TRANSPORTATION-AIR QUALITY CONFORMITY ANALYSIS

Plan BayArea 2040

DRAFT SUPPLEMENTAL REPORT

Metropolitan Transportation Commission

Association of Bay Area Governments

MARCH 2020

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Plan Bay Area 2040:

Draft Transportation-Air Quality Conformity Analysis for Amended Plan Bay Area 2040 and Amended 2019 Transportation Improvement Program

March 2020

METROPOLITAN TRANSPORTATION COMMISSION

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I. Introduction

The Metropolitan Transportation Commission (MTC) prepares a transportation-air quality conformity analysis ("conformity analysis") when it amends or updates its Regional Transportation Plan (RTP), and/or updates its Transportation Improvement Program (TIP), or adds or deletes regionally significant, non-exempt projects into the TIP.

The purpose of this conformity analysis is to conform the Amended RTP ("Plan Bay Area 2040") and to conform the 2019 TIP in accordance with the latest U.S. Environmental Protection Agency (EPA) transportation conformity regulations and the Bay Area Conformity State Implementation Plan (Conformity SIP), which is also known as the Bay Area Air Quality Conformity Protocol (MTC Resolution No. 3757). This conformity analysis addresses the 2008 and 2015 national ambient air quality standard (NAAQS) for 8-hour ozone and the 2006 national 24-hour fine particulate matter ($PM_{2.5}$) standard.

This report explains the basis for the conformity analysis and provides the results used by MTC to make a positive conformity finding for the Amended Plan Bay Area 2040 and the 2019 Amended TIP. This conformity analysis also serves to re-conform the Amended Plan Bay Area 2040 and 2019 TIP for the federal 2015 ozone NAAQS.

Purpose of Conformity Analysis

The Federal Clean Air Act, as amended in 1990 (CAAA) outlines requirements for ensuring that federal transportation plans, programs, and projects are consistent with ("conform to") the purpose of the SIP. Conformity to the purpose of the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant national ambient air quality standards. A conformity finding demonstrates that the total emissions projected for a transportation plan ("RTP") or program ("TIP") are within the emissions limits ("budgets") established by the SIP, and that transportation control measures (TCMs) are implemented in a timely fashion.

Conformity requirements apply in all non-attainment and maintenance areas for transportation-related criteria pollutants and related precursor emissions. For the Bay Area, the criteria pollutants to be addressed are ground-level ozone, carbon monoxide, and PM2.5; and the precursor pollutants to be addressed include volatile organic compounds (VOC) and oxides of nitrogen (NOX) for ozone and for PM2.5. EPA's most recent revisions to its transportation conformity regulations to implement the 1990 Federal Clean Air Act section 176 were published in the Federal Register on March 14, 2012[1].

Metropolitan Planning Organizations (MPOs) such as MTC are required to follow these regulations, and any other procedures and criteria contained in the EPA-approved Conformity SIP (Transportation-Air Quality Conformity Protocol) for the Bay Area. In the Bay Area, procedures were first adopted in September 1994 to comply with the 1990 CAAA. Four subsequent amendments to the transportation conformity procedures in August 1995, November 1995, August 1997, and July 2006 have been adopted by the three co-lead agencies (MTC, Association of Bay Area Governments (ABAG), and Bay Area Air Quality Management District (BAAQMD)). MTC Resolution 3757 represents the latest San Francisco Bay Area Transportation-Air Quality Conformity Protocol adopted by the three agencies in July 2006. Acting on behalf of the three agencies, the BAAQMD submitted this latest Protocol to California Air Resources Board (CARB) as a revision to the Bay Area Conformity SIP. CARB approved this proposed revision to the

[1] The current version of the regulations is available on EPA's Transportation Conformity website at: https://www.epa.gov/state-and-local-transportation/current-law-regulations-and-guidance-state-and-local-transportation

Figure 1: Map of the Non-Attainment Area for the San Francisco Bay Area

Bay Area's Conformity SIP in December 2006 and transmitted it to EPA for final action. EPA approved the Bay Area Conformity SIP in December 2007 (40 CFR Part 52).

These regulations and resolutions state in part that, MTC cannot approve any transportation plan, program, or project unless these activities conform to the purpose of the federal air quality plan. "Transportation plan" refers to the RTP. "Program" refers to the TIP, which is a financially realistic set of highway and transit projects to be funded over the next four years. A "transportation project" is any highway or transit improvement, which is included in the RTP and TIP and requires funding or approval from the Federal Highway Administration (FHWA) or the Federal Transit Administration (FTA). Conformity regulations also affect regionally significant non-federally funded projects which must be included in a conforming transportation plan ("RTP") and program ("TIP").

Status of Regional Transportation Plan

A regional transportation plan, or RTP, is a plan which includes both long-range and short-range strategies and 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. State law requires that RTP's include a Sustainable Communities Strategy (SCS) to identify a forecasted land use development pattern that when integrated with the future transportation system will meet the region's greenhouse gas reduction target set by CARB. As required by federal and state planning regulations, the RTP covers a minimum planning horizon of 20 years and is updated every four years in areas which do not meet federal air quality standards ("non-attainment"). The RTP is financially constrained to ensure project costs do not exceed regionally expected transportation revenues over the planning horizon. Once adopted, the RTP guides the development of the TIP for the region.

The San Francisco Bay Area's RTP/SCS-Plan Bay Area 2040 ("the Plan")- was originally adopted in July 2017 and is an update to Plan Bay Area (2013). Plan Bay Area 2040 sets forth a strategic investment strategy to maintain existing transportation infrastructure, service, and system performance for Bay Area travelers through horizon year 2040. It includes a regional transportation investment strategy and subsequent list of highway, transit, local roadway, bicycle, and pedestrian projects identified through regional and local transportation planning processes. In addition, Plan Bay Area 2040 includes a focused growth land use pattern designed to reduce passenger vehicle travel to achieve the region's greenhouse gas reduction target set by CARB.

Starting with the current state of the region, Plan Bay Area 2040 describes its goals, a proposed growth pattern and supporting transportation investment strategy, and key actions needed to address ongoing and long-term regional challenges. The Plan also includes supplemental reports for additional details. These documents and the adopted Plan can be found at http://2040.planbayarea.org/reports.

In March 2018, MTC and ABAG amended Plan Bay Area 2040 to modify the scope and project cost of the U.S. Highway 101 Managed Lanes Project in San Mateo County (RTPID 17-06-0007). The amendment aligned the Plan's project assumptions to those of the preferred alternative in the project's Environmental Impact Report (EIR). The Commission approved the Transportation-Air Quality Conformity Analysis for Amended Plan Bay Area 2040 and Amended 2017 Transportation Improvement Program on March 28, 2018 (MTC Resolution No. 4325). The FHWA and FTA approved MTC's conformity determination for the Amended Plan Bay Area 2040 and the Amended 2017 TIP on May 17, 2018.

MTC and ABAG propose a second amendment to Plan Bay Area 2040 to add the project scope and cost of the Interstate 680 Express Lanes Gap Closure Project in Alameda County. The project will add an express lane to the southbound and northbound travel lanes of Interstate 680 between Alcosta Boulevard and State Route 84, closing the gap between existing and in-progress express lane projects directly to the north and south.

This conformity analysis will serve to demonstrate that the Amended Plan Bay Area 2040 conforms to the SIP. Refer to Appendix B for a detailed list of projects included in the Amended Plan Bay Area 2040.

Status of Transportation Improvement Program

The federally required transportation improvement program, or TIP, is a comprehensive listing of surface transportation projects for the San Francisco Bay Area that receive federal funds, are subject to a federally required action, or are regionally significant. MTC, as the federally designated MPO, prepares and adopts the TIP at least once every four years. The TIP covers a four-year period and must be financially constrained by year, meaning that the amount of dollars committed to the projects (also referred as "programmed") must not exceed the amount of dollars estimated to be available. Adoption of the TIP must be accompanied by an air quality conformity analysis and finding, and all projects included in the TIP must be derived from and/or be consistent with the RTP. MTC prepared and completed the Transportation Air Quality Conformity Analysis for the Amended Plan Bay Area 2040 and the 2019 Amended TIP, which was approved by the Commission in September 2018. FHWA and FTA issued joint approval of this conformity determination in December 2018.

The 2019 Amended TIP contains approximately 800 projects totaling about $15.5 billion over the four-year period from fiscal year 2018-19 to 2021-22. The I-680 Express Lanes Gap Closure Project is now being revised in the TIP through TIP Amendment 2019-38 to be consistent with the changes included in the Amended Plan Bay Area 2040.

The I-680 Express Lanes Gap Closure project as proposed in the Amended Plan Bay Area 2040 is expected to be completed outside the analysis years of the Amended 2019 TIP timeframe. This conformity analysis serves to conform the 2019 TIP as amended through TIP Amendment 2019-38 and the Amended Plan Bay Area 2040.

Refer to Appendix A1 for a detailed listing of projects/programs in the 2019 Amended TIP. Note that specific funding sources are identified in the TIP itself. Appendix A2 list the projects in the 2019 Amended TIP with updated conformity analysis years.

II. Bay Area Air Pollutant Designations

National 1-Hour Ozone Standard

The Bay Area was initially designated as nonattainment for ozone on March 3, 1978. On November 6, 1991, the EPA designated the Bay Area as a moderate ozone non-attainment area. Based on "clean" air monitoring data from 1990 to 1992, the co-lead agencies—BAAQMD, MTC, and ABAG— determined that the Bay Area was attaining the 1-hour ozone standard and requested that CARB forward a re-designation request and an ozone maintenance plan to EPA.

On May 25, 1995, after evaluating 1990-1992 monitoring data and determining that the Bay Area had continued to attain the standard, the EPA re-designated the Bay Area as an ozone maintenance area. Shortly thereafter, the area began violating the standard again and on July 10, 1998, the EPA published a

Notice of Final Rulemaking re-designating the Bay Area back to an ozone non-attainment area. This action became effective on August 10, 1998.

The re-designation to nonattainment triggered an obligation for the State to submit a SIP revision designed to provide for attainment of the 1-hour ozone NAAQS by November 15, 2000. This revision (the San Francisco Bay Area Ozone Attainment Plan for the 1-hour National Ozone Standard – June 1999 or "1999 Plan") was partially approved and partially disapproved by EPA on September 20, 2001 in conjunction with a determination that the area had failed to attain by the November 2000 deadline. The attainment demonstration and its associated motor vehicle emissions budgets were among the plan elements that were disapproved.

As a result of the EPA's finding of failure to attain and partial disapproval of the 1999 Plan, the State was required to submit a SIP revision for the Bay Area to EPA by September 20, 2002 that included an updated volatile organic compounds (VOC) and nitrogen oxides (NOX) emissions inventory, new transportation conformity budgets, and provided for attainment of the 1-hour ozone standard no later than September 20, 2006. On November 1, 2001, CARB approved the San Francisco Bay Area 2001 Ozone Attainment Plan for the 1-Hour National Ozone Standard (2001 Plan) as a revision to the SIP. The BAAQMD and its co-lead agencies, (MTC and ABAG) adopted the 2001 Plan on October 26, 2001.

The 2001 Plan contains a control strategy with seven stationary source measures, five transportation control measures (TCMs), and eleven further-study measures. In the 2001 Plan, the District also committed to strengthening the then existing Smog Check program by requesting the State Bureau of Automotive Repair to implement two VOC-reducing program elements. The new measures and on-going programs provided 271 tons per day of combined VOC and NOx emission reductions between 2000 and 2006. The 2001 Plan also included an attainment assessment based on Bay Area data.

On November 30, 2001, ARB submitted the 2001 Plan, which included VOC and NOx motor vehicle emissions budgets (164.0 tons per day (tpd) and 270.3 tpd, respectively) for the 2006 attainment year, to EPA for approval as a revision to the California SIP. To support the on-road motor vehicle emission inventory and transportation conformity budgets in the Plan, CARB also transmitted the San Francisco Bay Area-EMFAC2000 model to EPA for approval for the Bay Area ozone non-attainment area. On February 14, 2002, the EPA found the motor vehicle emissions budgets in the 2001 Plan adequate for transportation conformity purposes, based on its preliminary determination that the plan provided for timely attainment of the 1-hour ozone standard.

On April 22, 2004, based on air quality monitoring data from the 2001, 2002, and 2003 ozone season, EPA determined that Bay Area had attained the national 1-hour ozone standard. Because of this determination, requirements for some of the elements of the 2001 Ozone Attainment Plan, submitted to EPA to demonstrate attainment of the 1-hour standard, were suspended. The determination of attainment did not mean the Bay Area had been re-designated as an attainment area for the 1-hour standard. To be re-designated, the region would have had to submit a formal re-designation request to EPA, along with a maintenance plan showing how the region would continue to attain the standard for ten years. However, this re-designation request was no longer necessary upon the establishment of the new national 8-hour ozone standard.

National 8-Hour Ozone Standard

In July 1997, EPA revised the ozone standard, setting it to 80 parts per billion (ppb) in concentration-based specifically on the 3-year average of the annual 4th highest daily maximum 8-hour ozone

concentrations. In April 2004, EPA issued final designations for attainment and non-attainment areas. In June 2004, EPA formally designated the Bay Area as a non-attainment area for national 8-hour ozone and classified the region as "marginal" based on five classes of non-attainment areas for ozone, ranging from marginal to extreme.

In March 2008, EPA lowered the national 8-hour ozone standard from 80 ppb to 75 ppb. On March 12, 2009, CARB submitted its recommendations for area designations for the revised national 8-hour ozone standard. These recommendations were based on ozone air quality data collected during 2006 through 2008. The CARB recommended that the Bay Area be designated as non-attainment for the national 8-hour ozone standard. EPA had one year to review the recommendations and were to notify states by November 12, 2009, if they planned to modify the state-recommended areas. EPA issued final designations by March 12, 2010, based on more up to date monitoring data.

On October 1, 2015, EPA strengthened the NAAQS for ground-level ozone to 70 ppb, based on extensive scientific evidence about ozone's effects on public health and welfare. The updated standards will improve public health protection, particularly for at-risk groups including children, older adults, people of all ages who have lung diseases such as asthma, and people who are active outdoors, especially outdoor workers. They also will improve the health of trees, plants and ecosystems. The proposed implementation rule for the 2015 ozone standard was published November 17, 2016 and proposed a framework for nonattainment area classifications and SIP requirements. In addition, the proposed rule follows the approach adopted for the previous Classifications Rule and SIP Requirements Rule (SRR) for the 2008 ozone NAAQS.

In September 2016, CARB recommended to EPA that the San Francisco Bay Area be designated in nonattainment for the 70 ppb 2015 ozone NAAQS. EPA concurred with CARB's recommendation and on April 30, 2018, EPA completed area designations for most of the United States (including the San Francisco Bay Area). On June 4, 2018, EPA published a final rule that designated 51 areas as nonattainment for the 2015 ozone NAAQS. These final designations took effect on August 3, 2018, 60 days after the notice was published in the *Federal Register*. Nonattainment areas must demonstration conformity of transportation plans and transportation improvement programs (TIPs) to the 2015 ozone NAAQS by August 3, 2019[2], the end of the grace period.

In addition, because marginal 8-hour ozone areas are not required to submit an attainment demonstration SIP (containing on-road motor vehicle emission budgets required to demonstrate conformity), the conformity finding in this report is based on the approved 1-hour ozone on-road motor vehicle emission budgets contained in the Bay Area's 2001 Plan.

National $PM_{2.5}$ Standard

In 1987, the EPA established a standard for particle pollution equal to or smaller than 10 micrometers in diameter. A decade later, the 1997 revision to the standard set the stage for change, when a separate standard was set for fine particulate matter (particles that are 2.5 micrometers in diameter and smaller). Citing the link between serious health problems and premature death in people with heart or lung disease, the 1997 revision ultimately distinguished and set forth regulation on particle pollutants known

[2] Transportation Conformity Guidance for 2015 Ozone Nonattainment Areas at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UN3X.pdf

as particulate matter 2.5 ($PM_{2.5}$) and particulate matter 10 (PM_{10}). Based on air quality monitoring data, the Bay Area was found to be attaining the 1997 $PM_{2.5}$ standards.

In 2006, the EPA revised the air quality standards for particle pollution. The 24-hour $PM_{2.5}$ standard was strengthened by lowering the level from 65 micrograms per cubic meter (µg/m³) to 35 µg/ m³. The annual fine particle standard at 15 µg/ m³ remained the same. Also, in 2006, the EPA published a final rule that established transportation conformity criteria and procedures to determine transportation projects that required analysis for local air quality impacts for $PM_{2.5}$ in non-attainment and maintenance areas. The established criteria and procedures require that those areas designated as nonattainment areas must undergo a regional conformity analysis for $PM_{2.5}$. Furthermore, the procedures also mandate that areas designated as non-attainment must complete an additional project-level $PM_{2.5}$ hot-spot analysis of localized impacts for transportation projects of air quality concern.

On December 14, 2009, EPA designated the Bay Area as non-attainment for the national 24-hour $PM_{2.5}$ standard based upon violations of the standard over the three-year period from 2007 through 2009. Pursuant to the Clean Air Act, the Bay Area and MTC were subject to the requirement (beginning on December 14, 2010) to demonstrate that the RTP and TIP conformed to the SIP. In addition, beginning on December 14, 2010, certain roadway and transit projects that involve significant levels of diesel vehicle traffic needed to prepare $PM_{2.5}$ hot-spot analyses.

National 8-Hour Carbon Monoxide Standard

In April 1998, the Bay Area became a "maintenance area" for the national 8-hour carbon monoxide (CO) standard, having demonstrated attainment of the standards. As a maintenance area, the region must assure continued attainment of the CO standard.

Under 40 CFR 93.102(b)(4) of EPA's regulations, transportation conformity applies to maintenance areas through the 20-year maintenance planning period, unless the maintenance plan specifies that the transportation conformity requirements apply for a longer time period. Pursuant to the CAAA's section 176(c)(5) and as explained in the preamble of the 1993 final rule, conformity applies to areas that are designated nonattainment or are subject to a maintenance plan approved under the CAAA section 175A. The section 175A maintenance planning period is 20 years, unless the applicable implementation plan specifies a longer maintenance period[3]. The EPA further clarified this conformity provision in its January 24, 2008 final rule[4].

The approved maintenance plan for the San Francisco-Oakland-San Jose Carbon Monoxide nonattainment area did not extend the maintenance plan period beyond 20 years from re-designation. Consequently, transportation conformity requirements for CO ceased to apply after June 1, 2018 (i.e., 20 years after the effective date of the EPA's approval of the first 10-year maintenance plan and re-designation of the area to attainment for CO NAAQS). As a result, as of June 1, 2018, transportation conformity requirements no longer apply for the CO NAAQS in the San Francisco-Oakland-San Jose CO nonattainment area for Federal Highway Administration/Federal Transit Association projects as defined in 40 CFR 93.101.

[3] See 58 FR 62188, 62206 (November 24, 1993)
[4] See 73 FR 4420, at 4434-5 (January 24, 2008)

Approved Motor Vehicle Emissions Budgets and Conformity Tests

The Bay Area has conformity requirements for national ozone and $PM_{2.5}$ standards. Under the ozone standard, the Bay Area has to meet an on-road motor vehicle emission "budget" test. Because the Bay Area does not have on-road motor vehicle emission budgets for $PM_{2.5}$ that have been determined to be adequate by EPA, it has to meet an emission interim test for the $PM_{2.5}$ standard. To make a positive conformity finding for ozone MTC must demonstrate that the calculated on-road motor vehicle emissions in the region are lower than the approved budgets. To make a positive "interim" conformity finding for $PM_{2.5}$, MTC must meet "build not greater than no build" or "build not greater than baseline year" tests based on $PM_{2.5}$ exhaust, tire wear, and brake wear, and NO_X as a $PM_{2.5}$ precursor, emissions.

On-road motor vehicle emissions budgets for VOC and NO_X, which are ozone precursors, were developed for the 2006 attainment year as part of the 2001 1-hour Ozone Attainment Plan. The VOC and NO_X budgets were found to be adequate by EPA on February 14, 2002 (67 FR 8017), and were subsequently approved by EPA on April 22, 2004 (69 FR 21717). Note that under EPA's conformity rule for the national 8-hour ozone standard, the existing 1-hour on-road motor vehicle emission budgets are to be used for conformity analyses until they are replaced.

The on-road motor vehicle emission budgets are listed below:

- VOC: 164 tons per day (2006 and beyond)
- NO_X: 270.3 tons per day (2006 and beyond)

For $PM_{2.5}$, initially the Bay Area was required to prepare a SIP by December 2012 to show how the region would attain the standard by December 2014. In addition, although the Bay Area was designated as non-attainment for the national 24-hour $PM_{2.5}$ standard based on monitoring data for the 2006-2008 period, the region exceeded the standard by only a slight margin.

Monitoring data shows that the Bay Area currently meets the national standards for both annual and 24-hour $PM_{2.5}$ levels. However, because the health effects of PM are serious and far-reaching, and no safe threshold of exposure to PM has yet been identified, it is important efforts continue to further reduce PM emissions and concentrations.[5]

Under US EPA guidelines, a region with monitoring data showing that it currently attains an air quality standard can submit a "re-designation request" and a "maintenance plan" in lieu of a SIP attainment plan. However, the BAAQMD believes that it would be premature to submit a $PM_{2.5}$ re-designation request for the Bay Area at this time. Instead, the BAAQMD has pursued another option provided by US EPA guidelines for areas with monitoring data showing that they currently meet the $PM_{2.5}$ standard. In December 2011, CARB submitted a "clean data finding" request on behalf of the Bay Area. On January 9, 2013, EPA took final action to determine that the Bay Area attained the 2006 24-hour $PM_{2.5}$ standard. EPA's determination was based on complete, quality-assured, and certified ambient air monitoring data showing that the area monitored attainment based on the 2009-2011 monitoring period. Based on EPA's determination, the requirements for the Bay Area to submit an attainment demonstration, together with RACMs, an RFP plan, and contingency measures for failure to meet RFP and attainment deadlines are suspended for so long as the region continues to attain the 2006 24-hour $PM_{2.5}$ standard.

[5] See BAAQMD's *2017 Clean Air Plan: Spare the Air, Cool the Climate* at: http://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en

Since an approved on-road motor vehicle emissions budget for $PM_{2.5}$ is not available for use in this conformity analysis, MTC must complete one of the two interim emissions tests:

- the build-no-greater-than-no-build test ("build/no-build test") found at 40 CFR 93.119(e)(1), or
- the no-greater-than-baseline year emissions test ("baseline year test"), described at 40 CFR 93.119(e)(2).

Per the interagency consultation via the Air Quality Conformity Task Force meeting dated May 28, 2015, MTC elected to use the "baseline year test". In this test, conformity is demonstrated if in each analysis year, the RTP or TIP (the "build" scenarios) on-road motor vehicle emissions are less than or equal to emissions in the "baseline year" emission inventory. The "baseline year" for the 2006 24-hour $PM_{2.5}$ standard is the year 2008[6].

Under a determination of conformity, the following criteria are applied:

1. The latest planning assumptions and emission models are used.
   The transportation plan ("RTP") and program ("TIP") pass an emissions budget test using a budget that has been found adequate by EPA or an interim emissions test when budgets have not been established.
2. The transportation plan ("RTP") and program ("TIP") provide for the timely implementation of TCMs.
3. Interagency and public consultation is part of the process.

III. Conformity Analysis & Results

Approach to Conformity Analysis

The latest planning assumptions were used when preparing this conformity analysis. Regional estimates of future travel data were estimated using MTC's land use model (referred to as "*Bay Area UrbanSim*") and travel model (referred to as "*Travel Model One*"). This integrated model framework allows for analysis of how transportation projects affect the surrounding land use pattern, as well as how changes to residential and commercial activity affect transportation demand. *Travel Model One* (version 0.6) released in July 2016, is calibrated to year 2000 conditions and validated against year 2000, year 2005, and year 2010 conditions. The model generates spatially- and temporally- specific estimates of travel data—roadway usage and speed. This travel data is input into CARB's latest EMission FACtors (EMFAC2017) model to estimate on-road motor vehicle emissions.

In 2016, MTC updated the method by which Amended Plan Bay Area 2040 programmatic category projects are assessed and represented in Travel Model One in the analysis years between the year 2040 (the Horizon Year for the Amended Plan Bay Area) and the 2019 Amended TIP. Please see Appendix C for the complete approach (for regional conformity modeling purposes) description.

The EMFAC2017 model shows how California on-road motor vehicle emissions have changed over time and are projected to change in the future. This information helps CARB evaluate prospective control programs and determine the most effective, science-based proposals for protecting the environment. EMFAC2017 includes the latest data on California's car and truck fleets and travel activity. The model also reflects the emissions benefits of CARB's recent rulemakings, including on-road diesel fleet rules,

[6] Additional information is available here: https://www.epa.gov/state-and-local-transportation/baseline-year-baseline-year-test-40-cfr-93119

Advanced Clean Car Standards, and the Smartway/Phase I Heavy Duty Vehicle Greenhouse Gas Regulation. The model includes updates to truck emission factors based on the latest test data. More details about the updates in emissions calculation methodologies and data are available in the EMFAC2017 Technical Support Document.[7]

On September 27, 2019, the EPA and the National Highway Traffic Safety Administration published the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program." (84 Fed. Reg. 51,310 (Sept. 27, 2019.). The SAFE Vehicle Rule Part One impacts some of the underlying assumptions in the EMFAC2017 model. In response, CARB staff developed off-model adjustment factors to account for the impacts of this rule. On March 12, 2020, the EPA confirmed these adjustment factors to be acceptable for use in transportation conformity determinations[8].

Bay Area UrbanSim[9] and *Travel Model One* are responsive to numerous inputs, including demographic, pricing, travel behavior, and highway and transit network assumptions. For this conformity analysis, the two models use demographic and highway and transit network assumptions consistent with the Amended Plan Bay Area 2040[10]. Highway and transit networks were updated for each analysis year to reflect investments in the Amended Plan Bay Area 2040 (see Appendix B) and the 2019 Amended TIP (see Appendix A1 and A2). Pricing assumptions applied in *Travel Model One* include projected parking prices, gasoline and non-gasoline auto operating costs, fuel economy, bridge tolls, transit fares, and express lanes. Travel behavior assumptions include trip peaking factors, vehicle occupancy factors, and estimates of interregional commuters. Refer to Appendix D for detailed travel modeling assumptions used in this conformity analysis.[11]

Regional vehicle miles traveled (VMT) and engine starts (which are needed for emission calculations) are forecasted using a combination of output from *Travel Model One* and base year (2010) EMFAC2017 default VMT information provided by the CARB. For conformity purposes, MTC continues to employ the agreed to protocol for estimating VMT with updated 2010 base year data.

A separate process was used to develop demographic assumptions for the $PM_{2.5}$ "baseline year" of 2008. *Bay Area UrbanSim* generates Transportation Analysis Zone (TAZ)-level data set in 5-year increments. The calculation of data for the interim year 2008 requires a multi-stop process. First, regional control totals for each attribute are calculated using straight-line extrapolations between the two adjacent 5-year increments (2005 and 2010). Next, each TAZ's share of the regional total is calculated by extrapolation of the two adjacent 5-year increments. Finally, individual TAZ totals are calculated by multiplying the interim year TAZ share of the regional total by the regional control total.

Analysis Years

The analysis years for the budget and baseline year tests are to be within five years from the date the analysis is done, the horizon year of the RTP and intermediate years as necessary so that analysis years

[7] Additional information is available here: http://www.arb.ca.gov/msei/categories.htm

[8] Additional information is available here: https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf

[9] Additional information is available here: http://2040.planbayarea.org/sites/default/files/2017-07/Land_Use_Modeling_PBA2040_Supplemental%20Report_7-2017.pdf

[10] Additional information is available here: http://www.planbayarea.org/2040-plan/final-preferred-scenario

[11] Additional information is available here: http://2040.planbayarea.org/sites/default/files/2017-07/Travel_Modeling_PBA2040_Supplemental%20Report_7-2017_0.pdf
This document is part of the Final Amended Plan Bay Area 2040 scenario planning/development effort and the technical methods and assumptions used in this effort are consistent with what is applied in this conformity analysis.

are not more than ten years apart. For this conformity analysis, the analysis years are 2020, 2030 and 2040 for the 2008 and 2015 ozone and 2006 $PM_{2.5}$ standards. MTC used *Travel Model One* to forecast travel data for the 2020, 2030 and 2040 analysis years. The forecasted travel data for each analysis year were then input into the EMFAC2017 model to calculate on-road motor vehicle emissions.

Consultation Process

MTC has consulted on the preparation of this conformity analysis with the Bay Area's Air Quality Conformity Task Force. The Conformity Task Force is composed of representatives of EPA, CARB, FHWA, FTA, Caltrans, MTC, BAAQMD, ABAG, the nine county Congestion Management Agencies, and Bay Area transit operators. The Conformity Task Force reviews the analysis assumptions, consults on TCM implementation issues, and reviews the results of the conformity analysis. The task force meetings are open to the public. Consultation with the Air Quality Conformity Task Force related to the preparation of this conformity analysis includes the following:

March 2020

- Review approach to Conformity Analysis for Draft Amended Plan Bay Area 2040 and the Amended 2019 TIP

April 2020

- Review responses to comments on Conformity Analysis for Draft Amended Plan Bay Area 2040 and the Amended 2019 TIP
- Complete the Conformity Determination for Amended Plan Bay Area 2040 and the Amended 2019 TIP and respond to public comments

Comparison of Motor Vehicle Emissions to Budgets

As explained earlier, on-road motor vehicle emissions budgets are established in the SIP for VOCs and NO_X. To make a positive conformity finding, the regional on-road motor vehicle emissions must be equal to or less than these budgets. The results of the vehicle activity forecasts and on-road motor vehicle emission calculations are described in the following section.

Ozone Motor Vehicle Emission Budgets

For VOC and NO_X, the on-road motor vehicle emission budgets also reflect emission reductions from five Transportation Control Measures (TCMs) incorporated in the 2001 Ozone Attainment Plan (Table 1).

Table 1: VOC and NO_X Emissions Budgets from 2001 Ozone Attainment Plan (tons/day)

VOC	
2006 On Road Motor Vehicle Emissions	168.5
2006 Mobile Source Control Measure Benefits	(4.0)
2006 TCM Benefits	(0.5)
2006 Emissions Budget	164.0

NO_X	
2006 On Road Motor Vehicle Emissions	271.0
2006 TCM Benefits	(0.7)
2006 Emissions Budget	270.3

The vehicle activity forecasts by analysis year for the Amended Plan Bay Area 2040 and the 2019 Amended TIP (the "build" scenarios) are shown in Table 2. Travel data (from MTC's *Travel Model One*) was input into CARB's EMFAC2017 emissions model, thereby generating regional vehicle activity and emissions estimates.

In addition, MTC will use the 1-hour motor vehicle emissions budget from the 2001 Ozone Attainment Plan as the 8-hour motor vehicle emissions budget to demonstrate conformity to both the 2008 and 2015 8-hour ozone standards. The ozone budgets for VOCs and NOx were compared to quantified emissions for analysis years 2020, 2030 and 2040.

EPA designated[12] the San Francisco Bay Area as "Marginal" for nonattainment of the 2008 and 2015 ozone standards with the applicable attainment year of 2021. CFR 93.118(d)(2) requires the regional emissions analysis to be performed for the attainment year for the 2015 ozone NAAQS, if it is within the timeframe of the transportation plan and conformity determination – and the CAAA requires areas to attain the national ambient air quality standards as expeditiously as practicable, but no later than specified dates. To demonstrate attainment, an area must predict that emissions during the "season" preceding the attainment date will meet the level of the standard. In general, the attainment dates for 8-hour ozone are in June. Therefore, the relevant ozone season for predicting attainment will be the ozone season in the calendar year preceding the attainment date which means the 2020 year will be the applied attainment date/year (for the 2015 ozone standard only) in this conformity analysis.

Table 2: Vehicle Activity Forecasts

	2020	*2030*	*2040*
Vehicles in use	4,349,915	5,268,777	6,115,830
Daily VMT (1000s)	156,513	170,448	184,361
Daily Engine Starts	21,679,855	26,213,115	30,299,263

Comparison of Estimated Regional On-Road Motor Vehicle Emissions to the Ozone Precursor Budgets

The vehicle activity forecasts for the Amended Plan Bay Area 2040 and the 2019 Amended TIP, Table 2, are converted to emission estimates by MTC using EMFAC2017. Tables 3 compare the results of the various analyses with the applicable budgets. The analyses indicate that the on-road motor vehicle emissions are substantially below the budget, due in large part to the effects of cleaner vehicles in the California fleet and the enhanced Smog Check program now in effect in the Bay Area and reflected in the EMFAC2017 model.

[12] See Nonattainment and Unclassifiable Area Designations for the 2015 Ozone Standards -- April 30, 2018; https://www.epa.gov/sites/production/files/2018-04/documents/placeholder_1.pdf

Table 3: Emissions Budget Comparisons for Ozone Precursors – Summertime Conditions (tons/day)

Year	VOC Budget[1]	On-Road Motor Vehicles Net VOC Emissions[3]	On-Road Motor Vehicles Net VOC Emissions with CARB Adjustment Factors[3]
2020	164.0	32.20	32.20
2030	164.0	21.47	21.54
2040	164.0	17.27	17.45

Year	NO_X Budget[1]	On-Road Motor Vehicles Net NO_X[3]	On-Road Motor Vehicles Net NO_X Emissions with CARB Adjustment Factors[3]
2020	270.3	56.58	56.58
2030	270.3	33.31	33.34
2040	270.3	33.11	33.18

[1] 2001 Ozone Attainment Plan

[2] The transit services for TCM A Regional Express Bus Program were modeled. The emission benefits from TCM A are therefore included in the On-Road Motor Vehicles VOC and NO_X emission inventories for 2006 and beyond.

[3] TCM Reduction Benefits of (0.5) tons/day of ROG and (0.7) tons/day of NOx applied to all On-Road Motor Vehicles emission inventories in the Table 3 above

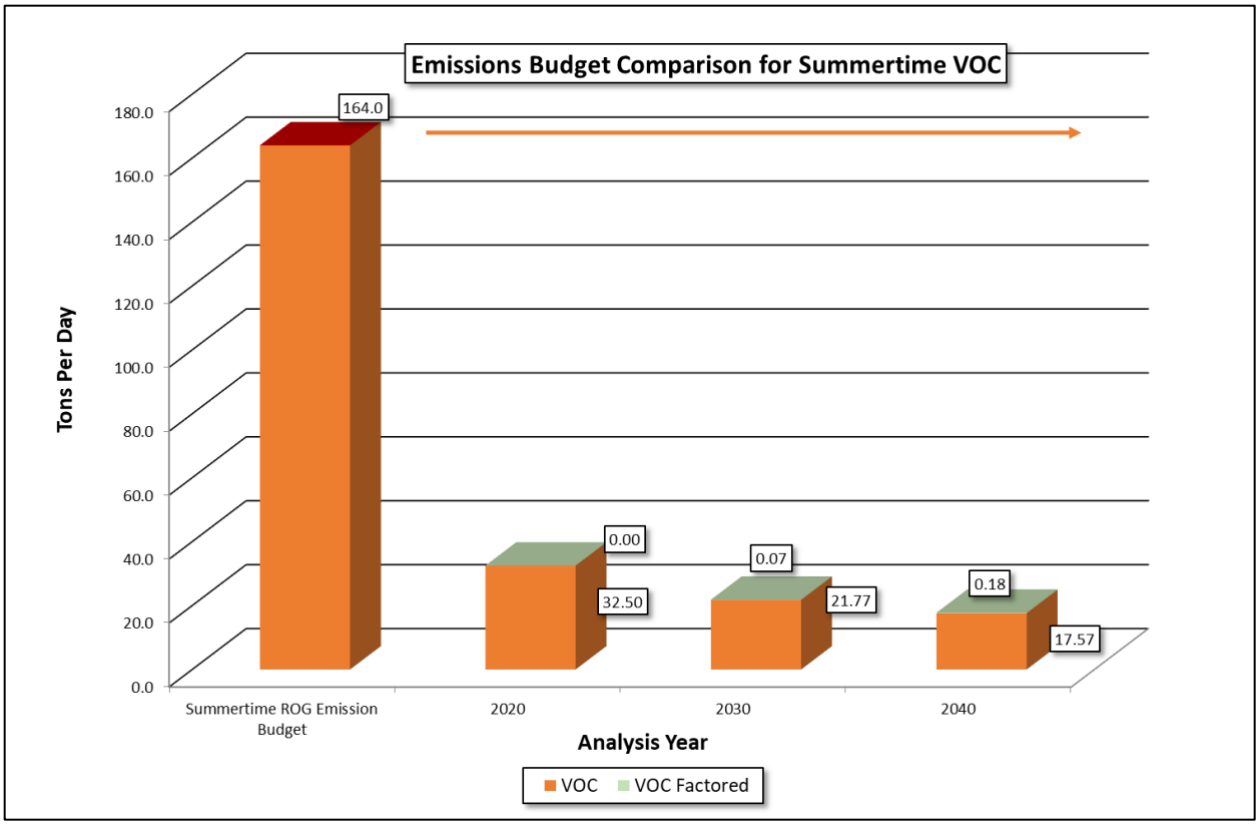

Figure 2: Emissions Budget Comparisons for Ozone Precursors (VOC)

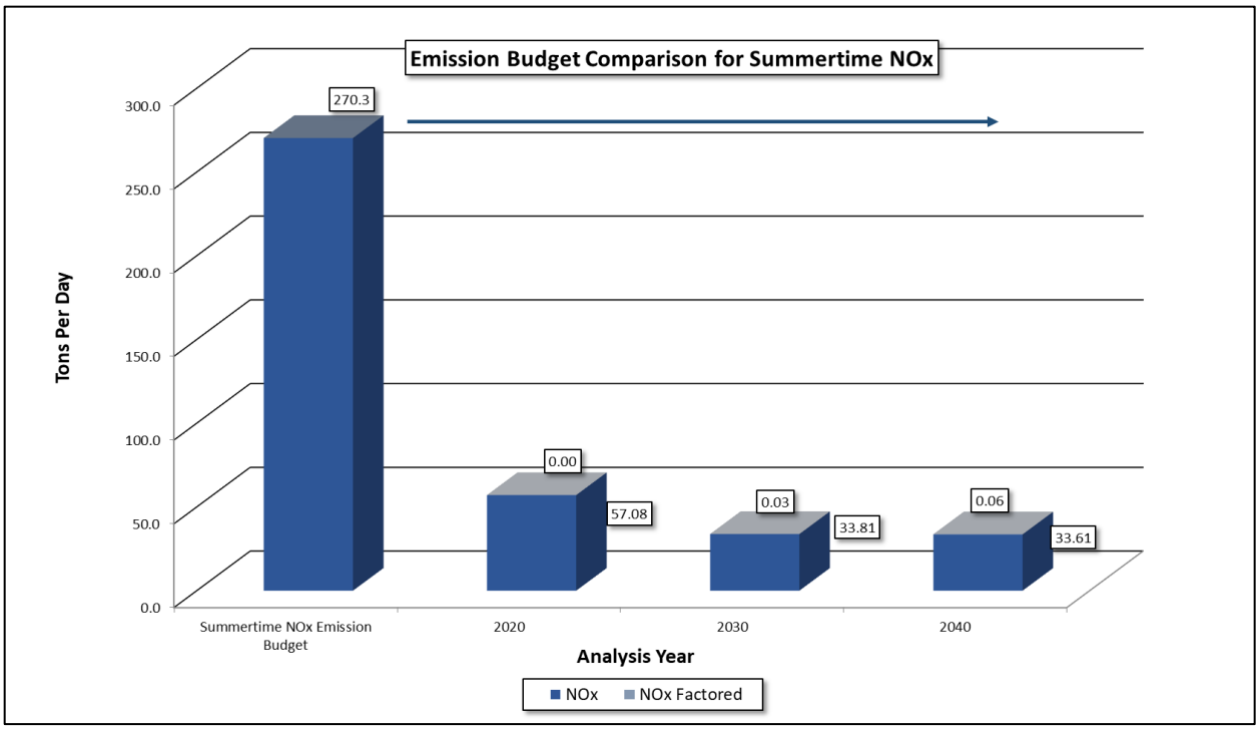

Figure 3: Emissions Budget Comparisons for Ozone Precursors (NOx)

The estimated effectiveness of the various TCMs, given their current implementation status, is shown in Table 4. TCMs A through E are fully implemented. They have achieved the required cumulative total emission reductions of 0.5 tons per day of VOC and 0.7 tons per day of NO_X by 2006.

Table 4: Emission Reductions for Transportation Control Measures A – E in State Implementation Plan (tons/day)

TCM	*VOC Emission Reductions through December 2006*	*NO_X Emission Reductions through December 2006*
TCM A: Regional Express Bus Program	0.20	0.20
TCM B: Bicycle/Pedestrian Program	0.04	0.03
TCM C: Transportation for Livable Communities	0.08	0.12
TCM D: Expansion of Freeway Service Patrol	0.10	0.25
TCM E: Transit Access to Airports	0.09	0.13
Total Reductions	**0.5**	**0.7**

Baseline Year Emissions Test for $PM_{2.5}$

For the baseline year test, emissions for both directly emitted $PM_{2.5}$ and NO_X (as the precursor to $PM_{2.5}$ emissions) were compared to the analysis years of 2020, 2030 and 2040. The analysis used inputs for the winter season, during which the Bay Area experiences its highest levels of $PM_{2.5}$ concentrations.

The vehicle activity forecasts by analysis year for the Amended Plan Bay Area 2040 and the 2019 Amended TIP (the "build" scenarios) are shown in Table 5. Travel data (from MTC's *Travel Model One*) was input into CARB's EMFAC2017 emissions model, thereby generating regional vehicle activity and emissions estimates.

Table 6 presents the results of the Baseline Year test for the $PM_{2.5}$ emissions and the NO_X precursor for the 2006 24-hour $PM_{2.5}$ standard. Regional conformity analyses must be completed for directly emitted $PM_{2.5}$ (40 CFR 93.102(b)(1)). Directly emitted $PM_{2.5}$ includes exhaust, brake and tire wear emissions.

Table 5: Vehicle Activity Forecasts for the $PM_{2.5}$ Baseline Year Test

	2008 Baseline Year	*2020*	*2030*	*2040*
Vehicles in Use	4,631,001	4,349,915	5,268,777	6,115,830
Daily VMT (1000s)	154,100	156,513	170,448	184,361
Engine Starts	29,299,933	21,679,855	26,213,115	30,299,263

Table 6: Emissions Comparison for the $PM_{2.5}$ Baseline Year Test

	2008 Baseline Year	*2020*	***2020***[2]	*2030*	***2030***[2]	*2040*	***2040***[2]
$PM_{2.5}$	8.26	4.30	N/A	4.10	**4.10**	4.36	**4.36**
NO_X	194.58	51.72	N/A	27.13	**27.13**	26.49	**26.49**

[1] Emissions for wintertime only

[2] **CARB Adjustment Factors** applied to years 2030 and 2040 – no CARB Adjustment Factors available for the year 2020

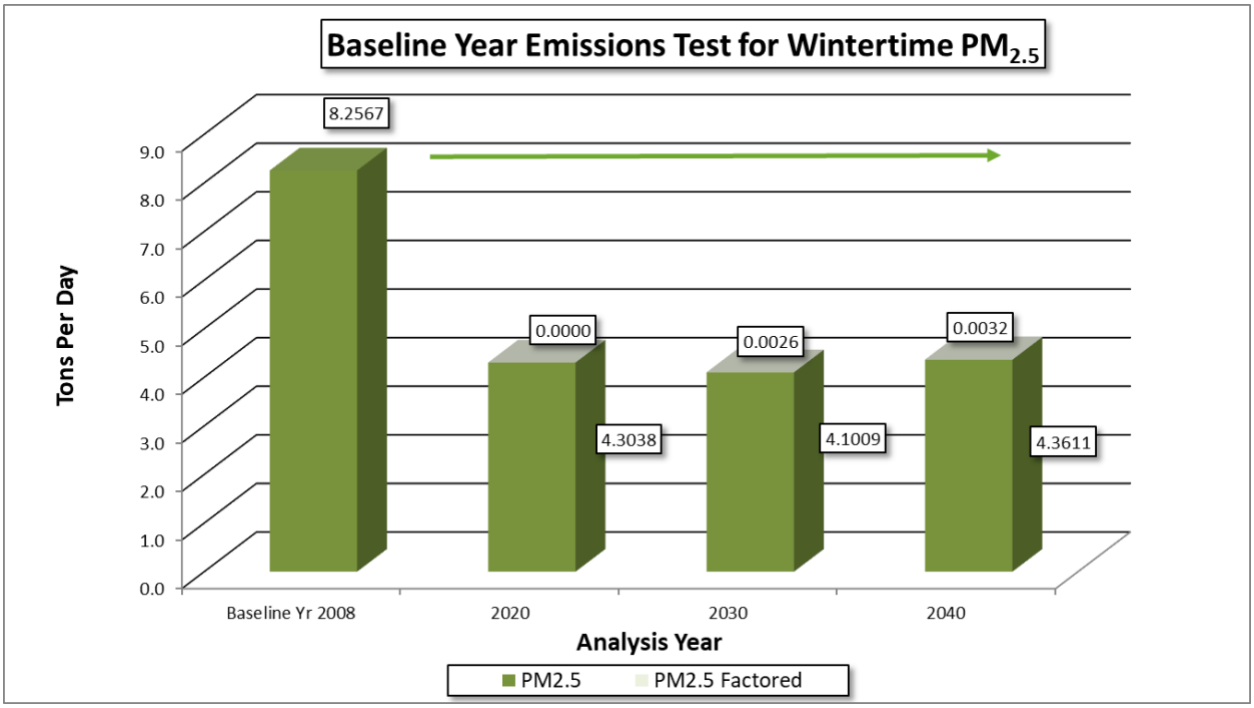

Figure 4: Baseline Year Emissions Test for $PM_{2.5}$

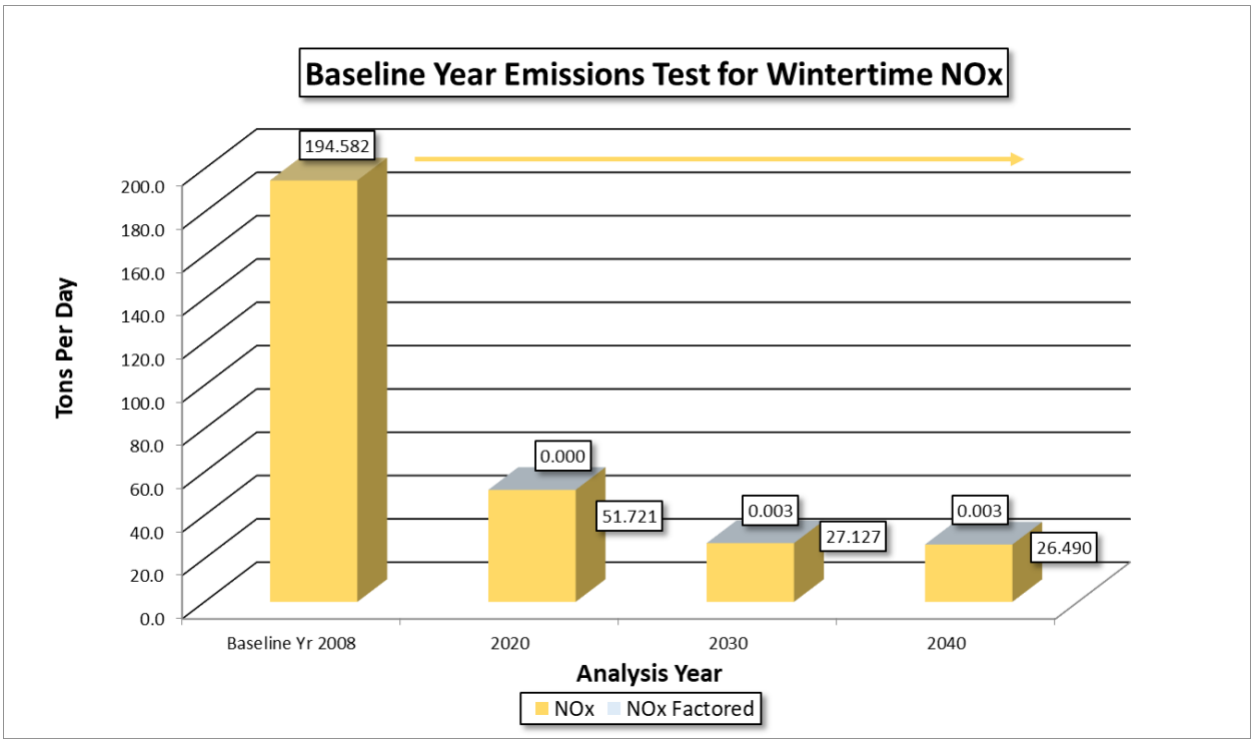

Figure 5: Baseline Year Emissions Test for Wintertime NO_X

IV. Transportation Control Measures

History of Transportation Control Measures

TCMs are strategies to reduce vehicle emissions. They include such strategies as improved transit service and transit coordination, ridesharing services and new carpool lanes, signal timing, freeway incident management, increased gas taxes and bridge tolls to encourage use of alternative modes, etc. The original set of TCMs plus the five most recent TCMs (A-E) have been fully implemented. The TCMs were added over successive revisions to the SIP (see Table 7). For more information on TCMs 1-28, which are completed, see the *Transportation-Air Quality Conformity Analysis for the 2001 Regional Transportation Plan and FY 2001 Transportation Improvement Program Amendment 01-32 (February 2002)*. This report can be found in the MTC/ABAG Library.

- Twelve (12) ozone measures were originally listed in the 1982 Bay Area Air Quality Plan.
- In response to a 1990 lawsuit in the federal District Court, sixteen (16) additional TCMs were subsequently adopted by MTC in February 1990 as contingency measures to bring the region back on the "Reasonable Further Progress" (RFP) line. The Federal District order issued on May 11, 1992, found that these contingency TCMs were sufficient to bring the region back on the RFP track anticipated in the SIP. These measures became part of the SIP when EPA approved the 1994 Ozone Maintenance Plan.
- Two (2) transportation control measures from the 1982 Bay Area Air Quality Plan apply to Carbon Monoxide control strategies, for which the region is in attainment with the federal standard, and primarily targeted downtown San Jose (which had the most significant CO problem at that time.) MTC also adopted a set of TCM enhancements in November 1991 to eliminate a shortfall in regional carbon monoxide emissions identified in the District Court's April 19, 1991, order. Carbon monoxide standards have been achieved primarily through the use of oxygenated/reformulated fuels in cars and with improvements in the Smog Check program.
- As part of EPA's partial approval/partial disapproval of the 1999 Ozone Attainment Plan, four (4) TCMs were deleted from the ozone plan (but two of these remain in the Carbon Monoxide Maintenance Plan).
- Five (5) new TCMs were adopted as part of the new 2001 1-Hour Ozone Attainment Plan and were fully funded in the 2001 TIP and 2001 Regional Transportation Plan.

With respect to TCM 2 from the 1982 SIP, there was a protracted debate, leading to a citizens lawsuit in federal court, about the obligations associated with this TCM. On April 6, 2004, MTC prevailed in the U.S. Court of Appeals for the Ninth Circuit which concluded that TCM 2 does not impose any additional enforceable obligation on MTC to increase ridership on public transit ridership by 15% over 1982-83 levels by November 2006 (Bayview Hunters Point Community Advocates v. Metropolitan Transportation Com'n, (2004 WL 728247, 4 Cal. Daily Op. Serv. 2919, 2004 Daily Journal D.A.R. 4209, 9th Cir.(Cal.), Apr 06, 2004)). Thus TCM 2 has been resolved, and there are no further implementation issues to address in this TCM.

Table 7: Transportation Control Measure in the State Implementation Plan

TCM	*Description*
Original TCMs from 1982 Bay Area Air Quality Plan	
TCM 1	Reaffirm Commitment to 28 percent Transit Ridership Increase Between 1978 and 1983
TCM 2	Support Post-1983 Improvements in the Operators' Five-Year Plans and, After Consultation with the Operators, Adopt Ridership Increase Target for the Period 1983 through 1987
TCM 3	Seek to Expand and Improve Public Transit Beyond Committed Levels
TCM 4	High Occupancy Vehicle (HOV) Lanes and Ramp Metering
TCM 5	Support RIDES Efforts
TCM 6[1]	Continue Efforts to Obtain Funding to Support Long Range Transit Improvements
TCM 7	Preferential Parking
TCM 8	Shared Use Park and Ride Lots
TCM 9	Expand Commute Alternatives Program
TCM 10	Information Program for Local Governments
TCM 11[2]	Gasoline Conservation Awareness Program (GasCAP)
TCM 12[2]	Santa Clara County Commuter Transportation Program
Contingency Plan TCMs Adopted by MTC in February 1990 (MTC Resolution 2131)	
TCM 13	Increase Bridge Tolls to $1.00 on All Bridges
TCM 14	Bay Bridge Surcharge of $1.00
TCM 15	Increase State Gas Tax by 9 Cents
TCM 16[1]	Implement MTC Resolution 1876, Revised — New Rail Starts
TCM 17	Continue Post-Earthquake Transit Services
TCM 18	Sacramento-Bay Area Amtrak Service
TCM 19	Upgrade Caltrain Service
TCM 20	Regional HOV System Plan
TCM 21	Regional Transit Coordination
TCM 22	Expand Regional Transit Connection Ticket Distribution
TCM 23	Employer Audits
TCM 24	Expand Signal Timing Program to New Cities
TCM 25	Maintain Existing Signal Timing Programs
TCM 26	Incident Management on Bay Area Freeways
TCM 27	Update MTC Guidance on Development of Local TSM Programs
TCM 28	Local Transportation Systems Management (TSM) Initiatives
New TCMs in 2001 Ozone Attainment Plan	
TCM A	Regional Express Bus Program
TCM B	Bicycle/Pedestrian Program
TCM C	Transportation for Livable Communities
TCM D	Expansion of Freeway Service Patrol
TCM E	Transit Access to Airports

[1] Deleted by EPA action from ozone plan

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

Source: Bay Area Air Quality Management District, Metropolitan Transportation Commission, 2001.

Status of Transportation Control Measures

TCMs A-E were approved into the SIP as part of EPA's Finding of Attainment for the San Francisco Bay Area (April 2004). The conformity analysis must demonstrate that TCMs are being implemented on schedule (40 CFR 93.113). TCMs A-E have specific implementation steps which are used to determine progress in advancing these TCMs (see Table 8). TCMs A-E are now fully implemented.

