:**  
**2009 Prop K Provisional Strategic Plan Programming**

**2009 Strategic Plan (12.14.10 Board Approval)**  
Appendix F. Pro-Rata Share of Available Revenues by Expenditure Plan Line Item (YOE \$'s)

EP Line	Title	FY2011/12	FY2012/13	FY2013/14	FY2014/15	FY2015/16	FY2016/17	FY2017/18	7-Year Total
1	Bus Rapid Transit/Transit Preferential Streets/MTA-MUNI Metro Network	\$ 2,571,452	\$ 2,709,501	\$ 2,842,543	\$ 2,988,298	\$ 3,176,107	\$ 3,337,651	\$ 3,505,384	\$ 18,142,638
2	3rd Street Light Rail (LRT)(Phase 1)	\$ 2,962,144	\$ 2,993,880	\$ 3,025,956	\$ 3,058,376	\$ 3,091,144	\$ 3,124,262	\$ 3,157,735	\$ 18,355,121
3	Central Subway (3rd St. LRT Phase 2)	\$ 3,853,609	\$ 3,894,897	\$ 3,936,627	\$ 3,978,804	\$ 4,021,432	\$ 4,064,518	\$ 4,108,065	\$ 23,879,148
4	Geary Light Rail	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
5	Downtown Extension to a Rebuilt Transbay Terminal	\$ 6,161,634	\$ 6,492,424	\$ 6,811,214	\$ 7,160,468	\$ 7,610,490	\$ 7,997,577	\$ 8,399,494	\$ 43,472,833
6	Electrification	\$ 531,399	\$ 559,927	\$ 587,421	\$ 617,541	\$ 656,353	\$ 689,736	\$ 724,399	\$ 3,749,235
7	Caltrain Capital Improvement Program	\$ 515,846	\$ 543,539	\$ 570,228	\$ 599,467	\$ 637,142	\$ 669,549	\$ 703,197	\$ 3,639,501
8	BART Station Access, Safety and Capacity	\$ 238,481	\$ 251,284	\$ 263,623	\$ 277,141	\$ 294,558	\$ 309,540	\$ 325,096	\$ 1,682,583
9	Ferry	\$ 114,056	\$ 120,179	\$ 126,081	\$ 132,545	\$ 140,876	\$ 148,041	\$ 155,481	\$ 804,714
10	Extension of Trolleybus Lines/Motor Coach Conversion	\$ 201,505	\$ 212,323	\$ 222,748	\$ 234,170	\$ 248,887	\$ 261,546	\$ 274,690	\$ 1,421,700
11	F-Line Extension to Fort Mason	\$ 106,055	\$ 111,749	\$ 117,236	\$ 123,247	\$ 130,993	\$ 137,656	\$ 144,574	\$ 748,263
12	Purchase/Rehabilitation Historic Street Cars	\$ 29,695	\$ 31,290	\$ 32,826	\$ 34,509	\$ 36,678	\$ 38,544	\$ 40,481	\$ 209,514
13	Balboa Park BART/MTA-MUNI Station Access	\$ 206,172	\$ 217,240	\$ 227,907	\$ 239,593	\$ 254,651	\$ 267,603	\$ 281,052	\$ 1,454,624
14	Relocation of Paul Street Caltrain Station to Oakdale Avenue	\$ 168,204	\$ 177,234	\$ 185,936	\$ 195,470	\$ 207,755	\$ 218,322	\$ 229,294	\$ 1,186,746
15	Purchase Additional Light Rail Vehicles	\$ 123,024	\$ 129,629	\$ 135,994	\$ 142,967	\$ 151,952	\$ 159,681	\$ 167,706	\$ 867,986
16	Other Transit Enhancements	\$ 279,986	\$ 295,017	\$ 309,503	\$ 325,373	\$ 345,822	\$ 363,412	\$ 381,675	\$ 1,975,415
17B	New and Renovated Vehicles - BART	\$ 262,604	\$ 276,702	\$ 290,288	\$ 305,173	\$ 324,353	\$ 340,850	\$ 357,979	\$ 1,852,775
17M	New and Renovated Vehicles - MUNI	\$ 10,292,917	\$ 10,845,497	\$ 11,378,032	\$ 11,961,455	\$ 12,713,210	\$ 13,359,834	\$ 14,031,229	\$ 72,620,719
17P	New and Renovated Vehicles - PCJPB	\$ 525,207	\$ 553,403	\$ 580,576	\$ 610,346	\$ 648,705	\$ 681,700	\$ 715,958	\$ 3,705,550
17U	New and Renovated Vehicles - Discretionary	\$ 1,838,225	\$ 1,936,911	\$ 2,032,017	\$ 2,136,211	\$ 2,270,468	\$ 2,385,949	\$ 2,505,855	\$ 12,969,424
18	Trolleybus Wheelchair-lift Operations & Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19	F-Line Operations & Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
20B	Rehab/Upgrade Existing Facilities - BART	\$ 43,549	\$ 45,887	\$ 48,140	\$ 50,608	\$ 53,789	\$ 56,525	\$ 59,365	\$ 307,254
20M	Rehab/Upgrade Existing Facilities - MUNI	\$ 1,756,467	\$ 1,850,764	\$ 1,941,640	\$ 2,041,200	\$ 2,169,486	\$ 2,279,831	\$ 2,394,404	\$ 12,392,592
20P	Rehab/Upgrade Existing Facilities - PCJPB	\$ 176,528	\$ 186,005	\$ 195,138	\$ 205,144	\$ 218,037	\$ 229,127	\$ 240,642	\$ 1,245,477
20U	Rehab/Upgrade Existing Facilities - Discretionary	\$ 219,040	\$ 230,799	\$ 242,132	\$ 254,548	\$ 270,545	\$ 284,306	\$ 298,594	\$ 1,545,416
21	MTA-MUNI Metro Extension (MMX) Operations & Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
22B	Guideways - BART	\$ 159,781	\$ 168,359	\$ 176,626	\$ 185,682	\$ 197,352	\$ 207,390	\$ 217,812	\$ 1,127,320
22M	Guideways - MUNI	\$ 6,359,282	\$ 6,700,683	\$ 7,029,700	\$ 7,390,157	\$ 7,854,614	\$ 8,254,118	\$ 8,668,927	\$ 44,867,325
22P	Guideways - PCJPB	\$ 636,841	\$ 671,030	\$ 703,979	\$ 740,077	\$ 786,589	\$ 826,597	\$ 868,137	\$ 4,493,174
22U	Guideways - Discretionary	\$ 794,340	\$ 836,984	\$ 878,082	\$ 923,106	\$ 981,122	\$ 1,031,024	\$ 1,082,838	\$ 5,604,389
23	Paratransit	\$ 5,233,630	\$ 5,514,600	\$ 5,785,377	\$ 6,082,030	\$ 6,464,274	\$ 6,793,062	\$ 7,134,446	\$ 36,925,389
24	Golden Gate Bridge South Access (Doyle Drive)	\$ 2,053,014	\$ 2,163,231	\$ 2,269,450	\$ 2,385,819	\$ 2,535,763	\$ 2,664,738	\$ 2,798,653	\$ 14,484,848
25	Bernal Heights Street System Upgrading	\$ 78,051	\$ 78,887	\$ 79,732	\$ 80,587	\$ 81,450	\$ 82,323	\$ 83,205	\$ 483,647
26	Great Highway Erosion Repair	\$ 52,621	\$ 55,446	\$ 58,169	\$ 61,152	\$ 64,995	\$ 68,301	\$ 71,733	\$ 371,266
27	Visitation Valley Watershed	\$ 388,828	\$ 409,703	\$ 429,820	\$ 451,860	\$ 480,258	\$ 504,685	\$ 530,048	\$ 2,743,342
28	Illinois Street Bridge	\$ 61,168	\$ 61,824	\$ 62,486	\$ 63,156	\$ 63,832	\$ 64,516	\$ 65,207	\$ 379,034
29	Golden Gate Park/SR1 Traffic Study	\$ 5,184	\$ 5,463	\$ 5,731	\$ 6,025	\$ 6,403	\$ 6,729	\$ 7,067	\$ 36,578
30	Other Upgrades to Major Arterials	\$ 92,152	\$ 97,100	\$ 101,867	\$ 107,091	\$ 113,821	\$ 119,610	\$ 125,621	\$ 650,172
31	New Signals and Signs	\$ 935,780	\$ 986,018	\$ 1,034,433	\$ 1,087,475	\$ 1,155,821	\$ 1,214,609	\$ 1,275,649	\$ 6,602,311
32	Advanced Technology and Information Systems (SFgo)	\$ 448,449	\$ 472,524	\$ 495,726	\$ 521,145	\$ 553,898	\$ 582,070	\$ 611,322	\$ 3,163,988
33	Signals and Signs	\$ 2,278,534	\$ 2,400,859	\$ 2,518,745	\$ 2,647,897	\$ 2,814,312	\$ 2,957,455	\$ 3,106,081	\$ 16,075,987
34	Street Resurfacing, Rehabilitation, and Maintenance	\$ 3,066,560	\$ 3,231,190	\$ 3,389,847	\$ 3,563,666	\$ 3,787,635	\$ 3,980,284	\$ 4,180,312	\$ 21,635,827
35	Street Repair and Cleaning Equipment	\$ 591,019	\$ 622,748	\$ 653,326	\$ 686,827	\$ 729,992	\$ 767,121	\$ 805,673	\$ 4,169,881
36	Embarcadero Roadway Incremental Operations & Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
37	Pedestrian and Bicycle Facility Maintenance	\$ 451,041	\$ 475,255	\$ 498,591	\$ 524,157	\$ 557,099	\$ 585,435	\$ 614,856	\$ 3,182,277
38	Traffic Calming	\$ 1,576,051	\$ 1,660,662	\$ 1,742,204	\$ 1,831,537	\$ 1,946,646	\$ 2,045,657	\$ 2,148,461	\$ 11,119,681
39	Bicycle Circulation/Safety	\$ 715,444	\$ 753,853	\$ 790,869	\$ 831,422	\$ 883,675	\$ 928,621	\$ 975,288	\$ 5,047,750
40	Pedestrian Circulation/Safety	\$ 616,941	\$ 650,062	\$ 681,981	\$ 716,951	\$ 762,010	\$ 800,767	\$ 841,010	\$ 4,352,770
41	Curb Ramps	\$ 611,757	\$ 644,599	\$ 676,250	\$ 710,926	\$ 755,606	\$ 794,038	\$ 833,942	\$ 4,316,192
42	Tree Planting and Maintenance	\$ 850,238	\$ 895,883	\$ 939,873	\$ 988,066	\$ 1,050,164	\$ 1,103,578	\$ 1,159,038	\$ 5,998,775
43	Transportation Demand Management/Parking Management	\$ 300,694	\$ 316,837	\$ 332,394	\$ 349,438	\$ 371,400	\$ 390,290	\$ 409,904	\$ 2,121,518
44	Transportation/Land Use Coordination	\$ 456,225	\$ 480,718	\$ 504,322	\$ 530,182	\$ 563,503	\$ 592,164	\$ 621,923	\$ 3,218,855
	<b>Total</b>	<b>\$ 61,991,425</b>	<b>\$ 65,020,600</b>	<b>\$ 67,943,388</b>	<b>\$ 71,139,085</b>	<b>\$ 75,235,670</b>	<b>\$ 78,770,942</b>	<b>\$ 82,439,504</b>	<b>\$ 431,401,529</b>