Table 8: Implementation Status of Federal Transportation Control Measures for Ozone (A – E)

#	TCM	Description	Ozone Attainment Plan Implementation Schedule	Implementation Status
A	Regional Express Bus Program	Program includes purchase of approximately 90 low emission buses to operate new or enhanced express bus services. Buses will meet all applicable CARB standards, and will include particulate traps or filters. MTC will approve $40 million in funding to various transit operators for bus acquisition. Program assumes transit operators can sustain service for a five-year period. Actual emission reductions will be determined based on routes selected by MTC.	FY 2003. Complete once $40 million in funding pursuant to Government Code Section 14556.40 is approved by the California Transportation Commission and obligated by bus operators	$40 million for this program was allocated by the CTC in August 2001. The participating transit operators have ordered and received a total of 94 buses. All buses are currently in operations. TCM A is fully implemented.
B	Bicycle / Pedestrian Program	Fund high priority projects in countywide plans consistent with TDA funding availability. MTC would fund only projects that are exempt from CEQA, have no significant environmental impacts, or adequately mitigate any adverse environmental impacts. Actual emission reductions will be determined based on the projects funded.	FY 2004 – 2006. Complete once $15 million in TDA Article 3 is allocated by MTC.	MTC allocated over $20 million in TDA Article 3 funds during FY2004, FY2005, and FY2006. TCM B is fully implemented.
C	Transportation for Livable Communities (TLC)	Program provides planning grants, technical assistance, and capital grants to help cities and nonprofit agencies link transportation projects with community plans. MTC would fund only projects that are exempt from CEQA, have no significant environmental impacts, or adequately mitigate any adverse environmental impacts. Actual emission	FY 2004 – 2006. Complete once $27 million in TLC grant funding is approved by MTC	In December 2003, the Commission reaffirmed its commitment of $27 million annually over 25 years for the TLC program as part of Phase 1 of the Transportation 2030 Plan. MTC and the county Congestion Management Agencies (CMAs) have approved over $27 million in TLC grant funding by FY 2006. In November 2004, MTC approved $500,000 for regional TLC

		reductions will be based on the projects funded.		Community Design Planning Program, and in December 2004, MTC approved $18.4 million in TLC funding for the regional TLC Capital program. As of December 2006, CMAs in Alameda, Marin and Sonoma counties approved an additional $12.4 million in their county-level TLC Capital programs for a regional total of $31.2 million. TCM C is fully implemented.
D	Additional Freeway Service Patrol	Operation of 55 lane miles of new roving tow truck patrols beyond routes which existed in 2000. TCM commitment would be satisfied by any combination for routes adding 55 miles. Tow trucks used in service are new vehicles meeting all applicable CARB standards.	FY 2001. Complete by maintaining increase in FSP mileage through December 2006	FSP continues to maintain the operation of the 55 lane miles of new roving tow truck coverage. This level of service was maintained through 2006. FSP continues to expand its service areas. TCM D is fully implemented. .
E	Transit Access to Airports	Take credit for emission reductions from air passengers who use BART to SFO, as these reductions are not included in the Baseline.	BART – SFO service to start in FY 2003. Complete by maintaining service through December 2006	Service began June 2003. Service adjustments have been made since start of revenue service. The BART to SFO service has been maintained through 2006 and is continued. TCM E is fully implemented.

V. Response to Public Comments

To be updated.

VI. Conformity Findings

To be updated.

Appendix A-1
List of Projects in the Amended 2019 TIP

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Alameda	ALA050014	17-01-0032	ACTC	SR 84 Expressway Widening	In Livermore: Widen Route 84 from Jack London Blvd. to Pigeon Pass.	NON-EXEMPT	2020
Alameda	ALA050019	17-01-0031	ACTC	I-880 North Safety Improvements	Oakland: I-880 between 23rd Ave to 29th Ave: Reconfigure Interchange, including new ramps.	NON-EXEMPT	2020
Alameda	ALA070009	17-01-0030	ACTC	Oakland/Alameda Access Project	Oakland and Alameda: Between Oak Street and Union Street: Reconfigure interchange and intersections to improve connections between I-880, the Posey and Webster tubes and the downtown Oakland	NON-EXEMPT	2030
Alameda	ALA090016	17-01-0036	Hayward	Rt 92/Clawiter/Whitesell Interchange Improvements	Hayward: Rt 92/Clawiter Rd: Upgrade existing Clawiter interchange. Add ramps and overcrossing for Whitesell St. extension. Signalize ramp intersections.	NON-EXEMPT	2030
Alameda	ALA090020	17-01-0007	Hayward	I-880 Auxiliary lanes at Industrial Parkway	Hayward: I-880 NB between Industrial Pkwy and Alameda Creek; I-808 SB between Industrial Pkwy and Whipple Rd: Construct auxiliary lanes	NON-EXEMPT	2040
Alameda	ALA110002	17-01-0023	Hayward	I-880/Industrial Parkway West Interchange	In Hayward: At I-880/Industrial Parkway West: Reconstruct interchange, add on/off-ramp lanes, widen ramp lanes, provide HOV bypass lanes and routine accommodation for bicyclists and pedestrians.	NON-EXEMPT	2030
Alameda	ALA110003	17-10-0064	BART	Hayward Shop and Yard Expansion	BART: Hayward Shop and Yard: Expansion facility to accommodate additional rail vehicles for storage, maintenance and repair.	NON-EXEMPT	2040
Alameda	ALA110046	17-01-0016	Oakland	Oakland Army Base Infrastructure Improvements	In Oakland: At former Oakland Army Base: Implementing Army Base Infrastructure Master Plan including TCIF funded OHIT improvements implemented by City of Oakland. For the related Port project, see	NON-EXEMPT	2040
Alameda	ALA110104	17-01-0001	MTC	Bay Bridge Park	Oakland: At the Oakland Touchdown of the new East Span of the Bay Bridge: Bay Bridge Park (Project previously titled "SFOBB Gateway Park")	NON-EXEMPT	2040
Alameda	ALA130005	17-01-0053	Dublin	Dougherty Road widening	Dublin: Dougherty Road from Sierra Lane to North City Limit: Widen from 4 lanes to 6 lanes	NON-EXEMPT	2020
Alameda	ALA130006	17-01-0057	Dublin	Dublin Boulevard widening	In Dublin: Dublin Blvd between Sierra Court and Dublin Court: Widenfrom 4 lanes to 6 lanes and install Class II bike lanes	NON-EXEMPT	2020
Alameda	ALA130014	17-01-0001	Oakland	7th Street West Oakland Transit Village, Phase II	In Oakland: On 7th Street between Wood Street and Peralta Street: Construct road diet, bicycle lanes, sidewalk enhancement, pedestrian amenities, traffic signal mods, street and pedestrian lights, storm	NON-EXEMPT - Not Regionally Significant Project	2040
Alameda	ALA130025	17-01-0004	Fremont	Fremont City Center Multi-Modal Improvements	Fremont: Capitol Ave from State St to Fremont Blvd: Construct roadway extension; Various locations around Fremont City Center and Fremont BART Station: Implement multi-modal improvements to	NON-EXEMPT - Not Regionally Significant Project	2040
Alameda	ALA130026	17-01-0004	Berkeley	Shattuck Complete Streets and De-couplet	Berkeley: Shattuck Ave, Shattuck Square and Berkeley Square from Allston Way to University Ave intersection: Reconfigure travel lanes and parking, repair pavement and make other improvements	NON-EXEMPT - Not Regionally Significant Project	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Alameda	ALA130032	17-10-0005	BART	BART Metro Priority Track Elements	BART: In Lafayette, Dublin and Millbrae: Provide three critical track extensions in order to provide the BART system with additional operational flexibility and additional capacity, all within existing right-of-	NON-EXEMPT	2030
Alameda	ALA130034	17-10-0058	ACTC	I-680 NB HOV/HOT Lane	Route I-680: from South of Auto Mall Parkway to State Route 84 in Alameda County: Construct NB HOV/HOT Lane.	NON-EXEMPT	2020
Alameda	ALA150001	17-01-0029	ACTC	Rte 84 Widening, south of Ruby Hill Dr to I-680	In Alameda County, on State Route 84 from south of Ruby Hill Drive to I-680, upgrade from 2-lane conventional highway to 4-lane expressway, make operational improvements to SR84/I-680 I/C and	NON-EXEMPT	2030
Alameda	ALA150003	17-01-0048	Dublin	Dublin Blvd. - North Canyons Pkwy Extension	Alameda County, Dublin and Livermore: Dublin Blvd-North Canyons Parkway from Fallon Rd to Croak Rd: Construct six lane extension; Dublin Blvd-North Canyons Parkway from Croak Rd to Doolan Rd:	NON-EXEMPT	2030
Alameda	ALA150004	17-01-0060	AC Transit	AC Transit: East Bay Bus Rapid Transit	Alameda County: Along Broadway/ International/E 14th corridor from Oakland to San Leandro: Implement BRT including 34 stations, transit signal priority, level-boarding, shelters, off-board ticketing,	NON-EXEMPT	2020
Alameda	ALA150008	17-01-0001	ACTC	East Bay Greenway	Alameda County: Generally along the BART alignment from Lake Merritt BART station to South Hayward BART station: Install a trail facility consisting of Class I & Class IV bikeway facilities. Includes 2 road	NON-EXEMPT - Not Regionally Significant Project	2040
Alameda	ALA150042	17-01-0001	Oakland	Oakland: Telegraph Ave Bike/Ped Imps and Road Diet	HSIP7-04-014: In Oakland: Telegraph Ave from 29th to 45th St: Install crosswalk enhancements, painted bulb-outs, and painted median refuges; from 29th to 41st St: Implement road diet with buffered	NON-EXEMPT - Not Regionally Significant Project	2040
Alameda	ALA150043	17-01-0004	Oakland	Oakland: Shattuck and Claremont Bike/Ped Imps	HSIP7-04-016 Oakland: On Claremont from Telegraph to Clifton: Implement road diet with bike lanes; Shattuck at 49th, 51St, 59th St, Alactraz: Construct crosswalk enhancements, RRFBs, bulb-out,	NON-EXEMPT - Not Regionally Significant Project	2040
Alameda	ALA150047	17-01-0004	Oakland	Oakland: Telegraph Avenue Complete Streets	Oakland: on Telegraph Avenue between 20th St and 41st St: Implement complete street project inc. road diet, buffered bike lanes, ped crossing improvements, bulbouts, bus boarding islands, traffic signal	NON-EXEMPT - Not Regionally Significant Project	2040
Alameda	ALA170001	17-01-0020	Fremont	State Route 262 (Mission Blvd) Improvements	In Fremont: Mission Blvd/I-680 IC: widen Mission Blvd to 3 lanes each direction through IC, rebuild the NB and SB I-680 on and off ramps	NON-EXEMPT	2030
Alameda	ALA170004	17-01-0041	Hayward	I-880/West Winton Avenue Interchange	Hayward: At I-880/West Winton Avenue I/C: Reconstruct I/C including reconfiguration of eastbound to southbound on ramp and new connection to Southland Mall Drive	NON-EXEMPT	2030
Alameda	ALA170005	17-01-0021	ACTC	I-880/Whipple Rd Industrial Pkwy SW I/C Imps	In Union City/Hayward: at I-880/Whipple Rd Interchange: Implement full interchange improvements including northbound off-ramp, surface street improvements and realignment, and bike/ped	NON-EXEMPT	2030

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Alameda	ALA170006	17-10-0052	BAIFA	ALA-880 Express Lanes	In Alameda/Santa Clara Counties: On I-880 from Hegenberger to Dixon Landing (Southbound) and Dixon Landing to Lewelling (Northbound): Convert HOV lanes to express lanes. Project also references	NON-EXEMPT	2020
Alameda	ALA170008	17-01-0028	ACTC	I-580/680 Interchange HOV/HOT Widening	Alameda County: On I-580 between Hacienda Dr. and San Ramon/Foothill Road and on I-680 between Stoneridge Dr. and Amado: Widen to add one HOV/HOT lane for WB 580 to SB 680 and NB 680 to EB	NON-EXEMPT	2030
Alameda	ALA170009	17-10-0056	ACTC	I-680 Express Lane Gap Closure: SR-84 to Alcosta	Alameda County: SB I-680 from SR-84 to Alcosta Blvd: express lane improvements (Phase 1); NB I-680 from SR-84 to Alcosta Blvd: Widen for express lanes (Phase 2). Project also references the amendment to Plan Bay Area 2040.	NON-EXEMPT	2030
Alameda	ALA170010	17-10-0057	ACTC	I-880 NB HOV/HOT: North of Hacienda to Hegenberger	Alameda County: I-880 in the northbound direction from north of Hacienda Ave to Hegenberger Road: Widen to provide one HOV/express lane	NON-EXEMPT	2030
Alameda	ALA170011	17-10-0033	MTC	Bay Bridge Forward - West Grand HOV/Bus Only Lane	In Oakland: Grand Avenue on-ramp: Convert shoulder to Bus/HOV only lane	NON-EXEMPT - Not Regionally Significant Project	2040
Alameda	ALA170042	17-01-0008	ACE	ACE Platform Extensions	ACE System: At Fremont, Pleasanton, Livermore, Vasco, Tracy, and Manteca stations: Extend existing ACE platforms to accommodate longer train sets	NON-EXEMPT - Not Regionally Significant Project	2040
Alameda	ALA170044	17-10-0005	BART	Bay Fair Connection	BART: At and near Bay Fair Station: Modify station and approaches to add one or more additional tracks and one or more passenger platforms for improved train service and operational flexibility	NON-EXEMPT	2030
Alameda	ALA170045	17-01-0038	Dublin	I-580 Interchange Imps at Hacienda/Fallon Rd, Ph 2	Dublin: I580/Fallon Rd IC: Ph 2 - Reconstruct overcrossing to widen to 4 lanes in each direction, reconstruct and widen ramps, add bike/ped imps; I580 Hacienda Dr IC: Reconstruct overcrossing to add NB	NON-EXEMPT	2030
Alameda	ALA170046	17-01-0024	Hayward	I-880/A Street Interchange Reconstruction	Hayward: I-880/A St. I/C: Reconstruct interchange to widen A St from 5 to 6 lanes, add bike lanes, and provide additional lane capacity for potential future freeway widening, modify signals and	NON-EXEMPT	2030
Alameda	ALA170049	17-01-0004	Alameda	Central Avenue Safety Improvements	Alameda: On Central Ave from Main St to Sherman St: construct multimodal street improvements including reduction from 4 to 3 lanes, center turn lane, bike lanes, 2-way separated bikeway, 2 traffic	NON-EXEMPT - Not Regionally Significant Project	2040
Alameda	ALA170052	17-01-0004	Oakland	Oakland Fruitvale Ave Bike/Ped Imprvmnts H8-04-014	Oakland: Fruitvale Ave from E 10th St to E 23th St: H8-04-014 Install crosswalk enhancements, RRFBs, signal upgrades and modifications, signing, striping, markings. Implement road diet, parking lane	NON-EXEMPT - Not Regionally Significant Project	2040
Alameda	ALA170086	17-01-0018	ACTC	7th Street Grade Separation West	Oakland: Within the Port: Implement road and rail improvements, realign and grade separate 7th St and Maritime intersection, reconstruct and widen multi-use path; Between Joint Intermodal Terminal and	NON-EXEMPT	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Alameda	ALA190018	17-10-0033	MTC	Freeway Performance Program: Alameda I-580	Alameda County: On I-580 westbound approach to the San Francisco-Oakland Bay Bridge toll plaza from the SR 24/I-980 interchange to I-80: Conduct planning and environmental work to convert one	NON-EXEMPT	2040
Alameda	ALA978004	17-01-0047	ACTC	East-West Connector in Fremont & Union City	In Fremont & Union City: From I-880 to Route 238 (Mission Blvd): Construct new 4-lane roadway and widen existing roadways. Project is phased.	NON-EXEMPT	2030
Alameda	ALA991081	17-01-0043	Oakland	42nd Ave. & High St. I-880 Access Improv.	Oakland: In the vicinity of the I-880/42nd & High interchange: Widening and re-alignment of local streets Including modified traffic signals and intersection improvements.	NON-EXEMPT	2020
Contra Costa	CC-010023	17-02-0019	CCTA	I-680/SR 4 I/C Reconstruction - Phases1 & 2	Contra Costa Acounty: I-680/SR4 I/C: Reconstruct I/C, provide 2 lane direct connector from NB 680 to WB SR4 w/slip ramps at Pacheco Blvd, and 2 lane direct WB SR4 to SB I-680. Phases 1 and 2. Env Doc	NON-EXEMPT	2030
Contra Costa	CC-030002	17-02-0039	Hercules	Hercules Intercity Rail Station	In Hercules: At future train station: Install multi-use trails, utility relocation, track improvements, construct rail station, and parking facility.	NON-EXEMPT	2030
Contra Costa	CC-030004	17-02-0009	Martinez	Martinez Intermodal Station Parking Expansion	Martinez: At the Martinez Intermodal Station: Expand parking from 175 spaces to 600 spaces. Project includes adding a pedestrian and a vehicular bridge to access the parking lot.	NON-EXEMPT - Not Regionally Significant Project	2040
Contra Costa	CC-050025	17-02-0047	BART	BART to Antioch - East Contra Costa Rail Extension	Pittsburg/Antioch: East Contra Costa County: Extend Rail Service from the Pittsburg/Bay Point Station into eastern Contra Costa County	NON-EXEMPT	2020
Contra Costa	CC-050028	17-02-0022	CCTA	I-680 SB HOV Lane Completion	Contra Costa County: I-680 from North Main Street to Livorna in the southbound direction: Construct a HOV lane	NON-EXEMPT	2020
Contra Costa	CC-050030	17-02-0004	CC County	Vasco Road Safety Improvements	Contra Costa County: Vasco Road from Walnut Blvd to the Alameda/Contra Costa County line: widen road and place concrete median barrier for 2.5 miles. Phase 1 completed a 1 mile widening segment.	NON-EXEMPT	2040
Contra Costa	CC-050076	17-02-0026	Richmond	I-80/Central Avenue - Local Portion	Richmond: I-80/Central Ave Interchange: Connect Pierce St to San Mateo and relocate signal at Pierce/Central to San Mateo/Central intersection.	NON-EXEMPT - Not Regionally Significant Project	2030
Contra Costa	CC-070008	17-02-0007	Antioch	Laurel Road Extension	Antioch: On Laurel Road between Kirk Lane and SR4 Bypass: Construct new 4 lane divided extension with bike lanes, sidewalks, and bus stops.	NON-EXEMPT	2040
Contra Costa	CC-070009	17-02-0007	Antioch	Slatten Ranch Road Extension Phase I	Antioch: Slatten Ranch Road between Hillcrest Avenue to Wicklow Road: Phase I - Construct new 4 lane road.	NON-EXEMPT	2040
Contra Costa	CC-070011	17-02-0030	Brentwood	Brentwood Boulevard Widening - North (Phase I)	Brentwood: Brentwood Boulevard from Havenwood Avenue to Homecoming Way: Phase I-Widen from 2 to 4 lanes including a new parallel bridge over Marsh Creek, traffic signal modifications, and utilities	NON-EXEMPT	2030
Contra Costa	CC-070024	17-02-0016	Concord	SR 242 / Clayton Road Interchange Improvements	Concord: At the SR242/Clayton Rd Interchange: Construct NB on-ramp and SB off-ramp	NON-EXEMPT	2030

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Contra Costa	CC-070035	17-02-0021	CCTA	Reconstruct I-80/San Pablo Dam Rd Interchange	San Pablo: I-80/San Pablo Dam Rd I/C: Reconstruct I/C-relocating WB El Portal on-ramp to the full I/C northwards, providing access to McBryde through a new road from SPDR I/C, and replacing Riverside	NON-EXEMPT	2030
Contra Costa	CC-070046	17-02-0005	El Cerrito	El Cerrito del Norte Area TOD Complete Street Imps	El Cerrito: El Cerrito del Norte BART Station Area: Complete Streets improvements to access, circulation and safety for bicyclists, pedestrians, local and regional bus, rapid bus, and automobile connections	NON-EXEMPT - Not Regionally Significant Project	2040
Contra Costa	CC-070062	17-02-0042	WETA	Richmond Ferry Service	WETA: Between Richmond and San Francisco: Implement new ferry transit service	NON-EXEMPT	2020
Contra Costa	CC-070075	17-02-0014	CC County	Kirker Pass Road NB Truck Climbing Lanes	Unincorporated Contra Costa County: On Kirker Pass Road from Clearbrook Drive to approximately 1,000 feet beyond the crest of Kirker Pass Road; Construct northbound truck climbing lane and paved	NON-EXEMPT	2020
Contra Costa	CC-070078	17-02-0007	Brentwood	John Muir Parkway Extension: Ph. II	Brentwood: John Muir Parkway northerly from Briones Valley Rd to a logical termini on Concord Avenue: Extend roadway(1 lane + 1 bike lane per direction).	NON-EXEMPT	2040
Contra Costa	CC-070081	17-02-0015	CC County	Byron Highway - Vasco Road Connection	Contra Costa County: between Byron Highway and Vasco Road: Construct an east-west connection road	NON-EXEMPT	2040
Contra Costa	CC-090019	17-02-0007	San Ramon	Bollinger Canyon Road Widening (Alcosta to SRVB)	San Ramon: Bollinger Canyon Road between Alcosta Blvd and San Ramon Valley Blvd: Widen from six to eight lanes. Project is phased.	NON-EXEMPT	2040
Contra Costa	CC-090026	17-02-0032	Concord	Ygnacio Valley Road Widening	Concord: Ygnacio Valley Road from Michigan Boulevard to Cowell Road: widen from 4 lanes to 6 lanes	NON-EXEMPT	2030
Contra Costa	CC-130002	17-02-0047	BART	eBART Railroad Avenue Station	Pittsburg: on eBART corridor at Railroad Ave: Design and construction of station	NON-EXEMPT	2020
Contra Costa	CC-130006	17-02-0003	Concord	Concord BART Station Bike/Ped Access Improvements	Concord: Near the Downtown Concord BART Station: Implement bike/ped access improvements including road diets, buffered bike lanes (0.7 mi), Class 2 bike lanes (0.6 mi), and Class 3 bike routes (0.1	NON-EXEMPT - Not Regionally Significant Project	2040
Contra Costa	CC-130039	17-02-0005	Pittsburg	Pittsburg Multimodal Transit Station Access Imps.	In Pittsburg: At the Northeast corner of Railroad Ave and California Ave: Construct a Kiss-n-Ride lot, add a right-turn lane on California Ave and improve multi-modal access to eBART station.	NON-EXEMPT - Not Regionally Significant Project	2040
Contra Costa	CC-130046	17-02-0019	CCTA	I-680 / SR 4 Interchange Reconstruction - Phase 3	In Pacheco: At the I 680/Route 4 interchange: Widen SR4 in the median to provide a third lane in each direction from Morello Avenue to Port Chicago (SR242). Work includes widening of bridges within	NON-EXEMPT	2030
Contra Costa	CC-150009	17-10-0015	CCTA	CCTA - Carshare 4 All	Contra Costa County: Various locations: Expand carshare access at transit locations and conduct outreach	NON-EXEMPT - Not Regionally Significant Project	2040
Contra Costa	CC-150013	17-02-0010	CCTA	SR 4 Integrated Corridor Management	Contra Costa County: Along SR 4 between I-80 in Hercules to the SR 4/SR 160 Interchange in the City of Antioch: Implement Integrated Corridor Management along corridor.	NON-EXEMPT	2030

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Contra Costa	CC-170001	17-02-0052	Danville	San Ramon Valley Blvd Lane Addition and Overlay	In Danville: On San Ramon Blvd between Jewel Terrace and Podva Rd: Lane addition and rehabilitate roadway.	NON-EXEMPT	2020
Contra Costa	CC-170002	17-10-0048	BAIFA	CC-680 Northern Segment Express Lane - Southbound	Contra Costa County: On I-680 Southbound from Benicia-Martinez Toll Plaza to El Cerro: Convert HOV to express lanes and add/modify express lane elements. Project also references RTP ID 17-10-0054	NON-EXEMPT	2030
Contra Costa	CC-170015	17-02-0030	Brentwood	Brentwood Boulevard Widening - North (Phase II)	Brentwood: Brentwood Blvd. between Homecoming Way and Lone Tree Way: Widen existing roadway from 2 to 4 lanes	NON-EXEMPT	2030
Contra Costa	CC-170016	17-02-0033	CC County	Camino Tassajara Realignment, S of Windemere Pkwy	Contra Costa County: Camino Tassajara between Windemere Parkway and the City of Dublin: Realign curves and widen road to four lanes	NON-EXEMPT	2030
Contra Costa	CC-170017	17-02-0012	CCTA	I-680 NB Exp Lane Conversion/HOV Ext & Op Imp	Contra Costa County: NB I680 from Livorna Rd to SR242: Extend HOV lane; NB I680 from Livorna to Benicia-Martinez Bridge: Convert HOV to EL; NB I680 from N Main St to Treat Blvd and from Livorna Rd to	NON-EXEMPT	2030
Contra Costa	CC-170018	17-02-0020	CCTA	SR-4 Operational Improvements - Initial Phases	Contra Costa County: On SR-4 between I-680 and Bailey Road: Implement operational improvements including adding general purpose and auxiliary lanes at various locations	NON-EXEMPT	2030
Contra Costa	CC-170019	17-02-0046	Oakley	Civic Center Railroad Platform Park & Ride Complex	Oakley: Main Street between 2nd Street and O'Hara Avenue: Build 2 parking lots for multi-modal park, ride, and transit activities. Lots will serve train riders for a future train platform which includes	NON-EXEMPT	2030
Contra Costa	CC-170061	17-02-0051	CCTA	I-680 Bus On Shoulder	In Contra Costa County: On I-680 between Ygnacio Valley Rd and Alcosta Blvd: Increase bus service efficiency by implementing bus operations on shoulder (BOS)	NON-EXEMPT	2030
Contra Costa	CC-190001	17-02-0007	San Ramon	Crow Canyon Road (Alcosta to Indian Rice) Widening	San Ramon: Crow Canyon Rd from Alcosta Blvd to Indian Rice Rd: Widen to three lanes in each direction	NON-EXEMPT	2040
Contra Costa	CC-190002	17-02-0046	SJRC	Oakley Station Platform	Oakley: North of Main Street between 2nd St and O'Hara Ave: Construct a new train station platform for the Amtrak San Joaquins inter-city rail service.	NON-EXEMPT	2030
Marin	MRN050034	17-03-0006	TAM	US 101 HOV Lanes - Marin-Sonoma Narrows (Marin)	Marin and Sonoma Counties: From SR 37 in Novato to Old Redwood Highway in Petaluma; Convert expressway to freeway and widen to 6 lanes for HOV lanes.	NON-EXEMPT	2030
Marin	MRN070006	17-03-0011	Novato	Novato Boulevard Widening, Diablo to Grant	Novato: Novato Blvd between Diablo and Grant Ave.: Improvements to roadway including including widening existing two/three lanes to four lanes and adding turn lanes, bike lanes, curbs, and sidewalks.	NON-EXEMPT	2030
Marin	MRN110032	17-10-0024	San Anselmo	San Anselmo - Center Blvd Bridge Replace (27C0079)	San Anselmo: Center Blvd Bridge over San Anselmo Creek, at Sycamore Ave: Replace existing 2 lane bridge with 3 lane bridge	NON-EXEMPT - Not Regionally Significant Project	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Marin	MRN110035	17-10-0024	Marin County	Mountain View Rd Bridge Replacement - 27C0154	Marin County: On Mountain View Rd. over San Geronimo Creek (Bridge No. 27C0154) near the intersection with Sir Francis Drake Blvd: Replace existing one-lane bridge with a new two-lane bridge. Toll	NON-EXEMPT - Not Regionally Significant Project	2040
Marin	MRN130001	17-03-0014	GGBHTD	Larkspur Ferry Terminal Parking Garage	In Larkspur: At the Larkspur Ferry Terminal (LFT): Planning studies for a new three story parking structure	NON-EXEMPT - Not Regionally Significant Project	2040
Marin	MRN150009	17-10-0036	MTC	Richmond-San Rafael Bridge Access Improvements	In Contra Costa and Marin Counties: On I-580/Richmond-San Rafael Bridge: Convert existing shoulders to an automobile travel lane (EB) and a bike/ped path, construct bike/ped path in Contra Costa	NON-EXEMPT	2020
Marin	MRN190001	17-10-0010	GGBHTD	Golden Gate Ferry: New Vessel	GGBHTD: 1 vechicle: Purchase a new, 500-passenger, high-speed ferry vessel to continue to provide expanded commute service from Larkspur and Tiburon to San Francisco.	NON-EXEMPT	2030
Marin	MRN190003	17-03-0005	Novato	Novato Downtown SMART Station Phase 2	Novato: At Grant Ave and Railroad Ave: Install track switching electronics and platform amenities to allow for the station to operate and serve SMART passengers	NON-EXEMPT - Not Regionally Significant Project	2040
Napa	NAP050009	17-04-0006	NVTA	Park & Ride Lots in Napa County	Napa County: American Canyon, and Calistoga/St. Helena/Yountville: Construct Park and Ride Lots. Various existing Park and Ride Lots: Construct improvements	NON-EXEMPT	2040
Napa	NAP090003	17-04-0009	NVTA	SR 12/29/221 Soscol Junction Interchange Imps.	In Napa County: At SR-221/SR-29 Soscol Ferry Road: Construct improvements	NON-EXEMPT	2040
Napa	NAP110029	17-04-0004	American Canyon	Eucalyptus Drive Realignment Complete Streets	American Canyon: Eucalyptus Dr. from Theresa Rd to Hwy 29: Extend roadway and reconfigure intersection of Eucalyptus Dr and Hwy 29 and Eucalyptus Drive and Theresa Road. Create complete street	NON-EXEMPT - Not Regionally Significant Project	2040
Napa	NAP130006	17-04-0004	American Canyon	Devlin Road and Vine Trail Extension	American Canyon: Devlin Road from the southern terminus 2,500 feet south to Green Island Road: Construct roadway extension and Class I multipurpose path	NON-EXEMPT - Not Regionally Significant Project	2040
Napa	NAP170003	17-04-0006	NVTA	NVTA- Vine Transit Bus Maintenance Facility	Napa County: At an 8 acre site in south Napa County: Construct a new transit maintenance facility for Vine Transit operations	NON-EXEMPT - Not Regionally Significant Project	2040
Regional / Multi-County	MTC050027	17-10-0042	WETA	Ferry Service - Berkeley	WETA: Berkeley: Provide ferry service from Berkeley to San Francisco.	NON-EXEMPT	2030
Regional / Multi-County	MTC050029	17-05-0018	WETA	SF Ferry Terminal/Berthing Facilities	San Francisco: At the Ferry Terminal: Construct additional ferry docking/berthing facilities in the South Basin to improve ferry access and support WETA berthing/maintenance operational needs. Project is	NON-EXEMPT	2040
Regional / Multi-County	REG090003	17-10-0033	MTC	Freeway Performance Initiative (FPI)	SF Bay Area: Regionwide: Design, implement and maintain ramp metering, Traffic Operation Systems (TOS), and other Freeway Performance Initiative (FPI) projects on major congested freeways throughout	NON-EXEMPT	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Regional / Multi-County	REG090037	17-10-0026	BART	BART: Railcar Procurement Program	BART: Procure 790 Railcars (includes the replacement of 669 Railcars)	NON-EXEMPT	2040
Regional / Multi-County	REG130004	17-10-0054	BAIFA	Regional Express Lane Network	SF Bay Area: Regionwide: Program-level project costs to support the Regional Express Lane Network deployment including program (planning, coordination, & management), centralized toll system,	NON-EXEMPT	2040
Regional / Multi-County	REG150001	17-01-0026	Caltrans	Oakland to San Jose Double Track (Segment 2A)	Between Oakland and San Jose: On UPRR Niles subdivision from MP 6 to MP 35, and the Coast subdivision MP 13 to MP 35, and on the Caltrain Right of Way MP 44 to MP 48: Construct a second mainline	NON-EXEMPT	2040
Regional / Multi-County	REG170004	17-10-0033	MTC	Bay Bridge Forward - Commuter Parking Initiative	Albany and Oakland: At I-80/Buchanan Ave, I-880/High St, I-880/Fruitvale: Establish commuter parking in East Bay including parking management technologies, to encourage carpool and express bus	NON-EXEMPT - Not Regionally Significant Project	2040
Regional / Multi-County	REG170005	17-10-0033	MTC	Bay Bridge Forward - Flexible On-Demand Transit	SF Bay Area: Region-Wide: Provide on-demand transit services between East Bay and San Francisco, including related supportive transportation demand management strategies.	NON-EXEMPT - Not Regionally Significant Project	2040
Regional / Multi-County	REG170012	17-10-0033	MTC	Shared Use Mobility	SF Bay Area: Regionwide: Implement innovative projects & initiatives that promote shared forms of technology-based transportation options, may include pilot microtransit programs of no more than five	NON-EXEMPT	2040
Regional / Multi-County	REG170015	17-10-0033	MTC	Innovative Deployments to Enhance Arterials Ct 1&2	SF Bay Area: Region-wide: Deploy advanced technologies along arterial to enhance mobility and safety across all modes, including Connected/Automated vehicles, demonstration/pilot queue jump lanes no	NON-EXEMPT - Not Regionally Significant Project	2040
Regional / Multi-County	REG170017	17-10-0006	BART	BART Transbay Core Capacity Improvements	BART: Systemwide: Implement communication-based train control (CBTC) system, expand rail car fleet by 306 vehicles, add traction power substations (5); At Hayward Maintenance Complex; Expand	NON-EXEMPT	2040
Regional / Multi-County	SON090002	17-09-0018	SMART	Sonoma Marin Area Rail Corridor	Between Sonoma and Marin Counties: On NWP rail line: Implement passenger rail service and non-motorized pathway. Project also references RTP ID 17-03-0015	NON-EXEMPT	2020
Regional / Multi-County	VAR170003	17-10-0053	BAIFA	ALA/CC-80 and Bay Bridge Approach Express Lanes	In Alameda/Contra Costa counties: On I-80 from the Carquinez Bridge to Powell and the Bay Bridge Approaches: Convert HOV lanes to express lanes. Project also references RTP ID 17-10-0045.	NON-EXEMPT	2030
Regional / Multi-County	VAR170013	17-10-0033	MTC	Bay Bridge Forward - Casual Carpool	San Francisco and the East Bay: Along I-80 corridor: Establish and improve casual carpool pick-up locations at key locations in San Francisco and along I-80 and in East Bay.	NON-EXEMPT - Not Regionally Significant Project	2040
Regional / Multi-County	VAR170021	17-10-0033	MTC	Freeway Performance Program: I-880 Corridor	Alameda & Santa Clara Counties: I-880 from I-280 to I-80: Deliver operational strategies including adaptive ramp metering, advanced tech, arterial/transit priority signal upgrades & higher vehicle	NON-EXEMPT	2040

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Regional / Multi-County	VAR170023	17-10-0033	MTC	Freeway Performance Program: SR-84	Alameda & San Mateo Counties; SR-84 from I-880 to US-101; Deliver operational strategies including adaptive ramp metering, advanced technologies, arterial/transit priority signal upgrades, & higher	NON-EXEMPT	2040
San Francisco	SF-010015	17-10-0039	TBJPA	Transbay Term/Caltrain Downtown Ext - Ph.1	San Francisco: Transbay Transit Center; Replacement and expansion of the terminal at the present site.	NON-EXEMPT	2020
San Francisco	SF-010037	17-05-0041	SFMTA	SF Muni Third St LRT Phase 2 - New Central Subway	San Francisco: North-south alignment under 4th St. to Market, then under Geary to Stockton & under Stockton to Clay St; Extend the Light Rail line project includes procurement of four LRVs.	NON-EXEMPT	2020
San Francisco	SF-010038	17-05-0008	SF DPW	Bayview Transportation Improvements	In San Francisco: From US 101 to the Hunters Point Shipyard along: 25th, I280-Illinois; Cesar Chavez, US101-Illinois; Illinois, 25th-Cargo; Cargo, Illinois-Jennings; Jennings, Cargo-Evans; Evans, Cesar	NON-EXEMPT	2040
San Francisco	SF-050002	17-10-0038	TBJPA	Transbay Terminal/Caltrain Downtown Ext: Ph. 2	San Francisco: From Fourth/Townsend to new Transit Center: Extend Caltrain commuter rail service	NON-EXEMPT	2030
San Francisco	SF-070003	17-05-0042	SFMTA	Historic Streetcar Extension to Fort Mason	San Francisco: From Fisherman"s Wharf through National Park Service lands in Aquatic Park to Fort Mason: Extend the E-line or the current F-line service.	NON-EXEMPT	2030
San Francisco	SF-070004	17-05-0021	SFMTA	Geary Bus Rapid Transit	San Francisco: Along the Geary corridor between 34th Avenue and Market Street: Design and implement transit performance and safety improvements	NON-EXEMPT	2030
San Francisco	SF-070005	17-05-0033	SFMTA	Van Ness Avenue Bus Rapid Transit	Muni: On Van Ness Avenue from Mission to Lombard; Design and implement a BRT project. Project is phased. Project also references RTP IDs 240745 and 240471	NON-EXEMPT	2020
San Francisco	SF-090004	17-05-0008	SF DPW	Harney Way Roadway Widening	San Francisco: Harney Way from US 101 to Jamestown: Improvements including right-of-way engineering, land acquisition for future widening of roadway, design, landscaping and sidewalk improvements,	NON-EXEMPT	2040
San Francisco	SF-090012	17-10-0026	SFMTA	Light Rail Vehicle Procurement	SFMTA: Fleet-wide: Procure 219 light rail vehicles with an option for an additional 45 vehicles to replace existing fleet and expand service	NON-EXEMPT	2040
San Francisco	SF-090016	17-05-0031	SFMTA	Transit Center in Hunters Point	Muni:Transit Center in Hunters Point; Construct 10 bays, Low-level platform, Operator restroom, bus shelters,Electrical ductbank for MUNI power,etc	NON-EXEMPT	2040
San Francisco	SF-090018	17-05-0010	SFMTA	Oakdale-Palou Interim High-Capacity Bus Corridor	San Francisco: On the Palou Ave corridor: Implement Transit Preferential improvements, including bus bulbs, up to six traffic signals with transit signal priority, new bus shelters and pedestrian safety	NON-EXEMPT	2040
San Francisco	SF-090020	17-05-0032	SFMTA	Geneva Harney BRT Infrastructure: Central Segment	SFMTA: From Executive Park/Harney Way under US 101 to SF/Daly City line on Geneva Avenue: Construct bus rapid transit facilities	NON-EXEMPT	2030

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San Francisco	SF-090023	17-05-0032	SFMTA	Geneva Harney BRT Infrastructure - Eastern Segment	SFMTA: Bayview and Hunters Point: from Executive Park/Harney Way to Hunters Point Transit Center via Candlestick/Hunters Pt. Shipyard development: Construct extension of Geneva Harney BRT	NON-EXEMPT	2030
San Francisco	SF-110006	17-05-0027	SF DPW	Hunters Pt Shipyard and Candlestick Pt Local Roads	In San Francisco: Hunters Point Shipyard and Candlestick Point: Implement new local streets to support multi-modal mixed use development. The project is phased.	NON-EXEMPT	2040
San Francisco	SF-110049	17-05-0030	SF County TA	Treasure Island Congestion Pricing Program	San Francisco: Treasure Island: Implement Congestion Pricing Program. project is phased	NON-EXEMPT	2030
San Francisco	SF-130001	17-05-0016	SF DPW	SF- Better Market Street Transportation Elements	In San Francisco: Market St from Steuart St to Octavia Blvd: improve roadway, including resurfacing, sidewalk and transit boarding improvements, transit connections, traffic signals, transportation	NON-EXEMPT	2030
San Francisco	SF-130004	17-05-0030	SF County TA	Treasure Is/Yerba Buena Is Street Improvements	San Francisco: On Treasure Island: Implement Treasure Island/Yerba Buena Island street network Project includes a new street network, traffic calming, bike & pedestrian improvements, streetscape and	NON-EXEMPT	2030
San Francisco	SF-130005	17-05-0030	SF County TA	Treasure Island Pricing Mobility Improvements	San Francisco: On Treasure Island: Pricing Program Mobility Improvements including Transit Capital and maintenance improvements. The project is phased	NON-EXEMPT - Not Regionally Significant Project	2030
San Francisco	SF-130006	17-05-0031	SF DPW	Southeast Waterfront Transportation Improvements	San Francisco: Between HP Shipyard and Candlestick Pt: improve roadways to facilitate 5-mile, multi-modal corridor, connecting project area with the Bayshore Intermodal Station. Project development and	NON-EXEMPT	2040
San Francisco	SF-130007	17-05-0008	SF DPW	HOPE SF Street Network - Hunters View	San Francisco: Hunters View in Southeast: Realign streets and add new streets at public housing sites with new affordable housing units to improve transit, walking, and biking. Project is phased. Phase I	NON-EXEMPT - Not Regionally Significant Project	2040
San Francisco	SF-130008	17-05-0020	SF County TA	HOV/HOT Lanes on U.S.101 and I-280 in SF	San Francisco: On US 101 from SF/SM County line to I-280 interchange and on I-280 from US 101 interchange to 6th Street offramp: Convert an existing mixed traffic lane and/or shoulder/excess ROW in	NON-EXEMPT	2030
San Francisco	SF-130011	17-05-0004	SF DPW	SF- Second Street Complete Streets and Road Diet	In San Francisco: On Second Street between Market and King; Design and construct a complete streets project including the removal of a vehicular travel lane from Market to Townsend	NON-EXEMPT - Not Regionally Significant Project	2040
San Francisco	SF-130017	17-05-0029	SF County TA	SF Downtown Congestion Pricing	San Francisco: In the downtown area: Implement a demonstration value pricing (tolls and incentives) program	NON-EXEMPT	2030
San Francisco	SF-130021	17-05-0008	Port of SF	Pier 70 19th Street & Illinois Street Sidewalk	San Francisco: 19th St to 20th St (via Georgia St): Extend roadway and install bike/ped improvements.	NON-EXEMPT - Not Regionally Significant Project	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
San Francisco	SF-150008	17-05-0008	SF County TA	Quint-Jerrold Connector Road	San Francisco: From Oakdale Ave to Jerrold Ave: Provide an alternate access route between Oakdale and Jerrold Avenues and across the Caltrain tracks, to be coordinated with Caltrain's Quint Street Bridge	NON-EXEMPT - Not Regionally Significant Project	2040
San Francisco	SF-170001	17-05-0019	Port of SF	Mission Bay Ferry Terminal	San Francisco: At the eastern terminus of 16th St: Construct new ferry landing to service San Francisco Mission Bay and Central Waterfront as a part of the Bay area ferry transit system	NON-EXEMPT	2030
San Francisco	SF-170013	17-05-0008	SF DPW	HOPE SF Street Network - Sunnydale and Potrero	San Francisco: Sunnydale and Potrero neighborhoods: Construct new and realigned street networks throughout the two remaining HOPE SF sites, including traffic calming pedestrian and bike network, and	NON-EXEMPT - Not Regionally Significant Project	2040
San Francisco	SF-991030	17-10-0025	SF County TA	US 101 Doyle Drive Replacement	San Francisco: US 101 (Doyle Drive) from Lombard Street/Richardson Avenue to Route 1 Interchange; Replace/rehabilitate roadway.	NON-EXEMPT	2040
San Mateo	SM-050027	17-06-0010	Redwood City	US 101 / Woodside Interchange Improvement	Redwood City: US101/Woodside Rd Interchange: Reconstruct and reconfigure interchange including direct-connect flyover ramp to Veterans Blvd; Seaport Blvd and SR84 from US101/SR84 separation to	NON-EXEMPT	2030
San Mateo	SM-070008	17-07-0065	Caltrain	Caltrain South Terminal Phase II and III	San Jose: Just north of Diridon Station: Phase II - Construct an additional mainline track and new signal controls; Just south of Diridon Station: Phase III - install an additional mainline track and signal	NON-EXEMPT	2040
San Mateo	SM-090004	17-06-0021	Brisbane	US 101/Candlestick I/C Reconfiguration	In San Mateo County: U.S. 101/Candlestick Point Interchange: Planning and environmental studies for interchange reconfiguration to allow for safer and better flow of traffic	NON-EXEMPT	2040
San Mateo	SM-090007	17-06-0040	Redwood City	Blomquist Street Extension	In Redwood City: On Blomquist Street from Seaport Blvd to Bair Island Road: Extend roadway. Project may be phased.	NON-EXEMPT	2030
San Mateo	SM-090008	17-06-0017	San Carlos	US101/Holly St I/C Mod and Bike/Ped Overcrossing	San Carlos: At Holly St/ US-101 Interchange: Widen east bound to north bound ramp to two lanes and eliminate north bound to west bound loop and construct a grade-separated multipurpose path that	NON-EXEMPT	2020
San Mateo	SM-090009	17-06-0008	SMCTA	US 101 Aux lanes from Sierra Point to SF Co. Line	San Mateo County: On US 101 from Sierra Point to SF County Line; Construct auxiliary lanes or managed lanes. Project also references RTP ID 240060 for managed lanes	NON-EXEMPT	2030
San Mateo	SM-090014	17-06-0009	San Mateo	Improve US 101 operations near Rte 92	City of San Mateo: On US 101 near Route 92: Operational improvements	NON-EXEMPT	2040
San Mateo	SM-090015	17-06-0023	Half Moon Bay	Route 1 improvements in Half Moon Bay	Half Moon Bay: On SR-1: Improve safety, including adding protected turn lanes, adding through lanes, and new ped/bike path; SR-1 from N. Main to Kehoe: Extend four lane configuration; Frontage Rd and	NON-EXEMPT	2030
San Mateo	SM-110002	17-06-0030	Redwood City	Redwood City Ferry Service	SF Bay Area: Between Redwood City and San Francisco: Environmental clearance and design of ferry transit service	NON-EXEMPT	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
San Mateo	SM-110003	17-06-0011	SSF	US 101/Produce Avenue New Interchange	South San Francisco: On US Highway 101 from Utah Avenue on the east side to the vicinity of Produce Avenue on the west side: Construct a local interchange	NON-EXEMPT	2030
San Mateo	SM-130021	17-06-0003	Burlingame	Carolan Ave Complete Streets and Road Diet	Burlingame: Carolan Ave between Broadway and Oak Grove Ave: Implement road diet by converting a 4-lane roadway into a 2-lane roadway with a center turn lane, Class II bike lanes, and intersection	NON-EXEMPT - Not Regionally Significant Project	2040
San Mateo	SM-150017	17-06-0007	CCAG	US101 Managed Lanes: Santa Clara Co-S of Grand Ave	San Mateo County: On US101 from 2 mi. S. of the Santa Clara County Line to 0.3 mi. S. of Grand Ave I/C: Install Express Lanes. Use existing aux lanes where possible and add aux lanes where needed for	NON-EXEMPT	2030
San Mateo	SM-170004	17-06-0004	Pacifica	Manor Drive Overcrossing and Milagra On Ramp	In Pacifica: Hwy 1 and Manor Drive I/C: Widen the existing overcrossing; Hwy 1 and Milagra: Construct a new on-ramp; Both intersections: install signals	NON-EXEMPT	2040
San Mateo	SM-170011	17-06-0012	San Mateo	US 101/Peninsula Avenue Interchange Improvements	San Mateo: US-101 at Peninsula Ave and East Poplar Ave: Convert a partial interchange to a full interchange by adding new southbound on- and off-ramps and closing the southbound on- and off-ramps	NON-EXEMPT	2030
San Mateo	SM-190002	17-07-0065	Caltrain	Peninsula Corridor Electrification Expansion	Caltrain: Electric Multiple Unit (EMU) fleet: Expand fleet through procurement of an additional 40 vehicles.	NON-EXEMPT	2040
San Mateo	SM-190003	17-10-0033	SamTrans	SamTrans Express Bus Service	San Mateo, San Francisco and Santa Clara Counties: On the US-101 Corridor: Implement a network of four express bus routes	NON-EXEMPT	2040
Santa Clara	BRT030001	17-07-0012	VTA	BART - Berryessa to San Jose Extension	In San Jose: From Berryessa Station to San Jose and Santa Clara: Extend BART line	NON-EXEMPT	2030
Santa Clara	SCL030006	17-07-0038	San Jose	US 101/Blossom Hill Interchange Improvements	San Jose: At US101/Blossom Hill I/C: Reconstruct I/C including the widening of Blossom Hill Rd, signal upgrades and other modifications to eliminate congestion caused by merge and weave problems and	NON-EXEMPT	2030
Santa Clara	SCL050009	17-07-0061	VTA	Eastridge to BART Regional Connector	San Jose: At the Eastridge Transit Center: Ph I (completed) ¿ Improve and expand transit center; Capitol Expwy Light Rail from Alum Rock Transit Center to Eastridge Transit Center: Ph II - Extend light rail,	NON-EXEMPT	2030
Santa Clara	SCL070004	17-07-0027	San Jose	US 101 / Mabury New Interchange	San Jose: US 101/Mabury interchange at the location of the existing Talyor St overpass: Construct full interchange.	NON-EXEMPT	2030
Santa Clara	SCL090016	17-07-0022	VTA	SR 152 New Alignment	Santa Clara/ San Benito counties: SR152 between US101 and SR156: Complete PA&ED for new alignment the highway.	NON-EXEMPT	2040
Santa Clara	SCL090017	17-07-0005	Santa Clara Co	Montague Expwy Widening - Trade Zone-I-680	Santa Clara County: Montague Expressway between Trade Zone and I-680: Widen roadway to 8 lanes	NON-EXEMPT	2040
Santa Clara	SCL090030	17-07-0074	VTA	SR 85 Express Lanes	In Santa Clara County: On SR 85 carpool lane from US 101 in San Jose to US 101 in Mountain View including the US 101/SR 85 HOV direct connectors and approaches: Install ETS and implement roadway	NON-EXEMPT	2030

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Santa Clara	SCL090040	17-07-0062	VTA	LRT Extension to Vasona Junction and Double Track	Campbell and San Jose: From the existing Winchester Station to a new Vasona Junction Station, near Route 85: Extend the light-rail line and double-track single-track sections of the Vasona line	NON-EXEMPT	2030
Santa Clara	SCL110002	17-07-0075	VTA	Santa Clara County - US 101 Express Lanes	In Santa Clara County: From Cochrane Rd. in Morgan Hill to San Mateo County line in Palo Alto: Implement roadway pricing on US 101 carpool lane	NON-EXEMPT	2030
Santa Clara	SCL110005	17-07-0077	VTA	BART - Warm Springs to Berryessa Extension	Santa Clara County: From Warm Springs to the Berryessa Station in San Jose: Extend BART	NON-EXEMPT	2020
Santa Clara	SCL110006	17-07-0005	San Jose	San Jose - Autumn Street Extension	In San Jose: Autumn St between Julian Street and San Carlos Street: Widen, partially realign, and extend Autumn Street to adequately accommodate projected traffic demand.	NON-EXEMPT	2040
Santa Clara	SCL110007	17-07-0078	Santa Clara Co	San Tomas Expressway Widening	Santa Clara County: San Tomas Expressway between El Camino Real and Homestead Road: Phase I widening; San Tomas Expressway between Homestead Road and Stevens Creek Blvd: Phase II widening	NON-EXEMPT	2020
Santa Clara	SCL110008	17-07-0070	VTA	SR 237 Express Lanes: North 1st St to Mathilda Ave	In Santa Clara County: On SR-237 from Mathilda Ave to North 1st St.: Implement roadway pricing carpool lane; On SR-237 from I-880 to Mathilda Avenue: Operational Improvements in terms of restriping	NON-EXEMPT	2030
Santa Clara	SCL130001	17-07-0033	VTA	SR 237/US 101/Mathilda Interchange Modifications	In Sunnyvale: US 101/Mathilda and SR 237/Mathilda interchanges: Modify interchanges to relieve congestion and improve traffic operations for all modes	NON-EXEMPT	2030
Santa Clara	SCL150018	17-10-0015	VTA	Peery Park Rides	In Sunnyvale: Peery Park area: Implement flexible transit service as part of a trip reduction strategy.	NON-EXEMPT - Not Regionally Significant Project	2040
Santa Clara	SCL190001	17-07-0039	San Jose	US 101/Old Oakland Road Interchange improvements	Oakland Rd - Commercial St to US 101: Widen to 8 lanes; Commercial St - Oakland Rd to Berryessa Rd: Add turn lanes; Commercial St - Berryessa Rd to Mabury Rd: Extend roadway: US 101 ramps: Widen	NON-EXEMPT	2030
Santa Clara	SCL190002	17-07-0079	VTA	I-280/Foothill Expressway Off Ramp Improvement	Santa Clara County: NB I-280/Foothill Expressway interchange: Widen off ramp to add one additional lane	NON-EXEMPT	2040
Santa Clara	SCL190004	17-07-0028	VTA	I-280 HOV - San Mateo County line to Magdalena Ave	Santa Clara County: On I-280 in both directions from Magdalena Avenue in Los Altos Hills to the San Mateo County Line: Construct new HOV lane	NON-EXEMPT	2030
Santa Clara	SCL190005	17-07-0068	VTA	SR 237 WB Auxiliary Lane fr McCarthy to North 1st	Santa Clara County: SR 237 between McCarthy Boulevard and North First Street: Add westbound auxiliary lane	NON-EXEMPT	2030
Santa Clara	SCL190006	17-07-0044	VTA	Double Lane Southbound US 101 off-ramp to SB SR 87	Santa Clara: Southbound US 101 to Southbound Route 87: Widen the existing connector ramp to add one additional traffic lane and construct and install Traffic Monitoring Station (TMC)	NON-EXEMPT	2020

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Santa Clara	SCL190007	17-07-0023	VTA	US 101/Zanker Road-Skyport Drive-N. Fourth St. Imp	San Jose: US101 at Zanker Rd/Skyport Dr./N. 4th St: Construct a new overcrossing over US 101 connecting Zanker Rd to Skyport Dr-N. Fourth St to create a new north-south corridor parallel to N. First St	NON-EXEMPT	2030
Santa Clara	SCL190008	17-07-0031	VTA	US 101/De L Cruz Blvd - Trimble Road I/C Imp	Santa Clara: At the US101/De La Cruz Blvd/Trimble Rd IC: Modify interchange into a partial cloverleaf.	NON-EXEMPT	2030
Santa Clara	SCL190009	17-07-0051	VTA	Calaveras Boulevard Widening	Milpitas: Calaveras Blvd. overpass at UPRR tracks from Abel St to Town Center Blvd: Widen from 4 to 6 lanes and modify signing, striping and signals	NON-EXEMPT	2030
Santa Clara	SCL190010	17-07-0035	VTA	US 101/Buena Vista Avenue Interchange Improvement	Gilroy: At Buena Vista Ave. overcrossing at US 101: Construct a complete interchange by widening the overcrossing structure and adding new northbound and southbound on and off ramps.	NON-EXEMPT	2030
Santa Clara	SCL190011	17-07-0026	VTA	I-280/Wolfe Road Interchange Improvement	Cupertino: I-280/Wolfe Road Interchange: Modify to relieve congestion and improve local circulation.	NON-EXEMPT	2030
Santa Clara	SCL190014	17-07-0067	VTA	SR 17 Corridor Congestion Relief in Los Gatos	Los Gatos: On both directions of SR 17 from Lark Ave to south of SR 9 IC: Construct aux lanes including modifications to on-ramps and off-ramps to improve operations and relieve congestion; Along SR-	NON-EXEMPT	2030
Solano	SOL030002	17-08-0015	Fairfield	Fairfield/Vacaville Intermodal Rail Station	In Fairfield: Capitol Corridor: Construct train station with passenger platforms, pedestrian undercrossing, highway overcrossing, park and ride lot,bike and other station facilities. Project is phased.	NON-EXEMPT	2030
Solano	SOL050009	17-08-0007	Dixon	Parkway Blvd/UPRR Grade Separation	In Dixon: Parkway Blvd from Valley Glen Dr. to Pitt School Rd: Construct new 4 lane roadway and overcrossing of UPRR & Porter Rd; Pitt School Rd from south of Hillview Drive to Porter Rd: widen shoulders	NON-EXEMPT - Not Regionally Significant Project	2040
Solano	SOL070020	17-08-0009	STA	I-80/I-680/SR 12 Interchange Improvements	Fairfield: I-80/I-680/Route 12 IC: Ph-1 Improve IC, including connecting I-80 to SR 12 W, I-680 NB to SR 12W (Jameson Canyon), I-80 to I-680 (+ Express Lane Direct connectors), build local IC and build	NON-EXEMPT	2040
Solano	SOL090015	17-08-0010	Solano County	Redwood-Fairgrounds Dr Interchange Imps	Solano County: I-80 Redwood St. I/C and SR-37/Fairgrounds Dr. I/C: Implement I/C and safety improvements; Fairgrounds Dr. from Redwood St. to SR-37: Remove left turn lane and widen to add one lane	NON-EXEMPT	2030
Solano	SOL110001	17-10-0044	MTC	I-80 Express Lanes - Fairfield & Vacaville Ph I&II	I-80 in Solano County from Red Top Rd to I-505: Convert existing HOV to HOT & Construct new HOT lanes from Air Base Parkway to I-505. Project also references RTP ID 17-10-0059	NON-EXEMPT	2030
Solano	SOL110004	17-08-0012	STA	Jepson: Walters Rd Ext - Peabody Rd Widening	Solano County: Jepson Parkway segment: Walters Road Extension, Peabody Widening.	NON-EXEMPT	2030
Solano	SOL110005	17-08-0012	STA	Jepson: Leisure Town Road from Vanden to Commerce	Jepson Parkway segment: Leisure Town Road from Vanden Road to Commerce. Project is phased	NON-EXEMPT	2030