**APPENDIX 13:**  
**Spring 2011 Transit Analysis Results**

**2011 Transit Results – Average Transit Speed and Auto/Transit Speed Ratio by CMP Segment, PM Peak**

CMP Route Name	Auto Start Intersection	Auto End Intersection	Travel Direction	Average Auto Speed (mph)	Average Transit Speed (mph)	Auto/Transit Speed Ratio
2nd St	Branan	Market St	NW	13.3	6.3	2.1
2nd St	Market St	Branan	SE	12.2	6.7	1.8
3rd St	Terry A Francois Blvd	Market St	N	12.9	5.6	2.3
4th St / Stockton	Harrison	Channel	S	14.9	6.5	2.3
4th St / Stockton	O'Farrell	Harrison	S	15.1	4.6	3.3
5th St	Brannan	Market St	NW	15.7	6.3	2.5
5th St	Market St	Brannan	SE	13.8	5.2	2.6
7th St	Brannan St	Market St	N	20.9	7.4	2.8
8th St	Market St	Bryant St	SE	23.8	7.0	3.4
16th St	Market St	Mission St	E	11.9	6.1	2.0
16th St	Mission St	Market St	W	8.4	6.0	1.4
16th St	Mission St	Potrero Ave	E	11.7	7.3	1.6
16th St	Potrero Ave	Mission St	W	13.4	6.8	2.0
19th Ave/Park Presidio	Junipero Serra Blvd	Sloat Blvd	N	17.7	8.4	2.1
19th Ave/Park Presidio	Lake	Lincoln Way	S	24.6	13.3	1.8
19th Ave/Park Presidio	Lincoln Way	Lake	N	29.3	14.6	2.0
19th Ave/Park Presidio	Lincoln Way	Sloat Blvd	S	21.4	10.7	2.0
19th Ave/Park Presidio	Sloat Blvd	Junipero Serra Blvd	S	23.2	11.5	2.0
19th Ave/Park Presidio	Sloat Blvd	Lincoln Way	N	27.7	11.7	2.4
19th Ave/Park Presidio	US 101	Lake	S	30.9	18.1	1.7
Bayshore	Cesar Chavez	Industrial St	S	15.3	10.8	1.4
Bayshore	County Line	Industrial St	N	23.1	6.7	3.5
Bayshore	Industrial St	Cesar Chavez	N	15.5	11.3	1.4
Bayshore	Industrial St	County Line	S	21.8	8.3	2.6
Beale / Davis	Clay St	Mission St	S	11.7	5.8	2.0
Broadway	Montgomery St	The Embarcadero	E	13.2	6.1	2.2
Broadway	Powell St	Montgomery St	E	14.2	6.1	2.3
Bryant	Division St	4th St	E	14.3	7.5	1.9
Castro / Divisadero	14th St	Geary Blvd	N	11.6	6.9	1.7
Castro / Divisadero	14th St	Market St	S	11.6	8.0	1.5
Castro / Divisadero	Geary Blvd	14th St	S	10.3	5.9	1.8
Castro / Divisadero	Geary Blvd	Pine St	N	9.2	6.1	1.5
Castro / Divisadero	Market St	14th St	N	15.2	6.9	2.2
Castro / Divisadero	Pine St	Geary Blvd	S	10.1	5.8	1.7
Cesar Chavez	Evans Ave	Pennsylvania Ave	E	24.0	9.6	2.5
Cesar Chavez	Evans Ave	South Van Ness Ave	W	23.4	8.7	2.7
Cesar Chavez	Guerrero St	South Van Ness Ave	E	10.7	7.6	1.4
Cesar Chavez	Pennsylvania Ave	Evans Ave	W	26.9	8.7	3.1
Cesar Chavez	South Van Ness Ave	Evans Ave	E	16.8	7.6	2.2
Cesar Chavez	South Van Ness Ave	Guerrero St	W	8.0	7.4	1.1
Clay	Kearny St	Davis St	E	16.2	6.1	2.7

CMP Route Name	Auto Start Intersection	Auto End Intersection	Travel Direction	Average Auto Speed (mph)	Average Transit Speed (mph)	Auto/Transit Speed Ratio
Columbus	Greenwich St	Montgomery St	SE	12.3	5.1	2.4
Columbus	Greenwich St	North Point St	NW	13.4	7.7	1.7
Columbus	Montgomery St	Greenwich St	NW	12.7	5.8	2.2
Columbus	North Point St	Greenwich St	SE	14.0	6.2	2.3
Doyle / Lombard / Richardson	Broderick	Francisco	NW	14.8	10.2	1.4
Doyle / Lombard / Richardson	Broderick	Pierce St	SE	16.3	9.5	1.7
Doyle / Lombard / Richardson	Francisco	Broderick	SE	15.2	10.4	1.5
Doyle / Lombard / Richardson	Pierce St	Broderick	NW	18.1	8.4	2.1
Doyle / Lombard / Richardson	Pierce St	Laguna	SE	18.8	8.1	2.3
Drumm	Market St	Washington St	N	17.2	4.9	3.5
Evans	3rd St	Cesar Chavez St	NW	21.5	14.2	1.5
Evans	Cesar Chavez St	3rd St	SE	17.5	13.3	1.3
Folsom	4th St	1st St	E	16.9	7.0	2.4
Folsom	8th St	4th St	E	19.4	9.5	2.0
Fulton	Arguello	Masonic	E	12.2	8.9	1.4
Fulton	Arguello	Park Presidio Blvd	W	15.3	6.2	2.5
Fulton	Masonic	Arguello	W	13.8	8.8	1.6
Fulton	Park Presidio Blvd	Arguello	E	16.9	10.1	1.7
Gearry	25th Ave	Arguello	E	21.5	8.4	2.6
Gearry	25th Ave	Great Hwy	W	22.7	10.8	2.1
Gearry	Arguello	25th Ave	W	17.1	8.2	2.1
Gearry	Arguello	Gough St	E	20.1	8.6	2.3
Gearry	Gough St	Arguello	W	25.1	9.6	2.6
Gearry	Great Hwy	25th Ave	E	23.8	11.3	2.1
Gearry	Kearny St	Gough St	W	12.9	6.9	1.9
Geneva	Cayuga Ave	Ocean Ave	W	10.2	6.8	1.5
Geneva	Cayuga Ave	Paris St	E	11.5	6.3	1.8
Geneva	Ocean Ave	Cayuga Ave	E	12.9	6.2	2.1
Geneva	Paris St	Cayuga Ave	W	8.1	6.8	1.2
Geneva	Paris St	Santos St	E	22.0	9.9	2.2
Geneva	Santos St	Paris St	W	23.4	10.8	2.2
Harrison	2nd St	4th St	W	20.8	8.7	2.4
Harrison	4th St	8th St	W	14.9	8.9	1.7
Harrison	8th St	Division/13th	W	11.6	7.3	1.6
Hayes	Market St	Gough	W	8.8	4.3	2.0
Junipero Serra	Brotherhood Way	19th Ave	N	10.5	9.3	1.1
Lincoln / Kezar	19th Ave	5th Ave	E	20.6	10.6	1.9
Lincoln / Kezar	5th Ave	19th Ave	W	18.9	11.1	1.7
Main	Mission St	Market St	NW	14.3	3.6	3.9
Market / Portola	Burnett Ave	Vicente St	W	21.4	13.0	1.7
Market / Portola	Drumm St	South Van Ness Ave	W	12.1	6.2	2.0
Market / Portola	Laguna St	South Van Ness Ave	E	14.8	5.7	2.6
Market / Portola	South Van Ness Ave	Drumm St	E	10.6	6.7	1.6