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Solano	SOL110006	17-08-0012	STA	Jepson: Leisure Town Road Phase 1B and 1C	Vacaville: (Phase 1B) Leisure Town Rd from Elmira Rd to Sequoia and (Phase 1C) from Sequoia Dr to Horse Creek: Widen to 4 lanes with multiuse sidewalk and safety improvements	NON-EXEMPT	2030
Solano	SOL110007	17-08-0015	Fairfield	Fairfield Transportation Center - Phase 3	In Fairfield: Fairfield Transportation Center: Construct second parking structure with approximately 600 automobile parking spaces and access improvements.	NON-EXEMPT	2030
Sonoma	SON070004	17-09-0006	Son Co TA	US 101 Marin/Sonoma Narrows (Sonoma)	Marin and Sonoma Counties (Sonoma County Portion): From SR37 in Novato to Old Redwood Highway in Petaluma: convert expressway to freeway; Between Lakeville Highway and East Washigton Street:	NON-EXEMPT	2030
Sonoma	SON150006	17-09-0010	Santa Rosa	US 101 Hearn Ave Interchange	Santa Rosa: US 101/Hearn Avenue over-crossing/interchange: Replace the US 101/Hearn Avenue over-crossing/interchange with a new over crossing/interchange including bike lanes, sidewalks, and re-	NON-EXEMPT	2030
Sonoma	SON150010	17-10-0015	Son Co TA	Santa Rosa Car Share	Santa Rosa: Various locations: Establish nine car share vehicles at four pods.	NON-EXEMPT - Not Regionally Significant Project	2040
Alameda	ALA010034	17-10-0026	AC Transit	AC Transit: Facilities Upgrade	AC Transit: Systemwide: Agency's facilities & equipment upgrades.	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
Alameda	ALA010056	17-01-0008	ACE	ACE Track Improvements.	ACE: From Stockton to San Jose: Corridor improvements for signaling, grade crossing, track and other cost associated	EXEMPT (40 CFR 93.126) - Rehabilitation or reconstruction of track structures, track, and trackbed in	2040
Alameda	ALA030030	17-10-0026	LAVTA	LAVTA: Preventive Maintenance	LAVTA: Systemwide: Preventive Maintenance Program for Agency Fleet.	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
Alameda	ALA050002	17-01-0007	San Leandro	SR 185- E. 14th St/ Hesperian Blvd/150th Ave	San Leandro: 150th/E. 14th/Hesperian: Construct NB left turn Ln from Hesperian to E.14th, EB left turn Ln from E.14th to 150th Av & SB Ln from Hesperian to 150th and other traffic circulation	EXEMPT (40 CFR 93.127) - Intersection channelization projects	2040
Alameda	ALA050035	17-01-0004	Alameda County	Cherryland/Ashland/CastroValley/Fairview BikePed	Cherryland, Ashland, Castro Valley, Fairview, San Lorenzo and other Unincorporated Areas of Alameda County: Various Locations: Sidewalk, bike lanes and other safety improvements in the vicinity of	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Alameda	ALA050079	17-01-0040	ACTC	I-80 Gilman Interchange Improvements	Berkeley: On Gilman Avenue at I-80: Reconfigure interchange providing dual roundabout at the entrance & exits from I-80 as well as the Eastshore Highway and West Frontage Rd and bike/ped	EXEMPT (40 CFR 93.127) - Changes in vertical and horizontal alignment	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Alameda	ALA090022	17-10-0024	Alameda County	Estuary Bridges Seismic Retrofit and Repairs	Oakland: 3 Oakland Estuary bridges: Seismic retrofit and repairs	EXEMPT (40 CFR 93.126) - Widening narrow pavements or reconstructing bridges (no additional travel	2040
Alameda	ALA090023	17-10-0024	Alameda County	Fruitvale Ave Roadway Bridge Lifeline	Alameda County: Fruitvale Roadway Bridge: Retrofit bridge to a lifeline facility	EXEMPT (40 CFR 93.126) - Widening narrow pavements or reconstructing bridges (no additional travel	2040
Alameda	ALA090065	17-10-0026	BART	BART: Fare Collection Equipment	BART: Systemwide: Acquire and install fare collection equipment.	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040
Alameda	ALA090068	17-01-0004	BART	MacArthur BART Plaza Remodel	Oakland: MacArthur BART Station: Renovate the entry plaza	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
Alameda	ALA110032	17-01-0004	BART	Downtown Berkeley BART Plaza/Transit Area Imps.	In Berkeley: Area around Downtown Berkeley BART Station: Streetscape improvements; design/construction of custom bus shelter, canopy design for 5 secondary BART entries and construction of one;	EXEMPT (40 CFR 93.126) - Transportation enhancement activities (except rehabilitation and operation	2040
Alameda	ALA110033	17-01-0003	ACTC	Alameda County Safe Routes to School	Alameda County: Countywide: SR2S Program including education & outreach in various K-12 schools, ridesharing, & project development.	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
Alameda	ALA110072	17-01-0004	Oakland	Lake Merritt Improvement Project	In Oakland: Adjacent to Lake Merritt: Reconfigure roadways and construct paths, walls, structures, lighting, parking and landscaping; no added capacity	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Alameda	ALA110099	17-10-0026	ACE	ACE Preventative Maintenance	ACE Rail: Systemwide: Preventative maintenance activities for ACE service and associated equipment, functions, and facilities.	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Alameda	ALA130001	17-01-0006	Fremont	Widen Kato Rd from Warren Avenue to Milmont Drive	Fremont: Kato Road from Warren Avenue to Milmont Drive: Widen to provide left turn pockets, median island improvements, bike lanes on both sides of the roadway, and modify traffic signal at Kato	EXEMPT (40 CFR 93.127) - Intersection channelization projects	2040
Alameda	ALA130003	17-01-0001	Oakland	Lake Merritt to Bay Trail Bike/Ped Bridge	Oakland: Over Embarcadero and UPRR tracks under I880 between the Estuary and Lake Merritt along the Channel: Construct ADA accessible bicycle pedestrian bridge to link Bay Trail to Lake Merritt.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Alameda	ALA130018	17-10-0022	Alameda County	Alameda Co-Various Streets and Roads Preservation	Unincorporated Alameda County: Various roadways: Rehabilitate pavement	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Alameda	ALA130024	17-01-0001	Oakland	Lakeside Complete Streets and Road Diet	Oakland: Along Harrison Street and Lakeside Drive between 19th Street and Grand Avenue: implement road diet and install bike and pedestrian facilities	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Alameda	ALA130028	17-01-0004	Berkeley	Hearst Avenue Complete Streets	In Berkeley: Hearst St from Shattuck Ave to Gayley/La Loma: Implement access and safety improvements to Downtown Berkeley PDA for all modes, includes a road diet from Shattuck Ave to Euclid Ave	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Alameda	ALA130030	17-01-0001	MTC	Improved Bike/Ped Access to East Span of SFOBB	In Oakland: In the vicinity of the East Span of the San Francisco-Oakland Bay Bridge: Construct improved bicycle and pedestrian access. Project is phased.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Alameda	ALA130035	17-01-0001	Berkeley	Bay Trail Shoreline Access Staging Area	Berkeley: Berkeley Marina: Construct segment 3 of Bay Trail Extension, construct new public restroom, and renovate existing public parking area and windsurf staging area.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Alameda	ALA150002	17-01-0003	Alameda County	Niles Canyon Rd (SR 84)/Pleas-Sunol Rd Inter. Imps	In Sunol Area: At Niles Canyon Rd(SR 84), Pleasanton Sunol Rd and Paloma Rd intersection: intersection improvements at the four corners includeing installation of a traffic signal, shoulder improvements	EXEMPT (40 CFR 93.127) - Intersection signalization projects at individual intersections	2040
Alameda	ALA150007	17-01-0001	Alameda	Cross Alameda Trail (includes SRTS component)	City of Alameda: Between Webster St and Sherman St: Construct a new trail with an on-street portion.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Alameda	ALA150010	17-01-0001	Oakland	International Boulevard Improvement Project	Oakland: International Boulevard (1st Ave to Durant) and East 12th Street (1st Ave to 14th Ave): Install pedestrian scale lighting along the corridor, repair sidewalk damage, and install curb ramps.	EXEMPT (40 CFR 93.126) - Lighting improvements	2040
Alameda	ALA150012	17-01-0007	Oakland	Laurel Access to Mills, Maxwell Park and Seminary	Oakland: MacArthur Boulevard from High St to Simmons St: Implement bicycle and pedestrian improvements	EXEMPT (40 CFR 93.127) - Intersection channelization projects	2040
Alameda	ALA150020	17-01-0007	AC Transit	AC Transit: South County Corridors	AC Transit: South Alameda County Major Corridors: Travel time improvements including Adaptive Traffic Control Systems, corridor-wide Transit Signal Priority, signal coordination and relocation of key bus	EXEMPT (40 CFR 93.128) - Traffic signal synchronization projects	2040
Alameda	ALA150031	17-10-0026	LAVTA	LAVTA: Replacement (11) 40' Hybrid Buses	LAVTA: 11 40' hybrid buses: Purchase buses to replace diesel buses that have exceeded their useful life	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Alameda	ALA150032	17-10-0026	LAVTA	LAVTA: Replacement (9) 30' Hybrid Buses	LAVTA: 9 vehicles: Purchase nine (9) 30' hybrid buses to replace diesel buses that have exceeded their useful life	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Alameda	ALA150035	17-10-0028	LAVTA	LAVTA: Farebox Replacement	LAVTA: New Buses: Install farebox devices compliant with Clipper technology	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040
Alameda	ALA150038	17-10-0026	AC Transit	AC Transit: Purchase (10) Double-Deck Diesel Buses	AC Transit: (10) Double-Deck Diesel Buses: Purchase buses to replace buses in existing fleet	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Alameda	ALA150039	17-10-0026	AC Transit	AC Transit: Purchase (10) 40' Buses-Fuel Cell ZEB	AC Transit: 10 vehicles: Replace 10 40ft urban diesel buses with Zero-emission fuel cell buses	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Alameda	ALA150044	17-01-0004	Oakland	19th St BART to Lake Merritt Urban Greenway	In Oakland: Between Broadway and Harrison Street: Improvements include sidewalk widening and bulbouts, ped crossing improvements, bikelanes, new traffic signals and signal mods, street/ped lighting,	EXEMPT (40 CFR 93.127) - Intersection signalization projects at individual intersections	2040
Alameda	ALA150045	17-10-0026	AC Transit	AC Transit: PM - Exchange for 40ft Fuel Cell ZEB	AC Transit: Preventive maintenance program, including maintenance of buses and facilities. Project is in exchange for local funds to replace 10 (of 102 in sub-fleet) 40ft urban diesel buses with Zero-	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
Alameda	ALA150046	17-10-0026	Union C Transit	Union City Transit Rehab Two (2) Transit Buses	Union City Transit: Two (2) compressed natural gas (CNG) buses from 2008 that are now at their mid-life service expectancy: Rehabilitate vehicles: The vehicles have the potential to serve the transit agency	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
Alameda	ALA150048	17-01-0001	Berkeley	9th St Bicycle Blvd Extension Pathway Ph II	In Berkeley: Between the 9th Street Bicycle Boulevard (south of Heinz Avenue) and Murray Street: Install a shared-use path	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Alameda	ALA150049	17-01-0002	Berkeley	goBerkeley Residential Shared Parking Pilot	In Berkeley: In residential areas adjacent to Southside/Telegraph and Elmwood goBerkeley program areas: Implement parking pricing pilot; In pilot areas: Implement TDM strategies and outreach focused on	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
Alameda	ALA150050	17-01-0002	Oakland	Oakland Parking and Mobility Management	Oakland: Montclair and select areas of Downtown: Implement demand-responsive parking management and transportation demand management initiatives	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
Alameda	ALA150052	17-10-0033	AC Transit	AC Transit: SFOBB Forward	AC Transit: 14 replacement and 5 new buses: Rehab buses and purchase 5 new double-decker buses to expand transbay service. Includes 1 year of operating funding; at the Oakland Maintenance Facility:	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Alameda	ALA170002	17-01-0037	ACTC	I-80/Ashby Avenue Interchange Improvements	Alameda County: I-80/Ashby IC: Reconstruct the interchange including constructing new bridge, two roundabouts and bike/ped improvements	EXEMPT (40 CFR 93.127) - Interchange reconfiguration projects	2040
Alameda	ALA170007	17-10-0023	MTC	Regional Planning Activities and PPM - Alameda	Alameda: Regional Planning Activities and Planning, Programming and Monitoring (PPM)	EXEMPT (40 CFR 93.126) - Planning and technical studies	2040
Alameda	ALA170012	17-01-0003	MTC	Bay Bridge Forward-Commuter Parking Access Imps.	Albany and Oakland: Adjacent to Park and Ride lots at I-80/Buchanan Ave, I-880/High St, I-880/Fruitvale: Bicycle/pedestrian/bus stop improvements to facilitate safer access to and from lots; toll credits	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Alameda	ALA170013	17-01-0007	Union C Transit	Union City Transit Travel Time Improvements	Union City: South Alameda County Major Corridors: Travel time improvements including Adaptive Traffic Control Systems, corridor-wide Transit Signal Priority, signal coordination and relocation of key bus	EXEMPT (40 CFR 93.128) - Traffic signal synchronization projects	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Alameda	ALA170014	17-10-0026	Union C Transit	Union City Paratransit Van Procurement	Union City Transit: Six (6) 2009 compressed natural gas (CNG) vans: Replace as they have reached the end of their useful life.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Alameda	ALA170015	17-10-0026	Union C Transit	Union City Transit: Replace Paratransit Sedan	Union City Transit: 1 vehicle: Replace one (1) Union City Paratransit sedan with one (1) van	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Alameda	ALA170027	17-10-0026	AC Transit	AC Transit: Purchase 10 Double-Decker Buses	AC Transit: 10 Double-Decker Buses: Purchase buses for transbay service	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Alameda	ALA170028	17-10-0026	AC Transit	AC Transit: Purchase (35) 40ft Diesel Buses	AC Transit: 35 40-ft Diesel Buses: Purchase replacement buses to keep AC Transit's fleet in a state of good repair	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Alameda	ALA170029	17-10-0026	AC Transit	AC Transit: Preventive Maintenance (Swap)	AC Transit: Systemwide: Preventive Maintenance (federal funding is provided for this project in exchange for AC Transit's commitment to Replace 5 40' Urban Buses - Battery using local funds)	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
Alameda	ALA170030	17-10-0026	AC Transit	AC Transit: Preventive Maintenance (Deferred Comp)	AC Transit: Systemwide: Preventive Maintenance (funding is incentive for delaying bus purchases)	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
Alameda	ALA170031	17-10-0026	AC Transit	AC Transit: Replace (27) 40ft Urban Buses - Hybrid	AC Transit: (27) 40ft Urban Buses - Hybrid: Purchase replacement buses	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Alameda	ALA170032	17-10-0026	AC Transit	AC Transit: Purchase 19 60-ft Artic Urban Buses	AC Transit: 19 vehicles: Purchase 19 60-ft Articulated Urban Buses	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Alameda	ALA170038	17-10-0026	AC Transit	AC Transit: Replace (6) 24ft Cut-Away Vans	AC Transit: (6) 24ft Cut-Away Vans: Replace vans	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Alameda	ALA170039	17-01-0002	Union C Transit	Union City: ADA Paratransit Operating Subsidy	Union City Transit: Systemwide: ADA Paratransit Operating Assistance	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Alameda	ALA170040	17-10-0013	MTC	I-880 Integrated Corridor Management North Segment	Alameda County: I-880 corridor from I-880/I-980 IC to I-880/Davis St. IC: Install intelligent transportation system infrastructure to facilitate the active management of traffic that naturally diverts onto	EXEMPT (40 CFR 93.126) - Traffic control devices and operating assistance other than signalization	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Alameda	ALA170041	17-10-0026	AC Transit	AC Transit: 5 Battery Electric Bus purchase	AC Transit: 5 buses: Purchase 5 New Flyer battery electric buses with 5 depot charging stations and installation. Includes consulting PM support from CTE.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Alameda	ALA170043	17-01-0004	Oakland	Oakland - 14th Street Safe Routes in the City	In Oakland: On 14th St between Brush St and Oak St: Reduce travel lanes from 4 to 2, add paved Class IV protected bicycle lanes; transit boarding islands; improve ped facilities including refuges, crossings,	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Alameda	ALA170047	17-01-0002	Alameda County	Active Oakland: A Comprehensive SR2S Program	Oakland: In Oakland Unified School District's most disadvantages schools: Promote walking and cycling	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
Alameda	ALA170048	17-10-0027	ACE	ACE Fixed Guideway (Capital Lease)	ACE: Along ACE Corridor: Capital Lease payments required to operate along Union Pacific corridor	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Alameda	ALA170050	17-01-0001	Emeryville	Emeryville Greenway Crossing Improvements	Emeryville: Greenway trail crossings at 65th, 66th, and 67th: Improve crossings with raised crosswalks, RRFBs, parking adjustments and signage and add bike share station	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Alameda	ALA170051	17-01-0001	Oakland	Fruitvale Alive Bike/Ped Gap Closure	In Oakland: On Fruitvale Ave between Alameda Ave and E. 12th: Install class 4 cycle tracks and landscaped buffers, widen sidewalks, improve ped crossings, add ped scale lighting, reconfigure conflicting	EXEMPT (40 CFR 93.127) - Intersection channelization projects	2040
Alameda	ALA170053	17-01-0004	Oakland	Oakland 35th Ave Bike/Ped Improvements H8-04-015	Oakland: 35th Ave from San Leandro St to Sutter St: H8-04-015 Install crossing enhancements, HAWKs, RRFBs, signal upgrades/modifications, signing, striping, markings; 35th Ave from Int Blvd to E 12th	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Alameda	ALA170054	17-01-0001	Berkeley	John Muir Safe Routes to School	Berkeley: Along Claremont south of Ashby near John Muir School: Install speed feedback signs; At the intersection of Claremont and Claremont Crescent: Implement crossing improvements	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Alameda	ALA170055	17-10-0063	BART	19th Street BART Station Modernization-GO Uptown	In Oakland: At the 19th Street BART Station and adjacent public realm: Implement station and streetscape improvements	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
Alameda	ALA170056	17-10-0026	ACE	ACE - Locomotive Procurement	ACE: Systemwide: Purchase four locomotives to replace existing equipment	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Alameda	ALA170057	17-10-0013	MTC	I-880 Integrated Corridor Management - Central	Alameda County: I-880 Corridor from Davis St in San Leandro to Whipple Rd in Union City: Identify how existing and planned incident management strategies and operations can be better coordinated and	EXEMPT (40 CFR 93.126) - Traffic control devices and operating assistance other than signalization	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Alameda	ALA170058	17-10-0033	MTC	Bay Bridge Forward: West Grand TSP	In Oakland: Various locations on the West Grand Ave Corridor between Maritime and Northgate; Implement transit signal priority for AC Transit vehicles.	EXEMPT (40 CFR 93.126) - Traffic control devices and operating assistance other than signalization	2040
Alameda	ALA170059	17-10-0003	AC Transit	San Pablo and Telegraph Ave Rapid Bus Upgrades	AC Transit: Various locations on the San Pablo and Telegraph Ave Corridors: Implement rapid bus improvements including TSP upgrades, signal coordination, the relocation of key bus stops; On Telegraph	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2030
Alameda	ALA170060	17-10-0033	Caltrans	GL: Alameda County - TOS-Mobility	Alameda County: Various Locations: Projects are consistent with 40 CFR Part 93.126 Exempt Tables 2 and 40 CFR Part 93.127 Table 3 categories	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Alameda	ALA170061	17-01-0064	Newark	Thornton Avenue Pavement Rehabilitation	Newark: On Thornton Ave between Spruce and Hickory St: Rehabilitate pavement	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Alameda	ALA170062	17-01-0064	Dublin	Dublin Blvd Rehabilitation	Dublin: Segments of Dublin Boulevard from Scarlet Drive to Hacienda Drive: Rehabilitate pavement	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Alameda	ALA170063	17-01-0004	Oakland	Lakeside Family Streets	In Oakland: On Harrison St between 20th St and 27th St, and along Grand Ave from west of Harrison to east of Bay Place: install cycle track, parking protected bikeways and protected intersection; On	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Alameda	ALA170064	17-01-0064	Oakland	Oakland Various Streets Improvements	In Oakland: Citywide: Implement paving Improvements including pavement resurfacing, bicycle transportation, curb, gutter, drainage, sidewalks, pedestrian safety, and ADA compliant curb ramps	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Alameda	ALA170065	17-01-0004	Hayward	Hayward - Main Street Complete Street	Hayward: Main St from Mc Keever to D St: Reduce roadway from 4 to 2 lanes, construct bike lanes, widen sidewalks and add complete street elements	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Alameda	ALA170066	17-01-0004	Hayward	Winton Ave Complete Street	Hayward: On Winton Ave from Hesperian Blvd to Santa Clara St: Rehabilitate pavement, upgrade curb ramps and streetlights; On Winton Ave just east of Santa Clara St: Landscape median	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Alameda	ALA170067	17-01-0004	Berkeley	Southside Complete Streets & Transit Improvement	Berkeley: Various locations south of UC Berkeley: Construct two-way cycle tracks, signal mods, transit imps and TSP, loading zone imps, pedestrian safety imps, and repaving; On Telegraph from Channing	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Alameda	ALA170068	17-01-0064	Livermore	Livermore Pavement Rehabilitation - MTS Routes	Livermore: Various Locations: Repair and/or rehabilitate pavement	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Alameda	ALA170069	17-01-0064	Fremont	City of Fremont Pavement Rehabilitation	Fremont: Various Locations: Rehabilitate pavement and implement bike/ped improvements	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Alameda	ALA170070	17-01-0064	Pleasanton	Pavement Rehabilitation Hacienda Business Park	Pleasanton: Various locations near the Hacienda Business Park: Pavement rehabilitation and bike/ped improvements	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Alameda	ALA170071	17-01-0064	Union City	Union City-Dyer Street Pavement Rehabilitation	Union City: On Dyer St from Alvarado Blvd to Deborah Dr: Rehabilitate pavement	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Alameda	ALA170072	17-01-0064	Emeryville	Frontage Rd, 65th St and Powell St Pavement Maint	Emeryville: Various Locations on Frontage Road, 65th St, Powell St: Pavement maintenance	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Alameda	ALA170073	17-01-0004	Alameda	Clement Avenue Complete Streets	Alameda: On Clement Avenue between Broadway and Grand St: Complete street improvements including Class II bike lanes, curb extensions, flashing beacons, bus shelters, sidewalk/curb ramp	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Alameda	ALA170074	17-10-0022	Alameda	Alameda City-Wide Pavement Rehabilitation	Alameda: Buena Vista Ave from Willow St to Park St and Kofman Pkwy from Tralee Ln to Aughinbaugh Way: Resurface and rehabilitate pavement	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Alameda	ALA170075	17-10-0022	San Leandro	San Leandro Washington Avenue Rehabilitation	San Leandro: Washington Ave from W. Juana Ave to Castro St: Reconstruct roadway	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Alameda	ALA170076	17-01-0004	Fremont	Complete Streets Upgrade of Relinquished SR84	Fremont: Thornton Ave (Blacow Rd to Fremont Blvd), Fremont Blvd (Alder Ave to Mattos Dr) and Peralta Blvd (Fremont Blvd to Sequoia Rd): Implement complete streets improvements; On Peralta Blvd	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Alameda	ALA170077	17-01-0001	EB Reg Park Dis	Doolittle Drive Bay Trail	Oakland: Along Doolittle Dr. from the MLK Regional Shoreline Center near Langley Street 2,300 feet to the north end of the existing SF Bay Trail at the fishing dock, north of Swan Way: Construct SF Bay	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Alameda	ALA170078	17-01-0003	Oakland	Oakland - Crossing to Safety	Oakland: At Park Blvd/Excelsior Ave-Grosvenor Place and Park Blvd/13th Ave-East 38th St: Provide sidewalks and shorter pedestrian crossings; At the Park Blvd intersection near Edna Brewer Middle School:	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Alameda	ALA170079	17-10-0026	ACE	ACE: Railcar Midlife Overhaul	ACE: System-wide: Perform midlife overhaul of existing ACE railcars to extend useful life.	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Alameda	ALA170080	17-10-0026	AC Transit	AC Transit: Purchase (10) 24ft Cut-aways	AC Transit:(10) 24ft Cut-away vans: Purchase vehicles to replace existing fleet at end-of-life.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Alameda	ALA170081	17-10-0026	AC Transit	AC Transit: Purchase (24) 60ft Artic Hybrid Buses	AC Transit: 24 vehicles: Purchase (24) 60ft Artic Hybrid Buses. Replace existing bus fleet to keep fleet in state of good repair.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Alameda	ALA170082	17-10-0026	AC Transit	AC Transit: Purchase (59) 40ft Diesel Buses	AC Transit: Purchase (59) 40-ft Diesel Buses: Purchase buses to keep AC Transit's fleet in a state of good repair.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Alameda	ALA170084	17-10-0022	Piedmont	Piedmont - Oakland Avenue Improvements	Piedmont: Oakland Ave between Grand Ave and western city limits: Pavement rehabilitation and installation of bicycle and pedestrian safety improvements	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Alameda	ALA170085	17-01-0015	ACTC	7th Street Grade Separation East	Oakland: 7th St and rail tracks between I880 and Maritime St in the Port of Oakland: Reconstruct the existing 7th St underpass on an adjacent alignment, rail tracks, and other rail infrastructure. No through	EXEMPT (40 CFR 93.127) - Changes in vertical and horizontal alignment	2040
Alameda	ALA170087	17-01-0026	ACTC	Freight Intelligent Transportation System (FITS)	Oakland: In the Port of Oakland and surrounding areas: Implement ITS improvements, signal systems, and other technologies to cost-effectively manage truck arrivals and improve incident response	EXEMPT (40 CFR 93.127) - Intersection signalization projects at individual intersections	2040
Alameda	ALA170088	17-10-0022	Albany	San Pablo Ave & Buchanan St Pedestrian Imps.	Albany: Various Locations on Buchanan St and San Pablo Ave: Streetscape improvements including medians, bulb outs, signal modifications, striping of high visibility crosswalks. Project is phased.	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Alameda	ALA170091	17-01-0008	LAVTA	Livermore Transit Center Rehab and Improvement	LAVTA: Downtown Livermore Transit Center: Rehabilitate and improve the center by replacing or rehabilitating assets past their useful life including failed pavement, area security lighting, passenger	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
Alameda	ALA170092	17-10-0026	Union C Transit	Union City Replace Heavy-Duty Transit Vehicles	Union City Transit: 2 vehicles: Replace two (2) Heavy-Duty Compressed Natural Gas (CNG) Transit Vehicles and procure associated equipment	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Alameda	ALA170093	17-01-0026	Emeryville	Emeryville Quiet Zone Safety Engineering Measures	Emeryville: At three at-grade crossings just east of Shellmound Street: Install four-quadrant gates at the at-grade crossings, amongst other safety engineering improvements.	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Alameda	ALA170094	17-01-0001	Berkeley	Berkeley - Sacramento St Complete Streets Imps	Berkeley: On Sacramento Street at 4 intersections (Virginia, Delaware, University, & Addison): Construct bike/ped crossing improvements; On Acton between Virginia & Delaware and on Delaware between	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Alameda	ALA190004	17-01-0001	BART	Alameda Regional Access Phase II	Alameda: Running parallel to and south of Ralph Appezzato Municipal Pkwy, between Main St and Constitution Way: Construct 0.8 miles of walking and biking trails, streetscaping and signal modification	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Alameda	ALA190005	17-10-0026	LAVTA	Hybrid Bus Battery Pack Replacement	LAVTA: Fleetwide: Replace hybrid battery packs on Diesel/Electric hybrid buses	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
Alameda	ALA190006	17-01-0003	Alameda County	Alameda County - Vasco Road Safety Improvements	Alameda County: Vasco Rd between Dalton and MM.3.05: Rehabilitate pavement and install centerline and edgeline rumble strips and striping markings	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Alameda	ALA190014	17-10-0032	BART	BART-Elevator Renovation program	BART: Various locations system-wide: Renovate or rehabilitate elevators	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
Alameda	ALA190015	17-01-0002	Alameda County	Active and Safe Oakland	Oakland: At various schools citywide: Promote walking and biking through education, encouragement, and enforcement activities	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Alameda	ALA190016	17-01-0001	Albany	Ohlone Greenway Trail Safety Improvements	Albany: Various locations along the Ohlone Greenway: Install safety improvements including new protected left turn phase which would eliminate potential conflicts between trail users and vehicles turning	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Alameda	ALA190019	17-01-0004	Alameda County	Alameda County Complete Street Improvements	Alameda County: Various locations: Bicyle and ped safety improvements	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Alameda	ALA990052	17-10-0026	AC Transit	AC Transit: Paratransit Van Replacement	AC Transit: Paratransit fleet: Amortized cost of replacing vans used for paratransit service. Vans are operated and replaced by paratransit contractor. FTA funds programmed annually in lieu of	EXEMPT (40 CFR 93.126) - Purchase of support vehicles	2040
Alameda	ALA990076	17-01-0002	AC Transit	AC Transit: ADA Paratransit Assistance	AC Transit: Systemwide: ADA Paratransit Operating Subsidy.	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Alameda	ALA990077	17-01-0002	LAVTA	LAVTA: ADA Paratransit Operating Subsidy	LAVTA: ADA Paratransit Operating Subsidy	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Contra Costa	CC-030025	17-10-0026	WCCTA	WCCTA: Preventive Maintenance Program	WestCat: Systemwide: Operating assistance to aid agency with preventive maintenance activities of its fleet.	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Contra Costa	CC-030035	17-02-0001	ECCTA	Tri-Delta: ADA Operating Assistance	Tridelta: Systemwide: Operating assistance to fund ADA Set Aside requirement	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Contra Costa	CC-070013	17-02-0035	Brentwood	Lone Tree Way Undercrossing	Brentwood: On Lone Tree Way at the UPRR track: Construct 4-lane grade separation undercrossing.	EXEMPT (40 CFR 93.126) - Railroad/highway crossing	2030
Contra Costa	CC-070067	17-02-0003	CCTA	Mokelumne Trail Bike/Ped Overcrossing	Brentwood: Near the Mokelumne Trail at State Route 4 in Brentwood: Construct a pedestrian and bicycle overcrossing.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Contra Costa	CC-070092	17-10-0026	ECCTA	ECCTA: Transit Bus Replacements	Tri-Delta Transit: Fleetwide: Replacement Revenue Vehicles and associated farebox equipment	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Contra Costa	CC-090001	17-02-0008	Danville	Diablo Road Imps. - Green Valley to Avenida Neuva	Danville: Diablo Rd at Clydesdale Dr: add EB left turn pocket; Diablo Rd from Green Valley to Avenida: Drainage improvements, replace 1300 LF retaining wall, overlay roadway, replace guardrail	EXEMPT (40 CFR 93.127) - Intersection channelization projects	2040
Contra Costa	CC-110066	17-02-0017	CCTA	SR 239 - New State Highway Study	SR 239 between SR4 in Brentwood and I-205 in Tracy: Conduct environmental and design studies to create a new alignment for SR239 and develop corridor improvements from Brentwood to Tracy.	EXEMPT (40 CFR 93.126) - Planning activities conducted pursuant to titles 23 and 49 U.S.C	2040
Contra Costa	CC-110082	17-02-0043	BART	Walnut Creek BART TOD Access Improvements	Walnut Creek: In the vicinity of the Walnut Creek BART Station: construct public access improvements that are part of the proposed transit-oriented development	EXEMPT (40 CFR 93.126) - Transportation enhancement activities (except rehabilitation and operation	2040
Contra Costa	CC-130001	17-02-0020	CC County	Bailey Road-State Route 4 Interchange	In Bay Point: At the Bailey Road-State Route 4 interchange; modify ramps and Bailey Road to improve bicycle and pedestrian circulation. Project is phased.	EXEMPT (40 CFR 93.127) - Interchange reconfiguration projects	2030
Contra Costa	CC-130003	17-02-0003	CC County	Bailey Road Bike and Pedestrian Improvements	Bay Point: Bailey Rd from Willow Pass Rd to SR 4: Improve bicycle and pedestrian accessibility. Improvements will expand sidewalks and construct uniform bike lanes to create a corridor conducive to all	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Contra Costa	CC-130023	17-10-0022	Danville	Danville Various Streets and Roads Preservation	Danville: Sycamore Valley Road from Camino Ramon to San Ramon Valley Boulevard including the bus loop within the adjoining Park-and-Ride Lot, and El Cerro Boulevard from El Pintado Road to just east	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-130024	17-02-0003	El Cerrito	Ohlone Greenway Station Area Bike/Ped Improvements	El Cerrito: On Ohlone Greenway at El Cerrito del Norte & Plaza BART Stations & at intersections of Hill, Cutting, Central & Fairmount, widen path & improve ped & bike facilities.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Contra Costa	CC-130025	17-10-0022	Martinez	Martinez Various Streets and Roads Preservation	Martinez: Various Streets and Roads: Rehab and reconstruction of roadways, modify curb ramps to meet current ADA standards, including constructing bulb-outs where there is insufficient room and	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Contra Costa	CC-130027	17-02-0005	CC County	Port Chicago Hwy/Willow Pass Rd Bike Ped Upgrades	Bay Point: Near the intersection of Port Chicago Hwy and Willow Pass Rd: Install bike lane, sidewalk, curb and gutter, bike/ped access improvements, and intersection channelization	EXEMPT (40 CFR 93.127) - Intersection channelization projects	2040
Contra Costa	CC-130032	17-02-0003	San Pablo	San Pablo Avenue Bicycle and Ped Improvements	San Pablo and Richmond: San Pablo Ave from Rumrill Blvd to La Puerta Rd: Reconfigure travel lanes, install sidewalks, bike lanes, lighting, medians, signals, modify existing medians and traffic signals, build	EXEMPT (40 CFR 93.127) - Intersection signalization projects at individual intersections	2040
Contra Costa	CC-130038	17-02-0003	Danville	Vista Grande Street Pedestrian Improvements/SR2S	Danville: Vista Grande Street between Camino Tassajara and Diablo Road/Vista Grande Elmentary School: Construct separated asphalt concrete pathway and safety enhancements to provide direct ped/bike	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Contra Costa	CC-130045	17-02-0003	CCCTA	CCCTA: Access Improvements Implementation	CCCTA: Various bus stops system-wide: Implement bicycle and pedestrian access improvements identified in County Connection's Access Improvement Study.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Contra Costa	CC-130047	17-02-0004	Richmond	37th Street Bicycle & Pedestrian Improvements	Richmond: On 37th St from Cerritto Ave to Center Ave: Install bike lanes and pedestrian countdown heads and upgrade traffic signals; On 37th from Barrett to Center: Implement road diet with one lane	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Contra Costa	CC-130050	17-02-0003	EB Reg Park Dis	SF Bay Trail, Pinole Shores to Bay Front Park	Pinole: Between Pinole Shores and Bayfront Park, approximately 0.5-mile: Construct a section of the San Francisco Bay Trail. Project is phased	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Contra Costa	CC-150006	17-10-0026	CCCTA	CCCTA: Replace 18 30' Buses	CCCTA: 18 vehicles: Replace 18 30' Heavy Duty Diesel buses that have reached the end of their useful life, four (4) of the diesel buses will be replaced with four (4) electric buses.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Contra Costa	CC-150007	17-10-0026	CCCTA	CCCTA: Replace 13 35' Buses	CCCTA: 13 vehicles: Replace 13 35' Heavy Duty Diesel Buses that have reached the end of their useful life.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Contra Costa	CC-150010	17-02-0003	CC County	CC County - Rio Vista Elementary Ped Connection	Contra Costa County: On Pacifica Avenue between Mariners Cove Drive and Wharf Drive: Install sidewalks, bike lanes, flashing beacons, speed feedback sign, retaining wall and drainage improvements and	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Contra Costa	CC-150012	17-02-0009	CCCTA	REMIX Software Implementation Project	County Connection: Systemwide: Integrate REMIX mapping software into County Connection's planning process.	EXEMPT (40 CFR 93.126) - Purchase of office, shop, and operating equipment for existing facilities	2040
Contra Costa	CC-150015	17-02-0009	WCCTA	WestCAT: Purchase (1) Fast Fare Electronic Farebox	WestCAT: 1 vehicle: Purchase and Install (1) FastFare Electronic Farebox for (1) 40 ft Revenue Vehicle	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Contra Costa	CC-150016	17-02-0003	Richmond	The Yellow Brick Road in Richmond's Iron Triangle	Richmond: Various locations outlined in the the Yellow Brick Road Plan: Implement bike/ped improvements	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Contra Costa	CC-150017	17-02-0005	San Pablo	Rumrill Blvd Complete Streets Improvements	San Pablo: Along Rumrill Boulevard between San Pablo Avenue to the North and Costa Avenue to the South: Complete Streets Improvements and road diet. Project is phased.	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Contra Costa	CC-150018	17-02-0008	Walnut Creek	Walnut Creek-Parking Guidance System Pilot	Walnut Creek: Downtown core area: Implement Parking Guidance System connected to all public parking in downtown core area.	EXEMPT (40 CFR 93.126) - Directional and informational signs	2040
Contra Costa	CC-150019	17-10-0026	BART	Concord Yard Wheel Truing Facility	BART: Concord Yard: Construct a wheel truing facility which will house a dual-guage wheel truing machine to service both BART and eBART vehicle wheels.	EXEMPT (40 CFR 93.126) - Purchase of office, shop, and operating equipment for existing facilities	2040
Contra Costa	CC-150020	17-02-0001	ECCTA	ECCTA: Non-ADA Paratransit to FR Incentive Program	ECCTA: Systemwide: Use outreach, travel training and fare incentives to move non-ADA paratransit users to on demand, alternative transportation services.	EXEMPT (40 CFR 93.126) - Transportation enhancement activities (except rehabilitation and operation	2040
Contra Costa	CC-150021	17-02-0009	WCCTA	WestCAT - AVL System with APC Element.	Western Contra Costa Transit Authority (WestCAT): Systemwide: Purchase and install a new AVL system including automatic passenger counting (APC)	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040
Contra Costa	CC-170004	17-10-0023	MTC	Regional Planning Activities and PPM - CC County	Contra Costa: Regional Planning Activities and Planning, Programming and Monitoring (PPM)	EXEMPT (40 CFR 93.126) - Planning activities conducted pursuant to titles 23 and 49 U.S.C	2040
Contra Costa	CC-170006	17-10-0026	WCCTA	WestCAT: Replace (2) 2002 40ft Revenue Vehicles	WestCAT: 2 vehicles: Replace (2) 2002 40 ft Revenue Vehicles with similar vehicles	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Contra Costa	CC-170007	17-02-0009	WCCTA	WestCAT: Purchase 2 Fast Fare Electronic Fareboxes	WestCAT: 2 vehicles: Purchase and Install (2) FastFare Electronic Fareboxes	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040
Contra Costa	CC-170008	17-10-0026	WCCTA	WestCAT Replace (6) 2008 35ft Revenue Vehicles	WCCTA: (6) 2008 Revenue Vehicles: Purchase replacement vehicles	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Contra Costa	CC-170009	17-10-0026	WCCTA	WestCAT: Purchase (6) Electronic Fareboxes	WestCAT: For (6) replacement 2008 35 ft revenue veicles: Purchase (6) Electronic Fare boxes	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Contra Costa	CC-170010	17-10-0026	WCCTA	WestCAT Replace 5 35ft and 4 40ft Vehicles	WestCAT: (5) 2007 35ft and (4) 2002 40 ft Revenue vehicles: Purchase replacement vehicles	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Contra Costa	CC-170011	17-10-0026	WCCTA	WestCAT: Purchase (9) Electronic Fareboxe	WestCAT: 9 vehicles: Purchase of (9) Electronic Fareboxes	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040
Contra Costa	CC-170012	17-10-0026	WCCTA	WestCAT - Replace (2) DAR MiniVans	WestCAT: 2 vehicles: Replace MiniVans (2007) with Cut Away DAR vehicles	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Contra Costa	CC-170013	17-10-0026	WCCTA	WestCAT: Purchase of (2) Radio Systems	WestCat: Radio systems: Purchase of (2) Radio systems for (2) Cut Away Van's	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040
Contra Costa	CC-170014	17-02-0003	San Ramon	Iron Horse Trail Bike and Pedestrian Overcrossing	San Ramon: At the intersections of Bollinger Canyon Road and the Iron Horse Trail: Construct bicycle/pedestrian overcrossing	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Contra Costa	CC-170020	17-02-0003	CC County	Fred Jackson Way First Mile/Last Mile Connection	In Richmond: On Fred Jackson Way from Grove Avenue to Wildcat Creek Trail: Construct ADA accessible sidewalks with street trees; and from Wildcat Creek to Brookside Dr: Construct pedestrian path and	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Contra Costa	CC-170021	17-02-0003	CC County	Pacheco Blvd Sidewalk Gap Closure Phase 3	In Martinez: Adjacent to Las Juntas Elementary School and across Vine Hill Creek on Pacheco Boulevard: Close a gap in sidewalk infrastructure and extend a 6' x 8' concrete culvert	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Contra Costa	CC-170022	17-02-0005	Concord	Commerce Ave Complete Streets	Concord: Along Commerce Ave: Upgrade street to Complete Streets standards including installing a Class III bike route, reconstruct asphalt pavement , ADA compliant sidewalk improvements, improved	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170024	17-10-0032	BART	El Cerrito del Norte BART Station Modernization	BART: El Cerrito del Norte BART Station: Modernize the station including expanding the station to relieve crowding, improve accessibility, reduce fare evasion, and enhance the customer experience.	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
Contra Costa	CC-170025	17-10-0022	Walnut Creek	Walnut Creek-N. Main St Rehab - I680 to California	Walnut Creek: North Main Street between the Interstate 680 Overpass and California Boulevard: Rehabilitate Roadway	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170026	17-02-0003	San Ramon	San Ramon Valley Street Smarts	San Ramon Valley: At elementary, middle and high schools: Bicycle, Pedestrian and traffic safety education	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
Contra Costa	CC-170027	17-10-0022	CC County	Local Streets and Roads Preservation Project - CCC	Contra Costa County: Various local streets and roads: Pavement preservation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Contra Costa	CC-170028	17-10-0022	CC County	Kirker Pass Road Open Grade Overlay	Contra Costa County: On Kirker Pass Rd from the Concord City Limits to approximately 140 feet east of the driveway to 6141 Kirker Pass Rd: Pavement rehabilitation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170029	17-02-0003	CC County	West County Walk and Bike Leaders	Contra Costa County: At 7 high schools in West Contra Costa: Provide comprehensive bicycle and pedestrian education, encouragement, and engagement activities to foster a walk-and-bike-to-school	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
Contra Costa	CC-170030	17-10-0022	El Cerrito	Carlson Blvd and Central Ave Pavement Rehab	In El Cerrito: On Central Ave from Santa Clara Ave to San Pablo Ave and Carlson Blvd from Central Ave to the northern city limits: Rehabilitate roadway including existing Class II bike lanes and pedestrian	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170031	17-10-0022	San Pablo	San Pablo - Giant Road Pavement Rehabilitation	San Pablo: Giant Rd between Brookside Dr to Trenton Blvd: Rehabilitate roadway	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170032	17-10-0022	Orinda	Orinda Way Pavement Rehabilitation	Orinda: Orinda Way between cul de sac near Santa Maria Way and Camino Pablo through the Orinda Village downtown district: Perform pavement rehabilitation/maintenance including required upgrades for	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170033	17-10-0022	Lafayette	Pleasant Hill Rd Pavement Rehab & Maintenance	In Lafayette: On Pleasant Hill Rd between Mt Diablo Blvd and Taylor Blvd: Rehabilitate roadway, including adjacent ramp, curb, gutter, and sidewalk repairs.	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170034	17-10-0022	Brentwood	Brentwood Various Streets and Roads Preservation	In Brentwood: Various locations: Pavement preservation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170035	17-02-0003	Antioch	Antioch - L Street Pathway to Transit	Antioch: On L Street from Hwy 4 to Antioch Marina: Widen street in various locations and restripe to provide continuous bike lanes and sidewalks, upgrade existing traffic signals, install new bus shelters	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Contra Costa	CC-170036	17-10-0022	Antioch	Antioch Pavement Rehabilitation	In Antioch: On various roadways: Pavement Rehabilitation (Grind/overlay, plug pavement base failures, and/or cape seal) replace concrete curb ramps, curbs and sidewalks, replace traffic signal loops, place	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170037	17-10-0022	Concord	Concord Willow Pass Road Repaving and 6th St SRTS	In Concord: On Willow Pass Rd between Galindo St and San Vincente Dr: Rehabilitate pavement, repair sidewalk, and install ADA curb ramps; On 6th Street between Concord Blvd and nearly Willow Pass	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170038	17-10-0022	Walnut Creek	Ygancio Valley Road Rehabilitation	Walnut Creek: Ygnacio Valley Rd from Civic Dr to San Carlos Dr: Rehab pavement, striping, adjust covers, ADA upgrades and install video detection at select intersections.	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170039	17-02-0003	Concord	Monument Boulevard Class I Path	In Concord: Monument Blvd from Systron Dr to Cowell Rd and Cowell Rd from Monument Blvd to Mesa St: Install a Class I path and related improvements at signalized intersections	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Contra Costa	CC-170040	17-02-0005	Pittsburg	Pittsburg BART Pedestrian and Bicycle Connectivity	In Pittsburg: On California Ave, Bliss Ave, and Railroad Ave in the vicinity of the Pittsburg Center eBART station: Construct Class I and IV bikeways and associated improvements	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Contra Costa	CC-170041	17-10-0022	Oakley	Oakley Street Repair and Resurfacing	Oakley: Vintage Parkway: Rehabilitate including new curb ramps and striping	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170042	17-10-0022	Pittsburg	City of Pittsburg Pavement Improvements	In Pittsburg: On West Leland Rd from Woodhill Rd to Railroad Ave and on Loveridge Rd from Buchanan Rd to Pittsburg-Antioch Highway: Rehabilitate roadway	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170043	17-10-0022	Hercules	Hercules - Sycamore/Willow Pavement Rehabilitation	In Hercules: Sycamore Ave from Civic Dr to Willow/Palm Ave and Willow Ave from Mariners Pointe to the SR4 overcrossing: Pavement rehabilitation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170044	17-02-0005	Pleasant Hill	Pleasant Hill Road Improvements	In Pleasant Hill: Along Pleasant Hill Rd between Taylor Blvd and Gregory Ln: Pavement rehabilitation, install new bike lanes, repair sidewalk, modify signals, and landscape medians	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170045	17-10-0022	San Ramon	Alcosta Boulevard Pavement Rehab	In San Ramon: On Alcosta Blvd (southbound and northbound) from Montevideo Drive to Fircrest Lane: Rehabilitate roadway including stripping for class 3 bike path	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170046	17-10-0022	Moraga	Moraga Way and Canyon/Camino Pablo Improvements	Moraga: Moraga Way from Moraga Rd to Ivy Dr: Resurface, close sidewalk gap, and improve bike facilities; Canyon Rd & Camino Pablo intersection: Install crosswalk improvements; Canyon Rd from	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Contra Costa	CC-170047	17-10-0022	Clayton	Clayton Neighborhood Street Rehab	In Clayton: On various neighborhood streets: Pavement maintenance and rehabilitation including replacing pavement markings	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170048	17-10-0022	Pinole	Pinole - San Pablo Avenue Rehabilitation	In Pinole: On San Pablo Avenue from City Limits to Pinole Shores Dr: Rehabilitate roadway and make accessibility upgrades as warranted	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170049	17-02-0003	Pittsburg	Pittsburg Active Transp. and Safe Routes Plan	Pittsburg: Citywide: Identify and prioritize citywide bicycle and pedestrian improvements that would increase safety, accessibility, and connectivity between housing, schools, transit, parks, community	EXEMPT (40 CFR 93.126) - Planning activities conducted pursuant to titles 23 and 49 U.S.C	2040
Contra Costa	CC-170050	17-02-0003	Concord	Downtown Corridors Bike/Pedestrian Improvements	Concord: Various locations:Implement bicycle and pedestrian safety improvements to three corridors connecting Downtown Concord to regional transit, senior housing, and low income communities.	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Contra Costa	CC-170051	17-10-0026	CCCTA	CCCTA Replace 42 Ford Cutaways - 22"	CCCTA: 42 Ford Cutaways - 22': Replace vehicles	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Contra Costa	CC-170053	17-10-0026	CCCTA	CCCTA Replace 3 Gasoline 7-Year Paratransit Vans	CCCTA: Fleetwide: Replace paratransit vehicles that have reached the end of the their useful life.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Contra Costa	CC-170056	17-02-0003	Richmond	Lincoln Elementary SRTS Pedestrian Enhancements	Richmond: Along Chanslor, 5th St and 6th St near Lincoln School and at Chanslor Ave and 4th St: Pedestrian enhancements to improve the safety for school children by adding median refuges, curb	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Contra Costa	CC-170057	17-10-0022	Richmond	Richmond: Roadway Preservation and ADA Improvement	Richmond: Various locations: Pavement rehabilitation, and drainage, ADA, bicycle facility, pedestrian safety, and vehicular efficiency improvements	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170058	17-10-0022	Danville	Camino Ramon Improvements	In Danville: On Camino Ramon between Kelley Lane and Fostoria Way: Rehabilitate roadway	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170059	17-10-0023	Martinez	Martinez Downtown Streets Rehabilitation	Martinez: Various streets in the Downtown Core Area (in or adjacent to the Downtown PDA): Pavement Rehabilitation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Contra Costa	CC-170060	17-10-0032	BART	Concord BART Station Modernization	Concord: In and around the Concord BART Station: Make capacity, access, placemaking, and state-of-good repair, improvements based on BART's 2016 Station Modernization Plan.	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
Contra Costa	CC-170062	17-02-0051	CCTA	I-680 Advanced Techologies	Contra Costa County: I-680 from the Solano County line to the Alameda County line: Deploy a suite of technology-based solutions to maximize the efficiency of I-680.	EXEMPT (40 CFR 93.126) - Traffic control devices and operating assistance other than signalization	2030
Contra Costa	CC-990045	17-02-0001	WCCTA	WestCat: ADA Paratransit Operating Subsidy	WestCAT: Systemwide: ADA Paratransit Operating Subsidy	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Contra Costa	CC-99T001	17-10-0027	CCCTA	CCCTA: ADA Paratransit Assistance	CCCTA: Systemwide: ADA Paratransit Assistance to transit agency.	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Marin	MRN030010	17-10-0026	GGBHTD	GGBHTD: Fixed Guideway Connectors	Golden Gate Ferry: Systemwide: Replace/rehab fixed guideway connectors such as floats, floating barges, ramps, and gangways	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
Marin	MRN050018	17-10-0009	GGBHTD	Golden Gate Bridge Seismic Retrofit, Phase 3B	SF/Marin County: Golden Gate Bridge; Seismic retrofit of the Golden Gate Bridge - construction of suspension span, south pier and fender.	EXEMPT (40 CFR 93.126) - Widening narrow pavements or reconstructing bridges (no additional travel	2040
Marin	MRN050019	17-10-0009	GGBHTD	Golden Gate Bridge-Suicide Deterrent SafetyBarrier	Golden Gate Bridge: Build suicide deterrent system. Including design & Environmental analysis, plus analysis of alternatives & wind tunnel tests to ensure the feasibility of designs and build deterrent	EXEMPT (40 CFR 93.126) - Safer non-Federal-aid system roads	2040