CMP Route Name	Auto Start Intersection	Auto End Intersection	Travel Direction	Average Auto Speed (mph)	Average Transit Speed (mph)	Auto/ Transit Speed Ratio
Market / Portola	South Van Ness Ave	Laguna St	W	11.3	5.5	2.1
Market / Portola	Vicente St	Burnett Ave	E	20.0	12.1	1.6
Masonic	Geary Blvd	Page St	S	13.5	7.2	1.9
Masonic	Page St	Geary Blvd	N	17.2	8.1	2.1
Mission / Otis	14th St	9th St	N	12.2	7.4	1.7
Mission / Otis	14th St	Cesar Chavez St	S	13.8	6.9	2.0
Mission / Otis	3rd St	9th St	S	14.4	7.8	1.9
Mission / Otis	3rd St	The Embarcadero	N	10.9	6.9	1.6
Mission / Otis	9th St	14th St	S	13.5	7.2	1.9
Mission / Otis	9th St	3rd St	N	12.4	8.0	1.6
Mission / Otis	Cesar Chavez St	14th St	N	14.2	7.0	2.0
Mission / Otis	Cesar Chavez St	Ocean Ave	S	15.5	8.2	1.9
Mission / Otis	Ocean Ave	Cesar Chavez St	N	16.3	9.1	1.8
Mission / Otis	Ocean Ave	Sickles Ave	S	19.4	9.8	2.0
Mission / Otis	Sickles Ave	Ocean Ave	N	20.3	10.2	2.0
Mission / Otis	The Embarcadero	3rd St	S	11.0	4.0	2.8
North Point	Columbus	The Embarcadero	E	16.3	8.4	1.9
North Point	Columbus	Van Ness Ave	W	13.2	5.6	2.4
North Point	The Embarcadero	Columbus	W	20.2	5.3	3.8
North Point	Van Ness Ave	Columbus	E	14.4	7.8	1.8
O'Farrell	Gough St	Mason	E	11.2	7.7	1.5
O'Farrell	Mason	Market St	E	8.0	5.7	1.4
Potrero	21st St	Cesar Chavez St	S	18.0	8.6	2.1
Potrero	21st St	Division St	N	23.2	8.9	2.6
Potrero	Cesar Chavez St	21st St	N	21.3	8.9	2.4
Potrero	Division St	21st St	S	22.6	9.6	2.4
Skyline	County Line	Sloat Blvd	N	42.2	25.9	1.6
Skyline	Sloat Blvd	County Line	S	38.3	19.9	1.9
Sloat	Junipero Serra Blvd	Skyline Blvd	W	29.6	13.7	2.2
Sloat	Skyline Blvd	Junipero Serra Blvd	E	17.7	12.4	1.4
Sutter	Divisadero St	Gough St	E	13.4	7.2	1.9
Sutter	Gough St	Divisadero St	W	13.6	6.8	2.0
Sutter	Market St	Mason St	W	12.7	5.4	2.3
Sutter	Mason St	Gough St	W	11.8	6.1	1.9
Townsend	2nd St	7th St	W	11.4	7.8	1.5
Townsend	7th St	2nd St	E	15.9	9.2	1.7
Turk	Divisadero St	Stanyan St	W	17.4	9.1	1.9
Turk	Hyde	Gough St	W	11.3	6.6	1.7
Turk	Market	Hyde	W	11.4	5.5	2.1
Turk	Stanyan St	Divisadero St	E	17.2	9.8	1.8
Van Ness / South Van Ness	Golden Gate Ave	US 101	S	16.5	6.2	2.7
Van Ness / South Van Ness	Golden Gate Ave	Washington St	N	21.9	5.5	4.0
Van Ness / South Van Ness	Lombard St	Washington St	S	17.1	6.6	2.6

CMP Route Name	Auto Start Intersection	Auto End Intersection	Travel Direction	Average Auto Speed (mph)	Average Transit Speed (mph)	Auto/Transit Speed Ratio
Van Ness / South Van Ness	US 101	Golden Gate Ave	N	13.7	5.9	2.3
Van Ness / South Van Ness	Washington St	Golden Gate Ave	S	11.5	5.6	2.1
Van Ness / South Van Ness	Washington St	Lombard St	N	24.5	7.8	3.1
Washington	Drumm St	Kearny St	W	14.9	6.2	2.4



**APPENDIX 14:**  
**Model Consistency Report**

## **A. General Travel Modeling Approach**

*Product 1 – Description of the general approach to travel demand modeling.*

The San Francisco County travel demand forecasting model (see the San Francisco Chained Activity Modeling Process, or “SF-CHAMP”) was originally developed for the San Francisco County Transportation Authority (Authority) to provide detailed forecasts of travel demand for various planning applications. These applications included developing a countywide plan, providing input to microsimulation modeling for corridor and project-level evaluations, transit planning, neighborhood planning, and land use impacts analysis for Congestion Management Program purposes. The objective was to accurately represent the complexity of the destination, temporal and modal options and provide detailed information on travelers making discrete choices. These objectives led to the development of an activity-based model that uses synthesized population as the basis for decision-making rather than zonal-level aggregate data sources.

The Authority continually updates and refines the San Francisco Model. Since the creation of the original San Francisco Model in 2000, the model’s geographic scope has been extended to the full nine-county Bay Area, along with significant improvements to pricing sensitivity and time-of-day modeling. The Metropolitan Transportation Commission (MTC) has also now developed an activity based model with a similar structure. Both models share a common population synthesizer, while the details of many model subcomponents differ in significant ways.

The consultant team originally estimated model components using household survey data collected in 1990 by MTC for San Francisco residents only. Each model component was calibrated using various observed data sources, then the full model was validated using traffic count and transit ridership data for each of five time periods. Some model components have been re-estimated using the 2000 MTC household survey, and calibrated using the most recent data available, including the 2000 Census, and 2005-2009 American Communities Survey (ACS) Data.

## **B. Demographic/Economic/Land Use Forecasts**

*Product 2 – A statement establishing that the differences between key ABAG land use variables and those of the CMA do not differ by more than one percent at the county level for the subject county. A statement establishing that no differences exist at the census-tract-level outside the county between the ABAG forecast or the ABAG/CMA revised forecast.*

*Product 3 – A table comparing the ABAG land use estimates with the CMA land use estimates by county for population, households, jobs, and employed residents for both the base year and horizon year.*

*Product 4 – If land use estimates within the CMA’s county are modified from ABAG’s projections, agendas, discussion summaries, and action items from each meeting held with cities, MTC, and/or ABAG at which the redistribution was discussed, as well as before/after census-tract level data summaries and maps.*

The SF-CHAMP model has the capability to use a variety of land use inputs. Most recently, SF-CHAMP has used ABAG Projections 2009 as well as the Sustainable Communities Strategies Current Regional Plans Scenario. This report presents results from both of these scenarios. Outside of San Francisco, the direct land use inputs to the MTC model are used. Within San Francisco, the San Francisco Planning Department allocates the countywide control totals for population, households, jobs, and employed residents to TAZs based on local knowledge of project build-out timelines. Some factoring is involved, therefore the San Francisco County land use inputs to the San Francisco Model are close (within the required 1%) but not exactly the Projections 2009 or Current Regional Plans control totals. No differences between the ABAG Projections and the San Francisco model inputs exist for the remaining eight counties for population, employed residents, and households. However, since the SF-CHAMP model uses a combination of SIC and NAICS codes to determine the number of jobs in eating and drinking establishments, there is some deviation between the total number of jobs input into SF-CHAMP and those summarized for Travel Model One. The San Francisco Planning Department adjustments to the distribution of households and jobs within San Francisco are depicted in Figures 1 and 2 respectfully. The differences shown in these figures show the shift from more generically applied ABAG assumptions, to a land use set consistent with San Francisco’s development pipeline. The development pipeline is dominated by several large projects evident in the figures including the collective Southeast Development Projects, Mission Bay, Transbay Center District Plan, Park Merced, Treasure Island, the Eastern Neighborhoods Plan, and the Market Octavia Plan.

**Table 1 Land Use Current Regional Plans**

<b>2010</b>								
County	<b>SF-CHAMP 4.1.0 / SCS CRP</b>				<b>Percent Difference Compared to ABAG</b>			
	Population	Households	Jobs	Employed Residents	Population	Households	Jobs	Employed Residents
San Francisco	812,802	346,511	544,602	385,303	0%	0%	0%	0%
San Mateo	733,106	264,400	326,532	310,302	0%	0%	-1%	0%
Santa Clara	1,821,982	613,933	864,502	738,401	0%	0%	1%	0%
Alameda	1,549,809	557,655	671,175	674,897	0%	0%	-1%	0%
Contra Costa	1,090,343	392,679	347,767	462,507	0%	0%	1%	0%
Solano	443,092	148,162	128,256	185,499	0%	0%	2%	0%
Napa	138,797	51,261	71,024	61,901	0%	0%	1%	0%
Sonoma	505,612	188,337	189,326	223,899	0%	0%	-1%	0%
Marin	255,643	104,465	127,995	110,899	0%	0%	-1%	0%
Bay Area	7,351,186	2,667,403	3,271,179	3,153,608	0%	0%	0%	0%
<b>2035</b>								
County	<b>SF-CHAMP 4.1.0 / SCS CRP</b>				<b>Percent Difference Compared to ABAG</b>			
	Population	Households	Jobs	Employed Residents	Population	Households	Jobs	Employed Residents
San Francisco	976,378	415,445	705,653	469,788	0%	-1%	1%	-1%
San Mateo	893,067	322,624	439,568	392,101	0%	0%	-1%	0%
Santa Clara	2,433,531	827,254	1,217,280	1,054,001	0%	0%	0%	0%
Alameda	1,958,248	705,343	902,327	963,499	0%	0%	0%	0%
Contra Costa	1,323,390	480,474	471,116	603,803	0%	0%	0%	0%
Solano	504,331	171,284	174,520	220,100	0%	0%	1%	0%
Napa	148,517	54,642	88,363	71,000	0%	0%	2%	0%
Sonoma	572,443	212,784	262,464	258,396	0%	0%	0%	0%
Marin	269,179	110,673	145,947	102,999	0%	0%	-1%	0%
Bay Area	9,079,084	3,300,523	4,407,238	4,135,687	0%	0%	0%	0%

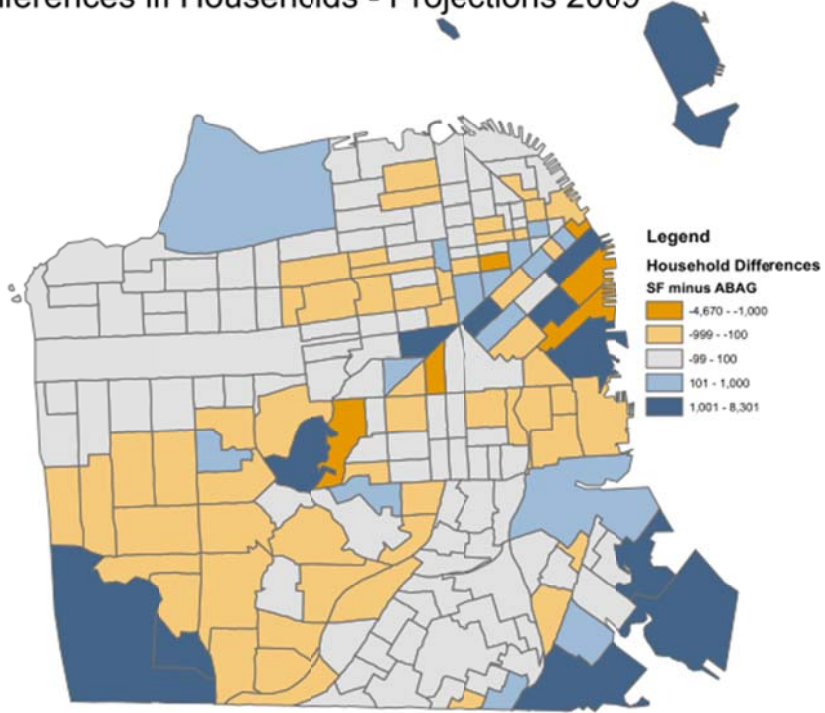
**Table 2 Land Use Projection 2009**

<b>2010</b>								
County	<b>SF-CHAMP 4.1.0 /p2009</b>				<b>Percent Difference Compared to ABAG</b>			
	Population	Households	Jobs	Employed Residents	Population	Households	Jobs	Employed Residents
San Francisco	808,936	346,546	570,000	411,085	0%	0%	0%	0%
San Mateo	733,285	264,404	343,183	330,700	0%	0%	-1%	0%
Santa Clara	1,821,988	613,970	912,078	815,793	0%	0%	1%	0%
Alameda	1,549,803	557,257	708,716	725,197	0%	0%	-1%	0%
Contra Costa	1,090,292	392,697	378,469	490,195	0%	0%	0%	0%
Solano	443,097	148,165	141,510	205,697	0%	0%	1%	0%
Napa	138,801	51,242	71,600	66,300	0%	0%	1%	0%
Sonoma	497,889	188,335	217,314	242,395	0%	0%	0%	0%
Marin	256,495	104,615	134,152	124,428	0%	0%	-1%	0%
Bay Area	7,340,586	2,667,231	3,477,022	3,411,790	0%	0%	0%	0%

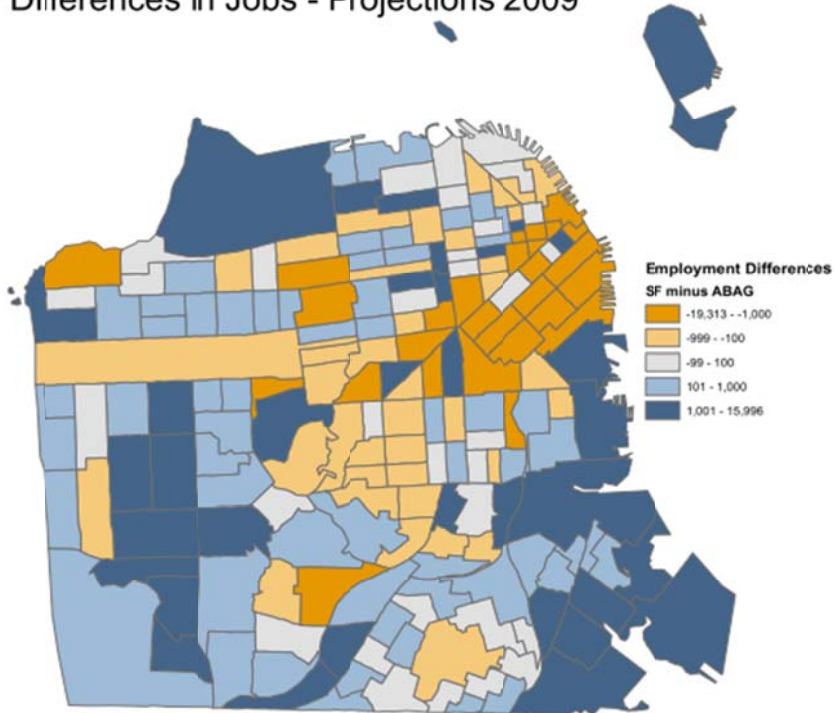
  

<b>2035</b>								
County	<b>SF-CHAMP 4.1.0 /p2009</b>				<b>Percent Difference Compared to ABAG</b>			
	Population	Households	Jobs	Employed Residents	Population	Households	Jobs	Employed Residents
San Francisco	982,425	415,218	807,837	543,796	1%	0%	0%	0%
San Mateo	892,993	322,728	503,095	467,201	0%	0%	-1%	0%
Santa Clara	2,431,407	827,192	1,419,324	1,252,505	0%	0%	0%	0%
Alameda	1,966,305	707,970	1,034,840	1,098,611	0%	0%	0%	0%
Contra Costa	1,322,903	480,495	558,288	718,704	0%	0%	0%	0%
Solano	506,502	171,296	212,166	264,697	0%	0%	0%	0%
Napa	148,794	54,624	92,631	76,200	0%	0%	1%	0%
Sonoma	561,493	211,287	323,537	287,196	0%	0%	0%	0%
Marin	274,307	112,229	156,660	128,926	0%	0%	-1%	0%
Bay Area	9,087,129	3,303,039	5,108,378	4,837,836	0%	0%	0%	0%

## Differences in Households - Projections 2009



## Differences in Jobs - Projections 2009



## C. Pricing Assumptions

*Product 5 – A table comparing the assumed automobile operating cost, key transit fares, and bridge tolls to MTC’s values for the horizon year.*

Auto operating costs were assumed at 17 cents per mile, which was based off of the lower auto operating cost per mile that MTC used prior to Travel Model One. Similarly, the runs summarized for this model consistency report used transit fares that were based on values used previously in BAYCAST rather than Travel Model One. Both of these values will be updated in any future year model run. Similarly, the July 1, 2012 toll schedule had not been approved at the time the model runs that are summarized in this consistency report were run, but any future CHAMP runs will now include these values.

	Travel Model One/Future CHAMP Runs	CHAMP/Previous CHAMP Runs
Pricing Assumption	2035 Value in 2000 dollars	2035 Value in 2000 Dollars
Auto Operating Cost per Mile	\$0.222	\$0.171
Bridge Tolls	<a href="#">Toll schedule starting July 1, 2012</a>	Toll schedule starting July 1, 2010
Transit Fares	---	
Muni Local Bus	\$1.606	\$1.180
AC Transit Local Bus	\$1.606	\$1.510
VTA Local Bus	\$1.606	\$1.510
SamTrans Local Bus	\$1.606	\$1.510

## D. Network Assumptions

*Product 6 – Statement establishing satisfaction of network assumptions consistency.*

The San Francisco Model uses network assumptions consistent with the 2009 MTC Regional Transportation Plan with the following exceptions: (1) projects that have already been built have been coded in the base year 2010 networks such as some regional HOV lanes as well as the Market Street forced-right turn traffic calming; (2) projects were only included that were funded through construction in 2035; (3) the regional HOT lane network was scaled back based on updated assumptions released by MTC; (4) projects local to San Francisco were updated based on updated local knowledge; (5) Muni, Caltrain, SamTrans, Golden Gate Transit, and AC Transit service levels were updated based on 2010 schedules.