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Marin	MRN050025	17-10-0026	GGBHTD	GGBHTD: Facilities Rehabilitation	GGBHTD: Systemwide: Rehabilitate agency's maintenance and operating facilities and replace heavy duty operating and maintenance equipment.	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
Marin	MRN110010	17-03-0001	Sausalito	Sausalito - Bridgeway/US 101 Off Ramp Bicycle Imps	Sausalito: Highway 101 Off Ramp/Bridgeway/Gate 6 Intersection: Implement bicycle improvements	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Marin	MRN110040	17-10-0026	MCTD	MCTD Preventive Maintenance	Marin Transit: Systemwide: Bus Transit Preventative maintenance	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
Marin	MRN110041	17-10-0027	MCTD	Marin Transit Low Income Youth Pass Program	Marin Transit: Systemwide: Provide low-income youth free bus passes. Other local funds are made available for this project by applying STP/CMAQ funding available through the TPI program to	EXEMPT (40 CFR 93.126) - Continuation of ride-sharing and van-pooling promotion activities at	2040
Marin	MRN110045	17-10-0026	GGBHTD	GGBHTD: Replace 7 - 40' Diesel Buses	GGBHTD: Seven (7) 40' Diesel Buses: Replace vehicles	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Marin	MRN110047	17-10-0027	MCTD	MCTD: ADA Paratransit Assistance	MCTD: Systemwide: ADA Paratransit Assistance to transit agency.	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Marin	MRN130005	17-03-0016	San Rafael	San Rafael Transit Center Pedestrian Access Imps.	San Rafael: In the vicinity of the Bettini Transit Center and the future SMART station: Upgrade existing traffic signal equipment to be compliant with rail and improve pedestrian facilities	EXEMPT (40 CFR 93.127) - Intersection signalization projects at individual intersections	2040
Marin	MRN130009	17-03-0005	Fairfax	Parkade Circulation and Safety Improvements	Fairfax: Between Sir Francis Drake Boulevard, Pacheco Avenue, Claus Drive and Broadway: Improve bicycle, pedestrian, transit, and vehicular circulation and safety around and through the Parkade in	EXEMPT (40 CFR 93.127) - Bus terminals and transfer points	2040
Marin	MRN130013	17-03-0001	San Anselmo	Sunny Hill Ridge and Red Hill Trails	In San Anselmo: Near Sunny Hill and Red Hill: Construct three miles of hiking trails	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Marin	MRN130015	17-03-0005	GGBHTD	GGBHTD - Transit Systems Enhancements	GGBHTD: Systemwide: systems, technology and communication enhancements to transit fleet and facilites.	EXEMPT (40 CFR 93.126) - Transportation enhancement activities (except rehabilitation and operation	2040
Marin	MRN150003	17-03-0005	MCTD	MCTD: On Board Vehicle Equipment	MCTD: Farebox: Install fareboxes on 62 paratransit vehicles and Dial-A-Ride vehicles. Replace fareboxes on 18 fixed route vehicles vehicles	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040
Marin	MRN150005	17-10-0026	GGBHTD	MS Sonoma Ferry Boat Refurbishment	GGBHTD: MS Sonoma: Refurbish 38-year old ferry vessel and lease replacement vessel to continue service while the vessel is in dry dock.	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Marin	MRN150008	17-03-0001	San Rafael	Grand Avenue Bicycle Pedestrian Improvements	San Rafael: Grand Ave accross the San Rafael Canal: Construct bridge and sidewalk improvements for bicyclists and pedestrians	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Marin	MRN150010	17-10-0026	MCTD	MCTD - Relocate Transit Maintenance Facility	In North Eastern Marin County: Relocate contractor maintenance facilities in a centralized location, including bus parking and three maintenance bays.	EXEMPT (40 CFR 93.126) - Construction of new bus or rail storage/maintenance facilities categorically	2040
Marin	MRN150011	17-10-0026	MCTD	MCTD- Replace Shuttle Vehicles	MCTD: 12 shuttle buses: Purchase buses to replace ones that are beyond their useful life	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Marin	MRN150012	17-10-0026	MCTD	MCTD - Replace 13 -40ft Buses	MCTD: 13 40ft vehicles: Replace vehicles that are beyond their useful life	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Marin	MRN150013	17-10-0026	MCTD	MCTD - Emergency Radio System	MCTD: Fleetwide: Replace radio system on fixed route shuttles and rural service to meet emergency radio requirements.	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040
Marin	MRN150014	17-10-0026	GGBHTD	GGBHTD Ferry Major Components Rehab	GGBHTD: Systemwide: Ferry Rehab, replace major ferry components such as navigation systems, dry-dock, hull, interior, life saving equipment, propulsion and other ferry components.	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
Marin	MRN150015	17-10-0026	GGBHTD	GGBHTD Ferry Propulsion Systems Replacement	GGBHTD: Systemwide: Ferry propulsion systems-replacement of power distribution systems, propellers, engines, generators, gear boxes, etc. for Golden Gate Ferry vessels.	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
Marin	MRN150016	17-10-0022	Novato	Vineyard Road Improvements	Novato: Vineyard Road from Wilson Avenue to Sutro Avenue: Perform pavement rehabilitation, install bicycle lanes, and property owner-funded frontage improvements	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Marin	MRN170001	17-10-0023	MTC	Regional Planning Activities and PPM - Marin	Marin: Regional Planning Activities and Planning, Programming and Monitoring (PPM)	EXEMPT (40 CFR 93.126) - Planning activities conducted pursuant to titles 23 and 49 U.S.C	2040
Marin	MRN170003	17-10-0026	MCTD	MCTD: Replace Paratransit Vehicles	MCTD: 19 Paratransit Vehicles: Replace vehicles	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Marin	MRN170004	17-10-0026	MCTD	MCTD: Replace Paratransit Vehicles with Vans	MCTD: 3 vehicles: Replace two Paratransit Vehicles with Vans and purchase a third vehicle as a non-revenue support vehicle	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Marin	MRN170005	17-10-0026	MCTD	MCTD: Replace Rural Cutaway Vehicles	MCTD: Four (4) Rural Cutaway Vehicles: Purchase replacement vehicles	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Marin	MRN170006	17-10-0026	MCTD	MCTD: Replace Articulated Vehicles	MCTD: System-wide: Replace Articulated Vehicles	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Marin	MRN170007	17-10-0026	MCTD	MCTD-Replace diesel vehicles	MCTD: 2- 2008 35ft diesel vehicles: Replace vehicles	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Marin	MRN170008	17-10-0026	GGBHTD	GGBHTD: Replace 67 Diesel Buses with Hybrid Buses	GGBHTD: Systemwide: Routine replacement of 67 standard diesel-powered revenue vehicles that have reached end of useful life with diesel-electric hybrid buses	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Marin	MRN170009	17-10-0026	GGBHTD	GGBHTD: Replace Paratransit Vehicles	GGBHTD: Fleetwide: Replace paratransit vehicles	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Marin	MRN170010	17-10-0026	GGBHTD	GGBHTD: Purchase 7 Hybrid Buses	GGBHTD: 6 diesel 45' buses: Replace with hybrid 40' buses; purchase 1 additional hybrid 40' bus.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Marin	MRN170011	17-03-0001	TAM	North-South Greenway Gap Closure	Marin County: Northern Segment: US101 off-ramp over Corte Madera Creek and along Old Redwood Highway to US101 overcrossing: widen to add bike/ped path. Southern Segment: From Northern	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Marin	MRN170012	17-03-0001	San Rafael	Francisco Boulevard East Sidewalk Widening	In San Rafael: Francisco Blvd East and Grand Ave from Vivian St to Grand Avenue Bridge: Widen existing sidewalk and provide streetscape elements	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Marin	MRN170013	17-03-0013	GGBHTD	San Rafael Transit Center Relocation	In San Rafael: San Rafael Transit Center: Relocate the existing San Rafael Transit Center (SRTC) to accommodate the extension of SMART service to Larkspur	EXEMPT (40 CFR 93.127) - Bus terminals and transfer points	2040
Marin	MRN170016	17-09-0018	San Rafael	Francisco Blvd West Multi-Use Pathway	San Rafael: On Francisco Blvd West between Second St. and Anderson Dr.: Construct a multi-use path.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2020
Marin	MRN170018	17-10-0033	Various	GL: Marin County - TOS-Mobility	Marin County: Various Locations: Projects are consistent with 40 CFR Part 93.126 Exempt Tables 2 and 40 CFR Part 93.127 Table 3 categories	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Marin	MRN170019	17-03-0001	Corte Madera	Corte Madera-Paradise Drive Multiuse Path	Corte Madera: Along Paradise Dr. between San Clemente Dr. and Seawolf Passage: Extend multiuse pathway	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Marin	MRN170020	17-03-0001	San Anselmo	San Anselmo Bike Spine	San Anselmo: In the vicinity of St. Anselm School, Wade Thomas ES, Sir Francis Drake HS, and Brookside ES: Install shared lane markings, roadway striping, school bike route signs, crossing enhancements	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Marin	MRN170021	17-10-0022	San Anselmo	Sir Francis Drake Blvd Pavement Rehabilitation	In the Town of San Anselmo: On Sir Francis Drake Boulevard between Center Boulevard/Red Hill Avenue (The Hub) and Bolinas Avenue: Rehabilitate existing roadway pavements and install intersection	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Marin	MRN170022	17-10-0022	Novato	Novato-Measure A Group 10 Pavement Rehabilitation	In the City of Novato: Nave Dr from Alameda Del Prado to Bel Marin Keys Blvd and Bel Marin Keys Blvd from Nave Dr to Galli Dr: Pavement Rehabilitation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Marin	MRN170023	17-03-0001	Corte Madera	Central Marin Regional Pathway Gap Closure	Corte Madera: On the west side of US 101 along Nellen Ave and Wornum Dr: separated pedestrian and bicycle facilities including protected bikeway, sidewalk and a pedestrian refuge island with walkway,	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Marin	MRN170024	17-10-0026	GGBHTD	Replace 14 - 22' Gas Body-on-Chassis Vehicles	GGBHTD: 14 paratransit vehicles: Routine replacement of paratransit vehicles that have reached end of useful life	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Marin	MRN170026	17-03-0001	Novato	Hill Recreation Area Improvements	Novato: At the Hill Recreation Area: Add a network of bicycle and pedestrian walkways and multi-purpose pathways to preserve and enhance an existing park to increase recreational opportunities	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Marin	MRN170027	17-10-0022	Marin County	Hicks Valley/MarshallPetaluma/ Wilson Hill Rd Rehab	Marin County: Hicks Valley Rd from Point Reyes-Petaluma Rd to Marshall-Petaluma Rd, Wilson Hill Rd from Marshall-Petaluma Rd to Chileno Valley Rd, Marshall-Petaluma Rd from Hicks Valley Rd (milepost	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Marin	MRN170028	17-03-0001	Natl Park Svc	Fort Baker's Vista Point Trail	Golden Gate National Recreation Area: Between the Dana Bowers Vista Point Parking Area and both Fort Baker and Sausalito: Construct the Vista Point Trail, a new multi-use segment of the Bay Trail.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Marin	MRN170029	17-03-0003	Novato	Carmel Open Space Acquisition	Novato: Within the Carmel Open Space: Acquire a private parcel for use as a Priority Conservation Area	EXEMPT (40 CFR 93.126) - Acquisition of scenic easements	2040
Marin	MRN190002	17-10-0023	Novato	Novato Annual Pavement Rehabilitation	Novato: Various streets and roads: Rehabilitate pavement, upgrade pedestrian facilities to meet current accessibility requirements, include striping for Class 2 and Class 3 bicycle facilities. Project is phased.	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Marin	MRN190011	17-03-0001	Larkspur	Old Redwood Highway Multi-Use Path	Larkspur: Along Old Redwood Highway from the Greenbrae Pedestrian Overcrossing up to the southern terminus of the pathway in state right-of way: Construct a multi-use pathway	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Marin	MRN970016	17-10-0009	GGBHTD	Golden Gate Bridge Seismic Retrofit, Ph: 1-3A	San Francisco /Marin Counties: Golden Gate Bridge; Seismic retrofit of the Golden Gate Bridge - construction on north and south approach viaducts, and Ft. Point Arch.	EXEMPT (40 CFR 93.126) - Widening narrow pavements or reconstructing bridges (no additional travel	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Marin	MRN990017	17-10-0026	GGBHTD	GGBHTD: Ferry Channel & Berth Dredging	Golden Gate Ferry: From San Francisco to Marin County: Dredge ferry channel and berth.	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
Napa	NAP030004	17-10-0027	NVTA	NVTA: ADA Operating Assistance	Napa: Systemwide: ADA operating assistance for paratransit service	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Napa	NAP090005	17-10-0026	NVTA	NVTA: Replace Rolling Stock	NVTA: Fleetwide: Replace rolling stock for fixed-route, paratransit, and community shuttle fleet.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Napa	NAP090008	17-10-0026	NVTA	NVTA Equipment Replacement and Upgrades	NVTA: Napa Vine service area: Replacement and upgrades to transit equipment	EXEMPT (40 CFR 93.126) - Purchase of office, shop, and operating equipment for existing facilities	2040
Napa	NAP110014	17-04-0001	NVTA	Napa Valley Vine Trail Design and Construction	Napa County: Various locations: Design and construction of individual segments of Vine Trail.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Napa	NAP110026	17-10-0024	Napa County	Hardin Rd Bridge Replacement - 21C0058	Napa County: On Harding Rd at Maxwell Creek, 1.6M SE of Pope Cyn Rd: Replace existing one lane bridge with new 2-lane bridge to meet standards. Toll credits are used in lieu of match for all phases.	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Napa	NAP110027	17-10-0024	Napa County	Loma Vista Dr Bridge Replacement - 21C0080	Napa County: Loma Vista Dr over Soda Creek, 1.4 miles north of Silverado Trail: replace existing one lane bridge with new two lane bridge to meet standards. Toll credits are used in lieu of match for all	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Napa	NAP110028	17-04-0005	Napa	California Boulevard Roundabouts	City of Napa: At First Street/ California Blvd. and Second Street/ California Blvd: Construct roundabouts Caltrans: Construct roundabout at Northbound off-ramp of SR 29 and First Street	EXEMPT (40 CFR 93.127) - Intersection channelization projects	2040
Napa	NAP130004	17-04-0001	Napa	State Route 29 Bicycle & Pedestrian Undercrossing	Napa: On the North side of Napa Creek under Highway 29: Construct a Class 1 bicycle and pedestrian path	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Napa	NAP130008	17-04-0001	Yountville	Hopper Creek Pedestrian Bridge and Path Project	Yountville: Along Hopper Creek from Oak Circle Open Space to Mission St: Construct multi-use pathway and a pedestrian bridge across Hopper Creek	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Napa	NAP150001	17-04-0002	Calistoga	SR 128 and Petrified Forest Intersection Imp	In Calistoga: On SR 128 and Petrified Forest Road, convert 4-way stop controlled intersection to a traffic signal.	EXEMPT (40 CFR 93.127) - Intersection signalization projects at individual intersections	2040
Napa	NAP150003	17-04-0001	NVTA	Napa Valley Vine Trail Calistoga-St. Helena Seg.	In Napa County: From Calistoga to St. Helena: Construct multi-use trail	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Napa	NAP170001	17-10-0023	MTC	Regional Planning Activities and PPM - Napa	Napa: Countywide: Regional Planning Activities and Planning, Programming and Monitoring (PPM)	EXEMPT (40 CFR 93.126) - Planning activities conducted pursuant to titles 23 and 49 U.S.C	2040
Napa	NAP170002	17-10-0022	Napa County	Napa County: 2014 Earthquake Pavement Repair	In Napa County: On various federal-aid system roads: Repair pavement damage caused by 2014 earthquake.	EXEMPT (40 CFR 93.126) - Repair of damage caused by natural disasters, civil unrest, or terrorist acts,	2040
Napa	NAP170004	17-04-0001	NVTA	Napa County Safe Routes to Schools	Napa County: County-wide: Safe Routes to Schools Program, Non-Infrastructure	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
Napa	NAP170005	17-04-0003	Saint Helena	Main Street St. Helena Pedestrian Improvements	Saint Helena: Along Main Street (SR29) from Mitchell Dr to Pine St: Replace and upgrade pedestrian facilities and install traffic calming devices	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Napa	NAP170006	17-04-0001	American Canyon	Green Island Road Class I	American Canyon: Green Island Road in the Green Island Industrial District (GRID): Construct new Class 1 multi-use trail.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Napa	NAP170007	17-04-0001	Napa	Vine Trail Gap Closure - Soscol Avenue Corridor	Napa: Between Third St and Vallejo St in Downtown Napa: Construct a Class I multi-use trail to close a gap in the Napa Valley Vine Trail	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Napa	NAP170008	17-10-0022	Napa County	Silverado Trail Phase L Rehab	Napa County: On Silverado Trail from Oak Knoll Ave to Hardman Ave: Rehabilitate existing asphalt concrete pavement, retain existing Class II bicycle lanes, replace existing rumble dots (audible pavement	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Napa	NAP170009	17-04-0005	Napa	Silverado Trail Five-Way Intersection Improvements	In City of Napa: At the intersection of Silverado Trail, Third St, Coombsville Rd, and East Ave: Construct roundabout	EXEMPT (40 CFR 93.127) - Intersection channelization projects	2040
Napa	NAP970010	17-10-0027	NVTA	Napa Vine Operating Assistance	Napa Vine: Systemwide: Operating assistance to support transit routes and services.	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Regional / Multi-County	BRT030004	17-10-0005	BART	BART Train Control Renovation	BART: Systemwide: Replace obsolete elements and subsystems of the train control system.	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2030
Regional / Multi-County	BRT030005	17-10-0005	BART	BART: Traction Power System Renovation	BART: Systemwide: Replace obsolete elements and subsystems of the traction power system to maintain and improve reliability and safety	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2030
Regional / Multi-County	BRT97100B	17-10-0026	BART	BART: Rail, Way and Structures Program	BART: Systemwide: Replace worn out mainline rail and make other timely reinvestments in way.	EXEMPT (40 CFR 93.126) - Rehabilitation or reconstruction of track structures, track, and trackbed in	2040

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Regional / Multi-County	BRT99T01B	17-10-0005	BART	BART:ADA Paratransit Capital Accessibility Improve	BART: At various stations: Capital Access Improvements Program including, station elevator improvements, installation of hands-free emergency telephones, and tactile stair tread replacement	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2030
Regional / Multi-County	MTC050001	17-10-0015	MTC	Bay Area Commuter Benefits Program	San Francisco Bay Area: Region wide: Implement the Bay Area Commuter Benefits Program. Toll credits applied in lieu of match	EXEMPT (40 CFR 93.126) - Continuation of ride-sharing and van-pooling promotion activities at	2040
Regional / Multi-County	REG050020	17-10-0026	BART	BART Car Exchange (Preventive Maintenance)	BART: Systemwide: Preventive maintenance program, including maintenance of rail cars and other system components in exchange for local funds to the BART car replacement reserve.	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
Regional / Multi-County	REG090039	17-10-0022	MTC	Regional Streets and Roads Program	SF Bay Area: Regionwide: Regional Streets and Roads Program including providing assistance to Bay Area agencies to implement & maintain computerized pavement management system (PMS),	EXEMPT (40 CFR 93.126) - Planning activities conducted pursuant to titles 23 and 49 U.S.C	2040
Regional / Multi-County	REG090042	17-10-0029	MTC	511 Traveler Information	SF Bay Area: Regionwide: Provides multimodal, accurate, reliable, and accessible traveler information on multiple dissemination platforms, serves as the go-to source during major disruptions and	EXEMPT (40 CFR 93.126) - Directional and informational signs	2040
Regional / Multi-County	REG090045	17-10-0028	MTC	Clipper Fare Collection System	San Francisco Bay Area: Regionwide: Design, build, operate and maintain the Clipper fare collection system. Note: Translink became Clipper on 6/16/10.	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040
Regional / Multi-County	REG090051	17-10-0026	Caltrain	Caltrain: Revenue Vehicle Rehab Program	Caltrain: Systemwide: Provide overhauls and repairs/replacements to key components of the Caltrain rolling stock to maintain it in a state of good repair.	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
Regional / Multi-County	REG090054	17-10-0026	WETA	WETA: Ferry Channel & Berth Dredging	WETA: Various service areas: Dredge ferry channel, ferry basin and berth	EXEMPT (40 CFR 93.126) - Rehabilitation or reconstruction of track structures, track, and trackbed in	2040
Regional / Multi-County	REG090055	17-10-0026	WETA	WETA: Ferry Propulsion System Replacement	WETA: Fleetwide: A mid-life overhaul is scheduled when a ferry reaches approximately 12.5 years of service life. Equipment service hours and specific vessel needs may affect the timing of the projects.	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
Regional / Multi-County	REG090057	17-10-0026	WETA	WETA: Ferry Major Component Rehab/Replacement	WETA: Fleetwide: Rehabilitate and/or replacement major ferry components including shafts, propellers, navigation systems, onboard monitoring and alarm systems, interior components, boarding	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
Regional / Multi-County	REG090067	17-10-0026	WETA	WETA: Fixed Guideway Connectors	WETA: Various locations: This project will replace/rehab fixed guideway connectors such as floats, floating barges, ramps and gangways throughout the system.	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Regional / Multi-County	REG110020	17-10-0026	WETA	WETA: Facilities Rehabilitation	WETA: Various Locations: Rehabilitate ferry facilities in order to maintain existing transit services.	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
Regional / Multi-County	REG110030	17-10-0008	Caltrain	Caltrain Positive Train Control System	Caltrain: Systemwide: Implement PTC, an advanced train control system that allows for automated collision prevention, and improved manual collision prevention.	EXEMPT (40 CFR 93.126) - Construction or renovation of power, signal, and communications systems	2030
Regional / Multi-County	REG110039	17-10-0011	MTC	GL: 5307 JARC Set-aside FY13-FY14 Large UA	GL: 5307 JARC Set-aside FY13 Large UA. Various 5307 (former JARC) projects in large urbanized areas. Project is consistent with 40 CFR Part 93.126, 127, 128, Exempt Tables 2 & 3.	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Regional / Multi-County	REG110041	17-10-0027	Caltrans	GL: FTA Non-Urbanized Formula Program	GL: FTA Section 5311 Non-Urbanized Formula Program, Non-ITS portion. Projects include capital and operating assistance, capital and preventive maintenance. Projects consistent with 40 CFR Part 93.126,	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Regional / Multi-County	REG110044	17-10-0026	ACE	ACE Positive Train Control	ACE: System-wide: Install an advanced train control system that allows for automated collision prevention, improved manual collision prevention, and improved headways.	EXEMPT (40 CFR 93.126) - Construction or renovation of power, signal, and communications systems	2040
Regional / Multi-County	REG130001	17-10-0024	MTC	Toll Bridge Maintenance	Region-wide: Seven state-owned toll bridges: routine maintenance of bridge facilities	EXEMPT (40 CFR 93.126) - Widening narrow pavements or reconstructing bridges (no additional travel	2040
Regional / Multi-County	REG130002	17-10-0024	MTC	Toll Bridge Rehabilitation Program	Bay Area: On 7 state-owned toll bridges: Rehabilitation program	EXEMPT (40 CFR 93.126) - Widening narrow pavements or reconstructing bridges (no additional travel	2040
Regional / Multi-County	REG130005	17-10-0011	MTC	Bay Area Housing Initiatives	SF Bay Area: Regionwide: Establish land acquisition and land banking financing fund and Bay Area Preservation Pilot to maximize the production and preservation of affordable housing near transit stations;	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
Regional / Multi-County	REG150002	17-10-0027	Caltrans	GL: FTA 5311 Rural Area FY15	GL: FTA Section 5311 Rural Area Program, Non-ITS portion. Projects include capital and operating assistance. Projects consistent with 40 CFR Part 93.126 Exempt Table 2	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Regional / Multi-County	REG150004	17-10-0011	MTC	GL: Lifeline Cycle 4 5307 JARC	GL: 5307 JARC Set-aside FY13 Small UA and FY14-FY16 Large and Small UA. Various 5307 (former JARC) projects in large and small urbanized areas. Project is consistent with 40 CFR Part 93.126 Exempt	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Regional / Multi-County	REG150005	17-10-0011	BART	Transit-Oriented Development Pilot Planning Progra	Oakland and San Francisco: Around BART Stations: Develop a comprehensive TOD strategy that fills the remaining gaps in transportation management and development implementation in the Transbay	EXEMPT (40 CFR 93.126) - Planning and technical studies	2040

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Regional / Multi-County	REG170001	17-10-0023	MTC	Regional Planning Activities and PPM - MTC	Regional: Regional Planning Activities and Planning, Programming and Monitoring (PPM)	EXEMPT (40 CFR 93.126) - Planning activities conducted pursuant to titles 23 and 49 U.S.C	2040
Regional / Multi-County	REG170002	17-10-0013	MTC	Connected Bay Area	SF Bay Area: Regionwide: Implement a collective approach to freeway operations and management, including communications network building, and traffic management systems and software; Along the I-	EXEMPT (40 CFR 93.126) - Traffic control devices and operating assistance other than signalization	2040
Regional / Multi-County	REG170003	17-10-0029	MTC	511 Carpool and Vanpool Programs	SF Bay Area: Regionwide: Operate Carpool and Vanpool Programs. Toll credits applied in lieu of match; non-federal funds are non-participating	EXEMPT (40 CFR 93.126) - Continuation of ride-sharing and van-pooling promotion activities at	2040
Regional / Multi-County	REG170006	17-10-0015	MTC	Spare the Air Youth	Regional: Education and Outreach: Program designed to reduce greenhouse gas emissions and vehicle miles traveled through education and encouragement programs for youth and families.	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
Regional / Multi-County	REG170007	17-10-0013	MTC	Incident Management Program	SF Bay Area: Regionwide: Manage congestion by implementing strategies to enhance mobility and safety, and reduce the impacts of traffic incidents, including advanced transportation management	EXEMPT (40 CFR 93.126) - Traffic control devices and operating assistance other than signalization	2040
Regional / Multi-County	REG170008	17-01-0002	BART	BART Integrated Carpool to Transit Access Program	BART: Systemwide: Program to better integrate carpool access to public transit by matching carpools through an app. The app facilitates carpool matching, payment, and parking space reservation at the	EXEMPT (40 CFR 93.126) - Continuation of ride-sharing and van-pooling promotion activities at	2040
Regional / Multi-County	REG170009	17-10-0005	BART	BART Train Seat Modification	BART: On up to 360 existing BART cars: Remove 7 seats to provide immediate relief for passengers in the peak period commute hours	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2030
Regional / Multi-County	REG170010	17-10-0033	MTC	Reg. Prog. for Arterial System Synchronization	SF Bay Area: Regionwide: Develop plans to guide arterial system integration and operations investments, and provide project management and traffic engineering/tech assistance (including procuring traffic	EXEMPT (40 CFR 93.128) - Traffic signal synchronization projects	2040
Regional / Multi-County	REG170013	17-10-0029	MTC	511 Next Gen	SF Bay Area: Regionwide: Provide free multi-modal traveler information via multiple platforms. Given the public's increasing reliance on private sector services, 511 will focus on being a data provider to	EXEMPT (40 CFR 93.126) - Directional and informational signs	2040
Regional / Multi-County	REG170014	17-10-0033	MTC	Active Operations Management	SF Bay Area: Regionwide: Planning and design assessments of various multi-modal operational projects and policies.	EXEMPT (40 CFR 93.126) - Traffic control devices and operating assistance other than signalization	2040
Regional / Multi-County	REG170016	17-10-0021	MTC	Regional Planning - PDA Implementation	SF Bay Area: Regionwide: Planning Assistance to support transportation investments and improve their performance in priority development areas.	EXEMPT (40 CFR 93.126) - Planning activities conducted pursuant to titles 23 and 49 U.S.C	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Regional / Multi-County	REG170018	17-10-0033	MTC	Connected & Automated Vehicles	SF Bay Area: Regionwide: Deploy demonstration CV/AV technologies to prepare the region for future connected and automated vehicles and support strategies, including technical assistance. Toll credits	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
Regional / Multi-County	REG170019	17-10-0015	BAAQMD	Spare the Air	San Francisco Bay Area: Region-wide: Spare the Air Campaign - Inform/educate the public about ozone problems, notify when Spare the Air days are called and encourage use of transit, ridesharing, etc	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Regional / Multi-County	REG170020	17-10-0015	BAAQMD	Electric Vehicle Programs and Outreach	San Francisco Bay Area: Inform/educate the public about electric vehicles, infrastructure and purchasing programs.	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
Regional / Multi-County	REG170021	17-10-0015	BAAQMD	Electric Vehicle Infrastructure/Vehicle Buyback	SF Bay Area: Regionwide: Install EV charging stations along transportation corridors, at workplaces, MUDs and park and ride lots. Scrap operable 1994 and older vehicles and provide funding for EV	EXEMPT (40 CFR 93.126) - Transportation enhancement activities (except rehabilitation and operation	2040
Regional / Multi-County	REG170022	17-10-0028	MTC	Clipper® 2.0 Fare Payment System	SF Bay Area: Regionwide: Implement a wholesale replacement of the Clipper backend system and all customer facing fare devices, modernization of retail and customer service, and expansion of ways to	EXEMPT (40 CFR 93.126) - Purchase of office, shop, and operating equipment for existing facilities	2040
Regional / Multi-County	REG170023	17-10-0016	MTC	TCP Financing Repayment Obligations	SF Bay Area: Regionwide: Repayment of principal balance and interest costs associated with securitization of future FTA formula fund apportionments. Also references RTP IDs 17-10-0006 and 17-10-	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Regional / Multi-County	REG170024	17-10-0033	MTC	Bay Bridge Forward-Commuter Parking Initiative O&M	Albany and Oakland: I-80/Buchanan Ave, I-880/High St, and I-880/Fruitvale: operations and maintenance of commuter parking facilities	EXEMPT (40 CFR 93.126) - Continuation of ride-sharing and van-pooling promotion activities at	2040
Regional / Multi-County	REG170025	17-10-0011	MTC	Community Based Transportation Planning	SF Bay Area: Regionwide: Develop and/or update locally-led plans to address the mobility needs of low-income household's in the region's 35 Communities of Concern (CBTP)	EXEMPT (40 CFR 93.126) - Planning and technical studies	2040
Regional / Multi-County	REG170027	17-10-0015	MTC	Targeted Transportation Alternatives	SF Bay Area: Region-wide: Implement a digitally-based personalized travel assistance program that provides targeted audiences with travel information to shift from solo driving to sustainable forms of	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
Regional / Multi-County	REG170028	17-10-0015	MTC	Regional Car Sharing	SF Bay Area: Region-wide: Implement strategies to grow carsharing in the Bay Area including developing policies and regulations, increasing the number of carshare vehicles, developing incentives and	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
Regional / Multi-County	SM-050041	17-10-0026	Caltrain	Caltrain: Signal/Communication Rehab. & Upgrades	Caltrain: Systemwide: Rehabilitate existing signal system and upgrade/replace communication equipment.	EXEMPT (40 CFR 93.126) - Construction or renovation of power, signal, and communications systems	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Regional / Multi-County	VAR150001	17-10-0027	MTC	GL: FTA 5311 Rural Area FY16	GL: FTA Section 5311 Rural Area Program, Non-ITS portion. Projects include capital and operating assistance. Projects consistent with 40 CFR Part 93.126 Exempt Table 2	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Regional / Multi-County	VAR170002	17-10-0025	Caltrans	GL: Highway Safety Improvement Program	GL: Safety Imprv - Highway Safety Improvement Program: Projects are consistent with 40 CFR Part 93.126 Exempt Tables 2 and Table 3 categories.	EXEMPT (40 CFR 93.126) - Highway Safety Improvement Program implementation	2040
Regional / Multi-County	VAR170004	17-10-0025	Caltrans	GL: Pavement Resurfacing/Rehab SHS - Highway Maint	GL: Pavement Resurf/Rehab State Highway System - Highway Maintenance. Projects are consistent with 40 CFR Part 93.126 Exempt Tables 2 and Table 3 categories - Pavement resurfacing and/or	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Regional / Multi-County	VAR170005	17-10-0013	Caltrans	GL: Safety Improvements - SHOPP Mobility Program	SF Bay Area: Various Locations: Projects are consistent with 40 CFR Part 93.126 Exempt Tables 2 and Table 3 categories	EXEMPT (40 CFR 93.126) - Traffic control devices and operating assistance other than signalization	2040
Regional / Multi-County	VAR170006	17-10-0025	Caltrans	GL: Pavement Resurf./Rehab - SHOPP Roadway Presv.	Regionwide: Various Locations: Projects consistent with 40CFR93.126 Exempt Tables 2 categories - Pavement resurfacing and/or rehabilitation, Emergency relief (23 U.S.C. 125), Widening narrow	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Regional / Multi-County	VAR170007	17-10-0025	Caltrans	GL: Safety Imprv. - SHOPP Collision Reduction	Regionwide: Various Locations: Projects are consistent with 40 CFR Part 93.126 Exempt Tables 2 and Table 3 categories	EXEMPT (40 CFR 93.126) - Guardrails, median barriers, crash cushions	2040
Regional / Multi-County	VAR170008	17-10-0025	Caltrans	GL: Emergency Repair - SHOPP Emergency Response	Regionwide: Various Locations: Projects are consistent with 40 CFR Part 93.126 Exempt Tables 2 categories	EXEMPT (40 CFR 93.126) - Repair of damage caused by natural disasters, civil unrest, or terrorist acts,	2040
Regional / Multi-County	VAR170009	17-10-0025	Caltrans	GL: Safety Improvements - SHOPP Mandates	Regionwide: Various Locations: Projects are consistent with 40 CFR Part 93.126 Exempt Tables 2 and Table 3 categories	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Regional / Multi-County	VAR170010	17-10-0025	Caltrans	GL: Bridge Rehab and Reconstruction - SHOPP	Regionwide: Various Locations: Projects are consistent with 40 CFR Part 93.126 Exempt Tables 2 categories - Widening narrow pavements or reconstructing bridges (no additional travel lanes).	EXEMPT (40 CFR 93.126) - Widening narrow pavements or reconstructing bridges (no additional travel	2040
Regional / Multi-County	VAR170011	17-10-0025	Caltrans	GL: Shoulder Imprv - SHOPP Roadside Preservation	Regionwide: Various Locations: Projects are consistent with 40 CFR Part 93.126 Exempt Tables 2 categories - Fencing,Safety roadside rest areas	EXEMPT (40 CFR 93.126) - Plantings, landscaping, etc	2040
Regional / Multi-County	VAR170012	17-10-0024	Caltrans	GL: Bridge Rehab/Recon. - Local Hwy Bridge Program	GL: Local Bridge Rehab/Recon. - Local Highway Bridge Program(HBP) or Highway Bridge Replacement and Rehabilitation (HBRR). Projects are consistent with 40 CFR Part 93.126 Exempt Tables 2 categories.	EXEMPT (40 CFR 93.126) - Widening narrow pavements or reconstructing bridges (no additional travel	2040
Regional / Multi-County	VAR170014	17-10-0033	MTC	Bay Bridge Forward - Integrated Bridge Corridor	Alameda County: Deploy ITS that integrate with SFOBB toll bridge metering lights system and Smart I-80 to improve traffic flow and information dissemination for users of the I-80, I-580, and I-880 bridge	EXEMPT (40 CFR 93.126) - Traffic control devices and operating assistance other than signalization	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Regional / Multi-County	VAR170017	17-10-0025	Caltrans	GL: Railroad-Highway Crossing	GL: Railroad/Highway Crossings. Projects are consistent with 40 CFR 93.126 Exempt Tables 2 categories - Railroad/highway crossing	EXEMPT (40 CFR 93.126) - Railroad/highway crossing	2040
Regional / Multi-County	VAR170018	17-10-0026	MTC	GL: FTA 5311 Rural Area FY17	GL: FTA Section 5311 Rural Area Program, Non-ITS portion. Projects include capital and operating assistance. Projects consistent with 40 CFR Part 93.126 Exempt Table 2	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Regional / Multi-County	VAR170019	17-10-0026	MTC	GL: FTA 5311 Rural Area FY18	SF Bay Area: Regionwide: GL FTA Section 5311 Rural Area Program, Non-ITS portion. Projects include capital and operating assistance. Projects consistent with 40 CFR Part 93.126 Exempt Table 2	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Regional / Multi-County	VAR170020	17-10-0027	MTC	GL: FTA Section 5310 Program FY15, FY16 and FY17	Region-Wide: Eld. & persons with Disabilities. Prog Lump Sum Listing; Project incl. Veh. replacements, minor expansion & office equip. Consist with 40 CFR Part 93.126	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Regional / Multi-County	VAR170024	17-01-0001	MTC	Bike Share Capital Program	Fremont, Richmond, and Marin and Sonoma Counties, along the SMART Corridor: Various Locations: Implement bike / bicycle sharing	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Regional / Multi-County	VAR170025	17-10-0011	MTC	GL: Lifeline Transportation Program Cycle 5	SF Bay Area: Region-wide: 5307 Lifeline set-aside from FY17 and FY18 Large and Small UA. Various 5307 Lifeline projects in large and small urbanized areas. Project is consistent with 40 CFR Part 93.126	EXEMPT (40 CFR 93.127) - Bus terminals and transfer points	2040
Regional / Multi-County	VAR170026	17-10-0026	MTC	GL: FTA 5311 Rural Area FY19 and FY20	GL: FTA Section 5311 Rural Area Program, Non-ITS portion. Projects include capital and operating assistance. Projects consistent with 40 CFR Part 93.126 Exempt Table 2	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Regional / Multi-County	VAR190001	17-10-0025	Caltrans	GL: Pvmt Resurf/Rehab State Hwy Sys - SHOPP Minor	GL: Pavement Resurf/Rehab State Hwy System - SHOPP Minor. Projects are consistent with 40 CFR Part 93.126 Exempt Tables 2 and Table 3 categories	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Regional / Multi-County	VAR190002	17-10-0021	BART	BART: TOD Implementation	Alameda, Contra Costa, San Francisco Counties: On BART property in BART station areas: Planning assistance to support transit oriented development	EXEMPT (40 CFR 93.126) - Planning and technical studies	2040
San Francisco	SF-030013	17-10-0026	SFMTA	SFMTA: Wayside Fare Collection Equipment	SFMTA: Systemwide: Replacement of life-expired fare collection equipment.	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040
San Francisco	SF-050014	17-05-0010	BART	BART/MUNI Direct Connection Platform	BART/MUNI: Powell Street Station: Provide a direct connection between BART & MUNI.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Francisco	SF-050024	17-10-0026	SFMTA	SFMTA:Train Control & Trolley Signal Rehab/Replace	SFMTA: Systemwide: Rehabilitate or replace elements of the ATCS Wayside/Central Train Control & Rail/Bus Signal Systems.	EXEMPT (40 CFR 93.126) - Rehabilitation or reconstruction of track structures, track, and trackbed in	2040
San Francisco	SF-070027	17-10-0024	SF County TA	Yerba Buena Island (YBI) Ramp Improvements	San Francisco: Existing on and off ramps at the Yerba Buena Island (YBI) interchange at US I-80: Reconst ramps; On the west side of the Island: Rehabilitate existing deficient bridges.	EXEMPT (40 CFR 93.127) - Interchange reconfiguration projects	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
San Francisco	SF-070029	17-10-0017	TBJPA	Transbay Transit Center - TIFIA Loan Debt Service	San Francisco, Transbay Transit Center: TIFIA Loan debt service for Phase 1 & 2. Update annual debt service amounts based on TIFIA loan agreement.	EXEMPT (40 CFR 93.126) - Planning and technical studies	2040
San Francisco	SF-090011	17-05-0028	SF County TA	Oakdale Caltrain Station	San Francisco: Oakdale near Palou: Planning, preliminary engineering, and environmental work for a new Caltrain station and transit service adjustments to serve station.	EXEMPT (40 CFR 93.126) - Planning activities conducted pursuant to titles 23 and 49 U.S.C	2040
San Francisco	SF-090035	17-10-0026	SFMTA	SFMTA: Paratransit Vehicle Replacements	SFMTA: Paratransit service across San Francisco: preserve service and replace 84 paratransit vehicles	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
San Francisco	SF-110005	17-10-0022	SF DPW	Great Highway Restoration	San Francisco: Great Highway From Sloat to Skyline Hwy: Ph 1. Restore and stabilize roadway, stop bluff slides, and protect infrastructure. Phase 2. Implement road diet by closing remaining SB lane and	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Francisco	SF-110053	17-10-0026	WETA	WETA: Replace Ferry Vessels	WETA: All existing ferry vessels for WETA: Replace vessels when they reach the end of their useful life of 25 years	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
San Francisco	SF-130010	17-05-0030	SF County TA	Construct Treasure Island Bus Terminal Facility	San Francisco: Treasure Island: Construct Treasure Island Bus Terminal Facility	EXEMPT (40 CFR 93.127) - Bus terminals and transfer points	2030
San Francisco	SF-150001	17-05-0003	SF DPW	John Yehall Chin Safe Routes to School	In San Francisco: 5 intersections near 350 Broadway Street: Construct curb extensions.□	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Francisco	SF-150005	17-10-0026	SFMTA	SFMTA - Replacement of 40' Motor Coaches	SFMTA: 40' Neoplan Buses: Replace 40' Neoplan Buses originally in service in 2002 with (85) 40'hybrid buses.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
San Francisco	SF-150006	17-10-0026	SFMTA	SFMTA Replacement of 60' Motor Coaches	SFMTA: 60' Neoplan Buses: Replace 98 60' Neoplan Buses diesel buses originally in service in 2002 with 98 60' hybrid buses.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
San Francisco	SF-150007	17-10-0026	SFMTA	SFMTA Farebox Replacement	SFMTA: Systemwide: Refurbish or purchase existing fareboxes and necessary support equipment to improve reliability, functionality, and the overall customer experience.	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040
San Francisco	SF-150013	17-05-0009	SF County TA	SB I-280 Off-Ramp at Ocean Ave Realignment	San Francisco: I-280/Ocean Avenue Interchange: Realign the southbound I-280 off-ramp to Ocean Avenue into a T intersection with a new signal on Ocean Avenue	EXEMPT (40 CFR 93.127) - Interchange reconfiguration projects	2040
San Francisco	SF-150017	17-05-0003	SFDPH	SF Safe Routes to School 2017-2019	San Francisco: Citywide: Implement a pilot proposal that includes innovative educational, encouragement, and evaluation activities and deliverables to increase safe walking and biking by schoolchildren	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
San Francisco	SF-170002	17-10-0023	MTC	Regional Planning Activities and PPM - SF County	San Francisco: Regional Planning Activities and Planning, Programming and Monitoring (PPM)	EXEMPT (40 CFR 93.126) - Planning activities conducted pursuant to titles 23 and 49 U.S.C	2040
San Francisco	SF-170003	17-10-0033	MTC	Bay Bridge Forward-Sterling/Bryant St Managed Lane	Sterling/Bryant St. and Regionwide: Pilot Vehicle Occupancy Detection (VOD) technology and increased CHP enforcement at Sterling and other pilot sites, support planned HOV lanes to bridge; convert HOV	EXEMPT (40 CFR 93.126) - Traffic control devices and operating assistance other than signalization	2040
San Francisco	SF-170004	17-10-0026	SFMTA	SFMTA: Replacement of 40' Trolley Coaches	SFMTA: Systemwide: Purchase 40' replacement trolley coaches for the existing aging coaches.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
San Francisco	SF-170006	17-05-0001	SFMTA	SFMTA: Station-area Ped and Bike Access Improvemnt	SFMTA: Citywide: Reconfigure station areas to provide pedestrians and bicyclists more space to improve access	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Francisco	SF-170008	17-10-0026	SFMTA	SFMTA: Replace 35 Paratransit Cutaway Vans	SFMTA: 35 vehicles: Replace 35 paratransit cutaway vans	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
San Francisco	SF-170012	17-05-0014	Port of SF	Cargo Way and Amador Street Improvements	In San Francisco: On Cargo Way from Jennings to 3rd Street and Amador Street from Illinois Street to 2,300 ft. east: design and construct a complete street project.	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2030
San Francisco	SF-170014	17-05-0001	SFMTA	SF - Powell Street Safety Improvement	In SF: Powell Street from Ellis to Post: Improve pedestrian safety and reduce sidewalk crowding to encourage more people to walk, especially to jobs.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Francisco	SF-170016	17-10-0005	BART	Embarcadero Stn: New North-Side Platform Elevator	San Francisco: Embarcadero BART: Procure and install a new elevator on the east end of the station, expand paid area to include the new elevator, dedicate existing elevator to Muni use 100%, project is	EXEMPT (40 CFR 93.126) - Purchase of office, shop, and operating equipment for existing facilities	2030
San Francisco	SF-170017	17-05-0003	SFMTA	Vision Zero SF: Safer Intersections	San Francisco Citywide: Education and outreach program targeting unsafe left turns in intersections.	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
San Francisco	SF-170018	17-10-0026	SFMTA	SFMTA: 60' Motor Coach Mid-Life Overhaul	SFMTA: Existing 60' New Flyer motor coaches: Mid-life overhaul	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
San Francisco	SF-170019	17-10-0026	SFMTA	SFMTA: 40' Motor Coach Mid-Life Overhaul	SFMTA: Existing New Flyer 40' motor coaches: Rehabilitate/conduct mid-life overhaul.	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
San Francisco	SF-170020	17-10-0026	SFMTA	SFMTA: Replacement of 30' Motor Coaches	SFMTA: Fleetwide: Replace the Orion 30' renewable diesel electric hybrid vehicles that were procured in year 2007.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
San Francisco	SF-170021	17-10-0026	SFMTA	SFMTA: Rehab Historic Streetcars	SFMTA: Fleet of historic streetcars: Rehabilitate vehicles	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
San Francisco	SF-170022	17-10-0026	GGBHTD	GGBHTD: Replace 2 Paratransit Vehicles	GGBHTD: 2 Paratransit Vehicles: Purchase replacement vehicles	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
San Francisco	SF-170023	17-05-0003	SFMTA	SF Safe Routes to School Non-Infrastructure	San Francisco: Citywide: Coordinate school transportation services, including planning, operations, education and outreach, and capital improvement. It will reduce automobile trips and improve the safety	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
San Francisco	SF-190001	17-05-0010	SFMTA	Woods Bus Facility Modernization	San Francisco: Woods Bus Facility: Modernize and upgrade a 43-year old facility that houses and maintains vehicles.	EXEMPT (40 CFR 93.126) - Purchase of office, shop, and operating equipment for existing facilities	2040
San Francisco	SF-190002	17-05-0007	SFMTA	L-Taraval - SGR Project Elements	SFMTA: Along L Taraval Line from near West Portal to La Playa: Replace track and related way infrastructure	EXEMPT (40 CFR 93.126) - Rehabilitation or reconstruction of track structures, track, and trackbed in	2040
San Francisco	SF-190003	17-05-0007	SFMTA	Muni Metro East Facility - Boiler Replacement	SFMTA: At the Muni Metro East Facility: Replace the boiler and air-conditioning units	EXEMPT (40 CFR 93.126) - Purchase of office, shop, and operating equipment for existing facilities	2040
San Francisco	SF-190004	17-05-0007	SFMTA	SFMTA-Facilities Condition Assessment Repairs	SFMTA: Facilities Systemwide: Implement Facilities Deferred Maintenance Program repairs to address backlogged State of Good Repair investments	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
San Francisco	SF-190005	17-05-0004	SFMTA	6th Street Pedestrian Safety Improvements	San Francisco: On 6th St between Market St and Harrison St: Implement pedestrian safety improvements in the corridor including removing one lane of vehicle travel	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
San Francisco	SF-190006	17-05-0030	TIMMA	Treasure Island Ferry Terminal Landside Imprvmnts	San Francisco: On Treasure Island at the new Treasure Island Intermodal Terminal: Construct land-side improvements	EXEMPT (40 CFR 93.126) - Construction of small passenger shelters and information kiosks	2030
San Francisco	SF-95037B	17-10-0026	SFMTA	SF Muni Rail Replacement Program	SFMTA: Systemwide: Phased design and replacement of trackway, rail replacement, grinding, ultrasonic testing, track fastener, special trackwork, and related systems serving light rail and cable car lines.	EXEMPT (40 CFR 93.126) - Rehabilitation or reconstruction of track structures, track, and trackbed in	2040
San Francisco	SF-970073	17-10-0026	SFMTA	SFMTA: Cable Car Vehicle Renovation Program	SFMTA: Cable car fleet: Overhaul and reconstruct the cable car fleet to maintain system reliability and productivity. Project is phased.	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
San Francisco	SF-970170	17-10-0026	SFMTA	SFMTA: Overhead Line Recon. & Traction Power Prog	SFMTA: Systemwide: Improve Trolley Poles, Overhead Contact System, Rail Traction Power that provides power to Muni, based on evaluation of the Muni Track and Traction Power Condition Assessment,	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
San Francisco	SF-990022	17-05-0002	SFMTA	SFMTA: ADA Paratransit operating support	Muni: ADA Paratransit Operating Subsidy.; provides funding for increased van/taxi services to people with disabilities who are prevented from using Muni's fixed route services.	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
San Francisco	SF-99T002	17-10-0026	SFMTA	Cable Car Traction Power & Guideway Rehab	SFMTA: Cable Car System: Traction power and guideway rehab-repair various guideway, track curves, frogs, sheaves, replace Barn 12KV, switchgear, DC Motor, mechanical and infrastructure to improve the	EXEMPT (40 CFR 93.126) - Rehabilitation or reconstruction of track structures, track, and trackbed in	2040
San Mateo	SF-010028	17-10-0008	Caltrain	Caltrain Electrification	Caltrain: From San Francisco to Gilroy: Electrification of the caltrain corridor from San Francisco to Tamien, including caternary poles, wires, power supply, track and signals, and Electric Multiple Units	EXEMPT (40 CFR 93.126) - Construction or renovation of power, signal, and communications systems	2030
San Mateo	SM-010047	17-06-0014	Menlo Park	US 101 / Willow Road Interchange Reconstruction	Menlo Park: US 101 at Willow Road Interchange: Reconstruct and reconfigure interchange (No additional travel lanes).	EXEMPT (40 CFR 93.127) - Changes in vertical and horizontal alignment	2020
San Mateo	SM-030023	17-10-0026	SamTrans	SAMTRANS: Preventive Maintenance	SamTrans: Fleetwide: Preventative maintenance program	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
San Mateo	SM-03006B	17-10-0026	Caltrain	Caltrain: Systemwide Track Rehab & Related Struct.	Caltrain: Systemwide: Rehabilitate and replace existing track, track structures and related civil infrastructure	EXEMPT (40 CFR 93.126) - Rehabilitation or reconstruction of track structures, track, and trackbed in	2040
San Mateo	SM-050005	17-10-0026	BART	BART: Preventive Maintenance	BART: Systemwide: Preventive Maintenance	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
San Mateo	SM-050040	17-10-0027	Caltrain	Caltrain: ADA Operating Set-aside	Caltrain: Systemwide: Set-aside for ADA needs	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
San Mateo	SM-050053	17-06-0001	Millbrae	US 101 Millbrae Ave Bike/Ped Bridge	Millbrae: Across US 101 north of and adjacent to the existing Millbrae Avenue bridge; Construct a new 10-ft wide Class 1 mixed-use bike/ped overcrossing.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-070002	17-06-0006	CCAG	San Mateo Countywide ITS Improvements	San Mateo County: County-wide; ITS improvements at various locations in San Mateo County.	EXEMPT (40 CFR 93.126) - Traffic control devices and operating assistance other than signalization	2040
San Mateo	SM-070004	17-06-0003	East Palo Alto	Bay Rd Bicycle/Ped Improvements Phase II & III	E. Palo Alto: On Bay Rd btw Clarke/Illinois & Tara Rd (Ph II) & btw Tara Rd & Bay Trail (Ph. III);Improvements including resurface, streetscape, bike lanes, & other improvements.HPP #706 (remainder	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
San Mateo	SM-070006	17-06-0005	East Palo Alto	US 101 University Ave Interchange Improvements	E. Palo Alto: On University Ave across US 101 btw Woodland Ave and Donahoe St: Construct Bike Lane, modify NB and SB off-ramps and intersections with overcrossing with no new lanes for off-ramps. HPP	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-070049	17-10-0026	SamTrans	SAMTRANS Facility/Equipment Rehab/Replacement	SAMTRANS: Systemwide: Operating/maintenance facility/equip rehab/replacement, including the provision of facility improvements for admin, maintenance, and operations at the Central Administrative	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040
San Mateo	SM-110022	17-06-0002	CCAG	San Mateo County SR2S Program	San Mateo County: Countywide: Provide modularized safe routes to school programs and projects that focuses on education, encouragement, evaluation and enforcement components to all interested	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
San Mateo	SM-110047	17-06-0019	San Mateo	SR92/El Camino Real (SR82) Ramp Modifications	San Mateo: At the SR92/El Camino Real (SR82) interchange: Modify existing on/off rampsto improve the ingress and egress of the interchange.	EXEMPT (40 CFR 93.127) - Interchange reconfiguration projects	2020
San Mateo	SM-110065	17-06-0005	Redwood City	Middlefield Rd and Woodside Rd Intersection Improv	In Redwood City: At the intersection of Middlefield Rd and Woodside Rd: modify intersection to provide pedestrian facilities.	EXEMPT (40 CFR 93.127) - Intersection channelization projects	2040
San Mateo	SM-130003	17-06-0001	SSF	SSF Citywide Sidewalk Gap Closure Project	South San Francisco: Various Streets: closes gaps in the existing pedestrian infrastructure	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-130013	17-06-0003	SSF	SSF Grand Blvd Chestnut to Arroyo	SSF: El Camino Real between Chestnut Ave/Westborough Blvd to Arroyo Ave: Design and construct improved pedestrian crossings with corner bulbouts, median refuges, expanded bus stop areas and new	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-130016	17-06-0003	Pacifica	Palmetto Avenue Streetscape	Pacifica: Palmetto Avenue from Bella Vista Avenue to Clarendon Road: Pavement rehabilitation and pedestrian sidewalk improvements.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-130019	17-06-0001	San Bruno	San Bruno Ave Street Medians Improvements	San Bruno: San Bruno Ave from Elm Ave to I-280: Implement pedestrian improvement including curb ramps, speed radar display signs, demolish existing landscape and replace and replace existing spray	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-130020	17-06-0001	San Mateo	San Mateo Citywide Crosswalk Improvements	City of San Mateo: Various locations citywide: Install new high visibility crosswalks or upgrade existing crosswalks	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-130022	17-06-0003	Redwood City	Middlefield Road Bicycle / Ped Improvements	In Redwood City: on Middlefield Road between Main Street and Woodside Road: Modify roadway and utilities as needed to widen sidewalks and improve bike and pedestrian amenities. No vehicle travel	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-130026	17-10-0026	Caltrain	Caltrain Control Point Installation	Caltrain: On the mainline in San Carlos: Install a new control point (rail crossover)	EXEMPT (40 CFR 93.126) - Rehabilitation or reconstruction of track structures, track, and trackbed in	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
San Mateo	SM-130028	17-06-0001	East Palo Alto	US-101 Pedestrian/Bicycle Overcrossing	East Palo Alto: Between Clarke Avenue and Newell Road: Install a Pedestrian/Bicycle Overcrossing of US-101 to connect the west-side with the east-side of East Palo Alto for safe pedestrian/bicycle access.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-130029	17-06-0002	BART	Daly City BART Station Intermodal Improvements	Daly City: At Daly City BART Station: Improve transit operations; pedestrian & bicycle access; and safety & patron experience	EXEMPT (40 CFR 93.127) - Bus terminals and transfer points	2040
San Mateo	SM-130030	17-06-0003	SSF	SSF Grand Blvd Improvements Kaiser Way to McLellan	South San Francisco: Along El Camino Real between Kaiser Way and McLellan Drive: Implement bike and pedestrian enhancements, street trees, rain gardens and median landscaping as well as	EXEMPT (40 CFR 93.126) - Transportation enhancement activities (except rehabilitation and operation	2040
San Mateo	SM-130031	17-06-0001	SF City/County	Southern Skyline Blvd. Ridge Trail Extension	San Mateo County: On the east side of SR-35 "Upper Skyline Blvd" between the intersection of Hwy 92 and Hwy 35 southward approximately 6 miles to the SFPUC Peninsula Watershed: Construct Southern	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-130032	17-06-0001	San Mateo Co	Midcoast Multi-Modal Trail	San Mateo County: On Highway 1 from Mirada Road in Miramar to Coronado Street in El Granada: Construct 4,537 feet of multi-use trail.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-150002	17-06-0002	San Mateo	City of San Mateo SR2S Program	City of San Mateo: Within a 0.1 to 0.5 mile radius around each of the 15 elementary and middle schools in the City: Develop and Implement a Safe Routes to School Program	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-150010	17-10-0026	SamTrans	SamTrans - Replacement of Cutaway Buses	SamTrans: Readi-Wheels Paratransit service: Purchase replacement cutaway buses	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
San Mateo	SM-150011	17-10-0026	SamTrans	SamTrans - Purchase of Replacement Minivans	SamTrans: Purchase ten new replacement minivans used for ADA Paratransit service	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
San Mateo	SM-150012	17-06-0001	Daly City	Daly City Central Corridor Bike/Ped Safety Imprmnt	In Daly City: On Junipero Serra Blvd and Eastmoor Ave/San Pedro Rd/E Market St/Guad Cyn Pkwy: Install bike and ped improvements; In Daly City/Uninc San Mateo County: On west side of Mission St/El	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-150013	17-06-0002	San Mateo Co	RWC 2020 Sustainable Transportation Encouragement	San Mateo County: In and around Redwood City: Safe Routes to School walk and bike audits, encouragement and education programs and community-wide transportation mode share change evaluation.	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
San Mateo	SM-150014	17-06-0002	San Mateo County	Safe Routes to School for Health and Wellness	San Mateo County: Countywide: Implement a non-infrastructure educational program to increase the number of children who bike and walk to school with a focus on long term sustainability. Other State	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
San Mateo	SM-150015	17-06-0001	SSF	SSF Linden/Spruce Ave Traffic Calming Improvements	In South San Francisco: On Linden Avenue from California Ave to Miller Avenue and on Spruce Ave from Maple Ave to Lux Ave: install pedestrian/bicycling safety improvements including a class 3 bikeway.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
San Mateo	SM-150016	17-10-0015	San Mateo	San Mateo Downtown Parking Tech Implementation	In San Mateo: Various Locations Downtown: Replace existing parking meters, and pay stations and install parking availability signs at City facilities.	EXEMPT (40 CFR 93.126) - Directional and informational signs	2040
San Mateo	SM-170001	17-06-0020	San Mateo Co	Hwy 1 Congestion & Safety improvements	In San Mateo County along 7 miles of Highway 1 between Pacifica in the north and Half Moon Bay in the south; Install raised medians, left turn lanes, acceleration lanes, and pedestrian crossings.	EXEMPT (40 CFR 93.127) - Intersection channelization projects	2020
San Mateo	SM-170002	17-10-0023	MTC	Regional Planning Activities and PPM - San Mateo	San Mateo: Regional Planning Activities and Planning, Programming and Monitoring (PPM)	EXEMPT (40 CFR 93.126) - Planning activities conducted pursuant to titles 23 and 49 U.S.C	2040
San Mateo	SM-170005	17-10-0026	Caltrain	South San Francisco Caltrain Station Improvements	South San Francisco: SSF Caltrain Station: Demolish and reconstruct the existing station with a new ADA compliant station that meets current Caltrain standards	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
San Mateo	SM-170006	17-06-0001	San Mateo	East Hillsdale Boulevard Ped/Bike Overcrossing	City of San Mateo: Over US 101 at the US 101/Hillsdale Boulevard Interchange: Construct pedestrian and bicycle overcrossing	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-170008	17-06-0029	SamTrans	El Camino Real Traffic Signal Priority Project	San Mateo County: On El Camino Real (State Route 82) from the Palo Alto Caltrain Station to the Daly City BART Station: Install Traffic Signal Priority system	EXEMPT (40 CFR 93.126) - Traffic control devices and operating assistance other than signalization	2040
San Mateo	SM-170009	17-06-0001	Woodside	Woodside School Safety Pathway Phase 3	Woodside: Along SR-84 from Woodside Elementary to west of the intersection with Canada Rd: Create a pathway, paved shoulders for bikes and extend the current multi-use pathway improvements; near	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-170010	17-10-0026	Caltrain	Caltrain TVM Rehab and Clipper Functionality	Caltrain: Systemwide: 45 existing TVM machines: Refurbish and incorporate Clipper functionality.	EXEMPT (40 CFR 93.126) - Purchase of office, shop, and operating equipment for existing facilities	2040
San Mateo	SM-170012	17-10-0022	San Mateo Co	Canada Road and Edgewood Road Resurfacing	San Mateo County: Edgewood Rd between 0.17 mi west of Crestview Dr to Cervantes Rd and Canada Rd between the NB and SB 280 off- and on-ramps: Resurface pavement including overlay, pavement	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170013	17-06-0003	Half Moon Bay	Half Moon Bay - Poplar Complete Streets	Half Moon Bay: On Poplar St from Main St to Railroad Ave: Implement complete street improvements	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-170014	17-10-0022	San Mateo Co	San Mateo Countywide Pavement Maintenance	San Mateo County: Various streets and roads county-wide: Pavement maintenance	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170015	17-06-0002	Burlingame	Hoover School Area Sidewalk Impvts (Summit Dr.)	Burlingame: Summit Dr from Hillside Circle to Easton Dr and immediately adjacent to the new Hoover Elementary School: Construct sidewalk and bicycle improvements	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
San Mateo	SM-170016	17-06-0003	SSF	SSF Grand Boulevard Complete Streets (Phase III)	South San Francisco: El Camino Real from Arroyo Dr to Kaiser Way: Implement Grand Boulevard Complete Streets improvements	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-170017	17-06-0003	San Bruno	Huntington Transit Corridor Bike/Ped Improvements	San Bruno: On Huntington Ave from San Bruno Ave to the entrance of the Centennial Way Trail: Implement pavement preservation and bike/ped facilities including converting the rightmost lane on	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-170019	17-10-0022	Brisbane	Brisbane - Tunnel Ave Rehabilitation	Brisbane: Tunnel Ave from northern city limits (N/O Beatty Ave) to 1700 ft. south: Rehabilitate pavement	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170020	17-06-0003	Burlingame	Burlingame: Broadway PDA Lighting Improvements	Burlingame: Along the Broadway corridor within the business district: Replace aging pedestrian street lighting with new, safer, brighter lighting	EXEMPT (40 CFR 93.126) - Lighting improvements	2040
San Mateo	SM-170021	17-10-0022	Burlingame	Burlingame Street Resurfacing	Burlingame: Various streets and roads: Roadway resurfacing	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170022	17-06-0001	Colma	Colma - Mission Road Bike/Ped Improvements	Colma: Mission Rd between El Camino Real and Lawndale Blvd: Implement safety related improvements for pedestrians, bicyclists and vehicles	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-170023	17-10-0022	Daly City	Daly City Street Resurfacing and Slurry Seal	Daly City: Various streets and roads: Pavement preservation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170024	17-10-0022	East Palo Alto	East Palo Alto Citywide Street Resurfacing	East Palo Alto: Various streets and roads: Rehabilitate roadway	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170025	17-10-0022	Foster City	Foster City - Pavement Rehabilitation	Foster City: Various streets and roads: Pavement rehabilitation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170026	17-10-0022	Hillsborough	Hillsborough Street Resurfacing	Hillsborough: Various roadways: Resurfacing and preventative maintenance	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170027	17-10-0022	Menlo Park	Menlo Park - Santa Cruz and Middle Avenues Rehab	Menlo Park: Santa Cruz Ave between Olive St and Orange Ave and Middle Ave between Olive St and San Mateo Dr: Pavement Rehabilitation and installation of rectangular rapid flashing beacon	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170028	17-10-0022	Millbrae	Millbrae Street Rehabilitation	Millbrea: Various streets and roads: Pavement rehabilitation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170029	17-06-0001	Pacifica	Pacifica - Palmetto Sidewalk Extension	Pacifica: Along the coastal west side of Palmetto Ave from Westline Dr. to 1,400 feet south: Construct new concrete sidewalk.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
San Mateo	SM-170030	17-10-0022	Pacifica	Pacifica Citywide Curb Ramps	Pacifica: At various locations throughout the city: Install new curb ramps	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
San Mateo	SM-170031	17-10-0022	Pacifica	Pacifica Pavement Rehabilitation	Pacifica: Various streets and roads: Rehabilitate pavement	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170032	17-10-0022	Redwood City	Redwood City Pavement Preservation	Redwood City: Twin Dolphin Parkway from Marine Parkway to Redwood Shores Parkway: Pavement preservation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170033	17-10-0022	San Bruno	Huntington/San Antonio Street Rehabilitation	San Bruno: Huntington Ave between San Mateo Ave and San Felipe Ave, and San Antonio Ave between San Felipe Ave and Santa Inez Ave: pavement rehabilitation and preventive maintenance	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170034	17-06-0001	San Carlos	Ped Enhancements Arroyo/Cedar & Hemlock/Orange	San Carlos: At the intersections of Arroyo Ave and Cedar St and Hemlock St and Orange Ave and the Postman Walkway: Implement safety improvements	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-170035	17-10-0022	San Carlos	Cedar and Brittan Ave Pavement Rehab	San Carlos: On Cedar Street, between San Carlos Avenue and the City of Belmont, and Brittan Avenue, between Elm Street and El Camino Real: Rehabilitate pavement and install ADA compliant facilities	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170036	17-10-0022	SSF	SSF Pavement Rehabilitation	South San Francisco: Various locations: Pavement Rehabilitation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170037	17-10-0022	Woodside	Road Rehabilitation - Town of Woodside	Woodside: Various Streets and Roads: Pavement Resurfacing	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170038	17-06-0001	San Mateo	North San Mateo Drive Sustainable Streets	San Mateo: on San Mateo Dr from Peninsula Ave to Baldwin Ave: Install Class II bike lanes, curb extensions, enhanced striping & signage, upgraded traffic signals with ped countdown, ped scale lighting,	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
San Mateo	SM-170039	17-06-0001	San Mateo	Laurie Meadows Ped/Bike Safety Improvements	San Mateo: Various locations in the Laurie Meadows neighborhood: Implement bike/ped safety improvements; On Laurie Meadows Dr from near Pacific Blvd to Woodbridge Circle: Implement road diet	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
San Mateo	SM-170040	17-10-0022	San Mateo	San Mateo Street Rehabilitation	San Mateo: Various streets and roads: Resurface and/or rehabilitate the roadway, implement bicycle elements and upgrade ADA ramps	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170041	17-06-0001	Brisbane	Crocker Trail Commuter Connectivity Upgrades	Brisbane: On Crocker Trail bounded by Bayshore Blvd, S Hill Dr, W Hill Dr and Mission Blue Dr: Resurface trail	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
San Mateo	SM-170042	17-06-0001	Belmont	Ralston Avenue Corridor Bike-Ped Imps	Belmont: Ralston Ave from South Rd to Alameda de las Pulgas: Bicycle, pedestrian and pavement improvements. The pavement work is not federally participating.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-170043	17-10-0022	Belmont	Belmont Pavement Preservation	Belmont: Various streets and roads: Pavement preservation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170044	17-10-0022	Portola Valley	Portola Valley Street Preservation	Portola Valley: Various streets and roads: Pavement preservation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-170045	17-06-0001	Redwood City	US 101/Woodside Road Class 1 Bikeway	Redwood City: East of Union Pacific Railroad between the intersections of Chestnut St/Veterans Blvd and Blomquist St/Seaport Blvd: Construct approximately 1,800 linear feet of new Class 1 path	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
San Mateo	SM-170046	17-06-0006	CCAG	ITS Improvements in San Mateo County Northern Citi	San Mateo County: Along the US 101 corridor from Smart Corridors Ph 1 limits to the SF County line, and on I-280 from I-380 to the San Francisco County Line: Implement ITS Improvements in San Mateo	EXEMPT (40 CFR 93.126) - Traffic control devices and operating assistance other than signalization	2040
San Mateo	SM-190001	17-06-0004	San Carlos	Brittan Ave. Widening	San Carlos: At the intersection of Brittan and Industrial Road: Widen to accommodate three new left turn pockets	EXEMPT (40 CFR 93.127) - Intersection channelization projects	2040
San Mateo	SM-190004	17-10-0033	MTC	FPP: US 101 Adaptive Ramp Metering	San Mateo & Santa Clara Counties: US 101 from SR 85 in San Jose to San Mateo/San Francisco County Line: Upgrade existing freeway ramp meters to adaptive ramp meters to smooth traffic flow onto	EXEMPT (40 CFR 93.126) - Traffic control devices and operating assistance other than signalization	2040
San Mateo	SM-190008	17-10-0022	Atherton	Atherton Street Preservation	Atherton: Various streets and roads: Pavement preservation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
San Mateo	SM-990026	17-10-0027	SamTrans	SAMTRANS: ADA Paratransit Operating Subsidy	SamTrans: Systemwide: ADA Paratransit Operating Subsidy.	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Santa Clara	SCL050001	17-10-0026	VTA	VTA: Standard & Small Bus Replacement	VTA: Fleetwide: Standard and Small Bus Replacement	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Santa Clara	SCL050002	17-10-0026	VTA	VTA: Rail Replacement Program	VTA: Throughout the Light Rail system: Replace rails (no rail expansion).	EXEMPT (40 CFR 93.126) - Rehabilitation or reconstruction of track structures, track, and trackbed in	2040
Santa Clara	SCL050046	17-10-0027	VTA	VTA: ADA Operating Set Aside	VTA: Systemwide: ADA operating assistance set aside.	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040