## E. Auto Ownership

*Product 7 – County-level table comparing estimates of households by auto ownership level to MTC’s estimates for the horizon year.*

The San Francisco auto ownership model is estimated based on BATS 2000 survey data and is a function of the mode choice and destination choice logsums as well as several household and person variables such as number of household adults, workers, income, age, presence of children, home zone parking cost, and land use characteristics of the home zone. The full model estimation can be found in the CHAMP-4 model documentation. Table 3 and Table 4 depict the 2035 SF-CHAMP auto ownership model results compared to the MTC model for both Projections 2009 and Current Regional Plans. Both the total households by auto ownership category and the shares of households in each auto ownership category are presented. This is due to an inconsistency in the Travel Model One data where the number of households in the Land Use Section are not consistent with the number of households presented here in the results. Overall, SF-CHAMP predicts a higher level of

auto ownership in the future for all counties but for Contra Costa County when compared with Travel Model One.



**Table 3 Auto Ownership for Current Regional Plans**

<b>2035 - Totals</b>										
County	<b>SF-CHAMP</b>					<b>Percent Difference from MTC</b>				
	Zero Autos	One Auto	Two Autos	Three+ Autos	Total	Zero Auto	One Auto	Two Autos	Three+ Autos	Total
San Francisco	110,159	178,761	100,816	25,959	415,695	-17%	-7%	7%	17%	-6%
San Mateo	14,194	98,501	135,004	74,286	321,985	-25%	-16%	-2%	23%	-3%
Santa Clara	43,884	238,822	338,952	205,593	827,250	-30%	-11%	-4%	18%	-4%
Alameda	65,642	221,960	255,262	162,344	705,208	-24%	-6%	-5%	11%	-4%
Contra Costa	25,440	142,344	202,023	110,765	480,572	28%	-7%	-7%	10%	-2%
Solano	7,412	45,706	72,761	45,524	171,403	-32%	-9%	-6%	4%	-6%
Napa	2,719	16,530	22,911	12,477	54,637	-33%	-14%	-8%	1%	-10%
Sonoma	10,386	64,330	91,464	46,756	212,936	-31%	-7%	-4%	-8%	-7%
Marin	3,838	38,496	51,532	16,911	110,778	-45%	-11%	-5%	-6%	-10%
Bay Area	283,674	1,045,450	1,270,725	700,615	3,300,464	-21%	-9%	-4%	11%	-5%

<b>2035 - Shares</b>										
County	<b>SF-CHAMP</b>					<b>Difference from MTC</b>				
	Zero Autos	One Auto	Two Autos	Three+ Autos	Total	Zero Auto	One Auto	Two Autos	Three+	Total
San Francisco	26%	43%	24%	6%	100%	-4%	-1%	3%	1%	0%
San Mateo	4%	31%	42%	23%	100%	-1%	-4%	1%	5%	0%
Santa Clara	5%	29%	41%	25%	100%	-2%	-2%	0%	4%	0%
Alameda	9%	31%	36%	23%	100%	-2%	0%	0%	3%	0%
Contra Costa	5%	30%	42%	23%	100%	1%	-2%	-2%	3%	0%
Solano	4%	27%	42%	27%	100%	-2%	-1%	0%	3%	0%
Napa	5%	30%	42%	23%	100%	-2%	-2%	1%	2%	0%
Sonoma	5%	30%	43%	22%	100%	-2%	0%	1%	0%	0%
Marin	3%	35%	47%	15%	100%	-2%	-1%	2%	1%	0%
Bay Area	9%	32%	39%	21%	100%	-2%	-2%	0%	3%	0%

**Table 4 Auto Ownership for Projection 2009**

<b>2035 - Totals</b>										
County	<b>SF-CHAMP</b>					<b>Percent Difference from MTC</b>				
	Zero Autos	One Auto	Two Autos	Three+ Autos	Total	Zero Autos	One Auto	Two Autos	Three+ Autos	Total
San Francisco	102,962	180,883	103,283	28,773	415,901	-26%	1%	12%	11%	-5%
San Mateo	11,197	96,821	132,890	81,933	322,842	-38%	-13%	-3%	20%	-4%
Santa Clara	43,022	241,462	318,922	224,156	827,562	-35%	-9%	-6%	21%	-3%
Alameda	53,957	215,230	252,942	185,651	707,780	-38%	-5%	-6%	17%	-4%
Contra Costa	19,915	135,597	195,795	128,724	480,030	7%	-7%	-8%	12%	-2%
Solano	5,644	44,236	69,344	51,880	171,104	-48%	-11%	-7%	7%	-7%
Napa	1,599	15,983	23,812	13,187	54,581	-52%	-12%	-5%	-3%	-9%
Sonoma	8,133	62,151	91,366	49,441	211,091	-36%	2%	-3%	-9%	-5%
Marin	3,186	38,622	51,355	18,977	112,140	-51%	-8%	-6%	-7%	-9%
Bay Area	249,615	1,030,983	1,239,710	782,723	3,303,031	-31%	-6%	-5%	13%	-4%

<b>2035 - Shares</b>										
County	<b>SF-CHAMP</b>					<b>Difference in Shares from MTC</b>				
	Zero Autos	One Auto	Two Autos	Three+ Autos	Total	Zero Autos	One Auto	Two Autos	Three+ Autos	Total
San Francisco	25%	43%	25%	7%	100%	-7%	2%	4%	1%	0%
San Mateo	3%	30%	41%	25%	100%	-2%	-3%	0%	5%	0%
Santa Clara	5%	29%	39%	27%	100%	-3%	-2%	-1%	5%	0%
Alameda	8%	30%	36%	26%	100%	-4%	0%	-1%	5%	0%
Contra Costa	4%	28%	41%	27%	100%	0%	-1%	-3%	4%	0%
Solano	3%	26%	41%	30%	100%	-3%	-1%	0%	4%	0%
Napa	3%	29%	44%	24%	100%	-3%	-1%	2%	2%	0%
Sonoma	4%	29%	43%	23%	100%	-2%	2%	1%	-1%	0%
Marin	3%	34%	46%	17%	100%	-2%	0%	2%	0%	0%
Bay Area	8%	31%	38%	24%	100%	-3%	-1%	0%	4%	0%

## **F. Tour/Trip Generation**

*Product 8 - Region-level Tables comparing estimates of trip and/or tour frequency by purpose to MTC's estimates for the horizon year*

Note that the trip purposes reported in the remainder of this report are consolidated to be the greatest common denominator between Travel Model One and SF-CHAMP trip purposes. The SF-CHAMP model predicts significantly more trips when compared with Travel Model One, particularly in the "Other" category. This is likely because SF-CHAMP was estimated on data local to San Francisco, where people are likely to work closer to home, allowing them to partake on separate "other" tour purposes separate from their commute.

**Table 5 Total 2035 Trips, Current Regional Plans**

<b>Trips</b>	<b>MTC</b>	<b>SF-CHAMP</b>	<b>Percent Difference</b>
Work/Commute	9,095,396	8,464,492	-7%
College/University	674,228	1,043,351	55%
Other School	3,182,584	3,342,440	5%
Work-Based	2,146,148	1,404,485	-35%
Other	15,043,712	19,168,451	27%
<b>Total</b>	<b>30,142,068</b>	<b>33,423,219</b>	<b>11%</b>

<b>Share</b>	<b>MTC</b>	<b>SF-CHAMP</b>	<b>Difference in Share</b>
Work/Commute	30%	25%	-5%
College/University	2%	3%	1%
Other School	11%	10%	-1%
Work-Based	7%	4%	-3%
Other	50%	57%	7%

**Table 6 Total 2035 Trips, Projections 2009**

<b>Trips</b>	<b>MTC</b>	<b>SF-CHAMP</b>	<b>Percent Difference</b>
Work/Commute	10,509,848	9,836,303	-6%
College/University	585,372	1,039,171	78%
Other School	3,081,348	3,251,512	6%
Work-Based	2,530,990	1,642,653	-35%
Other	14,397,712	18,686,414	30%
<b>Total</b>	<b>31,105,270</b>	<b>34,456,053</b>	<b>11%</b>

<b>Share</b>	<b>MTC</b>	<b>SF-CHAMP</b>	<b>Difference in Share</b>
Work/Commute	34%	29%	-5%
College/University	2%	3%	1%
Other School	10%	9%	0%
Work-Based	8%	5%	-3%
Other	46%	54%	8%

## G. Activity/Trip Location

*Product 9 – Region-level tables comparing estimates of average trip distance by tour/trip purpose to MTC’s estimates for horizon year*

SF-CHAMP uses a primary destination choice model to identify the primary destination of all tours, then an intermediate stop model to identify any stops along the way. The results presented here are for the intermediate stop model, which is documented in the SF-CHAMP model documentation. While most trip purposes have very similar average trip distances between the two models, Other School is more than twice as long for SF-CHAMP compared to Travel Model One. One plausible explanation for this is that SF-CHAMP was estimated primarily with San Francisco data, where school assignment policies differ significantly from the Bay Area as a whole and frequently enroll students in schools that are not located in their home neighborhoods.