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Santa Clara	SCL050049	17-10-0026	VTA	VTA: Rail Substation Rehab/Replacement	VTA: Guadalupe Light Rail Corridor: Rehabilitate electrical elements (such as disconnect switches, DC breakers, etc.) of traction power substations.	EXEMPT (40 CFR 93.126) - Construction or renovation of power, signal, and communications systems	2040
Santa Clara	SCL050082	17-07-0001	San Jose	Bay Trail Reach 9 & 9B	San Jose: From the existing San Francisco Bay Trail/HWY 237 Bikeway Trail to the Bay Trail designated parking spaces (adjacent to the publicly accessible Marriott property): Construct 1.1 miles of	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL050083	17-07-0001	San Jose	Coyote Creek Trail (Hwy 237-Story Rd)	San Jose: From Highway 237 to Story Road: Master plan entire system, design and construction of the trail.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL090004	17-07-0001	San Jose	Almaden Ave & Vine St Safety Improvements	In San Jose: Almaden Ave and Vine St: Construct pedestrian safety improvements.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL090044	17-10-0026	VTA	VTA: TP OCS Rehab & Replacement	VTA: Systemwide: Rehabilitate and replace overhead catenary system (OCS) and associated components	EXEMPT (40 CFR 93.126) - Construction or renovation of power, signal, and communications systems	2040
Santa Clara	SCL110029	17-07-0001	San Jose	San Jose: Los Gatos Creek Reach 5 Underpass	In San Jose: Los Gatos Creek Trail between Auzerais Ave and Montgomery/Bird Ave: Construct Los Gatos Creek Trail (Reach 5b/c).	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL110099	17-10-0026	VTA	VTA: Light Rail Bridge and Structure - SG Repair	VTA: Various Locations: Light rail bridge and structure defect investigation and repair. Stabilization measures to address Hamilton structure settlement.	EXEMPT (40 CFR 93.126) - Rehabilitation or reconstruction of track structures, track, and trackbed in	2040
Santa Clara	SCL110104	17-10-0026	VTA	VTA: Light Rail Track Crossovers and Switches	VTA: In the light rail system: Add light rail crossovers and switches to priority areas where crossovers are not currently available to enhance operational flexibility.	EXEMPT (40 CFR 93.126) - Rehabilitation or reconstruction of track structures, track, and trackbed in	2040
Santa Clara	SCL110108	17-10-0024	Santa Clara Co	Isabel Bridge Replacement (37C0089)	In Santa Clara County: Isabel Bridge (Bridge No. 37C0089) on San Antonio Valley Road, 8.3 miles east of Kincaid Rd: Replace existing one lane bridge with a two-lane bridge	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Santa Clara	SCL110125	17-10-0021	VTA	Local PDA Planning - Santa Clara	Santa Clara County: Various Agencies: Planning assistance pass through to local jurisdictions to support transportation investments and improve their performance in Priority Development Areas (PDAs).	EXEMPT (40 CFR 93.126) - Planning activities conducted pursuant to titles 23 and 49 U.S.C	2040
Santa Clara	SCL130004	17-07-0003	San Jose	San Jose - Better Bikeways	San Jose: Various locations in downtown: Implement a network of bikeways	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040

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Santa Clara	SCL130016	17-07-0001	San Jose	East San Jose Bikeways	East San Jose: Various locations: make improvements to the bikeway network including the installation of new bikeways, traffic calming features, bike-friendly signal detection and pavement markings. Toll	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL130026	17-07-0003	Saratoga	Prospect Rd Complete Streets	Saratoga: Prospect Road between Saratoga/Sunnyvale Rd and Lawrence Expressway and on Saratoga Ave between Highway 85 to the City Limits to the north (Lawrence Expressway): Reduce roads width to	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL130040	17-07-0001	VTA	Montague Expy Ped Bridge at Milpitas BART	Milpitas: At Milpitas BART Station over Montague Expressway: Construct a pedestrian bridge. Project is phased.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL130041	17-07-0001	Palo Alto	Adobe Creek/ Highway 101 Bicycle Pedestrian Bridge	Palo Alto: Where US 101 crosses Adobe Creek: Construct Bike/Ped Bridge.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL130044	17-10-0025	VTA	I-880 Stevens Creek Landscaping	San Jose: at the I-880/Stevens Creek interchange: Provide landscaping.	EXEMPT (40 CFR 93.126) - Plantings, landscaping, etc	2040
Santa Clara	SCL150001	17-07-0064	VTA	I-680 Soundwalls - Capitol Expwy to Mueller Ave	In San Jose: On I-680 between Capitol Expressway and Mueller Avenue: Construct soundwalls	EXEMPT (40 CFR 93.126) - Noise attenuation	2040
Santa Clara	SCL150005	17-10-0026	VTA	VTA Train to Wayside Communication System Upgrade	VTA: Communications: Upgrade the existing DOS based train-to-wayside communications (TWC) system to a Windows based system while keeping the original system's operational functionality.	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040
Santa Clara	SCL150006	17-10-0026	VTA	VTA: Back-up Power for Elevated Stations	VTA: Various elevated stations: Replace the generators and automatic power bypass switch for elevated stations on the Guadalupe Light Rail line.	EXEMPT (40 CFR 93.126) - Construction or renovation of power, signal, and communications systems	2040
Santa Clara	SCL150008	17-10-0026	VTA	VTA Track Intrusion Abatement	VTA: Various locations along trackway: Installation of fencing, barriers, signage, flashing signs, and pavement markings.	EXEMPT (40 CFR 93.126) - Rehabilitation or reconstruction of track structures, track, and trackbed in	2040
Santa Clara	SCL150014	17-07-0025	VTA	I-280/Winchester Blvd Interchange Improvement	San Jose: I-280/Winchester Interchange: Construct improvements at the Winchester Blvd. interchange and I-280/I-880/SR 17 freeway connectors including the addition of ramps and a fly-over and the	EXEMPT (40 CFR 93.127) - Interchange reconfiguration projects	2030
Santa Clara	SCL170001	17-10-0023	MTC	Regional Planning Activities and PPM - Santa Clara	Santa Clara: Regional Planning Activities and Planning, Programming and Monitoring (PPM)	EXEMPT (40 CFR 93.126) - Planning activities conducted pursuant to titles 23 and 49 U.S.C	2040
Santa Clara	SCL170002	17-10-0032	VTA	VTA BART Phase II TOD and Station Access Planning	In Santa Clara County: In the vicinity of planned BART stations: Perform study of TOD and Station Access Planning.	EXEMPT (40 CFR 93.126) - Planning and technical studies	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Santa Clara	SCL170003	17-10-0015	Palo Alto	Palo Alto: Bay Area Fair Value CommutingMoDSandbox	In Palo Alto: Reduce Bay Area SOV commute share by using Fair Share Commuting (FVC), consisting of: Enterprise Commute Trip Reduction (ECTR) software; Mobility Aggregation (MobAg); parking feebate;	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
Santa Clara	SCL170005	17-10-0026	VTA	VTA: Paratransit Vehicle Procurement	VTA: Paratransit Fleet: Procure vehicles and associated equipment for paratransit services.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Santa Clara	SCL170006	17-10-0026	VTA	VTA: Replace Fault Monitoring System on LRVs	VTA: On Light Rail Vehicle Fleet: Upgrade Fault Monitoring System (FMS) Network that is no longer supported by the original equipment manufacturer (OEM)	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040
Santa Clara	SCL170007	17-10-0026	VTA	VTA: Pedestrian Swing Gates Replacement	VTA: At various pedestrian crossing locations along the light rail system: Replace spring-hinge pedestrian swing gates	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Santa Clara	SCL170008	17-07-0064	VTA	VTA: Vasona Pedestrian Back Gates	VTA: At several Vasona Light Rail Corridor crossings: Install pedestrian gates. Scope includes installation of automatic pedestrian gates, swing gates and railings, minor civil improvements and related signal	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Santa Clara	SCL170009	17-10-0026	VTA	VTA: Chaboya Yard Well Removal	VTA: At the Chaboya Bus Operating Division: Obtain case closure and demolish the ground water remediation system and wells	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
Santa Clara	SCL170010	17-10-0026	VTA	VTA: Guadalupe Train Wash Replacement	VTA: Guadalupe Light Rail Division: Replace train wash.	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
Santa Clara	SCL170011	17-10-0026	VTA	VTA: Upgrade Rail Grade Crossing Control Equipment	VTA: Various Locations: Replace existing rail grade crossing equipment; such as controllers, relays, and surge panels; that have become obsolete.	EXEMPT (40 CFR 93.126) - Construction or renovation of power, signal, and communications systems	2040
Santa Clara	SCL170017	17-07-0003	Sunnyvale	Sunnyvale SNAIL Neighborhood Improvements	In Sunnyvale: Various locations: Implement bike/ped improvements, close slip lanes, add bulbouts, install detection systems, ADA compliant ped signals, enhance existing bike lanes to include green bike	EXEMPT (40 CFR 93.127) - Intersection channelization projects	2040
Santa Clara	SCL170019	17-07-0004	Santa Clara Co	Uvas Road Pavement Rehabilitation	Santa Clara County: On the County maintained portions of Uvas Rd: Pavement rehabilitation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Santa Clara	SCL170020	17-07-0001	Sunnyvale	Bernardo Avenue Bicycle Underpass	Sunnyvale: Between North and South Bernardo Avenue under the Caltrain tracks: Construct bicycle underpass	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Santa Clara	SCL170021	17-10-0021	Palo Alto	North Ventura Coordinated Area Plan	Palo Alto: In proximity to the California Avenue Caltrain station, the California Avenue business district, El Camino Real and the Stanford Research Park: Develop a comprehensive planning document similar	EXEMPT (40 CFR 93.126) - Planning and technical studies	2040
Santa Clara	SCL170022	17-07-0001	Sunnyvale	Java Dr Road Diet and Bike Lanes	Sunnyvale: On Java Dr from Mathilda to Crossman: Construct approximately 5,000 linear feet of Class II bike lanes each side via a road diet	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL170023	17-07-0003	Sunnyvale	Peery Park "Sense of Place" Improvements	Sunnyvale: Various locations in the Peery Park Specific Area: Implement bike, pedestrian, and transit improvements	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL170024	17-07-0003	Sunnyvale	East Sunnyvale Area "Sense of Place"	Sunnyvale: Various locations in the East Sunnyvale Sense of Place Plan Area: Implement bike, pedestrian and transit access improvements	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL170025	17-07-0001	Sunnyvale	Fair Oaks Avenue Bikeway - Phase 2	Sunnyvale: Fair Oaks Ave from SR237 to Reed Ave: Reconfigure to install Bikeway/routes enhancements and close bikeway gaps	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL170026	17-07-0001	Sunnyvale	Lawerence Station Area Sidewalks & Bike Facilities	Sunnyvale: In the general area of the Lawrence Station Area Plan: Install bike and pedestrian improvements	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL170027	17-10-0022	Sunnyvale	Sunnyvale Traffic Signal Upgrades/Replacements	Sunnyvale: Various intersections: Upgrade traffic signals and intersections to have pedestrian-friendly designs and improved bicycle detection for the traffic signals.	EXEMPT (40 CFR 93.126) - Traffic control devices and operating assistance other than signalization	2040
Santa Clara	SCL170028	17-07-0001	Los Gatos	Los Gatos Creek Trail to Hwy 9 Trailhead Connector	In Los Gatos: The Los Gatos Creek Trail to the north and south sides of Highway 9 between the Highway 17 interchange and University Ave: Construct bike and pedestrian connector	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL170029	17-07-0064	San Jose	Tully Road Safety Improvements	In San Jose: Tully Road between Monterey Road and Capital Expressway: Implement safety elements	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Santa Clara	SCL170030	17-07-0064	San Jose	McKee Road Safety Improvements	San Jose: On McKee Road between Route 101 and Toyon Ave and On Gridley St at the intersection with Mckee Rd: Implement safety improvements	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Santa Clara	SCL170031	17-07-0064	San Jose	Mt Pleasant Ped & Bike Traffic Safety Improvements	San Jose: Various locations in the Mount Pleasant Area: Implement traffic safety improvements to serve student populations of seven schools	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Santa Clara	SCL170032	17-07-0004	Santa Clara Co	McKean Rd Pavement Rehabilitation	Santa Clara County: On the County maintained portions of McKean Road: Pavement rehabilitation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Santa Clara	SCL170033	17-07-0004	Santa Clara Co	Capitol Expressway Pavement Rehabilitation	Santa Clara County: Capitol Expressway between Copperfeild Ave to McLaughlin Avenue: Pavement rehabilitation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Santa Clara	SCL170035	17-10-0022	Campbell	Campbell - Winchester Blvd Overlay	Campbell: On Winchester Blvd from northern city limit near Rosemary Ln to southern city limit at Knowles Dr and Campbell Ave from Jeffers Way to Winchester Blvd: Install asphalt concrete overlay	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Santa Clara	SCL170037	17-10-0022	Cupertino	Cupertino Pavement Maintenance Phase 2	Cupertino: Various Locations: Rehabilitate pavement	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Santa Clara	SCL170038	17-10-0022	Los Altos	Los Altos: Fremont Ave Pavement Preservation	Los Altos: Fremont Ave between Grant Rd and Stevens Creek (City Limit): Rehabilitate roadway	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Santa Clara	SCL170039	17-10-0022	Milpitas	Milpitas Street Preservation	Milpitas: Various streets and roads: Street rehabilitation, upgrade ADA facilities, striping and signage, including bicycle facilities, and concrete work.	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Santa Clara	SCL170040	17-10-0022	Mountain View	West Middlefield Road Improvements	Mountain View: W. Middlefield Rd between Rengstorff Ave and N. Shoreline Blvd: Resurface roadway and reconstruct the median island	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Santa Clara	SCL170041	17-10-0022	Palo Alto	Palo Alto Street Resurfacing	In Palo Alto: Various streets and roads: Resurface roadways	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Santa Clara	SCL170042	17-10-0022	Santa Clara	Santa Clara Streets and Roads Preservation	Santa Clara: Various streets and roads: Rehabilitate and reconstruct pavement	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Santa Clara	SCL170043	17-01-0001	Sunnyvale	Homestead Rd at Homestead High School Improvements	Sunnyvale: Various locations on Homestead Rd near Homestead HS: Install safety improvements and upgrade signals; On Homestead Rd from McKenzie Dr to Mary Ave (south side) and from Mary Ave to	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Santa Clara	SCL170044	17-10-0022	San Jose	San Jose Pavement Maintenance	San Jose: Various streets and roads: Pavement maintenance and rehabilitation and build pedestrian facilities	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Santa Clara	SCL170045	17-07-0001	Santa Clara	Saratoga Creek Trail Phase 1	Santa Clara: Saratoga Creek Trail between Homeridge Park and Central Park: Build a class I bicycle and pedestrian trail	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL170046	17-10-0026	VTA	VTA: Systemwide Security Improvements	VTA: Systemwide: Implement safety improvements	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Santa Clara	SCL170047	17-10-0026	VTA	VTA: Non-Revenue Vehicle Procurement	VTA: Systemwide: Acquire non-revenue vehicles to replace existing units that have reached the end of their useful life	EXEMPT (40 CFR 93.126) - Purchase of support vehicles	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Santa Clara	SCL170048	17-10-0026	VTA	VTA: Light Rail Roadway Protection System	VTA: On the VTA Light Rail System: Explore and implement Roadway Worker Protection System technologies to meet regulatory requirements	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Santa Clara	SCL170049	17-10-0026	VTA	VTA: SCADA Middleware Replacement	VTA: Systemwide: Replace existing obsolete middleware software with updated software to ensure compatibility with other upgraded SCADA software and SCADA components	EXEMPT (40 CFR 93.126) - Purchase of office, shop, and operating equipment for existing facilities	2040
Santa Clara	SCL170050	17-10-0026	VTA	VTA: SCADA Control Center System Replacement	VTA: Systemwide: Provide upgrades to the Supervisory Control and Data Acquisition (SCADA) System hardware and software; At the Control and Data Center: Facility expansion	EXEMPT (40 CFR 93.126) - Construction or renovation of power, signal, and communications systems	2040
Santa Clara	SCL170051	17-07-0001	Palo Alto	Palo Alto-El Camino Real Ped Safety & Streetscape	In Palo Alto: On El Camino Real between Stanford Ave and Grant Ave: Install complete streets improvements focused on pedestrian safety, enhanced bus operations, and new urban design amenities.	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Santa Clara	SCL170052	17-07-0001	Santa Clara	San Tomas Aquino Creek Trail Underpass	In Santa Clara: San Tomas Aquino Creek Trail between Tasman Dr and 1/4 mile south of Tasman Dr: Construct bike/ped underpass.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL170053	17-07-0001	Palo Alto	Waverley, E. Meadow & Fabian Enhanced Bikeways	Palo Alto: Waverley Multi-Use Path: Widen and upgrade path; E Meadow Dr from Alma to Fabian: Protected bike facility; Fabian Way from East Meadow Dr to E Charleston: Reconfigures roadway with a travel	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Santa Clara	SCL170054	17-07-0001	Saratoga	Saratoga Village Crosswalks and Sidewalk Rehab	In Saratoga: Along Big Basin Way between 6th street and Hwy 9: Install curb bulbouts and crosswalk and rehabilitate sidewalk.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL170055	17-07-0001	Santa Clara	Hetch-Hetchy Trail Phase 1	Santa Clara: On the Hetch-Hetchy right-of-way from Stars and Stripes Dr to San Tomas Aquino Creek and along the east bank of San Tomas Aquino Creek from Hetch-Hetchy right-of-way to Agnew Rd:	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL170056	17-07-0001	Santa Clara	Santa Clara School Access Improvements	Santa Clara: Various locations around Santa Clara Schools: Implement bicycle and pedestrian access improvements	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL170057	17-07-0001	Sunnyvale	Sunnyvale Ped and Bike Infrastructure Improvements	Sunnyvale: At various locations city-wide: Add improvements to Bike/Ped infrastructure including enhancing and/or installing signs, striping, ADA compliant curb ramps and crossing safety treatments	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL170059	17-07-0001	Sunnyvale	Sunnyvale Safe Routes to School Improvements	Sunnyvale: In the vicinity of Bishop Elementary School: Install bike lanes, high visibility crosswalks, raised crosswalks, and curb extensions; Provide bicycle and pedestrian education and encouragement	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Santa Clara	SCL170060	17-07-0003	San Jose	DTSJ Mobility Streetscape and Public Life Plan	San Jose: Downtown PDA/Frame: Develop PDA implementation plan	EXEMPT (40 CFR 93.126) - Planning and technical studies	2040
Santa Clara	SCL170061	17-07-0001	San Jose	W San Carlos Urban Village Streets Improvements	San Jose: West San Carlos St between I-880 and McEvoy St: Implement safety improvements	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Santa Clara	SCL170062	17-07-0003	San Jose	Eastside Alum Rock (East of 680) Urban Village	San Jose: On Alum Rock Avenue and east of I-680: Develop multi-modal transportation implementation plan	EXEMPT (40 CFR 93.126) - Planning and technical studies	2040
Santa Clara	SCL170063	17-07-0004	Morgan Hill	Dunne Avenue Pavement Rehabilitation	Morgan Hill: E Dunne Ave between lower Thomas Grade and Flaming Oaks Dr and between upper Thomas Grade and Holiday Dr, and Holiday Drive from E Dunne Ave to 2,500 linear feet east toward	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Santa Clara	SCL170064	17-07-0064	VTA	I-280 Soundwalls - SR-87 to Los Gatos Creek Bridge	In San Jose: Along I-280 on both sides between SR 87 and Los Gatos Creek Bridge: Construct soundwalls. Modifying the existing irrigation system, landscaping, and traffic control will be required for this	EXEMPT (40 CFR 93.126) - Noise attenuation	2040
Santa Clara	SCL170065	17-10-0033	VTA	IDEA Cat 2: Valley Transportation Authority	Palo Alto: At the Vetrans Administration Hospital: Implement an automated micro-transit feeder pilot project	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
Santa Clara	SCL190003	17-07-0010	VTA	Hwy. Transp Operations System/FPI Phase 1 & 2	Santa Clara County: At various locations: Implement Transportation Operations System/Freeway Performance Initiative projects	EXEMPT (40 CFR 93.126) - Traffic control devices and operating assistance other than signalization	2040
Santa Clara	SCL190012	17-07-0034	VTA	US 101/San Antonio Rd/Charleston/Rengstorff IC Imp	Mountain View and Palo Alto: US 101 interchanges at San Antonio and Charleston Road/Rengstorff Avenue: Construct interchange improvements include adding new auxiliary lane.	EXEMPT (40 CFR 93.127) - Interchange reconfiguration projects	2030
Santa Clara	SCL190013	17-07-0069	VTA	US 101/SR 25 Interchange - Phase 1	Santa Clara County: US 101 and SR 25 Interchange: Phase 1 Reconfigure a portion of the overall interchange re-construction, focusing on improving the movement from southbound US 101 to southbound	EXEMPT (40 CFR 93.127) - Interchange reconfiguration projects	2030
Santa Clara	SCL190015	17-07-0029	VTA	I-280/Saratoga Avenue Interchange Improvement	San Jose: I-280/ Saratoga Ave Interchange: Modify interchange to relieve congestion and improve local circulation	EXEMPT (40 CFR 93.127) - Interchange reconfiguration projects	2030
Santa Clara	SCL190016	17-07-0030	VTA	I-280 NB Braided Ramps btw Foothill Expwy & SR 85	Santa Clara County: On northbound I-280 between Foothill Expressway and Route 85: Improve braided ramps	EXEMPT (40 CFR 93.127) - Interchange reconfiguration projects	2030
Santa Clara	SCL190017	17-07-0032	VTA	I-680/ Alum Rock/ McKee Road Interchange Imp	San Jose: At the I-680/ Alum Rock and I-680/ McKee Road interchanges: Reconfigure interchanges, improve access for all modes of transportation, improve traffic operations and relieve congestion; In the	EXEMPT (40 CFR 93.127) - Interchange reconfiguration projects	2030

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Santa Clara	SCL190023	17-10-0026	VTA	VTA: Bus CCTV Replacement	VTA: Fleetwide: Replace CCTV system on buses	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040
Santa Clara	SCL190024	17-10-0026	VTA	VTA: Transit Center Park and Ride Rehab	VTA: Various transit centers and park & ride facilities systemwide: Rehabilitate and repair facilities	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
Santa Clara	SCL190025	17-10-0026	VTA	VTA: Gigabit Ethernet Network	VTA: Systemwide: Replace Ethernet switch equipment	EXEMPT (40 CFR 93.126) - Construction or renovation of power, signal, and communications systems	2040
Santa Clara	SCL190026	17-10-0026	VTA	VTA: HVAC Replacement	VTA: At various facilities system-wide: Replace heating, ventilation and cooling equipment	EXEMPT (40 CFR 93.126) - Purchase of office, shop, and operating equipment for existing facilities	2040
Santa Clara	SCL190027	17-10-0026	VTA	VTA: SCADA Hardware, Software, Network Upgrade	VTA: Systemwide: Update three related Supervisory Control and Data Acquisition (SCADA) subsystems. 1) Hardware 2) Software 3) Network	EXEMPT (40 CFR 93.126) - Construction or renovation of power, signal, and communications systems	2040
Santa Clara	SCL190028	17-07-0003	San Jose	Willow-Keyes Complete Streets Improvements	San Jose: At various locations on the Willow-Keyes corridor: Construct bicycle and pedestrian safety improvements including road diets to construct Class IV protected bike lanes	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL190029	17-07-0001	San Jose	Better Bikeway San Jose - San Fernando Street	San Jose: On San Fernando St from Almaden Blvd to 11th St: Construct bicycle and pedestrian safety improvements	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL190031	17-07-0064	VTA	Santa Clara Countywide Noise Abatement Program	Santa Clara County: Countywide: Implement noise reduction projects, project is phased	EXEMPT (40 CFR 93.126) - Noise attenuation	2040
Santa Clara	SCL190032	17-07-0002	Mountain View	Rengstorff Grade Separation	Mountain View: At the intersection of Rengstroff Ave and the Caltrain right-of-way: Grade separate Caltrain at Rengstorff Avenue	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Santa Clara	SCL190033	17-07-0003	Los Gatos	Shannon Road Complete Streets	Los Gatos: On the north side of Shannon Road between Los Gatos Blvd and Cherry Blossom Lane: Construct a Class I multi-use path.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Santa Clara	SCL190034	17-10-0025	Caltrans	SCL-SM I-280 Roadway Preservation	Santa Clara and San Mateo Counties: On I-280 from from Foothill Blvd (PM 11.5 in Santa Clara County) to to 0.5 mile north of Sand Hill (PM 2.1 in San Mateo County): Pavement rehabilitation	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Santa Clara	SCL990046	17-10-0026	VTA	VTA: Preventive Maintenance	VTA: Preventive Maintenance of agency's fleet.	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Solano	SOL010006	17-10-0027	Fairfield	City of Fairfield Operating Assistance	Fairfield: Systemwide: Transit operating assistance	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Solano	SOL010007	17-10-0027	Vacaville	Vacaville Transit: Operating Assistance	Vacaville Transit: System-wide: Operating Assistance	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Solano	SOL070032	17-10-0026	SolTrans	SolTrans: Preventive Maintenance	SolTrans: Systemwide: Preventive maintenance of vehicles and equipment necessary for the maintenance of federally funded assets.	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
Solano	SOL090034	17-10-0026	SolTrans	SolTrans: Bus Replacement (Alternative Fuel)	SolTrans: Eight 45' MCI commuter coaches: Replace vehicles as they reach their useful life.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Solano	SOL110019	17-08-0004	STA	Solano Safe Routes to School Program	In Solano County: Countywide: Implement Countywide Solano Safe Routes to School Program, including Planning, Education, and Encouragement events and materials.	EXEMPT (40 CFR 93.126) - Transportation enhancement activities (except rehabilitation and operation	2040
Solano	SOL110025	17-10-0027	SolTrans	SolTrans: ADA Paratransit Operating Subsidy	SolTrans: Systemwide: ADA Paratransit Operating Subsidy	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Solano	SOL110035	17-08-0002	Vallejo	Vallejo Downtown Streetscape	Vallejo: Various streets in the downtown area: Pedestrian enhancements including traffic calming, restriping, parking, signs, brick pavers, street furniture and art. Project is phased	EXEMPT (40 CFR 93.126) - Transportation enhancement activities (except rehabilitation and operation	2040
Solano	SOL110037	17-08-0004	Vallejo	Sonoma Boulevard Improvements HSIP5-04-031	Vallejo: Sonoma Blvd. between York St. and Kentucky St: Implement road diet-reduce travel lanes from 4 to 2, add a two-way left turn lane or median, and add bike lanes.	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Solano	SOL110040	17-10-0027	SolTrans	SolTrans: Operating Assistance	Solano County Transit: System-wide: Operating Assistance	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Solano	SOL110041	17-10-0026	Fairfield	Fairfield-Suisun Intercity/Local Bus Replacement	Fairfield: Systemwide: Replace local/intercity buses that have exceeded their expected useful life.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Solano	SOL130007	17-08-0001	Solano County	Suisun Vallley Bicycle and Pedestrian Imps	Solano County: At Mankas Corner: Construct staging area with bicycle and pedestrian improvements; At Various Locations in Solano County: Add a Class II bike lane to enhance bike access to areas	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Solano	SOL130017	17-10-0027	Vacaville	Transit Marketing and Public Outreach	Vacaville: Citywide: Marketing and public outreach of City Coach transit benefits	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040

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County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Solano	SOL150003	17-08-0005	STA	SR12/Church Rd Intersection Improvements	Rio Vista: At SR12/Church Rd. Intersection: Add Standard Shoulders, EB Left Turn Lane, WB Acceleration Lane (720 ft) and Deceleration Lane (300 ft), Remove Trees in Clear Recovery Zone	EXEMPT (40 CFR 93.127) - Intersection channelization projects	2040
Solano	SOL150004	17-08-0004	STA	STA SR2S Infrastructure & Non-infrastructure	Solano County: At 7 schools: Implement pedestrian infrastructure improvements; At 26 schools throughout the Cities of Benicia, Rio Vista & Vallejo: Providing education outreach	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Solano	SOL170001	17-10-0023	MTC	Regional Planning Activities and PPM - Solano	Solano County: County-wide: Regional Planning Activities and Planning, Programming and Monitoring (PPM)	EXEMPT (40 CFR 93.126) - Planning activities conducted pursuant to titles 23 and 49 U.S.C	2040
Solano	SOL170002	17-10-0026	SolTrans	SolTrans: Data Management Technology Enhancements	SolTrans: Systemwide: Procure data management systems and software	EXEMPT (40 CFR 93.126) - Purchase of office, shop, and operating equipment for existing facilities	2040
Solano	SOL170003	17-10-0026	SolTrans	Soltrans: Facilities and Amenities Improvements	Soltrans: Systemwide: Facility and passenger amenities improvements	EXEMPT (40 CFR 93.126) - Construction of small passenger shelters and information kiosks	2040
Solano	SOL170006	17-08-0002	Fairfield	East Tabor Tolenas SR2S Sidewalk Gap Closure	In Fairfield: On East Tabor Avenue (north side); Construct sidewalk across the railroad tracks including slight roadway widening. On Tolenas Avenue (east side); widen the existing sidewalk.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Solano	SOL170007	17-08-0002	Suisun City	McCoy Creek Trail - Phase 2	In Suisun City: Along the west bank of the McCoy Creek canal and the north bank of the Laurel Creek canal between Pintail Dr and Worley Rd: Construct a Class I concrete pedestrian/bicycle trail with a	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Solano	SOL170008	17-08-0002	Vallejo	Vallejo Bay Trail / Vine Trail Gap Closure	In Vallejo: Between the existing Bay Trail to the south and the Bay Trail and Napa Vine Trail in American Canyon: Build multi-use path to close the gap between the existing trail segments	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Solano	SOL170009	17-10-0027	STA	Solano Mobility Call Center	Solano County: County-wide: Operate call center featuring in-person assistance for customers related to transit, commuting, and mobility services, including ADA, Clipper, and ride matching, among others	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Solano	SOL170010	17-08-0004	Fairfield	Grange Middle School Safe Routes to School	In Fairfield: On East Tabor Avenue, at the intersections of Falcon Drive and blossom Avenue: enhance bicycle and pedestrian safety mobility.	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Solano	SOL170011	17-08-0002	Benicia	Benicia - Park Road Improvements	Benicia: Park Road between I-780 and Bayshore Road: Resurface roadway and construct Class II/IV bicycle lane facilities and storm drain improvements	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Solano	SOL170012	17-10-0022	Vacaville	Vacaville - Pavement Preservation	Vacaville: Various streets and roads: edge grind, overlay or CIR, perform curb ramp replacements and striping	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Solano	SOL170013	17-08-0008	Vacaville	Vaca Valley/I505 Multimodal Improvements	Vacaville: On Vaca Valley Parkway at E Monte Vista Ave and I-505 ramps: Install roundabouts and construct bicycle/pedestrian facilities over I-505 connecting to existing facilities and ADA improvements	EXEMPT (40 CFR 93.127) - Intersection channelization projects	2040
Solano	SOL170014	17-10-0022	Suisun City	New Railroad Avenue Pavement Rehabilitation	Suisun City: Railroad Ave from Sunset Ave to Birchwood Ct: Rehabilitate roadway on eastbound lanes; Railroad Ave from Sunset Ave to Marina Blvd: Restripe existing Class 2 bicycle lanes on both sides of	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Solano	SOL170015	17-10-0022	Solano County	Solano County Roadway Preservation	Solano County: On Midway Road from I80 to HWY 113: Apply Asphalt Rubber Chip Seal and Micro Surface treatment	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Solano	SOL170016	17-08-0002	Solano County	Solano County Farm to Market Phase 3	Solano County: Various locations in Suisun Valley: Construct bike lanes	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Solano	SOL170017	17-08-0015	STA	SolanoExpress Capitol Improvements	Solano County: At the Fairfield Transit Center: Construct slip-ramp; At Fairgrounds Dr off-ramp: add express stop; At Vallejo Transit Center: Expand center onto York St.	EXEMPT (40 CFR 93.127) - Interchange reconfiguration projects	2030
Solano	SOL190001	17-08-0015	STA	SolanoExpress Corp Yard Elec	Solano County: At FAST and SolTrans Corp yards: Construct and upgrade electric infrastructure.	EXEMPT (40 CFR 93.126) - Purchase of office, shop, and operating equipment for existing facilities	2030
Solano	SOL190002	17-08-0015	STA	SolanoExpress Bus Electrification	Solano County: Countywide: Purchase electric over-the-road coaches for long-haul SolanoExpress routes.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2030
Solano	SOL190003	17-10-0026	F-S Transit	Fairfield - Electric Bus Fleet and Infrastructure	Fairfield: Systemwide: Procure all-electric, zero-emission buses and supporting charging infrastructure	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Solano	SOL190004	17-08-0002	Vallejo	Vallejo - Sacramento St Streetscape	Vallejo: Sacramento St from Tennessee St to Capitol St: Implement streetscape improvements	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Sonoma	SON030005	17-10-0026	Son Co Transit	Sonoma Co Transit: Preventive Maintenance Program	Sonoma County Transit: Preventive maintenance program for agency fleet.	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
Sonoma	SON030012	17-10-0026	SantaRosa Bus	Santa Rosa City Bus: Transit Enhancements	Santa Rosa: Various Locations: Upgrade and improve transit facilities including amenities, accessibility, ADA compliance, pedestrian and bicycle access, and technology upgrades including transit system	EXEMPT (40 CFR 93.126) - Construction of small passenger shelters and information kiosks	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Sonoma	SON070020	17-10-0026	SantaRosa Bus	Santa Rosa City Bus Replacement Bus Purchase	Santa Rosa CityBus: 9 vehicles: Purchase 5 Hybrid Electric Replacement Buses and 4 clean diesel buses to replace aging fixed route buses to replace fixed route buses	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
Sonoma	SON090023	17-10-0027	SantaRosa Bus	Santa Rosa CityBus: Operating Assistance	Santa Rosa CityBus: System-wide: Operating Assistance to Transit Agency	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Sonoma	SON090024	17-10-0026	SantaRosa Bus	Santa Rosa CityBus: Preventative Maintenance	Santa Rosa CityBus: Preventative Maintenance program for agency fleet	EXEMPT (40 CFR 93.126) - Rehabilitation of transit vehicles	2040
Sonoma	SON110025	17-10-0024	Sonoma County	Replace Hauser Bridge over Gualala River 20C0240	In Sonoma: Bridge No.20C0240,Hauser Road Bridge over over South Fork Gualala River, 5 Mi east of Seaview Road. Replace existing one-lane bridge with a new two-lane bridge	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Sonoma	SON110050	17-09-0001	Son Co Reg Park	Central Sonoma Valley Trail	In the unincorporated area of Sonoma County: Near City of Sonoma from Larson Park to Flowery Elementary School and along Verano Avenue from Sonoma Creek to Main Street: construct 0.42 miles of a	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Sonoma	SON130010	17-10-0022	Sonoma County	Sonoma County Various Streets & Roads Preservation	Sonoma County: Various locations: Rehabilitate pavement	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Sonoma	SON130012	17-09-0005	Windsor	Conde Ln/Johnson St Pedestrian Improvements	In Town of Windsor: At the intersection of Conde Lane and Johnson Street: Realign intersection to eliminate stop signs on Conde Lane. Johnson Street becomes right in and right out only. Add RRFB	EXEMPT (40 CFR 93.127) - Intersection signalization projects at individual intersections	2040
Sonoma	SON130013	17-09-0001	Windsor	Bell Rd/Market St/Windsor River Rd Ped Improvement	In Windsor: At the intersection of Bell Road-Market Street and Windsor River Road: Install a traffic signal and install pedestrian and bicycle signal equipment.	EXEMPT (40 CFR 93.127) - Intersection signalization projects at individual intersections	2040
Sonoma	SON130015	17-10-0022	Sonoma County	Bodega Highway Pavement Rehabilitation	Bodega Hwy: Beginning at the intersection of Sexton Lane and ending at the Sebastopol City Limits: The Project length is approximately 2 miles. The scope of work will includes pavement rehabilitation,	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Sonoma	SON130016	17-09-0001	Cloverdale	Cloverdale - Safe Routes to School Phase 2	Cloverdale: Various Locations: Construct sidewalks and add Class II bike lanes	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Sonoma	SON150003	17-09-0001	Santa Rosa	Jennings Ave Bike & Ped RR Crossing Corridor	In Santa Rosa: At Jennings Ave and SMART railroad tracks: Construct a bicycle and pedestrian crossing and develop a Safe Routes to School service program focusing on education and awareness for the	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Sonoma	SON150007	17-10-0027	Petaluma	Petaluma Transit: ADA Set-Aside	Petaluma Transit: Annual ADA Set-Aside	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Sonoma	SON150008	17-10-0026	SantaRosa Bus	SantaRosa Bus: Bus Replacement Purchase	SantaRosa Bus: 40' Fixed Route Vehicle: Replace three aging 40' fixed route diesel buses for operation purposes.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Sonoma	SON150009	17-09-0005	Son Co TA	Highway 116/121 Intersection Improvement Project	Sonoma County: Southwest of the City of Sonoma at the intersection of State Routes 116, and 121, and Bonneau Road: Improve intersection	EXEMPT (40 CFR 93.127) - Intersection signalization projects at individual intersections	2040
Sonoma	SON150011	17-10-0015	Sonoma County	Sonoma SRTS High School Pilot	In Sonoma County: Countywide: Safe routes to school high school pilot program to shift mode away from single family vehicular trips to bicycle/pedestrian/carpooling/bussing.	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
Sonoma	SON150012	17-10-0026	Son Co Transit	Sonoma County Transit: Replacement CNG Buses	Sonoma County Transit: two vehicles: Replace two 40-foot compressed natural gas (CNG)-fueled buses.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Sonoma	SON150013	17-10-0026	Son Co Transit	Sonoma County Transit: Replace 2006 CNG Buses	Sonoma County Transit: 5 vehicles: Replace five 40-foot CNG-fueled buses.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Sonoma	SON150017	17-10-0026	SantaRosa Bus	SRCityBus Non-Revenue Vehicle and Capital Equipmnt	Santa Rosa City Bus: At Transit Mall: Implement transit enhancements, purchase a replacement non-revenue vehicle, and rehab/renovate bus stops for ADA compliance	EXEMPT (40 CFR 93.126) - Purchase of support vehicles	2040
Sonoma	SON150019	17-10-0027	SantaRosa Bus	Implementation of Reimagining CityBus	Santa Rosa CityBus: Systemwide: Operating Assistance for implementing Reimagining CityBus	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Sonoma	SON170001	17-09-0018	Windsor	Windsor River Road/Windsor Road Intersection Imps	Windsor: At the Windsor River Road/Windsor Road/SMART intersection: Construct rail crossing safety improvements, multi-use path, pedestrian and vehicle traffic improvements.	EXEMPT (40 CFR 93.126) - Railroad/highway crossing	2020
Sonoma	SON170002	17-10-0023	MTC	Regional Planning Activities and PPM - Sonoma	Sonoma County: Regional Planning Activities and Planning, Programming and Monitoring (PPM)	EXEMPT (40 CFR 93.126) - Planning activities conducted pursuant to titles 23 and 49 U.S.C	2040
Sonoma	SON170003	17-10-0027	SantaRosa Bus	Santa Rosa CityBus-paratransit operations	Santa Rosa CityBus: Provide operating assistance to Santa Rosa Paratransit.	EXEMPT (40 CFR 93.126) - Operating assistance to transit agencies	2040
Sonoma	SON170005	17-10-0026	Petaluma	Petaluma: Transit Yard & Facilities Improvements	Petaluma: Transit Yard and Facility: Improvements to enhance security and maintain a state of good repair, including pavement repair and upgrades, video surveillance system, office security, yard lighting,	EXEMPT (40 CFR 93.126) - Reconstruction or renovation of transit buildings and structures (e.g., rail	2040
Sonoma	SON170006	17-10-0026	Son Co Transit	Sonoma County Transit: Replace 2009 CNG Buses	Sonoma County Transit: Three 40-foot CNG-Fueled Buses: Replace with similar buses	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Sonoma	SON170009	17-09-0001	Son Co TA	Sonoma County - County-Wide SRTS Program	Sonoma County: Countywide: Safe Routes to Schools Education Program in schools, while encouraging schools to lead their own ongoing programs, with a goal of increasing active or shared modes of	EXEMPT (40 CFR 93.126) - Grants for training and research programs	2040
Sonoma	SON170010	17-10-0022	Sonoma County	Sonoma County - River Road Pavement Rehab	Sonoma County: River Rd from Trenton-Healdsburg Rd to just west of the SMART right-of-way (PM 19.77 to 24.60): Rehabilitation of pavement and striping for bike lanes	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Sonoma	SON170011	17-09-0001	Petaluma	Petaluma Blvd South Road Diet at E Street	Petaluma Blvd from E St to Crystal Ln: Rehab pavement, reconfigure lanes for smoother traffic flow, add class 2 bike lanes and signal modifications: Petaluma Blvd from E St to Mountain View Ave: Reduce	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Sonoma	SON170012	17-09-0001	Santa Rosa	Highway 101 Bicycle and Pedestrian Bridge	Santa Rosa: Over Highway 101 in the vicinity of the Santa Rosa Junior College and the Coddingtown Mall: Construct a Class I shared-use ADA accessible bicycle and pedestrian bridge	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Sonoma	SON170013	17-10-0022	Sonoma County	Rehabilitaiton of Various Roads in Sonoma County	Sonoma County: Various streets and roads: Preserve and rehabilitate pavement and improve pedestrian and bike access	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Sonoma	SON170014	17-09-0001	Sonoma County	Crocker Bridge Bike and Pedestrian Passage	Sonoma County: On existing north piers of Crocker Bridge: Construct a Class 1 bicycle and ped facility	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Sonoma	SON170015	17-10-0022	Cotati	E. Cotati Avenue Street Rehabilitation Project	Cotati: E. Cotati Avenue from the railroad tracks east to the City limits: Repave street, landscape the median, update traffic signs, and repair and restore sidewalks to ADA compliance	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Sonoma	SON170016	17-10-0022	Rohnert Park	Rohnert Park Various Streets Rehabilitation	Rohnert Park: On State Farm Drive from Rohnert Park Expressway to approximately 200 feet north of Professional Center Drive: Rehabilitate roadway	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Sonoma	SON170017	17-10-0026	Petaluma	Petaluma AVL Equipment	Petaluma: Systemwide: Purchase and maintain AVL system equipment for fixed route vehicle.	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2040
Sonoma	SON170018	17-10-0026	Petaluma	Petaluma Purchase 1 Remanufactured Fixed Route Bus	Petaluma: 1 bus: Purchase replacement remanufactured 40' Fixed Route Bus	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Sonoma	SON170020	17-10-0026	Petaluma	Petaluma: Replace 2 Paratransit Cutaways	Petaluma: Petaluma Paratransit: Replace two (2) paratransit vans	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Sonoma	SON170021	17-09-0001	Sebastopol	Bodega Avenue Bike Lanes and Pavement Rehab	Sebastopol: Bodega Ave from Pleasant Hill Ave to High St: Rehabilitate pavement, fill in sidewalk gaps, widen pavement, add bike lanes, and implement pedestrian safety improvements	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Sonoma	SON170022	17-09-0001	Sonoma City	Fryer Creek Pedestrian and Bicycle Bridge	Sonoma: At Newcomb Street over Fryer Creek: Construct a new bicycle and pedestrian bridge and path as well as circulation and accessibility improvements to Newcomb Street and Fryer Creek Drive.	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Sonoma	SON170023	17-10-0022	Santa Rosa	Santa Rosa Pavement Rehab of Various Streets	In Santa Rosa: Various locations: Pavement rehabilitation; Various locations: Restripe roadways to add Class II bike lanes	EXEMPT (40 CFR 93.126) - Pavement resurfacing and/or rehabilitation	2040
Sonoma	SON170024	17-09-0005	Healdsburg	Healdsburg Avenue Complete Streets Improvements	Healdsburg: On Healdsburg Ave from Powell Ave to Passalaqua Rd: Implement complete streets improvements for all modes of travel including reducing travel lanes from 5 to 3	EXEMPT (40 CFR 93.126) - Projects that correct, improve, or eliminate a hazardous location or feature	2040
Sonoma	SON170025	17-09-0001	Son Co Reg Park	Joe Rodota Trail Bridge Replacement	Sonoma County: On the Joe Rodota Trail near the City of Sebastopol: Remove and replace two deteriorating bicycle and pedestrian bridges	EXEMPT (40 CFR 93.126) - Bicycle and pedestrian facilities	2040
Sonoma	SON170026	17-10-0026	SantaRosa Bus	Santa Rosa CityBus: Electric Bus Replacement	Santa Rosa CityBus: Four 40-foot local transit buses: Replace with Four 40-foot electric buses and purchase related charging equipment	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2040
Sonoma	SON190004	17-09-0017	Petaluma	Petaluma: Purchase Replacement Paratransit Van	Petaluma: Systemwide: Replace paratransit vehicles which have reached the end of their useful life.	EXEMPT (40 CFR 93.126) - Purchase of new buses and rail cars to replace existing vehicles or for	2020
Sonoma	SON190005	17-09-0017	Petaluma	Petaluma Transit: Security Systems Upgrade	Petaluma: Systemwide: Upgrade audio-visual on-board surveillance system in order to replace an aging system	EXEMPT (40 CFR 93.126) - Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts,	2020