**Table 7 Mean Trip Distance in 2035, Current Regional Plans**

Average Trip Length	MTC	SF-CHAMP	Percent Difference
Work/Commute	10.40	12.8	23%
College/University	6.84	6.81	0%
Other School	3.96	8.94	126%
Work-Based	3.35	4.45	33%
Other	4.67	4.59	-2%
Total	6.25	6.58	5%

**Table 8 Mean Trip Distance in 2035, Projections 2009**

Average Trip Length	MTC	SF-CHAMP	Percent Difference
Work/Commute	10.33	12.4	20%
College/University	7.16	6.8	-5%
Other School	4.08	9.1	124%
Work-Based	3.32	4.4	33%
Other	4.78	4.6	-4%
Total	6.48	6.7	4%

*Product 10 – County-to-county comparison of journey-to-work or home-based work flow estimates to MTC’s estimates for the horizon year*

The SF-CHAMP workplace location choice model is documented in the SF-CHAMP model documentation. The comparison between Travel Model One and SF-CHAMP is made here between the *shares of the total commuter flow* as opposed to the raw commuter flow due to discrepancies in the total commuter flow between the two models (likely due to a difference in the population synthesizers). There is a vast amount of concurrence between the two models, with the notable exception of Alameda County residents commuting within Alameda County, which SF-CHAMP estimates at a higher number compared with Travel Model One. This trend is also evident, albeit with a lesser magnitude, across the intra-county corner diagonal. This is an interesting finding and is counter to the findings of the mean commute distance, which indicate that SF-CHAMP estimates a longer commute distance. It leads to the possible conclusion that part of the longer trip distances in SF-CHAMP could be explained by the increased level of network detail.

**Table 9 Journey to Work Share 2035, Current Regional Plans**

Share of Total Commuters										
SF-CHAMP										
Origin County	Destination County									Bay Area
	San Francisco	San Mateo	Santa Clara	Alameda	Contra Costa	Solano	Napa	Sonoma	Marin	
<b>San Francisco</b>	8.8%	1.3%	0.5%	0.6%	0.1%	0.0%	0.0%	0.1%	0.3%	11.7%
<b>San Mateo</b>	2.0%	5.7%	1.3%	0.4%	0.1%	0.0%	0.0%	0.0%	0.1%	9.6%
<b>Santa Clara</b>	0.4%	1.3%	22.4%	1.1%	0.1%	0.0%	0.0%	0.1%	0.0%	25.6%
<b>Alameda</b>	2.8%	1.2%	2.4%	14.9%	1.3%	0.1%	0.1%	0.1%	0.3%	23.2%
<b>Contra Costa</b>	1.6%	0.3%	0.4%	2.7%	8.5%	0.4%	0.2%	0.1%	0.3%	14.5%
<b>Solano</b>	0.2%	0.1%	0.1%	0.3%	0.6%	3.1%	0.4%	0.1%	0.2%	5.1%
<b>Napa</b>	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	1.2%	0.2%	0.1%	1.7%
<b>Sonoma</b>	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	5.3%	0.4%	6.2%
<b>Marin</b>	0.4%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	1.7%	2.5%
<b>Bay Area</b>	16.4%	10.1%	27.0%	20.2%	10.9%	3.9%	2.0%	6.1%	3.4%	100.0%

Difference from MTC										
SF-CHAMP										
Origin County	Destination County									Bay Area
	San Francisco	San Mateo	Santa Clara	Alameda	Contra Costa	Solano	Napa	Sonoma	Marin	
<b>San Francisco</b>	0.1%	0.0%	0.3%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%
<b>San Mateo</b>	0.0%	0.7%	-0.2%	-0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
<b>Santa Clara</b>	0.1%	-0.1%	0.4%	-0.6%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
<b>Alameda</b>	-0.1%	-0.5%	-0.8%	1.5%	-0.3%	0.0%	0.0%	0.1%	0.0%	-0.1%
<b>Contra Costa</b>	0.1%	-0.1%	-0.1%	-0.7%	0.9%	-0.1%	0.1%	0.0%	-0.1%	0.1%
<b>Solano</b>	0.0%	0.0%	0.0%	-0.1%	-0.2%	0.1%	-0.1%	0.0%	0.0%	-0.2%
<b>Napa</b>	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.1%	0.0%	0.0%	0.0%
<b>Sonoma</b>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	-0.1%	0.0%
<b>Marin</b>	-0.1%	0.0%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.3%	0.0%
<b>Bay Area</b>	0.0%	0.1%	-0.3%	-0.5%	0.2%	0.0%	0.2%	0.3%	0.0%	0.0%

**Table 10 Journey to Work Share 2035, Projections 2009**

Share of Total Commuters										
SF-CHAMP	Destination County									
Origin County	San Francisco	San Mateo	Santa Clara	Alameda	Contra Costa	Solano	Napa	Sonoma	Marin	Bay Area
San Francisco	8.6%	1.2%	0.4%	0.6%	0.1%	0.0%	0.0%	0.1%	0.2%	11.4%
San Mateo	2.0%	5.9%	1.3%	0.4%	0.1%	0.0%	0.0%	0.1%	0.1%	9.8%
Santa Clara	0.4%	1.2%	23.0%	1.1%	0.1%	0.0%	0.0%	0.1%	0.0%	26.1%
Alameda	2.7%	1.1%	2.1%	14.8%	1.4%	0.1%	0.1%	0.1%	0.2%	22.7%
Contra Costa	1.6%	0.3%	0.3%	2.7%	8.7%	0.4%	0.2%	0.1%	0.3%	14.7%
Solano	0.2%	0.1%	0.1%	0.3%	0.6%	3.3%	0.3%	0.2%	0.1%	5.2%
Napa	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	1.1%	0.2%	0.0%	1.6%
Sonoma	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	5.3%	0.3%	5.9%
Marin	0.4%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.2%	1.8%	2.6%
Bay Area	16.2%	10.0%	27.2%	20.0%	11.1%	4.0%	1.8%	6.4%	3.2%	100.0%

Difference from MTC	Destination County									
Origin County	San Francisco	San Mateo	Santa Clara	Alameda	Contra Costa	Solano	Napa	Sonoma	Marin	Bay Area
San Francisco	0.1%	-0.1%	0.3%	-0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%
San Mateo	0.0%	0.8%	-0.4%	-0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Santa Clara	0.2%	-0.1%	0.4%	-0.6%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Alameda	-0.1%	-0.4%	-0.9%	1.6%	-0.4%	0.0%	0.0%	0.1%	-0.1%	0.0%
Contra Costa	0.1%	-0.1%	-0.1%	-0.7%	1.0%	-0.1%	0.0%	0.1%	-0.1%	0.0%
Solano	0.0%	0.0%	0.0%	-0.1%	-0.2%	0.1%	-0.1%	0.0%	0.0%	-0.2%
Napa	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.2%	0.0%	0.0%	0.0%
Sonoma	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.1%	0.0%	0.0%
Marin	-0.1%	0.0%	0.0%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.3%	0.0%
Bay Area	0.1%	0.1%	-0.7%	-0.5%	0.3%	0.0%	0.1%	0.4%	0.1%	0.0%

## H. Mode Choice

*Product 11 – Region-level tables comparing travel mode share estimates by tour/trip purpose to MTC’s estimates for the horizon year*

The San Francisco Model uses its own mode choice models, described in the CHAMP-4 Documentation. SF-CHAMP seems to consistently predict a higher rate of driving when compared with Travel Model One. This is likely in part to the higher projected rate of auto ownership that was summarized earlier.

**Table 11 Mode Choice 2035, Current Regional Plans**

<b>MTC</b>	Auto	Walk	Bicycle	Transit
Work/Commute	81.8%	5.3%	1.5%	11.3%
College/University	63.7%	13.8%	1.3%	21.2%
Other School	69.6%	20.7%	1.6%	8.1%
Work-Based	69.4%	29.3%	0.7%	0.6%
Other	86.7%	10.1%	1.1%	2.1%
Total	81.7%	11.2%	1.3%	5.8%

<b>SF-CHAMP</b>	Auto	Walk	Bicycle	Transit
Work/Commute	84.9%	2.4%	2.0%	10.7%
College/University	72.9%	10.4%	1.2%	15.5%
Other School	78.9%	12.8%	1.2%	7.1%
Work-Based	75.8%	23.0%	0.5%	0.7%
Other	91.9%	4.7%	1.1%	2.4%
Total	87.6%	5.9%	1.3%	5.3%

<b>Difference from MTC</b>	Auto	Walk	Bicycle	Transit
Work/Commute	3.1%	-2.9%	0.5%	-0.7%
College/University	9.3%	-3.4%	-0.2%	-5.6%
Other School	9.3%	-7.9%	-0.4%	-1.0%
Work-Based	6.4%	-6.3%	-0.3%	0.1%
Other	5.1%	-5.4%	-0.1%	0.3%
Total	5.9%	-5.3%	0.0%	-0.5%



**Table 12 Mode Choice 2035, Projections 2009**

<b>MTC</b>	Auto	Walk	Bicycle	Transit
Work/Commute	80.7%	5.7%	1.6%	11.9%
College/University	63.8%	13.2%	1.3%	21.7%
Other School	69.7%	20.1%	1.4%	8.9%
Work-Based	68.0%	30.6%	0.7%	0.7%
Other	86.3%	10.1%	1.2%	2.4%
Total	80.9%	11.4%	1.3%	6.5%