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

Appendix A-2
List of Projects in the Amended 2019 TIP with Updated Conformity Analysis Years

Projects in the Amended 2019 TIP with Updated Conformity Analysis Years

County	TIP ID	RTP ID	Sponsor	Project Title	Project Descripion	Air Quality Descripion	Conformity Analysis Year
Alameda	ALA170009	17-10-0056	ACTC	I-680 Express Lane Gap Closure: SR-84 to Alcosta	Alameda County: SB I-680 from SR-84 to Alcosta Blvd: express lane improvements (Phase 1); NB I-680 from SR-84 to Alcosta Blvd: Widen for express lanes (Phase 2). Project also references the amendment to Plan Bay Area 2040.	NON-EXEMPT	2030

*Projects with conformity analysis year 2040 reference programatic projects or projects with a completion date after 2030 in Plan Bay Area 2040

Appendix B
List of Projects in Amended Plan Bay Area 2040

RTPID	County/ Sponsor	Title	Description	Complete and Operational By: 2020	2030	2040	Included in the Model?	Referenced in the 2019 TIP
17-01-0001	Alameda	Bicycle and Pedestrian Program	Projects in this category are new bicycle (on-street and off-street) and pedestrian facilities, and facilities that connect existing network gaps, including but not limited to projects that would implement these components on the following facilities: Alameda Point Trail, Bay Trail Connections and Gap Closures, East Bay Greenway, Iron Horse Trail Crossing, Union City Boulevard, Pierce Street, Shattuck Avenue, 7th Street Transit Village, Lake Merritt BART, Lakeside Complete Streets, Peralta and MLK Boulevard					Yes
17-01-0002	Alameda	Climate Program: TDM and Emission Reduction Technology	Projects in this category implement strategies and programs that reduce emissions, encourage alternative transportation modes, and manage transportation demand including but not limited to projects such as TDM program implementation, parking management, local area shuttle and paratransit services					Yes
17-01-0003	Alameda	County Safety, Security and Other	Projects in this category address safety, security and other needs, including but not limited to projects such as Central Avenue Overpass, BART Security Program					Yes
17-01-0004	Alameda	Multimodal Streetscape	Projects in this category implement multimodal or complete streets elements, including but not limited to projects such as Grimmer Boulevard Greenway, Telegraph Avenue Complete Streets, West Grand Avenue Complete Streets, Hearst Avenue Compete Streets					Yes
17-01-0005	Alameda	PDA Planning	This category includes planning studies supporting the region's PDA framework and connecting transportation and land use					
17-01-0006	Alameda	Minor Roadway Expansions	This category includes roadway capacity increasing projects (new roadways or widening/extensions of existing roadways) on minor roads such as Clement Avenue, Mariner Square, Mitchell Street, Scarlett Drive, Stoneridge Drive, Kato Road					Yes
17-01-0007	Alameda	Roadway Operations	This category includes projects that improve roadway, intersection, or interchange operations, ITS, as well as other transportation system management					Yes
17-01-0008	Alameda	Minor Transit Improvements	This category includes minor projects that improve or complement existing transit operations including but not limited to projects such as rapid bus service in Alameda Point, the Bernal Park and Ride, Line 51 project completion and capital replacement, Newark Transit Station improvements, and Dumbarton Corridor Area Transportation Improvements					Yes
17-01-0009	Alameda	New Alameda Point Ferry Terminal	Provide for new ferry terminal at Seaplane Lagoon		Yes	Yes	Yes	
17-01-0014	Alameda	I-680 Southbound Express Lanes (SR-237 to SR-84) Upgrades	To upgrade the existing toll system for the I-680 southbound express lane project. Additionally, it would also result in upgrades to the existing pavement for a near continuous access express lanes facility.					
17-01-0015	Alameda	7th Street Grade Separation East	Project replaces the substandard 7th St. roadway & pedestrian underpass at the north end of Railport Oakland Intermodal Yard (RO-IY). The new, depressed roadway allows for new rail crossings to improve connections to the future OHIT IY and project completes a missing segment of the Bay Trail.					Yes
17-01-0016	Alameda	Oakland Army Base transportation infrastructure improvements	Constructs public improvements for trade, logistics and ancillary maritime services that promote cleaner modes of transportation, efficient goods movement, congestion relief on countywide freight corridors, new jobs, and fulfills a mandate to reduce truck trips through the West Oakland community.					
17-01-0017	Alameda	Outer Harbor Intermodal Terminal (OHIT) Phases 2 and 3	OHIT consists of 3 phases. Phase 1, for the lead, support and manifest tracks, is under construction. Phase 2 has two intermodal tracks; Phase 3 has six intermodal tracks and electric cranes. The Project enables a shift of cargo from truck to rail to maximize the Port's operational potential.					Yes
17-01-0018	Alameda	7th Street Grade Separation West	The Project creates a new elevated intersection at 7th & Maritime Streets, and provides new rail access between the Oakland Army Base and the Oakland International Gateway. The Project shifts cargo from truck to rail, reduces truck congestion and emissions, and improves public access.					Yes
17-01-0019	Alameda	I-580 Integrated Corridor Mobility (ICM)	This project implements multiple traffic operation systems and strategies that will address the challenges of traffic congestion in the corridor. The project will install new and upgrade existing corridor management elements along Interstate 580. Full ICM depends on extending North Canyons Parkway to Dublin Boulevard (RTPID 17-01-0048)		Yes	Yes	Yes	
17-01-0020	Alameda	SR-262 Mission Boulevard Cross Connector Improvements	This project will increase mobility between I-680 and I-880 by widening Mission to 3 lanes in each direction throughout the I-680 interchange, rebuild the NB and SB 680 on and off ramps, and potentially grade separate Mission Blvd. from Mohave Dr. and Warm Springs Blvd.		Yes	Yes	Yes	Yes
17-01-0021	Alameda	I-880 Whipple Road Interchange Improvements	Full interchange improvements at Whipple Road/I-880, including northbound off-ramp, surface street improvements and realignment		Yes	Yes	Yes	Yes
17-01-0022	Alameda	Outer Harbor Turning Basin	The project will upgrade the existing Outer Harbor Turning Basin (OHTB) at the Port of Oakland from 1,650' to 1,920' in diameter to handle ships up to 1.320' long.					
17-01-0023	Alameda	I-880 Industrial Parkway Interchange Reconstruction	Reconstruct the I-880/Industrial Parkway interchange to provide a northbound off-ramp and a southbound HOV bypass lane on the southbound loop off-ramp. Reconstruct the bridge over I-880.		Yes	Yes	Yes	Yes
17-01-0024	Alameda	I-880 A Street Interchange Reconstruction	Reconstruct interchange to widen A Street from 5 lanes to 6 lanes and add bike lanes, and provide additional lane capacity for potential future freeway widening. Project also involves modifying signals and reconfiguring intersections to improve truck-turning maneuvers.		Yes	Yes	Yes	Yes
17-01-0025	Alameda	Oakland International Airport Perimeter Dike	This project will upgrade and improve the 4.5 mile long dike protecting OAK, terminal and other facilities, roadways, transit services & trails connecting Alameda and San Leandro. Includes seismic stabilization, FEMA compliance, and protection against climate change and sea level rise.					

RTPID	County/ Sponsor	Title	Description	Complete and Operational By: 2020	2030	2040	Included in the Model?	Referenced in the 2019 TIP
17-01-0026	Alameda	Minor Freight Improvements Programmatic	This program includes projects that improve freight operations and reduce impacts of freight activity. This includes but is not limited to railroad quiet zones, multimodal safety projects at crossings, freight corridor upgrades, ITS improvements, terminal lighting, seismic monitoring, rail connections between Oakland and Niles Subdivisions, truck parking facilities, rail platforms, and other projects that would implement the Alameda CTC Goods Movement plan.					Yes
17-01-0027	Alameda	Middle Harbor Road Improvements	This project identifies & implements solutions to the traffic circulation issues on Middle Harbor Rd. Solutions may include dedicated queue or turn lanes, signalization, and relocation or reconfiguration of terminal gates and recommendations for Adeline St. Bridge reconfiguration as appropriate.					
17-01-0028	Alameda	I-580/I-680 Interchange: Project Development and Phase 1 Short-term Operational Improvements	Improve capacity, operations and safety at the interchange, primarily in the westbound direction approaching the interchange. This project includes the Phase 1 short-term operational improvements.		Yes	Yes	Yes	Yes
17-01-0029	Alameda	SR-84/I-680 Interchange Improvements and SR-84 Widening	Construct interchange improvements for the Route 84/I-680 Interchange, widen Route 84 from Pigeon Pass to I-680 and construct aux lanes on I-680 between Andrade and Route 84.		Yes	Yes	Yes	Yes
17-01-0030	Alameda	I-880 Broadway/Jackson Interchange Improvements	The project proposes to improve connectivity between I-880/I-980 and Alameda and Oakland. Improvements include reconfiguration of existing ramps, demolition of existing ones, and construction of new ramps.		Yes	Yes	Yes	Yes
17-01-0031	Alameda	I-880 at 23rd/29th Avenue Interchange Improvements	Provide improvements to NB I-880 at 23rd and 29th Avenue interchange by improving the freeway on- and off-ramp geometrics, replacing the overcrossings, and modifying local streets, landscape enhancement, and construction of a soundwall.	Yes	Yes	Yes	Yes	Yes
17-01-0032	Alameda	SR-84 Widening (Ruby Hill Drive to Concannon Boulevard)	The Route Expressway - South Segment involves widening a 2.4 mile section of SR 84 (Isabel Ave) from Ruby Hill Drive to Concannon Boulevard from two lanes to four lanes.	Yes	Yes	Yes	Yes	Yes
17-01-0033	Alameda	I-580 Vasco Road Interchange Improvements	Modify I-580/Vasco Rd interchange. Widen I-580 overcrossing and add new loop ramp in southwest quadrant. Includes widening Vasco Road to 8 lanes between Northfront Road and Las Positas Road and other local roadway improvements.		Yes	Yes	Yes	
17-01-0034	Alameda	I-580 Greenville Road Interchange Improvements	Construct a new interchange at I-580/Greenville Road to replace the existing interchange. Project will include widening the undercrossing to provide six lanes, and constructing ramps to achieve a modified partial cloverleaf interchange design.		Yes	Yes	Yes	
17-01-0035	Alameda	I-580 First Street Interchange Improvements	Reconstruct and modify the I-580/First Street interchange into partial cloverleaf design with 6-lanes on First Street over I-580.		Yes	Yes	Yes	
17-01-0036	Alameda	SR-92/Clawiter Road/Whitesell Street Interchange Improvements	The project would reconstruct the SR-92/Clawiter Rd interchange to create the SR-92/Whitesell St interchange, addressing truck traffic access needs by: reconfiguring Clawiter/SR 92 interchange, creating new access to SR 92 at Whitesell St, and consolidating access for these two local roads.		Yes	Yes	Yes	Yes
17-01-0037	Alameda	Ashby I-80 Interchange with Bicycle and Pedestrian Ramps	Reconstruct the Ashby Avenue interchange, including construction of a new bridge to replace existing bridges, a roundabout interchange, and bicycle/pedestrian access over the I-80 freeway at the Ashby-Shellmound interchange.					Yes
17-01-0038	Alameda	I-580 Interchange Improvement at Hacienda/Fallon Road - Phase 2	1-580/Fallon Rd I/C Improvements (Phase 2): Reconstruct overcrossing to add lanes I-580 Hacienda Dr I/C Improvements: Reconstruct overcrossing to add lanes		Yes	Yes	Yes	Yes
17-01-0039	Alameda	I-580 SR-84/Isabel Interchange Improvements Phase 2	Complete ultimate improvements at I-580/Isabel/State Route 84 Interchange to provide 6-lanes over I-580 at the Isabel/State Route 84 Interchange and 4-lanes over I-580 at the Portola Avenue flyover.		Yes	Yes	Yes	
17-01-0040	Alameda	I-80 Gilman Street Interchange Improvements	The proposed project is located in northwest Berkeley and will reconfigure the I-80/Gilman interchange. The limits for the freeway and ramp traffic operations would include I-80 from east of Buchanan Street to west of University Avenue.					Yes
17-01-0041	Alameda	I-880 Winton Avenue Interchange Improvements	This project proposes to modify the existing Winton Avenue/I-880 cloverleaf interchange to a partial cloverleaf interchange, implement Complete Street per Caltrans HDM and provide direct access to Southland Mall.		Yes	Yes	Yes	Yes
17-01-0042	Alameda	I-680 Overcrossing Widening and Improvements (at Stoneridge Drive)	Widen Stoneridge Drive overcrossing at I-680 constructing third westbound lane		Yes	Yes	Yes	
17-01-0043	Alameda	42nd Ave & High St Access Improvement at I-880 On/Off Ramp	Adjacent I-880/High St, project will widen and extend existing local roads; improve vehicles level of service, pedestrian & ADA accessibility, access to ramps/Alameda; expand the region's bike route; eliminate circuitous traffic and congestion near I-880, promote redevelopment in the Estuary Area.	Yes	Yes	Yes	Yes	Yes
17-01-0044	Alameda	I-680 Sunol Interchange Modification	Signalize Sunol @ I-680 Interchange ramps and widen Southbound on ramp	Yes	Yes	Yes	Yes	
17-01-0045	Alameda	Santa Rita Road I-580 Overcrossing Widening	Widen Southbound Santa Rita Road overcrossing at I-580 constructing third southbound through lane at Pimlico Drive and second on ramp lane to I-580 eastbound.		Yes	Yes	Yes	
17-01-0046	Alameda	Coliseum City Transit Hub	The project is a consolidated multi-modal transit hub at the existing Coliseum BART station and Amtrak Station for patrons of the future Coliseum City Transit-Oriented Development. Includes pedestrian concourse and replacement for 1000 BART parking spaces which may be shared with other uses.					
17-01-0047	Alameda	I-880 to Mission Boulevard East-West Connector	Improved east-west connection between I-880 and Route 238 (Mission Blvd.) comprised of a combination of new roadways along preserved ROW and improvements to existing roadways and intersections along Decoto Road, Fremont Boulevard, Paseo Padre Parkway, Alvarado-Niles Road and Mission Boulevard.		Yes	Yes	Yes	Yes

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17-01-0048	Alameda	Dublin Boulevard - North Canyons Parkway Extension	This project will update the currently planned project by incorporating multimodal travel, and construct the street extension to connect Dublin Blvd. in Dublin with North Canyons Parkway in Livermore at Doolan Road. The existing RTP project lacks the current State, regional, and local priorities. This project was carried forward from RTPIDs 21473, 240392.		Yes	Yes	Yes	Yes
17-01-0049	Alameda	Fruitvale Avenue (Miller Sweeney) Lifeline Bridge Project	Replace the existing vehicular bridge with one structure that can provide the only Lifeline access from Alameda. Provide dedicated transit lanes, bike lanes, median and sidewalks.					
17-01-0050	Alameda	SR-84 Mowry Avenue Widening (Peralta Blvd to Mission Blvd)	Widen Mowry Ave from Peralta Blvd to Mission Blvd (State Route 84) from two to four lanes and install bike lanes and sidewalks on both sides of the street.		Yes	Yes	Yes	
17-01-0051	Alameda	Tassajara Road Widening from N. Dublin Ranch Drive to City Limit	This project will widen Tassajara Road from existing 2 lanes to 4 lanes between N/ Dublin Ranch Drive to City limit with C C County. It would add new bike lanes, construct/upgrade bus stops, and add missing sidewalks, ADA ramps, curb and gutter. Traffic signals will be upgraded.		Yes	Yes	Yes	
17-01-0052	Alameda	Auto Mall Parkway Widening and Improvements	Widen Auto Mall Parkway from four lanes to six lanes between I880 and I680 including intersection improvements and widening of the Auto Mall bridge over UPRR.		Yes	Yes	Yes	
17-01-0053	Alameda	Dougherty Road Widening	This project will complete 1.83 mile of widening of Dougherty Rd. from 4 lanes to 6 lanes from Dublin Blvd. to the county line. Some of the improvements include; class II bike lanes, landscaped median islands, street lighting, traffic signal modifications, and 1.4 miles of Bike/Ped. Class I trail.	Yes	Yes	Yes	Yes	Yes
17-01-0054	Alameda	Union City Boulevard Widening (Whipple to City Limit)	Widen Union City Boulevard to three travel lanes in each direction from Whipple Road to the City limits with Hayward.		Yes	Yes	Yes	
17-01-0055	Alameda	SR-84 Peralta Boulevard Widening (Fremont Blvd to Mowry Ave)	This project will widen Peralta Blvd (State Route 84) to four lanes with continuous bike lanes and sidewalks on both sides of the road from Fremont Blvd to Mowry Ave.		Yes	Yes	Yes	
17-01-0056	Alameda	Thornton Avenue Widening (Gateway Boulevard to Hickory Street)	The project will widen this undivided two-lane section of Thornton Avenue to a four-lane divided arterial street.		Yes	Yes	Yes	
17-01-0057	Alameda	Dublin Boulevard Widening - Sierra Court to Dublin Court	This project proposes to widen Dublin Boulevard from Sierra Court to Dublin Court in the westbound direction from two to three lanes in the City of Dublin. This project also includes the construction of Class II bike lanes.	Yes	Yes	Yes	Yes	Yes
17-01-0058	Alameda	Irvington BART Station	Construct a new BART station in Irvington PDA in Fremont on Osgood Road near Washington Boulevard as called for in the 2014 Alameda County Transportation Expenditure Plan		Yes	Yes	Yes	
17-01-0059	Alameda	Union City Intermodal Station Phase 4	Phase 4 is an at grade intermodal station to serve both AMTRAK, ACE and future Dumbarton Rail with elevated tracks and passengers platforms.					
17-01-0060	Alameda	East Bay BRT	A 9.5 mile BRT line from downtown Oakland to the San Leandro BART station on International Blvd and East 14th St. with 80% dedicated lanes; 27 new hybrid buses; 34 level-boarding platform stations; real time arrival information; and transit signal priority. It also includes parking mitigations.	Yes	Yes	Yes	Yes	Yes
17-01-0061	Alameda	Ralph Appezzato Memorial Parkway BRT	To create BRT infrastructure between Webster Street and the Alameda Point PDA, connecting future residents and workers on the former base (as well as existing Alameda residents) to downtown Oakland and BART via Webster Street Tube. The BRT's Alameda term	Yes	Yes	Yes	Yes	

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17-01-0062	Alameda	BART to Livermore/ACE Project Development and Construction Reserve	BART is preparing a project-level Environmental Impact Report evaluating five alternatives for the BART to Livermore Extension Project. BART extension to Isabel Avenue, DMU/EMU to Isabel Avenue, Express Bus/BRT, Enhanced Bus, and No-build.					Yes
17-01-0063	Alameda	Broadway Shuttle Expansion	Planning and environmental analysis of the Broadway Shuttle Expansion project which seeks to extend the shuttle route and service hours, and upgrade the project to an Enhanced Bus or Electric Streetcar line to enhance transit circulation and mobility, and catalyze mixed-use TOD and economic develop					
17-01-0064	Alameda	Additional Local Road Preservation/Rehab	Additional funding for local streets and roads maintenance in Oakland from the City of Oakland Measure KK (Nov. 2016 ballot measure)					
17-01-0065	Alameda	I-680 Express Lanes Gap Closure	Add an express lane to the southbound and northbound travel lanes of Interstate 680 between Alcosta Boulevard and State Route 84.		Yes	Yes	Yes	Yes
17-02-0001	Contra Costa	Access and Mobility Program	This category includes projects that improve access and mobility for people with disabilities, low-income residents, and seniors, such as West County Low-Income School Bus Program, paratransit through Contra Costa County, information and outreach projects, dial-a-ride, guaranteed ride home, non-operational transit capital enhancements (i.e. bus shelters), local shuttles, lighting and security projects, and discounted transit passes.					Yes
17-02-0002	Contra Costa	Innovative Transportation Technology	This category includes projects that would implement technological advances for transportation such as connected vehicle, autonomous vehicle, and other innovations.					
17-02-0003	Contra Costa	Bicycle and Pedestrian Program	Projects in this category are new bicycle (on-street and off-street) and pedestrian facilities, and facilities that connect existing network gaps, such as Lamorinda Bicycle and Pedestrian Program, Wildcat Creek Trail, and Contra Costa County's Safe Routes to School Program					Yes
17-02-0004	Contra Costa	County Safety, Security and Other	Projects in this category address safety, security and other needs such as Lone Tree Way Undercrossing, Marsh Creek Road Curve Realignment, Cutting/Carlson grade crossing improvements, San Pablo Avenue overcrossing, Vasco Road safety improvement, and Viera Avenue Realignment					Yes
17-02-0005	Contra Costa	Multimodal Streetscape	Projects in this category implement complete streets improvements to roadways throughout Contra Costa County, such as on San Pablo Avenue, near the Del Norte and Concord BART stations, and in PDAs.					Yes
17-02-0007	Contra Costa	Minor Roadway Expansions	Funds future widening and extensions of non-regionally significant roadways such as John Muir Parkway, Slatten Ranch Road, James Donlon Blvd, Hillcrest Avenue, Sand Creek Road, San Jose Avenue and other roads throughout Contra Costa County					Yes
17-02-0008	Contra Costa	Roadway Operations	Projects in this category improve roadway operations through technology and management systems on roads throughout Contra Costa County such as Clayton Road, Treat Boulevard, Contra Costa Boulevard, St. Mary's Road, Alhambra Avenue, Mt. Diablo Boulevard, roads in downtown Lafayette and Gateway/Lamorinda Traffic Program					Yes
17-02-0009	Contra Costa	Minor Transit Improvements	Projects in this category improve or complement existing transit operations through rolling stock, park and ride lots, express bus service expansion, technology upgrades, bus transit preferential measures, eBART support service and school bus programs					Yes
17-02-0010	Contra Costa	SR4 Integrated Corridor Mobility	SR4 Integrated Corridor Mobility from I-80 to SR160, including adaptive ramp metering, advanced traveler information, arterial management system, freeway management system, connected vehicle applications		Yes	Yes	Yes	Yes
17-02-0011	Contra Costa	I-80 ICM Project Operations and Maintenance	I-80 Integrated Corridor Mobility (ICM) Project Operations and Management - Local Portion - Maintenance in Contra Costa; This project will implement Adaptive Ramp Metering (ARM) and Active Traffic Management (ATM) strategies will be employed to reduction congestion and provide incident management capabilities.	Yes	Yes	Yes	Yes	
17-02-0012	Contra Costa	I-680 Northbound Managed Lane Completion through 680/24 and Operational Improvements between N. Main and Treat Blvd	I-680 carpool lane completion thru 680/24 interchange and operational Improvements between N. Main and Treat Blvd		Yes	Yes	Yes	Yes
17-02-0013	Contra Costa	I-680 Northbound HOV lane extension between N. Main and SR-242	Provides an HOV lane in the northbound direction between N. Main and SR242, which will shorten a gap in the HOV network which currently exists between Livorna and SR242.		Yes	Yes	Yes	Yes
17-02-0014	Contra Costa	Kirker Pass Road Northbound Truck Climbing Lane, Clearbrook Drive to Crest of Kirker Pass Road	This project will add NB truck climbing lane from Clearbrook Drive in the City of Concord to a point 1,000 beyond the crest of Kirker Pass Road. The addition will include a 12-foot dedicated truck climbing lane and a Class II bike lane within an 8-foot paved shoulder.	Yes	Yes	Yes	Yes	Yes
17-02-0015	Contra Costa	Vasco Road Byron Highway Connector Road	New road between Vasco Road and Byron Highway that increases access to the Byron Airport. Road will be 1 lane per direction with at grade intersections at both end. Project is formerly named: SR-239: Airport Connector			Yes	Yes	Yes
17-02-0016	Contra Costa	Construct SR 242/Clayton Road on and off-ramps	Construct on and off-ramp for SR 242 at Clayton Road		Yes	Yes	Yes	Yes
17-02-0017	Contra Costa	SR-239 Feasibility Studies and Project Development	Environmental and design study to construct a new State Route connecting SR4 to Interstates 205/580 near Tracy. Route alignment is not yet defined.					Yes
17-02-0019	Contra Costa	I-680/SR4 Interchange Improvements - Phases 1-3	Improve I-680/SR4 interchange by implementing: direct connectors for NB I-680 to WB SR4 (Ph1) & WB SR4 to SB I-680 (Ph2), & widening SR4 btw SR242 & Morello from 2 to 3 lanes per direction (Ph3). The 2-lane direct connectors will replace a single lane loop ramp & a single lane diagonal ramp, respectively.		Yes	Yes	Yes	Yes

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17-02-0020	Contra Costa	SR-4 Operational Improvements - Initial Phases	Various operational improvements on SR-4 between SR-242 and Bailey Road, including adding auxiliary lanes in strategic locations along this corridor		Yes	Yes	Yes	Yes
17-02-0021	Contra Costa	Reconstruct I-80/San Pablo Dam Road Interchange	Phase 1 includes relocating El Portal Dr. on-ramp to WB I-80 to the north, extending the auxiliary lane along WB I-80 between San Pablo Dam Rd off-ramp and El Portal Dr on-ramp, and reconstructing the Riverside Ave pedestrian overcrossing. Phase 2 includes modifications to McBryde and SPDR I/C & Includes provisions for bicyclists and pedestrians on San Pablo Dam Rd.		Yes	Yes	Yes	Yes
17-02-0022	Contra Costa	I-680 Southbound HOV Lane between N. Main and Livorna	Through the I-680/SR 24 Interchange, this project adds an HOV lane on I-680 SB, through minor widening and restriping to narrower lanes. Existing number of mixed flow lanes will be kept the same.	Yes	Yes	Yes	Yes	Yes
17-02-0023	Contra Costa	State Route 4 Widening and Balfour Road IC Construction	Construct SR4 Bypass interchange at Balfour Rd and Widen SR4 from 2 to 4 lanes.	Yes	Yes	Yes	Yes	Yes
17-02-0024	Contra Costa	I-80/SR-4 Interchange Improvements - New Eastbound Willow Avenue Ramps	New SR4 eastbound offramp and onramp at Willow north of Palm Avenue and removal of Willow Hook Ramps		Yes	Yes	Yes	
17-02-0026	Contra Costa	I-80/Central Avenue Interchange Modification - Phases 1 & 2	Construct new signals and changeable message signs to redirect I-80 westbound on-ramp traffic during weekend peak periods to I-580, connect Pierce Street to San Mateo Street to relocate the traffic signal at Pierce Street/Central Avenue to the San Mateo Street/Central Avenue intersection, and construct other necessary improvements.		Yes	Yes	Yes	Yes
17-02-0027	Contra Costa	Construct Additional Auxiliary Lanes on I-680 - South of I-680/SR-24 Interchange	Additional I-680 NB and SB auxiliary lanes south of I-680/SR 24 Interchange, including the following locations: Alcosta Road to Bollinger Canyon Road; El Cerro Blvd to El Pintado Road; El Pintado Road to Stone Valley Road; Stone Valley Road to Livorna Road; and Livorna Road to Rudgear Road.	Yes	Yes	Yes	Yes	
17-02-0028	Contra Costa	I-80 Eastbound and Westbound Pinole Valley Road On-ramp Improvement	Improve conditions for merging onto the I-80 mainline from the eastbound and westbound Pinole Valley Road on-ramps to address vehicles accelerating uphill after stopping at ramp meter.		Yes	Yes	Yes	
17-02-0029	Contra Costa	Eastbound SR-24: Construct Auxiliary Lane, Wilder Road to Camino Pablo	Construct auxiliary lane along eastbound Highway 24 from on-ramp at Wilder Road to downtown Orinda off-ramp at Moraga Way/Camino Pablo/Brookwood Road		Yes	Yes	Yes	
17-02-0030	Contra Costa	Widen Brentwood Boulevard - Havenwood Way to north city limit; and Chestnut to Fir	Project would widen Lone Tree Way from 2 to 4 lanes for approximately 2400 linear feet. It also includes bike lanes, median islands, curb, gutter, sidewalk street lights and landscaping.		Yes	Yes	Yes	Yes
17-02-0031	Contra Costa	Widen Willow Pass Road, Lynwood Drive to SR 4	Widen Willow Pass Road from Lynwood Drive to State Route 4 from two lanes to four lanes and implement Complete Streets Improvements		Yes	Yes	Yes	
17-02-0032	Contra Costa	Widen Ygnacio Valley Road-Kirker Pass Road, Cowell to Michigan	Widen Ygnacio Valley Road from Michigan Blvd to Cowell Road from four lanes to six lanes and implement Complete Streets improvements		Yes	Yes	Yes	Yes
17-02-0033	Contra Costa	Widen Camino Tassajara Road, Windemere to County Line	Widen Camino Tassajara Road from 2-lanes to 4-lanes, including 8-foot paved shoulders and Class II bike lanes in both directions from Windemere Parkway to the Alameda/Contra Costa County Line.		Yes	Yes	Yes	Yes
17-02-0034	Contra Costa	West Leland Road Extension	Construct new 4-lane arterial roadway with raised median, class 2 bike lanes, and sidewalks from San Marco Boulevard to Willow Pass Road, with a design speed of 55 mph.	Yes	Yes	Yes	Yes	
17-02-0035	Contra Costa	Lone Tree Way Widening	Widen Lone Tree Way to 4-lanes in order to match section west of O'Hara Avenue.		Yes	Yes	Yes	Yes
17-02-0036	Contra Costa	Pittsburg-Antioch Highway Widening	Widen existing 2-lane arterial roadway to 4-lane arterial with turning lanes at appropriate locations.	Yes	Yes	Yes	Yes	
17-02-0037	Contra Costa	Widen Main St, SR 160 to Big Break Rd	Widen Main Street from Highway 160 to Big Break Road from 4 lanes to 6 lanes.		Yes	Yes	Yes	
17-02-0038	Contra Costa	Main Street Bypass	Construct Main Street Downtown Bypass road between Vintage Parkway and 2nd Street.	Yes	Yes	Yes	Yes	
17-02-0039	Contra Costa	Hercules Train Station - All Phases	Implement all phases of the Hercules Train Station including extending John Muir Parkway with box culvert over North Channel and Bayfront Boulevard with bridge over Refugio Creek, eliminating gap in the Bay Trail West Segment by installing new trail connecting to new rail station, relocating fuel oil & fiber optic lines, constructing transit loop promenade and civic plaza, constructing parking structure, and conducting track/signal work		Yes	Yes	Yes	Yes
17-02-0040	Contra Costa	Martinez Intermodal Project: Phase 3	Constructs Martinez Intermodal Station (Phase 3), which includes an additional 425 spaces and auto/ped bridges (on top of planned 200 interim spaces).					
17-02-0041	Contra Costa	Privately Run Ferry Service including Small-Scale (non-WETA complying) Landside Improvements from Antioch, Martinez, and Hercules to San Francisco	Implement new ferry service from Antioch, Martinez, and Hercules to San Francisco. Project cost includes landside improvements and privately run ferry service, which would be provided at a lower cost than standard WETA service. Ferry service is only included in the Plan from 2020 to 2035.	Yes	Yes		Yes	
17-02-0042	Contra Costa	Richmond-San Francisco Ferry Service	Implements ferry service from Richmond to San Francisco as identified in the Water Transit Authority's Implementation and Operations Plan.	Yes	Yes	Yes	Yes	Yes
17-02-0043	Contra Costa	BART Capacity, Access and Parking Improvements	Includes projects that improve BART station capacity and implement access and parking improvement at Contra Costa BART station					Yes
17-02-0044	Contra Costa	Landside Improvements for Richmond Ferry Service	Construct landside improvements for Richmond ferry service, including expanded parking.					

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17-02-0045	Contra Costa	El Cerrito del Norte BART Station Modernization, Phase 1	Project will provide improvements including, but not limited to: expansion of the paid area of the station, including a new station agent booth and new fare gates new elevators and stairwells within the paid area providing access to the platform new passenger restrooms, new public art installations					
17-02-0046	Contra Costa	Civic Center Railroad Platform Park & Ride Complex	The proposed project is the construction of an approximately 800-foot train platform along the San Joaquin Service line, which would be located north of Main Street in Oakley, between 2nd Street and O'Hara Avenue. Approximately 300 surface parking spaces, distributed in two parking lots to avoid one large surface lot off Main Street, will be included to support Park & Ride activities as well as future train riders.		Yes	Yes	Yes	Yes
17-02-0047	Contra Costa	East County Rail Extension (eBART), Phase 1	Construction of rail extension eastward from Pittsburg-Bay Point BART station with Phase 1 terminus at Hillcrest Avenue in Antioch.	Yes	Yes	Yes	Yes	Yes
17-02-0049	Contra Costa	West County High Capacity Transit Investment Study Implementation - Phase 1	Environmental, engineering and initial implementation work associated with the recommendations from the study.					
17-02-0050	Contra Costa	Brentwood Intermodal Transit Center	This project is a PNR facility in the City of Brentwood providing a transit connection to the current eBART terminus in Antioch. Tri-Delta transit would provide direct bus service from this facility which could serve as a future eBART station site in the future.		Yes	Yes	Yes	
17-02-0051	Contra Costa	I-680 Transit Improvements including Express Bus Service, ITS components, and Park & Ride Lots	I-680 Transit Improvements including Express Bus Service, ITS components, and Park & Ride Lots along the I-680 corridor from Dublin to Martinez		Yes	Yes	Yes	
17-02-0052	Contra Costa	Widen San Ramon Valley Boulevard from 2 to 4 lanes - Jewel Terrace to Podva Road	Widen San Ramon Valley Boulevard from 2 to 4 lanes - Jewel Terrace to Podva Road	Yes	Yes	Yes	Yes	Yes
17-03-0001	Marin	Bicycle and Pedestrian Program	Projects in this category are new bicycle (on-street and off-street) and pedestrian facilities, and facilities that connect existing network gaps throughout Marin County					Yes
17-03-0002	Marin	Climate Program: TDM and Emission Reduction Technology	Projects in this category implement strategies and programs that reduce emissions, encourage alternative transportation modes, and manage transportation demand including but not limited to projects such as TDM program implementation, parking management, local area shuttle and paratransit services					
17-03-0003	Marin	County Safety, Security and Other	Projects in this category address safety and security needs including safe routes to school and coastal flood mitigation projects					
17-03-0004	Marin	Roadway Operations	Projects in this category improve roadway operations through technology and management systems on roads throughout Marin County including Sir Francis Drake and other local corridor enhancements					Yes
17-03-0005	Marin	Minor Transit Improvements	Projects in this category improve or complement existing transit operations through transit management systems, bus maintenance facility relocation, local bus and ferry service expansion, countywide bus stop improvements and access improvements to SMART stations, among other bus transit capital and facility projects					Yes
17-03-0006	Marin	Implement Marin Sonoma Narrows HOV Lane and corridor improvements Phase 2 (Marin County)	Extend US 101 HOV lane from Atherton Avenue to Marin/Sonoma County line in the northbound direction and from Rowland Boulevard to Marin/Sonoma County line in southbound direction. This project will complete the HOV lane system in Marin County from Richardson Bay Bridge to Marin/Sonoma County line.		Yes	Yes	Yes	Yes
17-03-0007	Marin	US 101/580 Interchange Direct Connector - PAED	Study, design and connection for a two lane direct connector northbound US 101 to eastbound HWY 580. The project would entail PSR, PAED and construction of a direct freeway to freeway interchange instead of local arterials. Study includes 580 westbound to south US 101.					
17-03-0008	Marin	Tiburon East Blithedale Interchange - PAED	Planning and environmental assessment of alternatives to improve the US 101/Tiburon Boulevard interchange					
17-03-0009	Marin	Access Improvements to Richmond San Rafael Bridge	Shift eastbound lane reduction 1,000 feet to the east on SFD and Improve shoulders from Larkspur Landing Circle to Anderson Drive. Improve bicycle access from Anderson Drive to Main Street. Add additional thru capacity at Bellam Boulevard off ramp from northbound 101 eastbound Interstate 580. Widen northbound Bellam off-ramp from US 101 to two lanes.	Yes	Yes	Yes	Yes	
17-03-0010	Marin	Highway Improvement Studies	Operational and capacity enhancement studies to address safety, sea level rise, and congestion on US 101, HWY 1 and HWY 37. primarily focused on Interchange and ramp modifications as well as mainline improvements. PSRs level studies are funded, PAED and advanced outreach flexibility.					
17-03-0011	Marin	Widen Novato Boulevard between Diablo Avenue and Grant Avenue	Widen Novato Blvd. between Diablo Ave. and Grant Ave. to accommodate future growth and enable roadway system to operate safely and efficiently, per City's General Plan.		Yes	Yes	Yes	Yes
17-03-0012	Marin	Sir Francis Drake Boulevard/Red Hill Avenue/Center Boulevard (known as "The Hub") - project development	Alternatives analysis, environmental and design of interchange improvements to this congested intersection. This study will include the study of a potential roundabout and improvements to this major arterial.					
17-03-0013	Marin	San Rafael Transit Center (SRTC) Relocation Project	This project involves the full or partial relocation of the Bettini Transit Center/San Rafael Transit Center (SRTC). Relocating the existing transit center is necessary because SMART rail bi-sects the transit center, which eliminates one existing bus platform and renders the remaining platforms of the transit service unusable in whole or in part.					

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17-03-0014	Marin	Larkspur Ferry Terminal Parking Garage - Planning Study	This project would provide environmental, design, engineering and construction of a parking garage to augment existing inadequate parking at the Larkspur Ferry Terminal (LFT) and improve parking, traffic and pedestrian circulation around and within LFT. The parking garage would increase parking capacity from by approximately 36%, from 1,800 to 2,450 parking spaces.					Yes
17-03-0015	Marin	SMART Downtown San Rafael to Larkspur Rail Extension	Extend rail from Downtown San Rafael 2.2 miles to Larkspur SMART Station.	Yes	Yes	Yes	Yes	Yes
17-03-0016	Marin	Multimodal Streetscape	Projects in this category implement multimodal or complete streets elements					Yes
17-04-0001	Napa	Bicycle and Pedestrian Program	Countywide bicycle network expansion, countywide bicycle network maintenance & rehabilitation, countywide pedestrian network enhancements, maintenance, rehabilitation and expansion. Also, includes countywide SRTS infrastructure and non-infrastructure projects/programs.					Yes
17-04-0002	Napa	County Safety, Security and Other	Railroad crossing safety upgrades, corridor and Safety Improvements					Yes
17-04-0003	Napa	Multimodal Streetscape	Complete streets implementation and street reconstruction.					
17-04-0004	Napa	Minor Roadway Expansions	Additional road capacity and extensions including bridge construction throughout Napa County and including along Devlin Road and Eucalyptus Drive					Yes
17-04-0005	Napa	Roadway Operations	Intersection improvements and modifications, roadway capacity enhancements, including SR 221 and Soscol Avenue, and other City of Napa intersection improvements					Yes
17-04-0006	Napa	Minor Transit Improvements	Enhanced and expanded transit services, improved commuter amenities, Vine transit maintenance and fueling station, transit fleet expansion, new transit and vehicle technology, improved signage and enhanced transit stops.					Yes
17-04-0007	Napa	Countywide Intelligent Transportation Systems Program	Technology and signalization integration, coordination and improvements.					
17-04-0008	Napa	State Route 29 Improvements	Construct SR29 to a 6-lane Parkway with improved conditions for all travel modes from Napa Junction Road to South Kelly Road and increase capacity in SR-29 from 4 lanes to 6 lanes in unincorporated Napa County, between South Kelly Road and SR 12 Jameson Canyon Road, as well as other operational and intersection improvements along the SR 29 corridor countywide.		Yes	Yes	Yes	
17-04-0009	Napa	Soscol Junction	Improvements at SR-29/SR-221/ Soscol Ferry Road.					Yes
17-04-0010	Napa	SR29 Gateway	Construct SR29 to 6-lanes for cars and improved conditions for other travel modes from American Canyon Road to Napa Junction Road		Yes	Yes	Yes	
17-05-0001	San Francisco	Bicycle and Pedestrian Program	Projects in this category are new bicycle (on-street and off-street) and pedestrian facilities, and facilities that connect existing network gaps, including Second Street Complete Streets project					Yes
17-05-0002	San Francisco	Climate Program: TDM and Emission Reduction Technology	Projects in this category implement strategies and programs that reduce emissions, encourage alternative transportation modes, and manage transportation demand including but not limited to projects such as TDM program implementation, parking management, local area shuttle and paratransit services					Yes
17-05-0003	San Francisco	County Safety, Security and Other	Projects in this category address safety and security needs including Vision Zero improvements at ramps, local road safety and security, India Basin roadway transportation improvements, and transit safety and security					Yes
17-05-0004	San Francisco	Multimodal Streetscape	Projects in this category implement multimodal or complete streets elements in San Francisco					Yes
17-05-0005	San Francisco	PDA Planning	This category includes planning studies supporting the region's PDA framework and connecting transportation and land use					
17-05-0007	San Francisco	Transit Preservation/Rehabilitation	This project provides additional funding to transit capital preservation and rehabilitation beyond what is included in the regional transit capital project (RTPID 17-10-0026)					
17-05-0008	San Francisco	Minor Roadway Expansions	This project implements roadway capacity changes to minor roads throughout San Francisco including Transit Center District Plan, Transbay Redevelopment Plan Street Network, Balboa Reservoir Street Network, Central SoMa Plan Network Changes, Central Waterfront/Pier 70 Street Network, Harney Way, HOPE SF Street Networks, Mission Bay, Mission Rock, Parkmerced, Schlage Lock, Treasure Island, Bayview, Rincon Hill, and along the Great Highway					Yes
17-05-0009	San Francisco	Roadway Operations	This project includes local road intersection improvements					Yes
17-05-0010	San Francisco	Minor Transit Improvements	This project includes the transit performance initiative, transit management systems, minor transit improvements, Muni fare programs, maintenance facility projects, and transit preferential improvements					Yes
17-05-0011	San Francisco	San Francisco Late Night Transportation Improvements	New routes and increased frequency for all-night regional and local bus service, including Muni, AC Transit, Golden Gate Transit, and SamTrans routes. This is a pilot for 5 years.				Yes	
17-05-0012	San Francisco	SFgo Integrated Transportation Management System	SFgo™ is San Francisco's Citywide ITS program. It identifies signalized and non-signalized intersections located along arterials and the Muni transit system and prioritizes them for ITS upgrades, such as controllers, cabinets, transit signal priority, fiber optic or wireless communications, traffic cameras, and variable message signs. Also improves arterial safety and pedestrian safety.					Yes

RTPID	County/ Sponsor	Title	Description	Complete and Operational By: 2020	2030	2040	Included in the Model?	Referenced in the 2019 TIP
17-05-0013	San Francisco	Expand SFMTA Transit Fleet	This project entails future expansion of the SFMTA transit fleet and needed facilities to house and maintain transit vehicles. The purpose is to meet projected future transit demand, as indicated in the SFMTA Transit Fleet Plan. It will facilitate the future provision of additional service through the procurement of transit vehicles as well as the development of needed modern transit facilities. This also includes the expansion vehicles for Geary BRT (RTPID 17-05-0021) and does not include expansion vehicles for Central Subway, which are in RTPITD 17-05-0041.			Yes	Yes	Yes
17-05-0014	San Francisco	Muni Forward (Transit Effectiveness Project)	Includes transit priority improvements along Rapid and High Frequency transit corridors, service increases, transfer and terminal investments, overhead wire changes, and street improvements in support of Vision Zero.		Yes	Yes	Yes	Yes
17-05-0015	San Francisco	Rail Capacity Long Term Planning and Conceptual Design - All	Rail capacity long term planning and conceptual design for Muni, BART, and Caltrain. Planning and conceptual engineering phase for study of major corridor and infrastructure investments along existing and potential expansion rail corridors that either expand the system or provide significant increases in operating capacity to the existing rail system.					Yes
17-05-0016	San Francisco	Better Market Street - Transportation Elements	Improve Market Street between Steuart Street and Octavia Boulevard. Includes resurfacing, sidewalk improvements, way-finding, lighting, landscaping, transit boarding islands, transit connections, traffic signals, transportation circulation changes, and utility relocation and upgrade.		Yes	Yes	Yes	Yes
17-05-0017	San Francisco	Core Capacity Implementation - Planning and Conceptual Engineering	Advance planning and evaluation of recommendations that emerge from the Core Capacity Transit Study. Examples of projects under consideration include HOV lanes on the Bay Bridge for buses and carpools; BART/Muni/Caltrain tunnel turnbacks, crossover tracks, grade separations, or other operational improvements; and a second transbay transit crossing.					
17-05-0018	San Francisco	Downtown San Francisco Ferry Terminal Expansion - Phase II	Expansion of berthing facilities along North Basin of Downtown San Francisco Ferry Terminal.					Yes
17-05-0019	San Francisco	Establish new ferry terminal at Mission Bay 16th Street	Establish New Ferry terminal to serve Mission Bay and Central Waterfront neighborhoods		Yes	Yes	Yes	Yes
17-05-0020	San Francisco	HOV/HOT Lanes on U.S. 101 and I-280 in San Francisco	Phase 1 (full implementation): Convert an existing mixed traffic lane and/or shoulder/excess ROW in each direction to HOV 3+ lanes on US 101 from SF/SM County line to I-280 interchange and on I-280 from US 101 interchange to 6th Street off ramp to enhance carpool and transit operations during peak periods. Phase 2 (planning and environmental review only): Convert Phase 1 HOV lanes to HOT/Express Lanes. Express transit to be funded with HOT lane revenues.		Yes	Yes	Yes	Yes
17-05-0021	San Francisco	Geary Boulevard Bus Rapid Transit	Implement Geary Bus Rapid Transit (BRT) to improve service between Market Street and Point Lobos Avenue. This proposal includes dedicated bus lanes, enhanced platforms, new bus passing zones, adjustments to local bus stops, turn lane restrictions, new signalization with Transit Signal Priority, real-time arrival information, low-floor buses, and safety improvements in support of Vision Zero. Expansion vehicles are included in RTPID 17-05-0013.		Yes	Yes	Yes	Yes
17-05-0022	San Francisco	Presidio Parkway	Reconstruct Doyle Drive with standard lane widths, shoulders, and a median barrier. Reconstruct interchange at State Route 1 and State Route 101 and add an auxiliary lanes between this interchange and Richardson Avenue. Transit access will be improved through the provision of extended bus bays near Gorgas Avenue to accommodate multiple transit providers, and well defined pedestrian routes. Post 2017 costs reflect annual SHOPP contributions for operations and maintenance.	Yes	Yes	Yes	Yes	Yes
17-05-0023	San Francisco	Yerba Buena Island (YBI) I-80 Interchange Improvement	Includes two major components: 1) On the east side of the island, the I-80/YBI Ramps project will construct new westbound on- and off- ramps to the new Eastern Span of the Bay Bridge; 2) On the west side of the island, the YBI West-Side Bridges Retrofit project will seismically retrofit the existing bridge structures.	Yes	Yes	Yes	Yes	Yes
17-05-0024	San Francisco	Balboa Park Station Area - Southbound I-280 Off-Ramp Realignment at Ocean Avenue	This project will realign the existing uncontrolled southbound I-280 off-ramp to Ocean Avenue into a T-intersection and construct a new traffic signal on Ocean Avenue to control the off-ramp.	Yes	Yes	Yes	Yes	
17-05-0025	San Francisco	Balboa Park Station Area - Closure of Northbound I-280 On-Ramp from Geneva Avenue	This project would study and implement closure of the northbound I-280 on-ramp from Geneva Avenue to improve safety. Closure of the ramp would initially be a pilot project, if possible, depending on the results of traffic studies. The linked on-ramp from Ocean Avenue would remain open.	Yes	Yes	Yes	Yes	
17-05-0026	San Francisco	Bayshore Station Multimodal Planning and Design	Planning, Preliminary Engineering, and Environmental Review to re-locate the Bayshore Caltrain station and potentially extend the T-Line to the station. The project would also include inter-modal facilities and additional supporting structures and utilities.					
17-05-0027	San Francisco	Hunters Point Shipyard and Candlestick Point Local Roads Phase 1	Build new local streets within the Hunters Point Shipyard and Candlestick Point area.			Yes	Yes	Yes
17-05-0028	San Francisco	Southeast San Francisco Caltrain Station - Environmental	Planning and environmental analysis of Caltrain infill station to replace Paul Ave Station in Southeast San Francisco (e.g. Oakdale).					Yes
17-05-0029	San Francisco	Downtown Value Pricing/Incentives - Pilot, Transit Service, Supportive Infrastructure	A set of street improvements to support transit operations and cycling and pedestrian safety and comfort to support the anticipated mode shift due to the implementation of congestion pricing.		Yes	Yes	Yes	Yes
17-05-0030	San Francisco	Treasure Island Mobility Management Program: Intermodal Terminal, Congestion Toll, Transit Service, Transit Capital	New ferry service between San Francisco and Treasure Island; AC Transit service between Treasure Island and Oakland; shuttle service on-Island; bike share on-Island; priced-managed parking on-Island; Travel Demand Management program.		Yes	Yes	Yes	Yes

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17-05-0031	San Francisco	Southeast Waterfront Transportation Improvements - Phase 1	Create a 5 mile multi-modal corridor of streets, transit facilities, pedestrian paths, and dedicated bicycle lanes to link the Candlestick/Hunters Point Shipyard project area to BART, T-Third light rail, Caltrain, local bus lines and future ferry service. A BRT system (included in a RTPID 17-05-0032) would use exclusive transit right-of-way, station and shelter facilities, and transit signal priority infrastructure. This project also includes express bus and enhances transit service between the Southeast Waterfront and downtown San Francisco.			Yes	Yes	Yes
17-05-0032	San Francisco	Geneva-Harney Bus Rapid Transit	Provides exclusive bus lanes, transit signal priority, and high-quality stations along Geneva Avenue (from Santos St to Executive Park Blvd), Harney Way, and Crisp Avenue, and terminating at the Hunters Point Shipyard Center. The project includes pedestrian and bicycle improvements in support of Vision Zero and connects with Muni Forward transit priority improvements west of Santos Street. This is the near-term alternative that does not rely on the full extension of Harney Way across US 101.		Yes	Yes	Yes	Yes
17-05-0033	San Francisco	Van Ness Avenue Bus Rapid Transit	Implement Van Ness Avenue Bus Rapid Transit (Van Ness BRT) to improve approximately two miles of a major north-south urban arterial in San Francisco. Project would include a dedicated lane for BRT buses in each direction between Mission and Lombard Streets. There will be nine BRT stations, with platforms on both sides for right-side passenger boarding and drop-off.	Yes	Yes	Yes	Yes	Yes
17-05-0034	San Francisco	Arena Transit Capacity Improvements	Identifies transit improvements needed to accommodate growth in Mission Bay. Improvements might include track crossovers to allow for trains to be staged; a 6-inch raised area along existing tracks; a platform extension to accommodate crowds; other trackway modifications; and a traction power study to ensure that the power grid can accommodate a large number of idling vehicles.					
17-05-0035	San Francisco	EN Trips: All Components	Implement streetscape improvements on Folsom Street between 5th and 11th Streets and on Howard Street between 4th and 11th Streets. On Folsom Street, a bi-directional cycle track, new transit bulbs and bus bulbs at intersections, and new signals would be	Yes	Yes	Yes	Yes	
17-05-0036	San Francisco	Regional/Local Express Bus to Support Express Lanes in SF	A 5-year regional/local express bus pilot to provide service to/from downtown San Francisco to/from San Francisco neighborhoods, Marin, Contra Costa, Alameda, San Mateo and Santa Clara counties to complement other freeway corridor management strategies. Some service to be funded with HOT lane revenues. See HOV/HOT Lanes on U.S. 101 and I-280 in San Francisco project. Includes vehicles.				Yes	
17-05-0037	San Francisco	Parkmerced Transportation Improvements	Implements transportation improvements for the Parkmerced development including enhanced transit service, pedestrian and bicycle facilities, intersection improvements, parking management, carshare and bikehare stations		Yes	Yes	Yes	Yes
17-05-0039	San Francisco	Geneva Light Rail Phase I: Operational Improvements, Planning and Environmental	Planning and environmental analysis of extension of light rail track 2.7 miles along Geneva Avenue from the Green Railyard to Bayshore Boulevard and then to the existing T-Third terminus at Sunnydale Station. Project would increase operational flexibility, system resiliency, and provide a southern east west rail connection. Phase included in Plan Bay Area 2040 is for non-revenue service.					
17-05-0040	San Francisco	T-Third Mission Bay Loop	Connect the rail turnouts from the existing tracks on Third Street at 18th and 19th Streets with additional rail and overhead contact wire system on 18th, Illinois and 19th Streets. The loop would allow trains to turn around for special events and during peak periods to accommodate additional service between Mission Bay and the Market Street Muni Metro.	Yes	Yes	Yes	Yes	
17-05-0041	San Francisco	T-Third Phase II: Central Subway	Extends the Third Street Light Rail line north from King Street along Third Street, entering a new Central Subway near Bryan Street and running under Geary and Stockton Streets to Stockton & Clay Streets in Chinatown. New underground stations will be located at Moscone Center, Third & Market Streets, Union Square, and Clay Street in Chinatown. Includes procurement of four LRVs.	Yes	Yes	Yes	Yes	
17-05-0042	San Francisco	Historic Streetcar Extension - Fort Mason to 4th & King	The project would extend historic streetcar service by extending either the E-line or the F-line service from Fisherman's Wharf to Fort Mason, using the historic railway tunnel between Van Ness Ave. and the Fort Mason Center. The project will seek non-transit specific funds and will seek to improve the historic streetcar operation as an attractive service for tourists and visitors.		Yes	Yes	Yes	Yes
17-06-0001	San Mateo	Bicycle and Pedestrian Program	Projects in this category are new bicycle (on-street and off-street) and pedestrian facilities, and facilities that connect existing network gaps, including but not limited to new multi-purpose pedestrian/bicycle bridges over US 101 and sidewalk gap closures					Yes
17-06-0002	San Mateo	County Safety, Security and Other	Projects in this category address safety and security needs of San Mateo County including county-wide implementation of Safe Routes to School Program					Yes
17-06-0003	San Mateo	Multimodal Streetscape	Projects in this category implement multimodal or complete streets elements, including but not limited to projects along facilities such as El Camino Real, Bay Road, Ralston Avenue, University Avenue, Middlefield Road, Palmetto Avenue, Mission Street, Geneva Avenue, and Carolan Avenue					Yes
17-06-0004	San Mateo	Minor Roadway Expansions	This category includes roadway capacity increasing projects (new roadways, widening or extensions of existing roadways) on minor roads such as Blomquist Street, California Drive, Railroad Avenue, Manor Drive, and Alameda de las Pulgas					Yes

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17-06-0005	San Mateo	Roadway Operations	County-wide Implementation of non-capacity Increasing local road Intersection modifications and channelization countywide County-wide implementation of local circulation improvements and traffic management programs countywide					Yes
17-06-0006	San Mateo	County-wide Intelligent Transportation System (ITS) and Traffic Operation System Improvements	Installation of transportation system management improvements such as Intelligent Transportation System (ITS) elements and TOS equipment throughout San Mateo County.					Yes
17-06-0007	San Mateo	Modify existing lanes on U.S. 101 to accommodate a managed lane	Modify US 101 to accommodate an Express Lane from approximately 2 miles south of the Santa Clara County Line to Grand Avenue interchange near the I-380 interchange. Work may include shoulder modification, ramp modifications, and interchange modifications to accommodate an extra lane. Work will be phased.		Yes	Yes	Yes	
17-06-0008	San Mateo	Add northbound and southbound modified auxiliary lanes and/ or implementation of managed lanes on U.S. 101 from I-380 to San Francisco County line	Add northbound and southbound modified auxiliary lanes and/or implementation of managed lanes on U.S. 101 from I-380 to San Francisco County line.		Yes	Yes	Yes	Yes
17-06-0009	San Mateo	Improve operations at U.S. 101 near Route 92 - Phased	US 101 operational improvements near Route 92. Project may have phased construction.					Yes
17-06-0010	San Mateo	Improve U.S. 101/Woodside Road interchange	Modifies the Woodside Road Interchange at US 101.		Yes	Yes	Yes	Yes
17-06-0011	San Mateo	US 101 Produce Avenue Interchange	Construct a new interchange on US 101 at Produce Avenue, connecting Utah Avenue on the east side of US 101 to San Mateo Avenue on the west side of US 101. This will allow for reconfiguration of the existing southbound ramps at Produce Ave and Airport Blvd, as well incorporation of the northbound off- and on- ramps at S. Airport Blvd into the interchange design.		Yes	Yes	Yes	Yes
17-06-0012	San Mateo	U.S. 101 Interchange at Peninsula Avenue	Construct southbound on and off ramps to US 101 at Peninsula Ave to add on and off ramps from southbound 101.		Yes	Yes	Yes	
17-06-0013	San Mateo	Reconstruct U.S. 101/Broadway interchange	Reconstructs the US 101/Broadway interchange.	Yes	Yes	Yes	Yes	
17-06-0014	San Mateo	Reconstruct U.S. 101/Willow Road interchange	The project proposes to reconstruct the existing US 101/Willow Road (Route 114) Interchange within the existing alignment to a partial cloverleaf interchange. Project includes class I bike paths and class II bike lanes.	Yes	Yes	Yes	Yes	Yes
17-06-0015	San Mateo	Construct auxiliary lanes (one in each direction) on U.S. 101 from Marsh Road to Embarcadero Road	Add northbound and southbound auxiliary lanes.	Yes	Yes	Yes	Yes	
17-06-0016	San Mateo	Improve access to and from the west side of Dumbarton Bridge on Route 84 connecting to U.S. 101 per Gateway 2020 Study - Phased	Improve access to /from the west side of Dumbarton Bridge (Route 84 connecting to U.S. 101) per Gateway 2020 Study (Phased implementation of short term projects. Environmental phase only for long term projects).			Yes	Yes	Yes
17-06-0017	San Mateo	Route 101/Holly St Interchange Access Improvements	The proposed project would convert the existing full cloverleaf configuration to a partial cloverleaf design by eliminating two of the existing loop off-ramps of the interchange, and realign the diagonal on- and off-ramps into signalized T-intersections with local streets. A new pedestrian and bicycle over crossing will be constructed in the south side of Holly Street Interchange.	Yes	Yes	Yes	Yes	Yes
17-06-0018	San Mateo	Improve local access at I-280/I-380 from Sneath Lane to San Bruno Avenue to I-380 - Environmental only	Environmental assessment of local access improvements at the existing I-280 / I-380 interchange located in the City of San Bruno. The project would provide access to I-380 from the two main east-west secondary roads of Sneath Lane and San Bruno Avenue.					
17-06-0019	San Mateo	State Route 92-82 (El Camino) Interchange Improvement	Widen the existing ramps and reconfigure the existing interchange from a full cloverleaf to a partial cloverleaf. Pedestrian and bicycle improvements would be included as part of the project.	Yes	Yes	Yes	Yes	Yes
17-06-0020	San Mateo	Hwy 1 operational & safety improvements in County Midcoast (acceleration/deceleration lanes; turn lanes; bike lanes; pedestrian crossings; and trails)	Operational and safety improvements for vehicles, bicycles, and pedestrians, along the Highway 1 corridor between Half Moon Bay and Pacifica. This could include acceleration lanes, deceleration lanes, turn lanes, bike lanes, enhanced crossings, and trail network improvements.	Yes	Yes	Yes	Yes	
17-06-0021	San Mateo	Environmental Studies for 101/Candlestick Interchange	Planning and environmental analysis of the reconstruction of 101/Candlestick Interchange to full all-directional interchange with a single point cross street connection. Project would provide all-direction ramp movements controlled by new signalized intersections at the cross street connections. Interchange would join an improved Harney Way to the east, and would join the Geneva Avenue Extension to the west. Accommodate E/W crossing of planned BRT facility.					Yes
17-06-0022	San Mateo	Westbound slow vehicle lane on Route 92 between Route 35 and I-280 - Environmental Phase	Planning and environmental analysis of a westbound slow vehicle lane on Route 92 between Route 35 and I-280					
17-06-0023	San Mateo	Route 1 Improvements in Half Moon Bay	In Half Moon Bay, On Route 1: Improve safety and reduce congestion by providing protected left and right turn lanes, warranted traffic signals, two through lanes only at signalized intersections, bike lanes, pathways, bus stops, traffic signal interconnects, safety lighting, median and channelization improvements.		Yes	Yes	Yes	Yes
17-06-0024	San Mateo	Reconstruct U.S. 101/Sierra Point Parkway interchange (includes extension of Lagoon Way to U.S. 101)	Reconstruct a partial interchange and provide improved access to Brisbane, Bayshore Blvd and proposed Brisbane Baylands project. Lagoon Way extension connects to the reconstructed interchange and provides improved access to Brisbane, Daly City, and the pending 600-acre Brisbane Baylands development.		Yes	Yes	Yes	

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17-06-0025	San Mateo	US 101/University Ave. Interchange Improvements	On University Avenue across US-101, between Woodland Avenue and Donohoe Street; Add bike lanes and sidewalk and modify the NB and SB off-ramps to eliminate pedestrian/bicycle conflicts and improve traffic operations.					
17-06-0026	San Mateo	Implement incentive programs to support transit-oriented development	Implement an incentive programs to support transit-oriented developments in San Mateo County.					
17-06-0027	San Mateo	Implement supporting infrastructure and Automated Transit Signal Priority to support SamTrans express rapid bus service along El Camino Real	This project will institute necessary infrastructure and Automated Transit Signal Priority necessary to accommodate express rapid bus service along the length of El Camino Real from Palo Alto to Daly City.					
17-06-0028	San Mateo	Make incremental increase in SamTrans paratransit service - Phase	Expansion of curb-to-curb paratransit fleet and service for eligible users, compliant with ADA requirements, based on projected future demand.					
17-06-0029	San Mateo	Add new rolling stock and infrastructure to support SamTrans bus rapid transit along El Camino Real- Phase	This project will institute new rolling stock and infrastructure necessary to accommodate BRT along El Camino Real			Yes	Yes	Yes
17-06-0030	San Mateo	Environmental Clearance and Design of the Redwood City Ferry Terminal and Service	Planning and environmental analysis of the construction of a new ferry terminal, purchase of 3 new high-speed ferry vessels, and operation of new ferry service between Redwood City and San Francisco.					Yes
17-06-0031	San Mateo	Implement Redwood City Street Car - Planning Phase	Planning and environmental analysis of Redwood City Street Car Construction and Implementation					
17-06-0032	San Mateo	Route 1 San Pedro Creek Bridge Replacement and Creek Widening Project	Replace San Pedro Creek Bridge on CA 1 with a longer bridge and widen the creek channel for 100 year storm flow capacity. Provide for a class 1 multi-purpose trail on the eastern side.	Yes	Yes	Yes	Yes	
17-06-0033	San Mateo	Widen Route 92 between SR 1 and Pilarcitos Creek alignment, includes widening of travel lanes and shoulders	Widens shoulders and travel lanes to standard widths. Straighten curves at few locations.		Yes	Yes	Yes	Yes
17-06-0034	San Mateo	Construct Route 1 (Calera Parkway) northbound and southbound lanes from Fassler Avenue to Westport Drive in Pacifica	The Calera Parkway project will widen Highway 1 from four lanes to six lanes, from approximately 1,500 feet south of Fassler Avenue to approximately 2,300 feet north of Reina Del Mar Avenue, a distance of 1.3 miles, and will add a 16€™ wide landscaped median between concrete barriers from San Marlo Way to Reina Del Mar Avenue		Yes	Yes	Yes	Yes
17-06-0035	San Mateo	I-280 improvements near D Street exit	Improve the on and off-ramps and approaches for I-280 near the D Street exit in Daly City					
17-06-0036	San Mateo	Widen Skyline Boulevard (Route 35) to 4-lane roadway from I-280 to Sneath Lane - Phased	Widens Skyline Blvd. (SR 35) between I-280 and Sneath Lane. It is currently the last portion of what is otherwise a four lane roadway along Skyline Blvd. The project widens approximately 1.3 miles of the roadway into four lanes.		Yes	Yes	Yes	Yes
17-06-0037	San Mateo	Widen Millbrae Avenue between Rollins Road and U.S. 101 soutbound on-ramp and resurface intersection of Millbrae Avenue and Rollins Road	Widen Millbrae Avenue between Rollins Road and US101 Southbound On Ramp and resurface the intersection of Millbrae Avenue and Rollins Road.	Yes	Yes	Yes	Yes	
17-06-0038	San Mateo	Construct a 6-lane arterial from Geneva Avenue/Bayshore Boulevard intersection to U.S. 101/Candlestick Point interchange - Environmental phase	Planning and environmental analysis of a 6-lane arterial from the Geneva Avenue at Bayshore Boulevard to 101/Candlestick Interchange. Grade separation at the Caltrain and Tunnel Ave, Class II bike lanes, on-street parking (travel lanes during peak periods), and sidewalks. Sections will be reserved for an exclusive lane BRT facility that connects to the Bayshore Multimodal Station and provides through service to BART Balboa Station.					
17-06-0039	San Mateo	Grade Separations	This project includes grade separations of the Caltrain right of way at approximately 2 to 3 high priority locations in San Mateo County, including 25th Avenue. This project is based on San Mateo County's Measure A grade separation category.					
17-06-0040	San Mateo	Extend Blomquist Street over Redwood Creek to East Bayshore and Bair Island Road	Redwood City Blomquist Street Extension and Blomquist Bridge over Redwood Creek		Yes	Yes	Yes	Yes
17-07-0001	Santa Clara	Bicycle and Pedestrian Program	Projects in this category are new bicycle (on-street and off-street) and pedestrian facilities, and facilities that connect existing network gaps, including downtown San Jose Bike Lanes					Yes
17-07-0002	Santa Clara	Caltrain Grade Separations	This project includes grade separations of the Caltrain right of way at priority locations throughout Santa Clara County					
17-07-0003	Santa Clara	Multimodal Streetscape	Projects in this category implement multimodal or complete streets elements throughout Santa Clara County including but not limited to Los Gatos Boulevard, Monterey Road, Shoreline Boulevard, Stevens Creek Road, Downtown Sunnyvale Complete Streets, Wedgewood Avenue, West San Carlos, and Winchester Boulevard. This category also includes intersection improvements for non-expressways in Santa Clara County.					Yes
17-07-0004	Santa Clara	Additional Local Road Preservation/Rehab	This project provides additional funding to local streets and roads preservation and rehabilitation beyond what is included in the regional local roads maintenance project (RTPID 17-10-0022)					
17-07-0005	Santa Clara	Minor Roadway Expansions	This category includes roadway capacity increasing projects (new roadways or widening/extensions of existing roadways) on minor roads throughout Santa Clara County such as Buena Vista Avenue, bridges over US 101 in Gilroy, Blossom Hill Road, Lark Avenue, Pollard Road, Union Avenue, Butterfield Road, San Antonio Road, Charcot Avenue, King Road, Montague Expressway, San Carlos Street, Zanker Road, Coleman Avenue, Autumn Street, Winchester Boulevard, Center Avenue, DeWitt Avenue, Hill Road, Wastonville Road, Mary Avenue, and Wildwood Avenue					Yes
17-07-0007	Santa Clara	Affordable Fare Program	Program objective is to increase ridership by reducing the cost of transit services for low-income populations including seniors, persons with disabilities, youth and students.					

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17-07-0008	Santa Clara	Implement System Operations and Management Program for Santa Clara County	This program includes projects that use technology to improve operation and management of the overall transportation system. These new technologies are collectively referred as Intelligent Transportation Systems.					Yes
17-07-0009	Santa Clara	SR 87 Technology-based Corridor Improvements	Improvements in San Jose to address mainline congestion and system reliability through the implementation of technology-based operational improvements to the freeway.					
17-07-0010	Santa Clara	Hwy. Transportation Operations System/Freeway Performance Initiative Phase 1 & 2	Implement Freeway Performance Initiative projects for Santa Clara County, which includes freeway ITS infrastructure, arterial management, incident management, emergency preparedness, and operations and maintenance of ITS infrastructure.					
17-07-0012	Santa Clara	BART Silicon Valley Extension - San Jose (Berryessa) to Santa Clara	The Berryessa Station to San Jose Extension Project would physically extend BART from the future BART Berryessa Station in San Jose to Downtown San Jose and then into Santa Clara. Project includes four new stations - Alum Rock, Downtown San Jose, Diridon, and Santa Clara. Project cost includes operating expenses - escalated capital cost is $5.175 billion.		Yes	Yes	Yes	Yes
17-07-0013	Santa Clara	Implement El Camino Rapid Transit Project	Implement Rapid line 522 improvements in the El Camino Real/The Alameda corridor including: dedicated guideways, signa prioritization, low-floor boarding, ticket vending machines, premium stations, real-time information, and specialized vehicles.		Yes	Yes	Yes	Yes
17-07-0021	Santa Clara	Alviso Wetlands Doubletrack	Provide double track section on the UPRR Coast Subdivision from the Alameda County line to the vicinity of State Route 237. The improvements are expected to include double-tracking the segment running over the Alviso Wetlands.		Yes	Yes	Yes	
17-07-0022	Santa Clara	Environmental Studies for SR-152 New Alignment	Project includes further environmental and planning studies for the SR-152 corridor, including a new alignment and potential toll options.					Yes
17-07-0023	Santa Clara	US 101/Zanker Rd./Skyport Dr./Fourth St. Interchange Improvements	Construct a new interchange at U.S. 101/Zanker Road/Skyport Drive/Fourth Street		Yes	Yes	Yes	
17-07-0024	Santa Clara	Lawrence/Stevens Creek/I-280 Interchange	Lawrence/Stevens Creek/I-280 Interchange: Provide direct connections between Lawrence Expressway and I-280		Yes	Yes	Yes	
17-07-0025	Santa Clara	I-280/Winchester Blvd Interchange Improvements	Improve I-280/ Winchester Blvd Interchange to relieve congestion and improve operations and local circulation.		Yes	Yes	Yes	Yes
17-07-0026	Santa Clara	I-280/Wolfe Road Interchange Improvements	Modify I-280/Wolfe Road Interchange to relieve congestion and improve local circulation.		Yes	Yes	Yes	
17-07-0027	Santa Clara	US 101/Mabury Rd./Taylor St. Interchange Improvements	Construct interchange at U.S. 101/Mabury Road/Taylor Street		Yes	Yes	Yes	Yes
17-07-0028	Santa Clara	I-280 New HOV Lane from San Mateo County line to Magdalena Avenue	New HOV lane added to I-280 from existing HOV lane at Magdalena Avenue to the San Mateo County Line. Requires constructing a new lane.		Yes	Yes	Yes	
17-07-0029	Santa Clara	I-280/Saratoga Avenue Interchange Improvements	Modify I-280/ Saratoga Avenue Interchange to relieve congestion and improve local circulation		Yes	Yes	Yes	
17-07-0030	Santa Clara	I-280 Northbound Braided Ramps between Foothill Expressway and SR 85	Improve braided ramps on northbound I-280 between Foothill Expressway and Route 85.		Yes	Yes	Yes	
17-07-0031	Santa Clara	US 101 Southbound/Trimble Rd./De La Cruz Blvd./Central Expressway Interchange Improvements	Improve interchange at U.S. 101 southbound Trimble Road/De la Cruz Boulevard/Central Expressway.		Yes	Yes	Yes	
17-07-0032	Santa Clara	I-680/ Alum Rock/ McKee Road Interchange Improvements	Reconfigure interchange, improve access for all modes of transportation, improve traffic operations and relieve congestion at the I-680/ Alum Rock and I-680/ McKee Road interchanges. Construct an Express Bus Station in the Median of I-680 to connect buses using HOV or Express Lanes with Santa Clara Alum Rock BRT Station.		Yes	Yes	Yes	
17-07-0033	Santa Clara	SR 237/Mathilda Ave. and US 101/Mathilda Ave. Interchange Improvement	The project proposes to improve local road operations on Mathilda Avenue in the City of Sunnyvale from Almanor Avenue to Innovation Way, including on- and off-ramp improvements at the State Route (SR) 237/Mathilda Avenue and US 101/Mathilda Avenue interchanges.		Yes	Yes	Yes	Yes
17-07-0034	Santa Clara	US 101 Interchanges Improvements: San Antonio Rd. to Charleston Rd./Rengstorff Ave.	Improve U.S. 101 interchanges at San Antonio Road to Charleston Road/Rengstorff Avenue including new auxiliary lane.		Yes	Yes	Yes	
17-07-0035	Santa Clara	US 101/Buena Vista Ave. Interchange Improvements	Construct a full interchange at US 101 and Buena Vista Avenue in Gilroy. The interchange includes a flyover southbound on-ramp to braid with the existing truck exit at the CHP Inspection Station. Off-ramp diagonal ramps will be constructed.		Yes	Yes	Yes	
17-07-0036	Santa Clara	SR 85 Northbound to Eastbound SR 237 Connector Ramp and Northbound SR 85 Auxiliary Lane	Widen off-ramp from Northbound SR 85 to SR 237 Eastbound to two lanes; construct auxiliary lane on Eastbound SR 237 between SR 85 on-ramp to Middlefield Rd.; construct braid off-ramp on Eastbound SR 237 between SR 85 and Dana St.		Yes	Yes	Yes	
17-07-0037	Santa Clara	SR 85/El Camino Real Interchange Improvements	Improve SR 85 auxiliary lanes between El Camino Real and SR 237, and SR 85/El Camino Real interchange.		Yes	Yes	Yes	
17-07-0038	Santa Clara	US 101/Blossom Hill Rd. Interchange Improvements	Widen interchange at U.S. 101/Blossom Hill Road.		Yes	Yes	Yes	Yes
17-07-0039	Santa Clara	US 101/Old Oakland Rd. Interchange Improvements	Improve interchange at U.S. 101/Old Oakland Road.		Yes	Yes	Yes	
17-07-0040	Santa Clara	US 101/Shoreline Blvd. Interchange Improvements	Interchange improvements at Shoreline Boulevard.				Yes	

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17-07-0042	Santa Clara	SR 237/Great America Parkway WB Off- Ramps Improvements	Modify WB off-ramps at the SR 237/Great America Parkway interchange to improve traffic operations and relieve congestion.		Yes	Yes	Yes	
17-07-0043	Santa Clara	SR 237/El Camino Real/Grant Rd. Intersection Improvements	Widen Westbound SR 237 within the existing median to extend both of the left-turn lanes; lengthen the Northbound El Camino Real right-turn lane onto SR 237 starting the lane at Yuba Drive; widen the Southbound El Camino Real left-turn lane within the existing median; and construct a right-turn lane on Southbound El Camino Real for traffic accessing Westbound Grant Rd.		Yes	Yes	Yes	
17-07-0044	Santa Clara	Double Lane Southbound US 101 off-ramp to Southbound SR 87	Widen Southbound US 101 freeway connector to Southbound SR 87 to add a second lane and install TOS.	Yes	Yes	Yes	Yes	
17-07-0051	Santa Clara	Widen Calaveras Blvd. overpass from 4 to 6 lanes	Replaces the existing four lane bridge, which currently has a single sidewalk and no bicycle lane over the Union Pacific (UP) Railroad tracks, to a six lane bridge. Project will also add sidewalks and bicycle lanes in both directions.		Yes	Yes	Yes	
17-07-0056	Santa Clara	Bus Stop Improvements	Enhance transit waiting environments by improving accessibility and amenities at VTA bus stops.					
17-07-0057	Santa Clara	Frequent Core Bus Network - 15 minutes	Provide 15-minute all day bus service on VTA's highest ridership routes	Yes	Yes	Yes	Yes	
17-07-0058	Santa Clara	SR 85 Corridor Improvements - reserve amount	This program will fund corridor transit studies that improve transit connectivity and reduce traffic congestion in this corridor. It also includes a reserve amount for future projects along SR 85 that would be funded with Measure B sales tax revenue.					
17-07-0059	Santa Clara	Implement Stevens Creek Rapid Transit Project	Implement Rapid Transit improvements in the Stevens Creek corridor including: dedicated guideways, signal prioritization, low-floor boarding, ticket vending machines, premium BRT stations, real-time information, and specialized vehicles.		Yes	Yes	Yes	Yes
17-07-0060	Santa Clara	North First Street light rail speed Improvements	This project would improve light rail service and reliability along North First Street. Some of the problems in this area include signal timing issues, slow speeds (maximum speed currently restricted to 35mph), and unscheduled stops. Fencing along this corridor would allow maximum speeds to increase to 45 mph combined with improvements to signal timing.	Yes	Yes	Yes		
17-07-0061	Santa Clara	Extend Capitol Expressway light rail to Eastridge Transit Center - Phase II	Extends the Capitol Avenue light rail line 2.6 miles from the existing Alum Rock Transit Center to a rebuilt Eastridge Transit Center. Includes the removal of HOV lanes on Capitol Expressway between Capitol Avenue and Tully Road in San Jose.		Yes	Yes	Yes	Yes
17-07-0062	Santa Clara	Extend light-rail transit from Winchester Station to Route 85 (Vasona Junction)	Extends light rail from Winchester Station to Route 85 (Vasona Junction).		Yes	Yes	Yes	Yes
17-07-0063	Santa Clara	Mineta San Jose International Airport APM connector - planning and environmental	Conduct planning and design work on a proposed project that would provide a transit link to San Jose International Airport using automated People Mover (APM) technology.					Yes
17-07-0064	Santa Clara	County Safety, Security, Noise and Other	Noise abatement program countywide - This project will implement noise reduction projects throughout Santa Clara County.					Yes
17-07-0065	Santa Clara	Caltrain Station and Service Enhancements	Projects to improve Caltrain service, system performance and stations including full EMU conversion, longer vehicles, longer platforms, level boarding, parking improvements, bike facilities, transit connectivity, other station enhancements and track reconfigurations.					Yes
17-07-0066	Santa Clara	Future Transit Corridor Studies	This program includes future transit corridor studies throughout Santa Clara County.					
17-07-0067	Santa Clara	SR 17 Corridor Congestion Relief in Los Gatos	Operational improvements for the SR 17 Corridor, including upgrading Highway 17/Highway 9 interchange to improve pedestrian and bicycle safety, mobility, and roadway operations; deploying advanced transportation technology to reduce freeway cut thru traffic in Los Gatos, including traffic signal control system upgrades in Los Gatos, traveler information system, advanced ramp metering systems and multi-modal congestion relief solutions		Yes	Yes	Yes	
17-07-0068	Santa Clara	237 WB Additional Lane from McCarthy to North First	Corridor Improvements in the cities of San Jose, Santa Clara and Milpitas to address mainline congestion and regional connectivity by the addition of SR 237 westbound auxiliary lane between McCarthy Boulevard and North First Street		Yes	Yes	Yes	
17-07-0069	Santa Clara	US 101/SR 25 Interchange	The project consists of reconfiguring the interchange at US 101 and SR 25 just south of the City of Gilroy in Santa Clara County, connecting SR 25 and Santa Teresa Boulevard, and widening the existing freeway from 4 to 6 lanes from the Monterey Street interchange to the US 101/SR 25 interchange.		Yes	Yes	Yes	
17-07-0070	Santa Clara	SR 237 Express Lanes: North First St. to Mathilda Ave.	Convert HOV to express lane in both directions		Yes	Yes	Yes	Yes
17-07-0074	Santa Clara	SR 85 Express Lanes: US 101 (South San Jose) to Mountain View	SR 85 typically has 1 HOV lane and 2 general purpose lanes in both directions with auxiliary lane in some segments. Project will convert existing HOV lane to express lane and add a second express lane between SR 87 and I-280 in both directions.		Yes	Yes	Yes	Yes
17-07-0075	Santa Clara	US 101 Express Lanes: Whipple Ave. in San Mateo County to Cochrane Road in Morgan Hill	Convert HOV Lanes to express lane and add a second express lane in some segments.		Yes	Yes	Yes	Yes
17-07-0076	Santa Clara	Santa Clara County Express Lanes Operations and Maintenance	This program includes operations and maintenance for the Santa Clara County (VTA) Express Lanes.					
17-07-0077	Santa Clara	BART – Warm Springs to Berryessa Extension (SVBX)	The project entails design, ROW, construction, equipment and Rolling Stock procurements necessary to extend BART to the future Berryessa Station in San Jose. Improvements will include track, bridges, traction electrification, stations, parking areas, fare vending equipment and other ancillary operating and/or maintenance equipment.	Yes	Yes	Yes	Yes	Yes

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17-07-0078	Santa Clara	Envision Expressway (Tier 1 Expressway Plan) Major and Minor Projects	Various operational and capacity improvements to expressways in Santa Clara County comprising the Tier 1 investments from the Santa Clara County Expressway Plan. These projects include capacity improvements for Almaden Expressway, Capitol Expressway, Foothill Expressway, Lawrence Expressway, Montague Expressway, Oregon-Page Mill Expressway, San Tomas Expressway, Santa Teresa Boulevard. This project also includes the following ITS/Signal upgrades: Replace/upgrade/add fiber optic lines; upgrade equipment for new technologies; systemwide pedestrian sensors; enhance/replace bicycle and vehicle detection with new technologies on the County expressways	VARIES	Yes	Yes	Yes	Yes
17-07-0079	Santa Clara	Envision Highway Minor Projects	Includes: 1-280 NB Second exit lane to Foothill Expressway; SR 17 SB/Hamilton Ave Off-Ramp widening; San Tomas expressway at SR-17 Improvements; US101/SR 152 10th Street Ramp and Intersection Improvements; and Charcot Avenue Extension over I-880					
17-07-0080	Santa Clara	Alum Rock/Santa Clara Street Bus Rapid Transit	Implement Rapid Transit improvements in the Santa Clara/Alum Rock route, including: dedicated guideways, signal prioritization, ticket vending machines, premium stations, real-time information, and specialized vehicles.	Yes	Yes	Yes	Yes	
17-07-0081	Santa Clara	I-880 Express Lanes: SR-237 to US-101	Convert existing HOV lane to an express lane in both directions between SR 237 and US 101		Yes	Yes	Yes	
17-07-0082	Santa Clara	SR-87 Express Lanes: I-880 to SR-85	Convert existing HOV lane to an express lane in both directions between I-880 and SR-85		Yes	Yes	Yes	
17-07-0083	Santa Clara	I-680 Express Lanes: SR-237 to US-101	Convert existing general purpose lane to an express lane in both directions between SR-237 and US-101		Yes	Yes	Yes	
17-07-0084	Santa Clara	I-280 Express Lanes: US-101 to Magdalena Avenue	Convert existing HOV lane to an express lane in both directions between US 101 and Magdalena Avenue		Yes	Yes	Yes	
17-07-0085	Santa Clara	Santa Clara County Express Lanes - Environmental and Design Phase for Future Segments	This program includes environmental and design phases for future express lane segments in Santa Clara County, including along I-880, US 101 south of Morgan Hill, and for Highway 17					
17-07-0086	Santa Clara	Santa Clara County Express Lanes - Reserve	This program includes future revenue from express lanes in Santa Clara County					
17-07-0087	Santa Clara	Widen San Tomas Expressway to 8 Lanes from Stevens Creek Blvd to Campbell Ave	Widen San Tomas Expressway from 6 to 8 Lanes from Stevens Creek Blvd to Campbell Ave.		Yes	Yes	Yes	
17-07-0088	Santa Clara	Senter Road Widening from Umbarger to Lewis	Widening Senter Road between Umbarger Rd. and Lewis Rd. from 4 to 6 lanes with improved bicycle/ped facilities and install median landscaping.		Yes	Yes	Yes	
17-07-0089	Santa Clara	South Bascom Complete Streets	On South Bascom Ave. from Parkmoor Ave. to Southwest Expressway reduce the road to two lanes and make bicycle and pedestrian improvements in the corridor.		Yes	Yes	Yes	
17-07-0090	Santa Clara	Widen Brokaw Bridge over Coyote Creek	Widen north side of the bridge to add on additional through traffic lane on westbound Brokow Road.					
17-07-0091	Santa Clara	Widen Oakland Road from 4-lanes to 6-lanes between U.S. 101 and Montague Expressway	Widens Oakland Rd. from 4 to 6 lanes between US 101 and Montague Expwy. Also provides median island landscaping and operational improvements in roadway corridor.		Yes	Yes	Yes	
17-08-0001	Solano	Access and Mobility Program	This category includes projects that improve access and mobility for people with disabilities, low-income residents, and seniors, including providing Lifeline transit service countywide and providing transit service to seniors and individuals with disabilities separate from Lifeline					Yes
17-08-0002	Solano	Bicycle and Pedestrian Program	Projects in this category are new bicycle (on-street and off-street) and pedestrian facilities, and facilities that connect existing network gaps					Yes
17-08-0003	Solano	Climate Program: TDM and Emission Reduction Technology	Projects in this category implement strategies and programs that reduce emissions, encourage alternative transportation modes, and manage transportation demand including but not limited to projects such as TDM program implementation, parking management, local area shuttle and paratransit services					Yes
17-08-0004	Solano	County Safety, Security and Other	Projects in this category address safety, security and other needs. This project includes safety improvements to state highways throughout Solano County. This also includes countywide Safe Routes to School projects.					Yes
17-08-0005	Solano	Multimodal Streetscape	Projects in this category implement multimodal or complete streets elements					Yes
17-08-0006	Solano	PDA Planning	This category includes planning studies supporting the region's PDA framework and connecting transportation and land use					
17-08-0007	Solano	Minor Roadway Expansions	This category includes roadway capacity increasing projects (new roadways or widening/extensions of existing roadways) on minor roads throughout Solano County					Yes
17-08-0008	Solano	Roadway Operations	This category includes projects that improve roadway, intersection, or interchange operations, ITS, as well as other transportation system management. This project also includes a realigning SR 113 around downtown Dixon to I-80.					Yes
17-08-0009	Solano	I-80/I-680/SR12 Interchange (Packages 2-7)	Packages 2-7 provide direct connectivity from I-680 NB to SR12 WB, widens I-680 and I-80 near the interchange, and improves connections to Red Top road off-ramp. Express lane direct connectors are included in RTPID 17-10-0061.			Yes	Yes	
17-08-0010	Solano	Improve interchanges and widen roadways serving Solano County Fairgrounds, including Redwood Parkway	Improvements to interchanges and widening of roadways serving the Solano County Fairgrounds, including Redwood Parkway.		Yes	Yes	Yes	Yes
17-08-0011	Solano	Provide auxiliary lanes on I-80 in eastbound and westbound directions from I-680 to Airbase Parkway	Project provides Auxiliary Lanes on I-80 in the EB & WB directions from I-680 to Airbase Parkway; and removes the I-80/Auto Mall hook ramps and C-D road slip-ramp;		Yes	Yes	Yes	
17-08-0012	Solano	Construct 4-lane Jepson Parkway from Route 12 to Leisure Town Road at I-80	Constructs phase 2,3,4,6,7,8 and 10. Road costs only - bike and other special enhancements assumed from other programs (i.e. Regional Bicycle Program).		Yes	Yes	Yes	Yes

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17-08-0013	Solano	Conduct planning and design studies along SR-12 corridor in Solano County	Conduct planning and design studies related to improvements from I-80 to the Rio Vista Bridge					
17-08-0014	Solano	Construct train station building and support facilities at the new Fairfield / Vacaville multimodal station	Construct train station building and expanded bicycle access for the new multimodal center serving the Capitol Corridor.	Yes	Yes	Yes	Yes	
17-08-0015	Solano	Solano MLIP Support Projects	Construct projects and operate programs to support implementation of the MLIP. Projects include expansion of transit centers, including in Vallejo and Fairfield, and new bus stops served by Solano Express; construction or expansion of Park and Ride facilities; and, replacement and maintenance of intercity buses.		Yes	Yes	Yes	Yes
17-08-0016	Solano	Vallejo Station Parking Structure Phase B	Vallejo: Baylink Ferry Terminal; Construct two phased parking structure to consolidate surface parking for ferry patrons; create a pedestrian link between bus transit facility and existing ferry terminal building adjacent to ferry parking structure.					
17-08-0017	Solano	I-80 WB Truck Scales	Project upgrades existing truck scales on WB I-80 in Solano County. Existing westbound truck scales are located on the most congested freeway segment of I-80 in Solano County. Scales are outdated and cannot process the current and future truck volumes on WB I-80. Trucks are slow to enter and leave the scales because of short ramps, adding to existing traffic congestion and safety issues on I-80.					
17-09-0001	Sonoma	Bicycle and Pedestrian Program	Projects in this category are new bicycle (on-street and off-street) and pedestrian facilities, and facilities that connect existing network gaps					Yes
17-09-0002	Sonoma	SMART Rail Freight Improvements	Improvements along publicly-owned SMART rail right-of-way to accommodate rail freight services and expansions. Programmatic category that could include freight spurs, Positive Train Control/systems and crossing upgrades, track and sidings expansions and bridge improvements.					
17-09-0003	Sonoma	Multimodal Streetscape	Projects in this category implement multimodal or complete streets elements.					Yes
17-09-0004	Sonoma	Minor Roadway Expansions	This category includes roadway capacity increasing projects (new roadways or widening/extensions of existing roadways) on minor roads such as Airport Boulevard, Caulfield Lane, Bodway Parkway, Brickway Blvd/Laughlin Rd, Corby Avenue, Dowdell Avenue, Fulton Road, Old Redwood Highway, River Road, Snyder Lane, and Jaguar Way					Yes
17-09-0005	Sonoma	Roadway Operations	This category includes projects that improve roadway, intersection, or interchange operations, ITS, as well as other transportation system management. This project also includes landscaping along US 101 HOV lanes, intersection improvements at Route 116/Route 121, local circulation in Penn Grove, Sonoma Boulevard Improvements, among other operational improvements throughout Sonoma County.					Yes
17-09-0006	Sonoma	Implement Marin Sonoma Narrows Phase 2 (Sonoma County)	Adds 1 HOV lane in each direction to US 101 from Old Redwood Highway in Petaluma to the Marin/Sonoma County line making the freeway 6 lanes wide. It includes widening and replacing the Hwy 116 separation bridges.		Yes	Yes	Yes	Yes
17-09-0008	Sonoma	Arata Lane Interchange	Construction of the Northbound on-ramp to US 101 will complete the Arata Lane interchange with US 101. This project also includes the relocation of a portion of Los Amigos Road north of Arata Lane. Rights of way have been obtained in prior phases.		Yes	Yes	Yes	
17-09-0009	Sonoma	Cotati US 101/Railroad Avenue Improvements (incl. Penngrove)	This project is the creation of a new south bound off ramp and north bound on ramp at Railroad Avenue. There continues to be growth outside of Cotati and Penngrove that will exacerbate traffic in both Penngrove and in downtown Cotati, as these are the only options to access US 101. Improvements would include safety improvements on Railroad Avenue from Petaluma Hill to US 101.			Yes	Yes	
17-09-0010	Sonoma	Hearn Avenue Interchange	The project would replace the existing Hearn Avenue overcrossing bridge with a new bridge to accommodate four traffic lanes with bike lanes and sidewalks on both sides of the roadway. The project would also increase the bridge height clearance and improve ramp connections to US 101 and provide continuous bike lanes and sidewalks between Corby Avenue and Santa Rosa Avenue				Yes	Yes
17-09-0011	Sonoma	Shiloh Road Interchange Reconstruction	Reconstruct the Shiloh Road/US 101 interchange to provide two lanes in each direction. It is anticipated that the existing over crossing will be replaced and ramps reconfigured. It is expected that 60% of project costs will come from federal, state or regional funds.			Yes	Yes	
17-09-0012	Sonoma	Cotati Highway 116 Cotati Corridor Improvements	This project is a widening of Highway 116 between US 101 and Stony Point Road, including phased closure of driveway access to 116, the addition of signalized intersections, new bike lanes, and new sidewalk to improve the vehicle LOS, improve the safety of 116 for all modes of transportation, and create safe new corridors for pedestrian and bicyclists.	Yes	Yes	Yes	Yes	
17-09-0013	Sonoma	Petaluma Crosstown Connector and Rainier Interchange	Extend Rainier Avenue from current terminus at McDowell Boulevard westerly with a bridge crossing over the railroad tracks and the Petaluma River to a terminate at Petaluma Boulevard North. A second phase of work will construct a new interchange with the 101.		Yes	Yes	Yes	
17-09-0014	Sonoma	Farmers Lane extension between Bennett Valley Rd and Yolanda Avenue	Construct new road with travel lanes, bike lanes and sidewalks. Expand bike, pedestrian, transit, and vehicle improvements in Southeast Santa Rosa.		Yes	Yes	Yes	
17-09-0015	Sonoma	Road Diet Extension - Petaluma Boulevard South	Reduce Petaluma Boulevard from E-Street to Crystal Lane (Roundabout) from 4 through lanes to 2 through lanes and a two-way-left-turn-lane	Yes	Yes	Yes	Yes	
17-09-0016	Sonoma	SMART Petaluma Infill Station	Construct a second SMART station in the City of Petaluma including associated amenities.	Yes	Yes	Yes	Yes	

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17-09-0017	Sonoma	Enhance bus service frequencies in Sonoma County	Enhance transit to achieve a 50% increase in bus service countywide - this includes Sonoma County Transit, Santa Rosa CityBus, Petaluma Transit. Project also includes BRT-like facilities in Santa Rosa.	Yes	Yes	Yes	Yes	
17-09-0018	Sonoma	SMART Rail Extension to Windsor + Environmental to Cloverdale + Bike Path	Project extends SMART from the Sonoma Airport to Windsor, implements the SMART bike path, and includes additional environmental/planning assessment of extending SMART to Healdsburg and Cloverdale.	Yes	Yes	Yes	Yes	
17-10-0001	AC Transit	AC Transit Fleet Expansion and Major Corridors	Purchases rolling stock for enhanced transbay, local, or express services.		Yes	Yes	Yes	
17-10-0003	AC Transit	San Pablo Avenue BRT	Project implements BRT along San Pablo Avenue in Alameda and Contra Costa counties. This includes a bus-only lane from 20th Street to Ashby Avenue in Alameda County and from Richmond Parkway Center to Central Avenue in Contra Costa County. Project also includes enhanced real-time info, queue jump lanes where bus-only lane is not proposed, new buses and on-board equipment, and passenger amenities.		Yes	Yes	Yes	
17-10-0004	AC Transit	Environmental Studies for Bay Bridge Contraflow Lane	This project includes further environmental and planning studies for the proposed Bay Bridge Contraflow lane, which would convert an EB lane on the bottom deck of the Bay Bridge into a peak-period WB lane in the AM period. This lane would likely be used by buses and carpool vehicles.					
17-10-0005	BART	BART Metro Program + Bay Fair Connector	Investments in support of the region's Sustainable Communities Strategy, including studies of a future Transbay Corridor rail crossing. Capital: Turnbacks/crossovers/tail track extensions (24th St, Lafayette, Glen Park, Millbrae, Dublin, Daly City, Richmond, South Hayward); Station capacity improvements (platform doors at 4 downtown SF stations, additional stairs/escalators/elevators Operating: 12-minute headways on all lines in the peak period (instead of current 15-minutes) Bay Fair Connector: Modify BART Bay Fair Station and approaches to add one or more additional tracks and one or more passenger platforms for efficient train service and operational flexibility. Includes station modernization, modifications to switches, tracks, crossovers, train control, signaling, traction power, etc.		Yes	Yes	Yes	Yes
17-10-0006	BART	BART Transbay Core Capacity Project	The Transbay Corridor Core Capacity Project is a multi-pronged effort to address capacity issues in the Transbay corridor and is in coordination with the BART Metro Program project. The project elements are: • Communication-based train control (CBTC) system to safely enable closer headways and allow BART to operate more frequent service (12 minute frequencies); • Expansion of the rail car fleet by 306 vehicles to add cars to existing trains and operate more frequent trains; • Added traction power substations to allow more frequent service; • Expansion of the Hayward Maintenance Complex (HMC) to provide storage and maintenance capability for the expanded fleet; • Other (Unallocated contingency) Financing cost is included in RTPID 17-10-0016.					Yes
17-10-0007	CAHSR	California HSR in the Bay Area	This project implements the segment of California High Speed Rail that is in the Bay Area.		Yes	Yes	Yes	
17-10-0008	Caltrain	Caltrain Electrification Phase 1 + CBOSS	The Peninsula Corridor Electrification Project (PCEP) includes the electrification of the Caltrain corridor between San Francisco and San Jose, the procurement of new, Electric Multiple Unit rolling stock, and an increase in the Caltrain service levels. This project also includes CBOSS, which is the Communications Based Overlay Signal System (CBOSS) Positive Train Control necessary to monitor and control train movements as well as increase safety.		Yes	Yes	Yes	Yes
17-10-0009	GGBHTD	Golden Gate Bridge Capital and Operations	This program includes operations and maintenance for the Golden Gate Bridge.					Yes
17-10-0010	GGBHTD	Bus and Ferry Service Expansion	This program includes planned bus and ferry expansion projects such as new express bus service between East Santa Rosa and San Francisco; between Richmond and San Rafael; and between Central Marin and West San Francisco. This program also includes off-site parking and an additional Larkspur Ferry crossing.		Yes	Yes	Yes	
17-10-0011	Multi-County	Lifeline, Community Based Transportation Program, and Mobility Management	The Lifeline Transportation Program funds priority projects identified by residents in MTC's Communities of Concern through locally crafted Community-Based Transportation Plans. Projects can include community shuttles, transit services, streetscape improvements and bus stop amenities. Additionally, this program includes $90 million for a future mobility management program. Mobility management enables communities to monitor transportation needs and to link individuals to appropriate, cost-efficient travel options					Yes
17-10-0012	Multi-County	Means-Based Fare Study Implementation	This program would implement the recommendations from MTC's Means-Based Fare Study, which launched in 2015 to determine if a transit fare program based on household income would be feasible and effective. This study will identify possible fare structures and payment methods, eligible recipients, overall program costs, and potential technical challenges.					
17-10-0013	Multi-County	Transportation Management Systems	This program replaces and rehabilitates the physical ramp meters, induction loops and cameras used to manage traffic real-time and to collect traffic data for planning purposes. This program also maintains and replaces telecommunication networks connecting all field devices with potential to transition from copper lines to fiber optics. Related to the SHOPP program (RTPID 17-10-0025)					Yes
17-10-0014	Multi-County	Bay Trail - non toll bridge segments	This program would complete the Bay Trail along the shoreline. This program does not include the segments of the Bay Trail that would cross the Bay via toll bridges.					

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17-10-0015	Multi-County	Climate Program: TDM and Emission Reduction Technology	MTC's Climate Initiatives Program includes transportation demand management (TDM) strategies, car sharing, vanpool incentives, alternative fuel/vehicle initiatives, targeted transportation alternatives, trip caps and commuter benefits ordinances.					Yes
17-10-0016	Multi-County	Cost Contingency and Financing	This program includes future financing costs for capital projects such as for BART's Transbay Core Capacity Project (RTPID 17-10-0006). It also would cover contingency for major capital projects, if needed.					
17-10-0017	Multi-County	Capital Projects Debt Service	This program includes on-going payments to debt service resulting from past financing of revenue, especially for bridge toll and sales tax revenue sources.					Yes
17-10-0018	Multi-County	Goods Movement Clean Fuels and Impact Reduction Program	Program for implementing recommendations of the Freight Emission Reduction Action Plan and developing programs for impact reduction in neighborhoods with high levels of freight activity.					
17-10-0019	Multi-County	Goods Movement Technology Program	Program for deploying communications infrastructure to increase active traffic management along freight corridors and to/from the Port of Oakland					
17-10-0020	Multi-County	New/Small Starts Reserve	This is a reserve for future FTA funds (Section 5309) that are referred to as New Starts, Small Starts, or Core Capacity funding. This reserve is for future transit projects eligible for these funds and that serve the North or East Bay.					
17-10-0021	Multi-County	Priority Development Area (PDA) Planning Grants	This program includes Priority Development Area (PDA) Planning Grants and associated programs					Yes
17-10-0022	Multi-County	Local and Streets and Roads - Existing Conditions	This program includes local streets and roads maintenance throughout the region, including pavement and non-pavement assets					Yes
17-10-0023	Multi-County	Local Streets and Roads - Operations	This program includes on-going operations of the local streets and roads throughout the region					Yes
17-10-0024	Multi-County	Regional and Local Bridges - Exisiting Conditions	This program includes operations and maintenance of regional and local bridges. Golden Gate Bridge operations and maintenance is in a separate program (RTPID 17-10-0009)					Yes
17-10-0025	Multi-County	Regional State Highways - Existing Conditions	This program includes operations and maintenance of the state highways within the Bay Area. This program generally implements the SHOPP, which also includes minor mobility enhancements and management systems.					Yes
17-10-0026	Multi-County	Regional Transit Capital - Existing Conditions	This program includes capital maintenance and replacement funding for the region's transit operators. Types of projects in this category mostly include replacing vehicles and fixed-guideway assets like rail that have a direct impact on service. To a lesser extent, this program includes station upgrades and replacing other assets that do not directly affect revenue service.					Yes
17-10-0027	Multi-County	Regional Transit Operations	This program covers the costs to operate the Bay Area's existing transit service every year through the Plan horizon.					Yes
17-10-0028	Multi-County	Clipper	This program covers annual operating costs of Clipper as well as the upgrade of Clipper to Clipper 2.0.					Yes
17-10-0029	Multi-County	511 Traveler Information Program	This program covers the 511 program in the Bay Area. 511 includes a transit trip planner, real-time transit information, up-to-the minute traffic information, carpool and vanpool formation services and parking information.					Yes
17-10-0030	Multi-County	SAFE Freeway Patrol	This program covers MTC's Service Authority for Freeways and Expressways, or SAFE, program. MTC-SAFE manages the Bay Area's fleet of Freeway Service Patrol tow trucks and roadside call boxes.					Yes
17-10-0031	Multi-County	Regional Transportation Emergency Management Program	This program enhances first responders' capabilities to clear traffic incidents and respond to major emergencies through integrated corridor management.					
17-10-0032	Multi-County	Regional Rail Station Modernization and Access Improvements	This program includes station modernization and access improvements for rail station throughout the region.					Yes
17-10-0033	Multi-County	Bay Area Forward	This program includes a variety of operational and multimodal improvements, including: active traffic management - upgrades to all existing ramp meters to adaptive, implementing hard shoulder running lanes, contra-flow lanes, queue warning, and ramp modifications; arterial operations - implementation of traditional time-of-day signal timing coordination, adaptive traffic signal control systems, transit signal priority, real-time traffic monitoring devices, ped/bike detection, queue-jump lanes, etc; connected vehicles - pilot deployments of vehicle-to-infrastructure (V2I) strategies; Managed Lanes Implementation Plan - pilot express bus service for routes not currently served by operators; expands park-and-ride facilities throughout the region; and supports pilot deployment of shared-mobility solutions.	VARIES	VARIES	VARIES	Yes	Yes
17-10-0034	Multi-County	San Francisco-Oakland Bay Bridge West Span Bicycle, Pedestrian, and Maintenance Path - Environmental Only	This project continues environmental and design work on the proposed bicycle, pedestrian, and maintenance path on the west span of the Bay Bridge.					
17-10-0036	Multi-County	I-580 Access Improvements Project	Project converts the right shoulder of the Richmond-San Rafael Bridge to a third freeway lane from the Sir Francis Drake Blvd. on-ramp in Marin County to the Marine Street (Richmond Parkway/Point Richmond) exit in Contra Costa County. Project also constructs a path on the north side of I-580, including the upper deck of the Richmond-San Rafael Bridge, with concrete barriers to separate bicyclists and pedestrians from westbound freeway traffic.	Yes	Yes	Yes	Yes	Yes
17-10-0037	Multi-County	Highway 37 Improvements and Sea Level Rise Mitigation PSR	Prepare multi-county study, to PID standard, on improvements to SR 37 to accommodate future sea level rise and existing congestion					

RTPID	County/ Sponsor	Title	Description	Complete and Operational By: 2020	2030	2040	Included in the Model?	Referenced in the 2019 TIP
17-10-0038	TJPA	Caltrain/HSR Downtown San Francisco Extension	The Downtown Rail Extension (DTX) will extend Caltrain commuter rail from its current terminus at Fourth and King streets and deliver the California High-Speed Rail Authority's future high-speed service to the new Transit Center. The 1.95-mile rail extension will be constructed principally below grade underneath Townsend and Second streets. The design includes an underground station at Fourth and Townsend streets, utility relocations, rail systems work, and structures for emergency exit, ventilation at six locations along the alignment, and an underground pedestrian bridge connecting the Transbay Terminal to the Embarcadero BART station. Cost includes operating expenses - capital cost is $3.999 billion		Yes	Yes	Yes	Yes
17-10-0039	TJPA	Implement Transbay Transit Center/Caltrain Downtown Extension (Phase 1 - Transbay Transit Center)	The project has 3 components: (1) new Transbay Transit Center built on the site of the former Transbay Terminal in downtown San Francisco serving 11 transportation systems; (2) extension of Caltrain commuter rail service from its current San Francisco terminus at 4th & King Streets to a new underground terminus; and (3) establishment of a Redevelopment Area Plan with related development projects.	Yes	Yes	Yes	Yes	Yes
17-10-0040	WETA	North Bay Ferry Service Enhancement	Purchase and operate 2 new ferry vessels for WETA North Bay ferry services. Project increases frequency for the Richmond-SF and Vallejo-SF ferry lines.	Yes	Yes	Yes	Yes	
17-10-0041	WETA	Central Bay Ferry Service Enhancement	Purchase and operate 2 new ferry vessels for WETA Central Bay ferry services. Project increases frequency for the Oakland-Alameda-SF ferry line and the Harbor Bay-SF ferry line.	Yes	Yes	Yes	Yes	Yes
17-10-0042	WETA	Albany/Berkeley Ferry Terminal	Construct a new Berkeley/Albany ferry terminal, purchase 2 new ferry vessels, operate new ferry service between Berkeley/Albany and San Francisco.		Yes	Yes	Yes	Yes
17-10-0043	Multi-County	Regional Carpool Program	This program includes carpool outreach and promotion, supporting vanpools, positioning the program to rely on private sector ridematching apps, and other services. The Regional Carpool Program will support carpoolers during the launch of Bay Area Express Lanes, promote carpooling and vanpooling along high-priority congested travel corridors, and grow first/last mile carpool solutions to transit, consistent with its annual work plan. Includes MTC staff costs.					
17-10-0044	Multi-County	I-80 Express Lanes in both directions: Airbase Parkway to Red Top Road	Express Lanes on I-80 in Solano County from Red Top Road to Air Base Parkway - convert existing HOV lanes to express lanes		Yes	Yes	Yes	Yes
17-10-0045	Multi-County	I-80 Express Lanes: Westbound Bay Bridge Approaches	Express Lanes on the four westbound SFOBB bridge approaches: (1) I-80 direct connector from Powell Street to SFOBB metering lights (1.8 miles); (2) I-580 from I-80 junction to metering lights (1 mile); (3) I-880/880S direct connector from 14th Street to metering lights (1.5 miles); (4) West Grand Ave/I-880 direct connector to metering lights (0.7 miles) - convert existing HOV lanes to express lanes		Yes	Yes	Yes	
17-10-0047	Multi-County	I-680 Express Lanes: Northbound from Marina Vista to SR 242	Express Lanes on I-680 northbound from SR-242 to Marina Vista. Convert existing HOV lane to express lanes.		Yes	Yes	Yes	
17-10-0048	Multi-County	I-680 Express Lanes: Southbound from Marina Vista to Rudgear	Express Lanes on I-680 southbound from Marina Vista to Rudgear Rd. Convert existing and future SB HOV lane to express lane. Future SB HOV lane from North Main to Livorna/Rudgear is in RTPID 17-02-0022	Yes	Yes	Yes	Yes	
17-10-0049	Multi-County	I-680 Express Lanes in both directions: Livorna/Rudgear to Alcosta	Express lanes on I-680 in Contra Costa County from Alcosta Road to Livorna northbound and to Rudgear southbound - convert existing HOV lanes to express lanes		Yes	Yes	Yes	Yes
17-10-0050	Multi-County	SR-84 Express Lanes: Westbound from I-880 to Dumbarton Bridge Toll Plaza	Express Lanes on Route 84 westbound in Alameda County from I-880 through Dumbarton Bridge toll plaza - convert existing HOV lane to express lane	Yes	Yes	Yes	Yes	
17-10-0051	Multi-County	SR-92 Express Lanes: Westbound from Hesperian to San Mateo Bridge Toll Plaza	Express Lanes Route 92 WB in Alameda County from Hesperian Boulevard through San Mateo-Hayward Bridge toll plaza - convert existing HOV lane to express lane	Yes	Yes	Yes	Yes	
17-10-0052	Multi-County	I-880 Express Lanes in both directions: Hegenberger/Lewelling to SR-237	Express lane on I-880 in Alameda County from Lewelling Blvd to SR 237 Direct Connector in northbound direction, Hegenberger Rd to SR 237 Direct Connector in the southbound direction- convert existing HOV lanes to express lanes.	Yes	Yes	Yes	Yes	Yes
17-10-0053	Multi-County	I-80 Express Lanes in both directions: Carquinez Bridge to Bay Bridge	Express Lanes on westbound I-80 from Carquinez Bridge Toll Plaza to Powell St Direct Connector on eastbound I-80 from Powell St Direct Connector to Cummings Skyway. Add new express lane on eastbound I-80 from Cummings Skyway to Carquinez Bridge.		Yes	Yes	Yes	Yes
17-10-0054	Multi-County	MTC Express Lane Program Cost	Includes non-corridor activities such as centralized toll system activities, start-up program management, contingency and capitalized O&M.					Yes
17-10-0055	Multi-County	East and North Bay Express Lanes Operations and Maintenance	This program includes on-going operations and maintenance for the express lanes in the East and North Bay counties					
17-10-0056	Multi-County	East and North Bay Express Lanes Reserve	This program includes future revenue from express lanes in the East and North Bay counties					
17-10-0057	Multi-County	I-880 Express Lanes: Northbound from Hegenberger to Lewelling and bridge improvements	I-880 Northbound express lane from Lewelling Blvd to Hegenberger Rd. and reconstruct bridges at Davis Street and Marina Boulevard - widen to add an express lane and reconstruct bridges		Yes	Yes	Yes	Yes
17-10-0058	Multi-County	I-680 Express Lanes: Northbound from SR-84 to SR-237	Express lanes on I-680 in the northbound direction from SR-84 to SR-237 which involves constructing a new lane.		Yes	Yes	Yes	Yes
17-10-0059	Multi-County	I-80 Express Lanes in both directions: Airbase Parkway to I-505	I-80 Solano Express Lanes from Air Base to I-505-widen to add an express lane in each direction	Yes	Yes	Yes	Yes	

RTPID	County/ Sponsor	Title	Description	Complete and Operational By: 2020	2030	2040	Included in the Model?	Referenced in the 2019 TIP
17-10-0060	Multi-County	I-680 Express Lanes: Northbound from Rudgear to SR 242 and operational improvements	Widen I-680 for a new northbound express lane between N. Main Street and Route 242 and implement operational improvements on I-680 from Rudgear to N. Main. This project complements the NB HOV lane extension through the 680/24 interchange and from N. Main to SR 242 as well as operational improvements included in RTPIDs 17-02-0012 and 17-02-0013.		Yes	Yes	Yes	Yes
17-10-0061	Multi-County	I-680 Express Lanes: I-80 westbound to I-680 southbound and I-680 northbound to I-80 eastbound direct connectors	Express lanes on I-680/I-80 interchange in Solano County - widen to add express lane direct connectors I-80 westbound to I-680 southbound and I-680 northbound to I-80 eastbound. This complements the larger interchange project of RTPID 17-08-0009.		Yes	Yes	Yes	Yes
17-10-0062	Multi-County	East and North Bay Express Lanes - Environmental and Design Phases for Future Segments	This program includes environmental and design phases for future express lane segments in Alameda and Solano counties, including along I-80, I-680, and I-580					
17-10-0063	BART	BART Seismic Safety Augmentation	Alternatives analysis and design associated with the Berkeley Hills Tunnel plus design of the A-Line structural augmentation / improvement to operability standards.					
17-10-0064	BART	Hayward Maintenance Complex Phase 1	This project increases maintenance capacity as part of its Fleet of the Future program as well as to support increased service for the Berryessa Extension. This Phase I project involves constructing an outdoor storage area for maintenance and engineering materials and equipment, building track access to new maintenance facilities from the existing mainline, and improving access for BART maintenance operations.					Yes

Appendix C
Travel Modeling Report
(Plan Bay Area 2040: Final Supplemental Report)

TRAVEL MODELING REPORT

Plan BayArea 2040

FINAL SUPPLEMENTAL REPORT

Metropolitan Transportation Commission

Association of Bay Area Governments

JULY 2017

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Plan Bay Area 2040:
Final Travel Modeling Report

July 2017

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Executive Summary

This supplementary report presents selected technical results from the analysis of alternatives performed in support of the Metropolitan Transportation Commission's (MTC's) and the Association of Bay Area Governments' (ABAG's) Plan Bay Area 2040 environmental impact report (EIR). A brief overview of the technical methods used in the analysis, as well as a brief description of the key assumptions made for each alternative, precede the presentation of results.