<b>SF-CHAMP</b>	Auto	Walk	Bicycle	Transit
Work/Commute	84.9%	2.4%	2.0%	10.7%
College/University	72.9%	10.4%	1.2%	15.5%
Other School	78.9%	12.8%	1.2%	7.1%
Work-Based	75.8%	23.0%	0.5%	0.7%
Other	91.9%	4.7%	1.1%	2.4%
Total	87.6%	5.9%	1.3%	5.3%

<b>Difference from MTC</b>	Auto	Walk	Bicycle	Transit
Work/Commute	4.2%	-3.3%	0.4%	-1.2%
College/University	9.2%	-2.8%	-0.2%	-6.2%
Other School	9.3%	-7.3%	-0.2%	-1.7%
Work-Based	7.8%	-7.6%	-0.2%	0.0%
Other	5.5%	-5.4%	-0.1%	0.0%
Total	6.7%	-5.5%	0.0%	-1.2%

## 8. Highway Assignment

*Product 12 – Region-level, time-period-specific comparison of vehicle miles traveled and vehicle hours traveled estimates by facility type to MTC’s estimates for the horizon year.*

*Product 13 – Region-level, time-period-specific comparison of estimated average speed on freeways and all other facilities, separately, to MTC’s estimates for the horizon year.*

Highway assignments are processed within the Cube/Voyager software environment for each of the five time periods. The time of day volume adjustment factor reduces the assigned link volume for the whole time period to an expected hourly volume for the purpose of relating volume to capacity in the congested travel time functions. The values were derived from total observed link counts during the busiest hour of the time period divided by total observed link counts over the entire time period. These values do not have to strictly adhere to the above definition, since obviously a typical hour is not the busiest hour. In addition, turn penalties and tow-away lanes are coded specific to each time period.

Vehicles are assigned to one of twelve user classes based on auto occupancy, vehicle type, and whether the vehicle *will not* pay a value-toll, *will* pay a value-toll, or *has already paid* a value toll in an area-based congestion pricing situation :

1. **Drive Alone, No Value Toll**
2. **Shared-Ride Two, No Value Toll**
3. **Shared-Ride Three-Plus, No Value Toll**
4. **Drive Alone, Value Toll**
5. **Shared-Ride Two, Value Toll**
6. **Shared-Ride Three-Plus, Value Toll**
7. **Drive Alone, Already Paid Value Toll**
8. **Shared-Ride Two, Already Paid Value Toll**
9. **Shared-Ride Three-Plus, Already Paid Value Toll**
10. **Truck, No Value Toll**
11. **Truck, Value Toll**
12. **Truck, Already Paid Value Toll**

Link impedance is defined as a generalized cost by four classes. The generalized cost is a function of the congested link travel time in minutes, the value of time, toll cost in cents, auto operating cost, and vehicle occupancy. The value of time is assumed to be \$30 per hour for trucks, and \$15 per hour for autos. Highway assignment iterations are run until the relative gap is less than 0.005.

Table 13 through Table 18 summarize the highway assignment results from SF-CHAMP are summarized and compared with Travel Model One. It should be noted that Travel Model One has a four-hour peak period for both the morning and afternoon, while SF-CHAMP only has a three-hour peak. The tables below reflect that difference as expected. Overall, SF-CHAMP shows slightly more vehicle miles travelled (VMT) and more congested vehicle operating speeds. SF-CHAMP should have more VMT since it has a more detailed travel network. Moreover, the part of the network that is more detailed in SF-CHAMP is the city streets, which are the most likely to operate at slower speeds. The summary tables also highlight a possible discrepancy in the facility type designation used in SF-CHAMP versus that used on Travel Model One.

**Table 13 Vehicle Miles Traveled 2035, Current Regional Plans**

<b>MTC</b>	<b>Facility Type</b>					<b>All Facilities</b>
	<b>Freeways</b>	<b>Expressways</b>	<b>Major Arterials</b>	<b>Collectors</b>	<b>Other</b>	
Early AM	5,504,092	544,464	1,158,156	381,730	354,247	7,942,689
AM Peak (4 Hr)	26,675,579	2,918,973	9,919,154	3,048,868	3,437,135	45,999,709
Midday	26,067,097	3,063,934	10,925,935	3,047,571	4,407,032	47,511,570
PM Peak (4 Hr)	28,630,722	3,380,237	12,261,677	3,558,105	4,461,626	52,292,367
Evening	17,572,988	1,820,157	5,900,622	1,744,592	2,237,126	29,275,485
Daily	104,450,478	11,727,765	40,165,545	11,780,866	14,897,167	183,021,820

<b>SF-CHAMP</b>	<b>Facility Type</b>					<b>All Facilities</b>
	<b>Freeways</b>	<b>Expressways</b>	<b>Major Arterials</b>	<b>Collectors</b>	<b>Other</b>	
Early AM	4,186,474	616,059	807,028	279,256	278,271	6,167,088
AM Peak (3 Hr)	20,385,756	3,379,979	7,888,894	2,682,861	1,774,731	36,112,220
Midday	38,365,611	6,359,490	14,765,663	5,136,927	3,627,858	68,255,549
PM Peak (3 Hr)	22,338,172	3,990,081	10,723,710	3,776,704	2,202,694	43,031,361
Evening	23,929,610	3,974,502	8,174,215	2,934,349	2,276,226	41,288,902
Daily	109,205,623	18,320,112	42,359,510	14,810,096	10,159,780	194,855,121

<b>Percent Difference</b>	<b>Facility Type</b>					<b>All Facilities</b>
	<b>Freeways</b>	<b>Expressways</b>	<b>Major Arterials</b>	<b>Collectors</b>	<b>Other</b>	
Early AM	-24%	13%	-30%	-27%	-21%	-22%
AM Peak	-24%	16%	-20%	-12%	-48%	-21%
Midday	47%	108%	35%	69%	-18%	44%
PM Peak	-22%	18%	-13%	6%	-51%	-18%
Evening	36%	118%	39%	68%	2%	41%
Daily	5%	56%	5%	26%	-32%	6%

**Table 14 Vehicle Hours Traveled 2035, Current Regional Plans**

Time Period	Facility Type					All Facilities
	Freeways	Expressways	Major Arterials	Collectors	Other	
Early AM	90,089	11,137	34,596	13,125	22,837	171,784
AM Peak (4 Hr)	565,113	69,017	331,877	119,925	208,660	1,294,591
Midday	461,465	65,853	357,347	118,317	254,178	1,257,160
PM Peak (4 Hr)	600,243	80,725	419,721	147,321	256,638	1,504,646
Evening	294,320	37,677	183,263	61,581	129,425	706,267
Daily	2,011,229	264,408	1,326,803	460,269	871,738	4,934,448

Time Period	Facility Type					All Facilities
	Freeways	Expressways	Major Arterials	Collectors	Other	
Early AM	70,287	11,212	42,106	16,862	11,600	152,067
AM Peak (3 Hr)	604,853	97,918	488,080	203,375	100,673	1,494,899
Midday	891,546	154,109	853,516	337,055	182,820	2,419,046
PM Peak (3 Hr)	690,090	123,970	722,795	342,912	132,374	2,012,141
Evening	419,389	83,651	445,699	181,174	106,242	1,236,155
Daily	2,676,166	470,860	2,552,197	1,081,378	533,709	7,314,309

Time Period	Facility Type					All Facilities
	Freeways	Expressways	Major Arterials	Collectors	Other	
Early AM	-22%	1%	22%	28%	-49%	-11%
AM Peak	7%	42%	47%	70%	-52%	15%
Midday	93%	134%	139%	185%	-28%	92%
PM Peak	15%	54%	72%	133%	-48%	34%
Evening	42%	122%	143%	194%	-18%	75%
Daily	33%	78%	92%	135%	-39%	48%

**Table 15 Average Speed (mph) 2035, Current Regional Plans**

Time Period	Facility Type					All Facilities
	Freeways	Expressways	Major Arterials	Collectors	Other	
Early AM	61	49	33	29	16	46
AM Peak (4 Hr)	47	42	30	25	16	36
Midday	56	47	31	26	17	38
PM Peak (4 Hr)	48	42	29	24	17	35
Evening	60	48	32	28	17	41
Daily	52	44	30	26	17	37

Time Period	Facility Type					All Facilities
	Freeways	Expressways	Major Arterials	Collectors	Other	
Early AM	60	55	19	17	24	41
AM Peak (3 Hr)	34	35	16	13	18	24
Midday	43	41	17	15	20	28
PM Peak (3 Hr)	32	32	15	11	17	21
Evening	57	48	18	16	21	33
Daily	41	39	17	14	19	27

Time Period	Facility Type					All Facilities
	Freeways	Expressways	Major Arterials	Collectors	Other	
Early AM	-3%	12%	-43%	-43%	55%	-12%
AM Peak	-29%	-18%	-46%	-48%	7%	-32%
Midday	-24%	-11%	-43%	-41%	14%	-25%
PM Peak	-32%	-23%	-49%	-54%	-4%	-38%
Evening	-4%	-2%	-43%	-43%	24%	-19%
Daily	-21%	-12%	-45%	-46%	11%	-28%

**Table 16 Vehicle Miles Traveled 2035, Projections 2009**

MTC Time Period	Facility Type					All Facilities
	Freeways	Expressways	Major Arterials	Collectors	Other	
Early AM	5,983,210	575,266	1,246,569	408,982	384,853	8,598,880
AM Peak (4 Hr)	28,812,866	3,156,321	10,769,575	3,350,577	3,608,840	49,698,178
Midday	27,622,110	3,142,869	11,197,707	3,118,012	4,450,343	49,531,040
PM Peak (4 Hr)	30,425,475	3,580,714	13,088,378	3,809,172	4,582,817	55,486,556
Evening	19,280,230	1,929,834	6,211,939	1,841,011	2,340,853	31,603,867
Daily	112,123,890	12,385,004	42,514,168	12,527,754	15,367,706	194,918,522

SF-CHAMP Time Period	Facility Type					All Facilities
	Freeways	Expressways	Major Arterials	Collectors	Other	
Early AM	4,549,157	661,525	874,075	304,111	305,433	6,694,301
AM Peak (3 Hr)	21,558,052	3,625,719	8,763,732	2,974,930	1,896,118	38,818,552
Midday	40,094,330	6,578,203	15,385,862	5,309,175	3,784,228	71,151,798
PM Peak (3 Hr)	23,268,681	4,164,988	11,371,377	3,964,987	2,299,612	45,069,644
Evening	25,190,612	4,112,501	8,463,876	3,025,250	2,391,288	43,183,526
Daily	114,660,832	19,142,935	44,858,921	15,578,454	10,676,678	204,917,821

Percent Difference Time Period	Facility Type					All Facilities
	Freeways	Expressways	Major Arterials	Collectors	Other	
Early AM	-24%	15%	-30%	-26%	-21%	-22%
AM Peak	-25%	15%	-19%	-11%	-47%	-22%
Midday	45%	109%	37%	70%	-15%	44%
PM Peak	-24%	16%	-13%	4%	-50%	-19%
Evening	31%	113%	36%	64%	2%	37%
Daily	2%	55%	6%	24%	-31%	5%

**Table 17 Vehicle Hours Traveled 2035, Projections 2009**

Time Period	Facility Type					All Facilities
	Freeways	Expressways	Major Arterials	Collectors	Other	
Early AM	90,089	11,137	34,596	13,125	22,837	171,784
AM Peak (4 Hr)	565,113	69,017	331,877	119,925	208,660	1,294,591
Midday	461,465	65,853	357,347	118,317	254,178	1,257,160
PM Peak (4 Hr)	600,243	80,725	419,721	147,321	256,638	1,504,646
Evening	294,320	37,677	183,263	61,581	129,425	706,267
Daily	2,011,229	264,408	1,326,803	460,269	871,738	4,934,448

Time Period	Facility Type					All Facilities
	Freeways	Expressways	Major Arterials	Collectors	Other	
Early AM	76,036	12,109	45,608	18,369	12,824	164,944
AM Peak (3 Hr)	690,865	111,116	555,601	301,744	117,367	1,776,693
Midday	972,141	162,172	888,031	360,154	196,049	2,578,547
PM Peak (3 Hr)	761,093	134,751	773,671	506,745	145,052	2,321,313
Evening	442,119	87,493	460,434	188,671	113,612	1,292,329
Daily	2,942,254	507,640	2,723,343	1,375,684	584,905	8,133,827

Time Period	Facility Type					All Facilities
	Freeways	Expressways	Major Arterials	Collectors	Other	
Early AM	-16%	9%	32%	40%	-44%	-4%
AM Peak	22%	61%	67%	152%	-44%	37%
Midday	111%	146%	149%	204%	-23%	105%
PM Peak	27%	67%	84%	244%	-43%	54%
Evening	50%	132%	151%	206%	-12%	83%
Daily	46%	92%	105%	199%	-33%	65%



**Table 18 Average Speed (mph) 2035, Projections 2009**

Time Period	Facility Type					All Facilities
	Freeways	Expressways	Major Arterials	Collectors	Other	
Early AM	66	52	36	31	17	50
AM Peak (4 Hr)	51	46	32	28	17	38
Midday	60	48	31	26	18	39
PM Peak (4 Hr)	51	44	31	26	18	37
Evening	66	51	34	30	18	45
Daily	56	47	32	27	18	40

Time Period	Facility Type					All Facilities
	Freeways	Expressways	Major Arterials	Collectors	Other	
Early AM	60	55	19	17	24	41
AM Peak (3 Hr)	31	33	16	10	16	22
Midday	41	41	17	15	19	28
PM Peak (3 Hr)	31	31	15	8	16	19
Evening	57	47	18	16	21	33
Daily	39	38	16	11	18	25

Time Period	Facility Type					All Facilities
	Freeways	Expressways	Major Arterials	Collectors	Other	
Early AM	-10%	6%	-47%	-47%	41%	-19%
AM Peak	-39%	-29%	-51%	-65%	-7%	-43%
Midday	-31%	-15%	-45%	-44%	10%	-30%
PM Peak	-40%	-30%	-53%	-70%	-11%	-47%
Evening	-13%	-8%	-46%	-46%	16%	-25%
Daily	-30%	-19%	-49%	-58%	4%	-36%

## **APPENDIX 15:**

### **San Francisco Board of Supervisors Resolution Adopting Infill Opportunity Zone**

1 [Resolution establishing Infill Opportunity Zones for Congestion Management Planning in the  
2 City and County of San Francisco under California Government Code Section 65088.]

3  
4 **Resolution establishing Infill Opportunity Zones for Congestion Management Planning**  
5 **in the City and County of San Francisco under California Government Code Section**  
6 **65088.**

7  
8 WHEREAS, State Senate Bill 1636 ("SB 1636") allows local jurisdictions to designate  
9 eligible areas as Infill Opportunity Zones ("IOZs") so that Congestion Management Program  
10 ("CMP") requirements better support local land use and transportation policies, pursuant to  
11 California Government Code Section 65088.4; and

12 WHEREAS, The San Francisco County Transportation Authority ("Authority") and the  
13 City and County of San Francisco ("City") seek to reform the City's approach to analyzing  
14 transportation impacts pursuant to the California Environmental Quality Act ("CEQA"), to  
15 better support local land use and transportation polices, by measuring Automobile Trips  
16 Generated ("ATG") rather than Level of Service ("LOS"); and

17 WHEREAS, The adoption of an IOZ in the City would provide strong support for the  
18 Authority and the City's effort to replace LOS with ATG for CEQA transportation impact  
19 purposes; and

20 WHEREAS, The adoption of an IOZ in the City would allow the Authority, as  
21 Congestion Management Agency ("CMA"), to better support the City's Transit First Policy,  
22 land use planning efforts, compact land use pattern, and multimodal transportation system  
23 through CMP practices; and

24 WHEREAS, SB 1636 requires that any IOZ designation be made no later than  
25 December 31, 2009; and

1           WHEREAS, The IOZ designation is consistent with the San Francisco General Plan  
2 ("General Plan") because: (1) it will further the goals of the City's Transit First Policy as  
3 articulated in General Plan; (2) it will directly support policy objectives of the General Plan,  
4 including, but not limited to, Objectives 1, 2, 3, 10, 11, 12, 14, 15, 18, and 19 of the  
5 Transportation Element; and (3) it will compliment City efforts to promote infill housing and  
6 mixed-use commercial developments in proximity to multimodal transportation infrastructure;  
7 and

8           WHEREAS, The Board of Supervisors finds the City to be eligible for IOZ designation  
9 in the area identified by the Authority in the IOZ Map ("IOZ Map") on file with the Clerk of the  
10 Board of Supervisors in File No. 091335 , which is hereby declared to be a part of this  
11 motion as if set forth fully herein; and

12           WHEREAS, The Board of Supervisors' eligibility findings are supported by analysis  
13 conducted by Authority staff, which is on file with the Clerk of the Board of Supervisors in File  
14 No. 091335 , and which is hereby declared to be a part of this motion as if set forth fully  
15 herein; now, therefore, be it

16  
17           RESOLVED, That the Board of Supervisors finds that the IOZ designation is, on  
18 balance, consistent with the General Plan; and be it

19           FURTHER RESOLVED, That the eligible portion of the City identified by the Authority  
20 in the IOZ Map is hereby designated an IOZ within the meaning of California Government  
21 Code Section 65088.



City and County of San Francisco

Tails  
Resolution

City Hall  
1 Dr. Carlton B. Goodlett Place  
San Francisco, CA 94102-4689

File Number: 091335

Date Passed: December 08, 2009

Resolution establishing Infill Opportunity Zones for Congestion Management Planning in the City and County of San Francisco under California Government Code Section 65088.

December 08, 2009 Board of Supervisors - ADOPTED

Ayes: 11 - Alioto-Pier, Avalos, Campos, Chiu, Chu, Daly, Dufty, Elsbernd, Mar, Maxwell and Mirkarimi

File No. 091335

I hereby certify that the foregoing Resolution was ADOPTED on 12/8/2009 by the Board of Supervisors of the City and County of San Francisco.

18 December 2009  
Date Approved

Angela Calvillo  
Angela Calvillo  
Clerk of the Board

[Signature]  
Mayor Gavin Newsom