Chapter 1: Analytical Tools

MTC uses an analytical tool known as a travel model (also known as a travel demand model or travel forecasting model) to first describe the reaction of travelers to transportation projects and policies and then to quantify the impact of cumulative individual decisions on the Bay Area's transportation networks and environment. MTC's travel model is briefly described below, along with two supporting tools: a population synthesizer and a vehicle emissions model.

Population Synthesizer

MTC's travel model is an agent-based simulation. The "agents" in our case are individual households, further described by the people who form each household. In this way, the travel model attempts to simulate the behavior of the individuals and the households who carry out their daily activities in a setting described by the input land development patterns and input transportation projects and policies. In order to use this type of simulation, each agent must be characterized in a fair amount of detail.

Software programs that create lists of households and persons for travel model simulations are known as population synthesizers. MTC's population synthesizer attempts to locate households described in the 2000 Decennial Census Public Micro-sample (PUMS) data (i.e., those who responded to the old "long forms" used by the Census Bureau to collect detailed household information) in such a way that when looking at the population along specific dimensions spatially (at a level of detail below which the PUMS data is reported), the aggregate sums more or less match those predicted by other Census summary tables (when synthesizing historical populations) or the land use projections made by our land use modeling tools/procedures (when forecasting populations). For example, if our land use tools project that 60 households containing 100 workers and 45 children will live in spatial unit X in the year 2035, the population synthesizer will locate 60 PUMS households in spatial unit X and will select households in such a way that, when summing across households, the number of workers is close to 100 and the number of children is close to 45.

MTC's population synthesizer "controls" (i.e., minimizes the discrepancy between the synthetic population results and the historical Census results or the land use forecasts) along the following dimensions:

1. Household "type", i.e. individual household unit or non-institutionalized group quarters (e.g., college dorm);
2. Household income category;
3. Age of the head of household;
4. Number of people in the household;
5. Number of children under age 17 in the household;
6. Number of employees in the household; and,
7. Number of units in the household's physical dwelling (one or more than one, as in an apartment building).

Travel Model

Travel models are frequently updated. As such, a bit of detail as to which version of a given travel model is used for a given analysis is useful. The current analysis uses MTC's *Travel Model One* (version 0.6),

released in July 2016, calibrated to year 2000 conditions and validated against year 2000, 2005, 2010 and 2015 conditions[1].

Travel Model One is of the so-called "activity-based" archetype. The model is a partial agent-based simulation in which the agents are the households and people who reside in the Bay Area. The simulation is partial because it does not include the simulation of individual behavior of passenger, commercial, and transit vehicles on roadways and transit facilities (though the model system does simulate the behavior of aggregations of vehicles and transit riders). In regional planning work, the travel model is used to simulate a typical weekday – when school is in session, the weather is pleasant, and no major accidents or incidents disrupt the transportation system.

The model system operates on a synthetic population that includes households and people representing each actual household and person in the nine-county Bay Area – in both historical and prospective years. Travelers move through a space segmented into "travel analysis zones"[2] and, in so doing, use the transportation system. The model system simulates a series of travel-related choices for each household and for each person within each household. These choices[3] are as follows (organized sequentially):

1. Usual workplace and school location – Each worker, student, and working student in the synthetic population selects a travel analysis zone in which to work or attend school (or, for working students, one zone to work and another in which to attend school).
2. Household automobile ownership – Each household, given its location and socio-demographics, as well as each member's work and/or school locations (i.e., given the preceding simulation results), decides how many vehicles to own.
3. Daily activity pattern – Each household chooses the daily activity pattern of each household member, the choices being (a) go to work or school, (b) leave the house, but not for work or school, or (c) stay at home.
4. Work/school tour[4] frequency and scheduling – Each worker, student, and working student decides how many round-trips they will make to work and/or school and then schedules a time to leave for, as well as return home from, work and/or school.
5. Joint non-mandatory[5] tour frequency, party size, participation, destination, and scheduling – Each household selects the number and type (e.g., to eat, to visit friends) of "joint" (defined as two or more members of the same household traveling together for the duration of the tour) non-mandatory (for purposes other than work or school) round trips in which to engage, then

[1] Additional information is available here: http://analytics.mtc.ca.gov/foswiki/Main/Development.
[2] An interactive map of these geographies is available here: http://analytics.mtc.ca.gov/foswiki/Main/TravelModelOneGeographies.
[3] These "choices", which often are not really choices at all (the term is part of travel model jargon), are simulated in a random utility framework – background information is available here: https://en.wikipedia.org/wiki/Choice_modelling.
[4] A "tour" is defined as a round trip from and back to either home or the workplace.
[5] Travel modeling practice use the term "mandatory" to describe work and school travel and "non-mandatory" to refer to other types of travel (e.g., to the grocery store); we use this jargon as well to communicate efficiently with others in our space. We neither assume nor believe that all non-work/school-related travel is non-mandatory or optional.

determines which members of the household will participate, where, and at what time the tour (i.e., the time leaving and the time returning home) will occur.

6. Non-mandatory tour frequency, destination, and scheduling – Each person determines the number and type of non-mandatory (e.g., to eat, to shop) round trips to engage in during the model day, where to engage in these tours, and at what time to leave and return home.
7. Tour travel mode – The tour-level travel mode choice (e.g., drive alone, walk, take transit) decision is simulated separately for each tour and represents the best mode of travel for the round trip.
8. Stop frequency and location – Each traveler or group of travelers (for joint travel) decide whether to make a stop on an outbound (from home) or inbound (to home) leg of a travel tour, and if a stop is to be made, where the stop is made, all given the round trip tour mode choice decision.
9. Trip travel model – A trip is a portion of a tour, either from the tour origin to the tour destination, the tour origin to a stop, a stop to another stop, or a stop to a tour destination. A separate mode choice decision is simulated for each trip; this decision is made with awareness of the prior tour mode choice decision.
10. Assignment – Vehicle trips for each synthetic traveler are aggregated into time-of-day-specific matrices (i.e., tables of trips segmented by origin and destination) that are assigned via the standard static user equilibrium procedures to the highway network. Transit trips are assigned to time-of-day-specific transit networks.

The *Travel Model One* system inherits without significant modification the representation of interregional and commercial vehicle travel from MTC's previous travel model system (commonly referred to as BAYCAST or BAYCAST-90). Specifically, commercial vehicle demand is represented using methods developed for Caltrans and Alameda County as part of the Interstate 880 Intermodal Corridor Study conducted in 1982 and the Quick Response Freight Manual developed by the United States Department of Transportation in 1996. When combined, these methods estimate four classes of commercial travel, specifically: "very small" trucks, which are two-axle/four-tire vehicles; "small" trucks, which are two-axle/six-tire vehicles; "medium" trucks, which are three-axle vehicles; and, "combination" trucks, which are truck/trailer combinations with four or more axles.

Reconciling travel demand with available transportation supply is particularly difficult near the boundaries of planning regions because little is assumed to be known (in deference to efficiency – the model must have boundaries) about the land development patterns – the primary driver of demand – or supply details beyond these boundaries. The typical approach to representing this interregional travel is to first estimate the demand at each location where a major transportation facility intersects the boundary and to then distribute this demand to locations either within the planning region (which results in so-called "internal/external" travel) or to other boundary locations ("external/external" travel). MTC uses this typical approach and informs the process with Census journey-to-work flows (from the 2000 Decennial Census, specifically), which are allocated via simple method to represent flows to and from MTC's travel analysis zones and 21 boundary locations, as well as the flows between boundary locations.

The travel of air passengers to and from the Bay Area's airports is represented with static (across alternatives), year-specific vehicle trip tables. These trip tables are based on air passenger survey data

collected in 2006 and planning information developed as part of MTC's Regional Airport Planning Study[6]. Similarly, the travel of high speed rail passengers to and from the Bay Area's expected high speed rail stations is represented with static (across alternatives), year-specific vehicle trip tables. The high speed rail demand estimates are derived from the California High Speed Rail Authority's 2016 Business Plan[7].

Vehicle Emissions Model

The MTC travel model generates spatially- and temporally-specific estimates of vehicle usage and speed for a typical weekday. This information is then input into an emissions model to estimate emitted criteria pollutants as well as emitted carbon dioxide (used as a proxy for all greenhouse gases). For the current analysis, MTC used the EMFAC 2014 version of the California Air Resources Board emissions factor software[8].

Chapter 2: Input Assumptions

In total, 12 scenarios were simulated. Selected results are presented and discussed in the remainder of the document. Four *categories* of scenarios are included, as follows: historical, no action, planned action, and alternative actions. Historical scenarios are labeled by their year and include Year 2005 and Year 2015. The no action alternative is referred to as "No Project"; No Project simulations were performed for a 2040 forecast year. The planned action is referred to as the "Proposed Plan" (often abbreviated as "Plan") alternative; Proposed Plan Simulations were performed for 2020, 2030, 2035, and 2040. Three separate alternative scenarios are included, and are labeled "Main Streets", "Big Cities", and "Environment, Equity, and Jobs" ("EEJ"). Year 2040 simulations were conducted for each of these alternatives. The various simulation years serve different purposes: historical years demonstrate the model's ability to adequately replicate reality[9] and provide the reader data for a familiar scenario; the California Air Resources Board established greenhouse gas targets for 2020 and 2035; the transportation plan, as guided by federal regulations, extends to 2040; and, air quality regulations require a 2030 simulation.

The above scenarios differ across four dimensions, namely: land use, roadway supply, transit supply, and prices. By land use, we mean the locations of households and jobs (of different types). Roadway supply is the physical network upon which automobiles, trucks, transit vehicles, bicycles, and pedestrians travel. Transit supply refers to the facilities upon which public transit vehicles travel (the roadway, along rail lines, ferry routes, and other dedicated infrastructure), as well as the stop locations, routes, and frequency of transit service. Prices include the monetary fees users are charged to board transit vehicles, cross bridges, operate and park private vehicles, and use express (also known as high occupancy toll) lanes.

In the remainder of this chapter, each of the six scenarios (the rows in Table 1) are discussed, organized by the above four dimensions; additional notes on "other assumptions" concludes the section. This organization should allow the reader to compare the input assumptions across scenarios.

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[6] Additional information is available here: http://mtc.ca.gov/our-work/plans-projects/economic-vitality/regional-airport-plan.

[7] Additional information is available here: http://hsr.ca.gov/docs/about/business_plans/2016_BusinessPlan.pdf.

[8] Additional information is available here: http://www.arb.ca.gov/msei/msei.htm.

[9] Details of this "validation" process are available here: http://analytics.mtc.ca.gov/foswiki/Main/Development.

Table 1: Simulations by Year and Alternative

Alternative	*Simulation Year*					
	2005	*2015*	*2020*	*2030*	*2035*	*2040*
Historical	✓	✓				
No Project			✓		✓	✓
Proposed Plan			✓	✓	✓	✓
Main Streets			✓		✓	✓
Big Cities			✓		✓	✓
Environment, Equity, and Jobs			✓		✓	✓

Land Use

Additional information regarding the land development patterns is available in the companion supplementary report, *Summary of Predicted Land Use Responses*. Here, we provide a handful of details regarding the transformation of these land use inputs into the information needed by the travel model.

Prior to executing the travel model, the land development inputs provided by ABAG (control totals) and the UrbanSim model (distribution details) are run through the MTC population synthesizer as described above. The journey from control totals through UrbanSim and through the population synthesizer introduces very minor inconsistencies between the ABAG-estimated regional control totals, which are carried through UrbanSim, and the totals implied by the synthetic population. These inconsistencies are presented in Table 2.

Table 2: Demographic Statistics of Control and Simulated Populations

Alternative	*Year*	*Households*				*Population*		
		ABAG Results		*Synthetic Population*	*Percent Difference*†	*ABAG Results*	*Synthetic Population*	*Percent Difference*
		Households	*Group Quarters*					
Historical	2015	2,760,000	133,000	2,875,000	-0.6%	7,571,000	7,571,000	0.0%
No Project	2040	3,427,000	176,000	3,579,000	-0.7%	9,628,000	9,567,000	-0.6%
Proposed Plan	2040	3,427,000	176,000	3,579,000	-0.7%	9,628,000	9,561,000	-0.7%
Main Streets	2040	3,427,000	176,000	3,579,000	-0.7%	9,628,000	9,563,000	-0.7%
Big Cities	2040	3,427,000	176,000	3,579,000	-0.7%	9,628,000	9,554,000	-0.8%
EEJ	2040	3,427,000	176,000	3,579,000	-0.7%	9,628,000	9,559,000	-0.7%

† – Individuals living in group quarters are considered individual households in the synthetic population and, subsequently, the travel model.

A key function of the population synthesizer is to identify each member of the representative populous with one of eight "person type" labels. Each person in the synthetic population is identified as a full-time worker, part-time worker, college student, non-working adult, retired person, driving-age student, non-driving-age student, or child too young for school. The travel model relies on these person type classifications, along with myriad other variables, to predict behavior.

Figure 1 shows the distribution of person types for the historical scenarios and the Proposed Plan alternative, from years 2005 to 2040. Interesting aspects of these distributions, which are driven by assumptions embedded in ABAG's regional forecast, are as follows:

- The share of full-time workers peaks in 2015;
- The share of retired workers steadily increases from 2005 to 2040; and,
- The person type shares are effectively identical.

Figure 2 shows the distribution of person types across the five forecast year alternatives for year 2040.

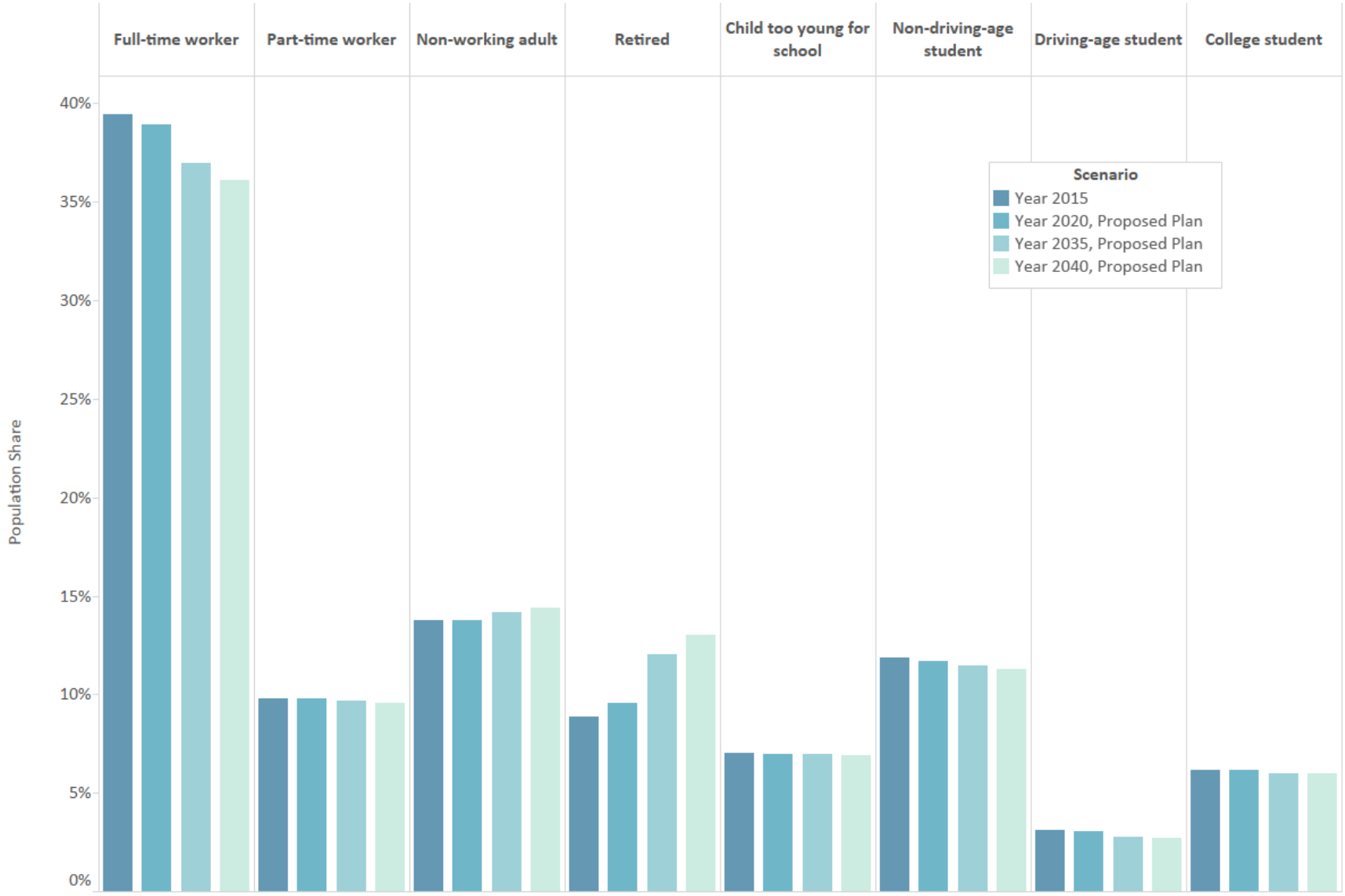

Figure 1: Historical and Forecasted Person Type Distributions for Proposed Plan Alternative

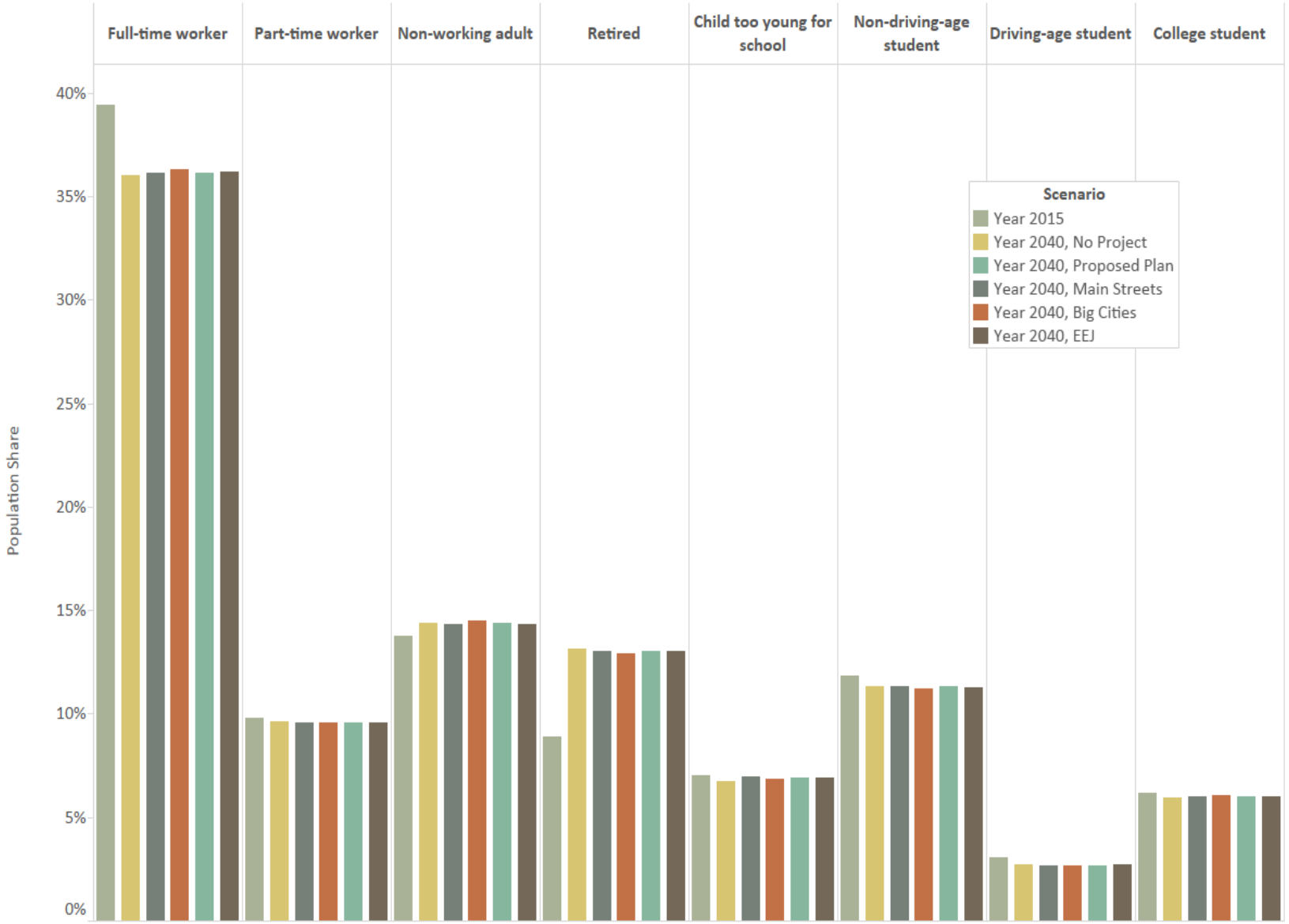

Figure 2: Year 2040 Person Type Distributions

Roadway Supply

The historical scenarios for 2005 and 2015 have a representation of roadways that reflect infrastructure that was in place in 2005 and 2015.

The No Project alternative includes projects that are either in place in 2016 or are "committed" per MTC policy. The Proposed Plan alternative includes the roadway projects included in the transportation investment strategy, which is discussed in detail elsewhere.

The Main Streets and Big Cities alternative roadway projects were detailed to MTC's Planning Committee in May 2016[10].

The Environment, Equity, and Jobs alternative starts with the No Project alternative roadway network and then adds the Proposed Plan alternative's bus rapid transit (BRT) infrastructure and the Columbus Day Initiative intelligent transportation systems scheme. No other uncommitted roadway projects are included in the EEJ alternative.

A graphical depiction of the changes in the roadway network is presented in Figure 3 below. The chart shows the change in lane-miles (e.g., a one-mile segment of a four-lane road is four lane-miles) available to automobiles in year 2040 relative to year 2015. San Francisco County shows a decrease in lane-miles, s some roadway segments are converted to dedicated bus ways. Figure 4 shows the change in lane-miles over time for the Proposed Plan alternative.

[10] For additional details, please see https://mtc.legistar.com/View.ashx?M=F&ID=4446887&GUID=31890CF7-8A5A-4A54-BA45-4466DEF7831B.

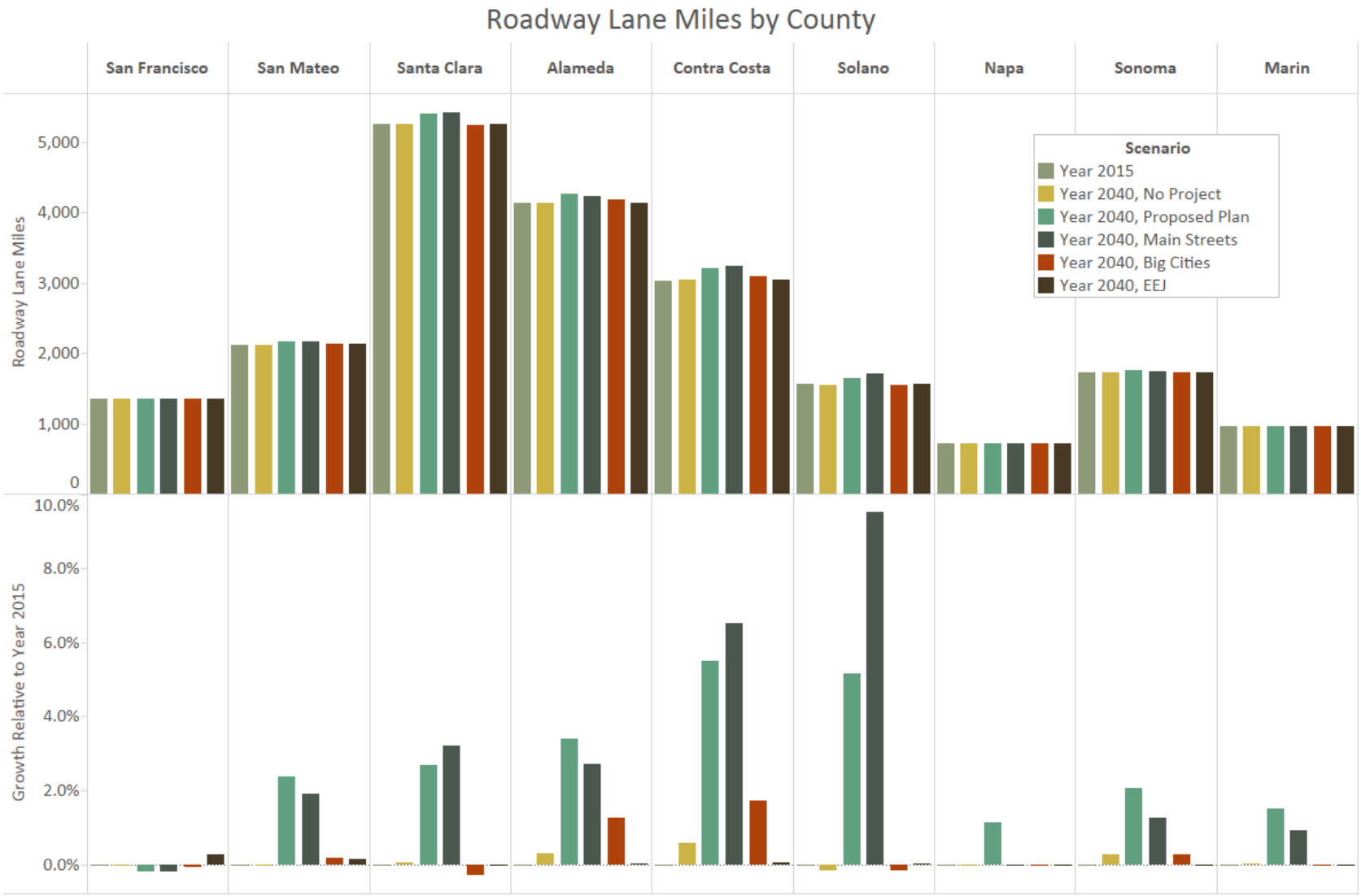

Figure 3: Year 2040 Growth in Roadway Lane Miles Available to Automobiles Relative to 2015

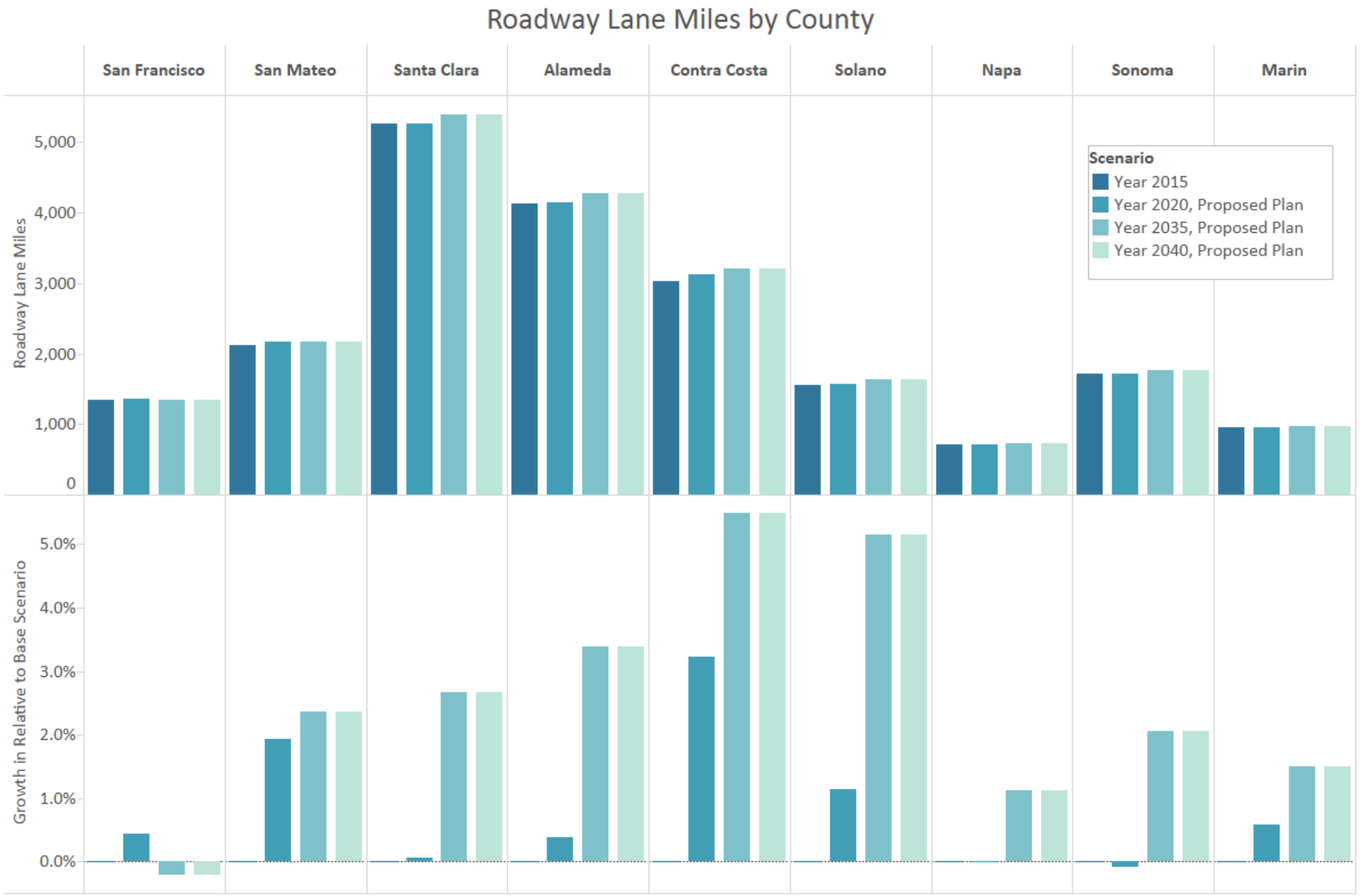

Figure 4: Growth in Roadway Lane Miles Available to Automobiles for Proposed Plan Alternative

Transit Supply

The historical scenarios for 2005 and 2015 reflect service in these years.

The No Project alternative begins with 2015 service levels and adds projects that are committed per MTC policy. The Proposed Plan alternative begins with 2015 service levels and adds both the committed projects as well as those included in the transportation investment strategy.

The Main Streets and Big Cities alternative transit projects were detailed to MTC's Planning Committee in May 2016[11].

The Environment, Equity and Jobs alternative begins with the Proposed Plan transit network and increases transit service frequency in some suburban areas.

A graphical depiction of these changes in transit service is presented in Figure 5 below. The chart shows the change in seat-miles (e.g., a one-mile segment of a bus with 40 seats is 40 seat-miles) in year 2040 compared to year 2015 across alternatives. Figure 6 shows the change in seat-miles over time for the Proposed Plan Alternative.

[11] Ibid.

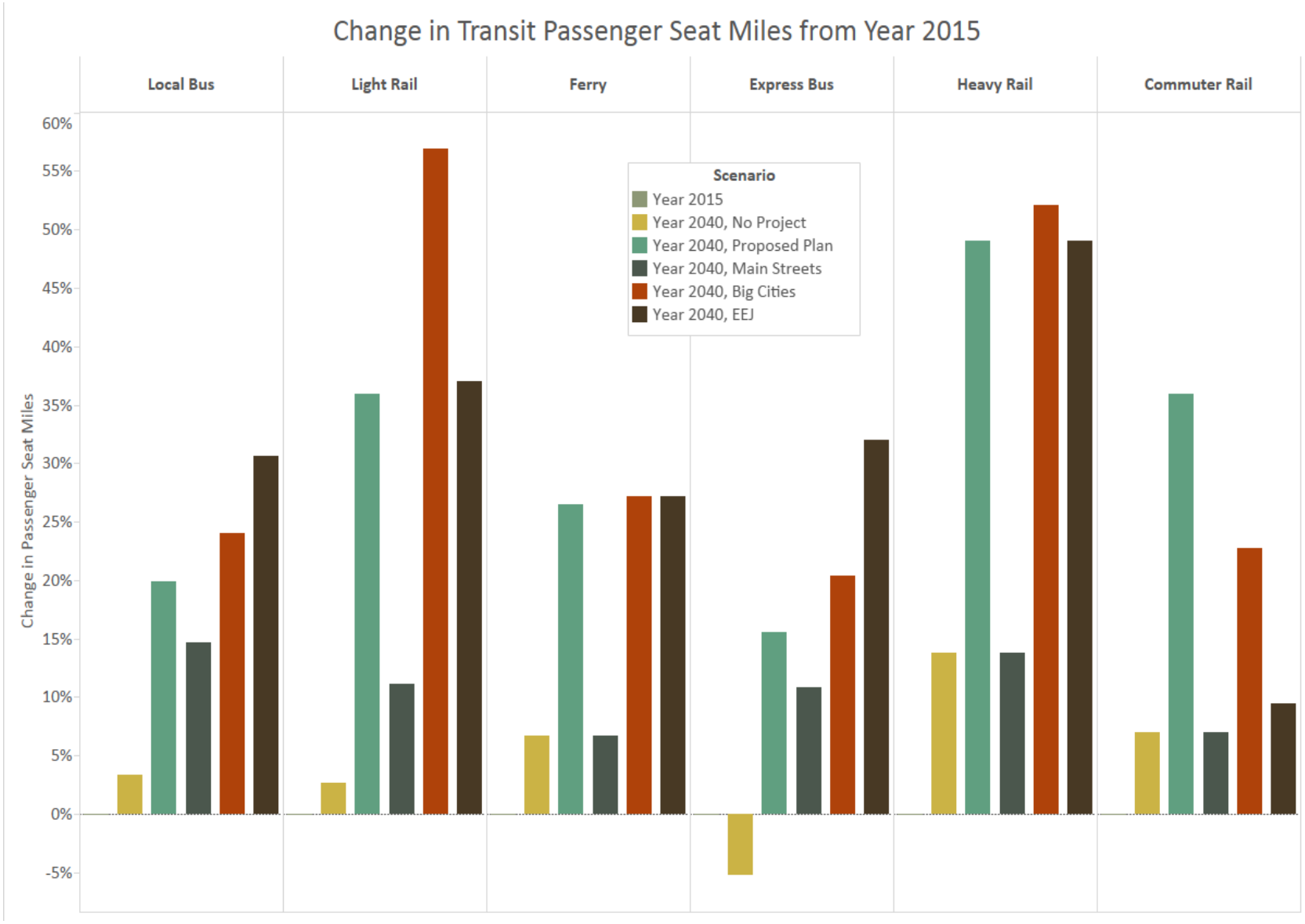

Figure 5: Year 2040 Growth in Transit Passenger Seat Miles from 2015

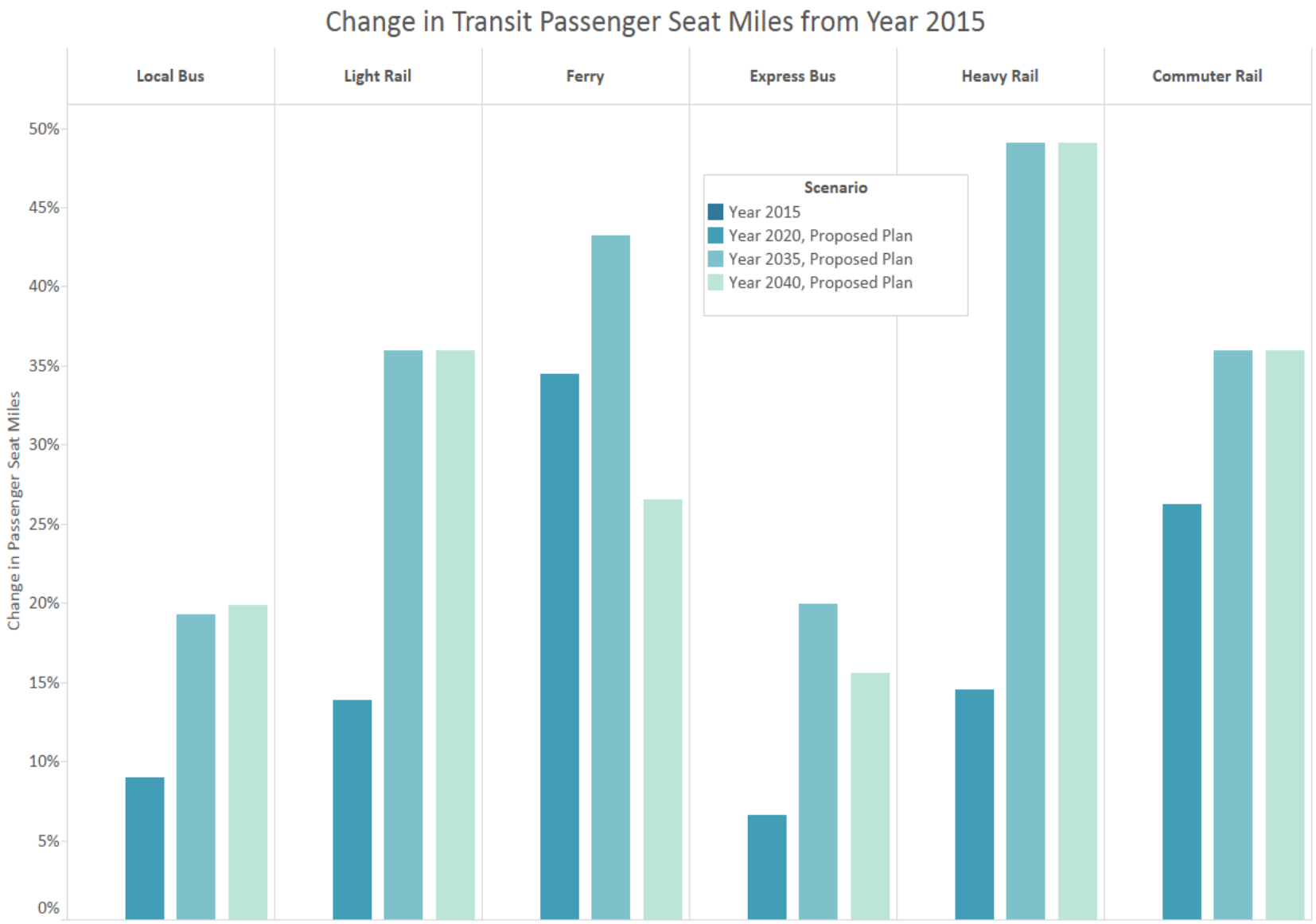

Figure 6: Year 2040 Growth in Transit Passenger Seat Miles from 2015 for Proposed Plan

Prices

The travel model system includes probabilistic models in which travelers select the best travel mode (e.g., automobile, transit, bicycle, etc.) for each of their daily tours (round trips) and trips. One consideration of this choice is the trade-off between saving time and saving money. For example, a traveler may have two realistic options for traveling to work: (i) driving, which would take 40 minutes (round trip) and cost $10 for parking; or, (ii) taking transit, which would take 90 minutes (round trip) and cost $4 in bus fare ($2 each way). The mode choice model structure, as estimated in the early 2000s, includes coefficients that dictate how different travelers in different contexts make decisions regarding saving time versus saving money. These model coefficients value time in units consistent with year 2000 dollars, i.e. the model itself – not an exogenous input to the model – values time relative to costs in year 2000 dollars. Because re-estimating model coefficients is "expensive" (in terms of staff time and/or consultant resources), it is done infrequently, which, in effect, "locks in" the dollar year in which prices are input to the travel model. To use the model's coefficients properly, all prices must be input in year 2000 dollars. In the remainder of this document, prices are presented both in (close to) current year dollars, to give the reader an intuitive sense as to the scale of the input prices, as well as year 2000 dollars, which are the units required by the model coefficients.

Six different types of prices are explicitly represented in the travel model: (i) bridge tolls; (ii) express lane tolls; (iii) transit fares; (iv) parking fees; (v) perceived automobile operating cost and gas taxes; and (vi) cordon tolls. A brief discussion on how the model determines each synthetic traveler's value of time is presented next, after which the input assumptions across each of these price categories are presented.

Value of Time

The model coefficients that link the value of time with the other components of decision utilities remain constant between the baseline and forecast years, with the one exception of the coefficients on travel cost. These coefficients are a function of each synthetic individual's value of time, a number drawn, in both the historical and forecast year simulations, from one of four log-normal distributions (see Figure 7). The means of these distributions are a function of each traveler's household income. The value of time for children in a household is equal to two-thirds that of an adult. The means and shapes of these distributions remain constant across forecast years and scenarios.

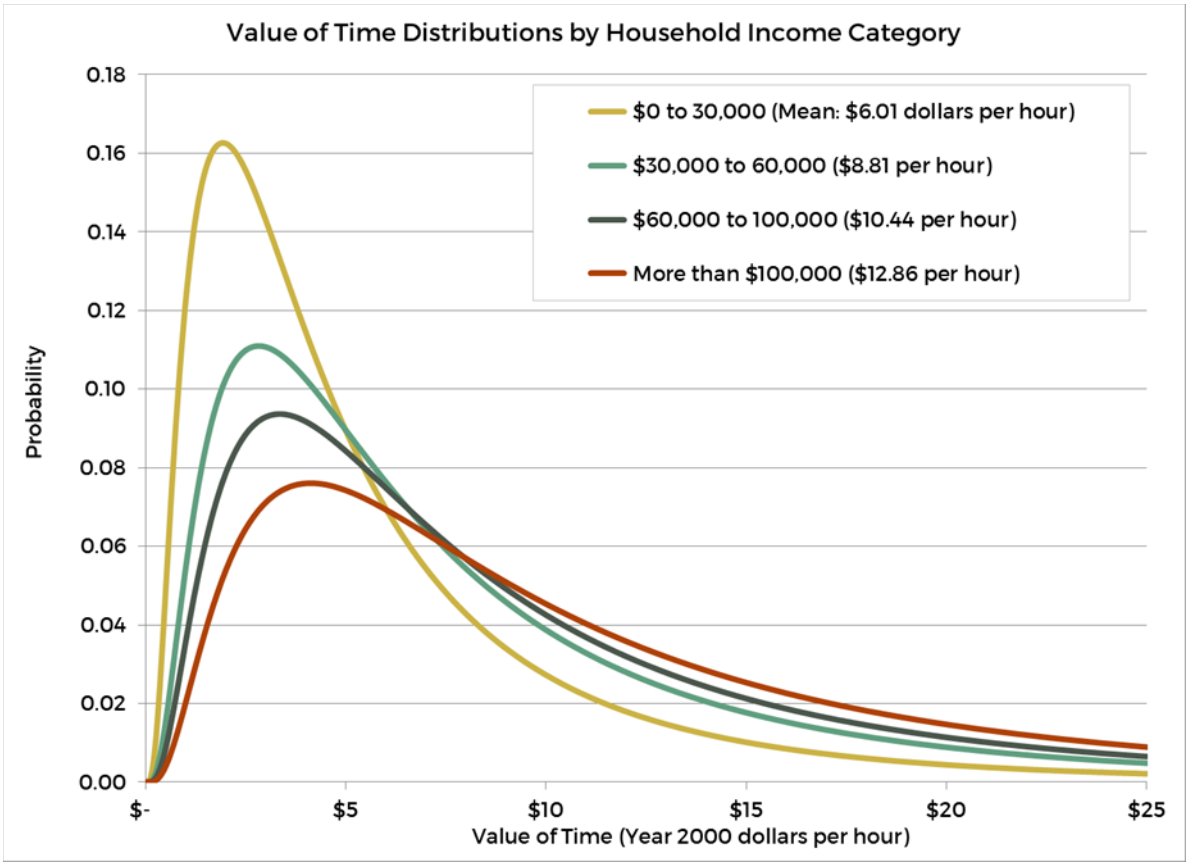

Figure 7: Value of Time Distribution by Household Income

Bridge Tolls

The bridge tolls assumed in the year 2015 baseline scenario are shown below in Table 3. Please note that Table 3 includes the price of tolls in year 2015 expressed in both year 2000 and year 2015 dollars.

The No Project alternative assumes the toll schedule in place as of July 1, 2012[12]. This schedule is consistent with the year 2015 tolls presented in Table 3.

The bridge tolls assumed in the Proposed Plan, Main Streets, Big Cities and Equity, Environment, and Jobs alternatives are summarized in Table 4. Again, the price of tolls in year 2040 are expressed in year 2000 and year 2015 dollars.

[12] Complete details are available here: http://bata.mtc.ca.gov/getting-around#/.

Table 3: Year 2015 Common Peak Period Bridge Tolls†

Bridge	*2-axle, single occupant toll*		*2-axle, carpool* toll*	
	$2000	*$2015*	*$2000*	*$2015*
San Francisco/Oakland Bay Bridge	$4.82	$6.00	$2.01	$2.50
Antioch Bridge	$4.02	$5.00	$2.01	$2.50
Benicia/Martinez Bridge	$4.02	$5.00	$2.01	$2.50
Carquinez Bridge	$4.02	$5.00	$2.01	$2.50
Dumbarton Bridge	$4.02	$5.00	$2.01	$2.50
Richmond/San Rafael Bridge	$4.02	$5.00	$2.01	$2.50
San Mateo Bridge	$4.02	$5.00	$2.01	$2.50
Golden Gate Bridge	$4.02	$5.00	$2.41	$3.00

† – The full toll schedule includes off-peak tolls and tolls for 3- or more axle vehicles.
* – Carpools are defined as either two-or-more- or three-or-more-occupant vehicles, depending on the bridge, and only receive a discount during the morning and evening commute periods (source: bata.mtc.ca.gov; goldengatebridge.org).

Table 4: Common Peak Period Bridge Tolls for Proposed Plan, Main Streets, Big Cities, and EEJ Alternatives†

Bridge	*2-axle, single occupant toll*		*2-axle, carpool* toll*	
	$2000	*$2015*	*$2000*	*$2015*
San Francisco/Oakland Bay Bridge	$5.72	$8.00	$2.86	$4.00
Antioch Bridge	$5.01	$7.00	$2.50	$3.50
Benicia/Martinez Bridge	$5.01	$7.00	$2.50	$3.50
Carquinez Bridge	$5.01	$7.00	$2.50	$3.50
Dumbarton Bridge	$5.01	$7.00	$2.50	$3.50
Richmond/San Rafael Bridge	$5.01	$7.00	$2.50	$3.50
San Mateo Bridge	$5.01	$7.00	$2.50	$3.50
Golden Gate Bridge	$4.47	$6.25	$3.04	$4.25

† – The full toll schedule includes off-peak tolls and tolls for 3- or more axle vehicles.
* – Carpools are defined as either two-or-more- or three-or-more-occupant vehicles, depending on the bridge, and only receive a discount during the morning and evening commute periods (source: bata.mtc.ca.gov; goldengatebridge.org).

Express Lane Tolls

MTC's travel model explicitly represents the choice of travelers to pay a toll to use an express lane (i.e., a high-occupancy toll lane) in exchange for the time savings offered by the facility relative to the parallel free lanes. To exploit this functionality, the analyst must assign a travel price by time of day and vehicle class on each express lane link in the network. To efficiently and transparently simulate the impacts of the express lanes on behavior, we segment the express lane network in the scenarios into logical segments, with each segment receiving a time-of-day-specific per mile fee. To illustrate the detail involved in this coding, Figure 8, Figure 9, Figure 10, and Figure 11 (abstractly) present the morning commute period price for the year 2040 simulations. Please note that the simulated prices are not perfectly optimal – meaning, MTC did not analyze each corridor iteratively to find the price that maximized a pre-defined operational goal. Rather, the prices are adjusted a handful of times in an attempt to keep congestion low and utilization high. Importantly, the prices are held constant over four-hour morning (6 to 10 am) and evening (4 to 7 pm) commute periods. MTC's travel model assumes that congestion is uniform over the entire four-hour commute periods. We know this is not true, but make this assumption as a simplification. The peak one-hour within the four-hour commute period would require a higher toll than those simulated in the model.

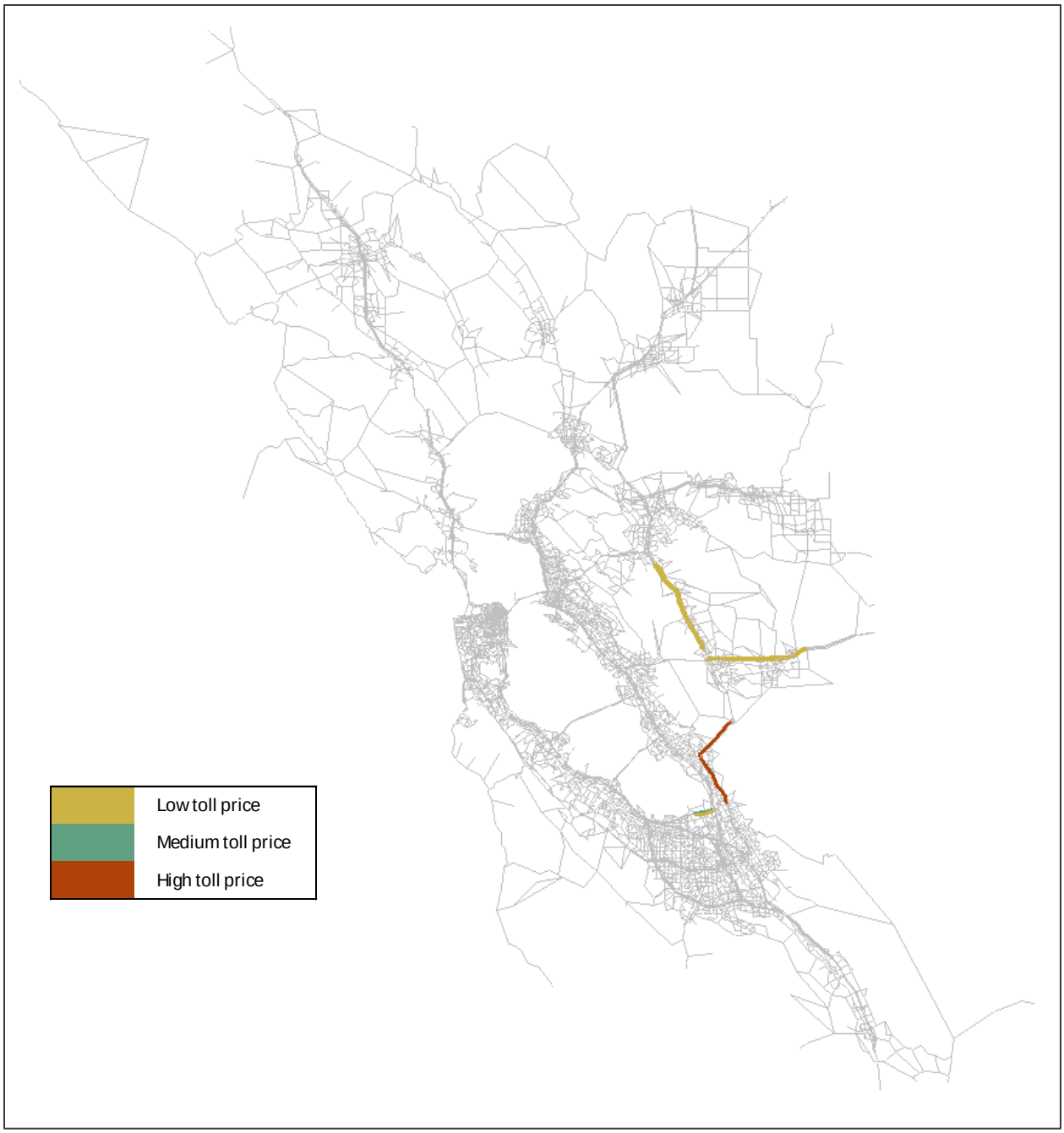

Figure 8: Morning Commute Express Lane Prices for No Project

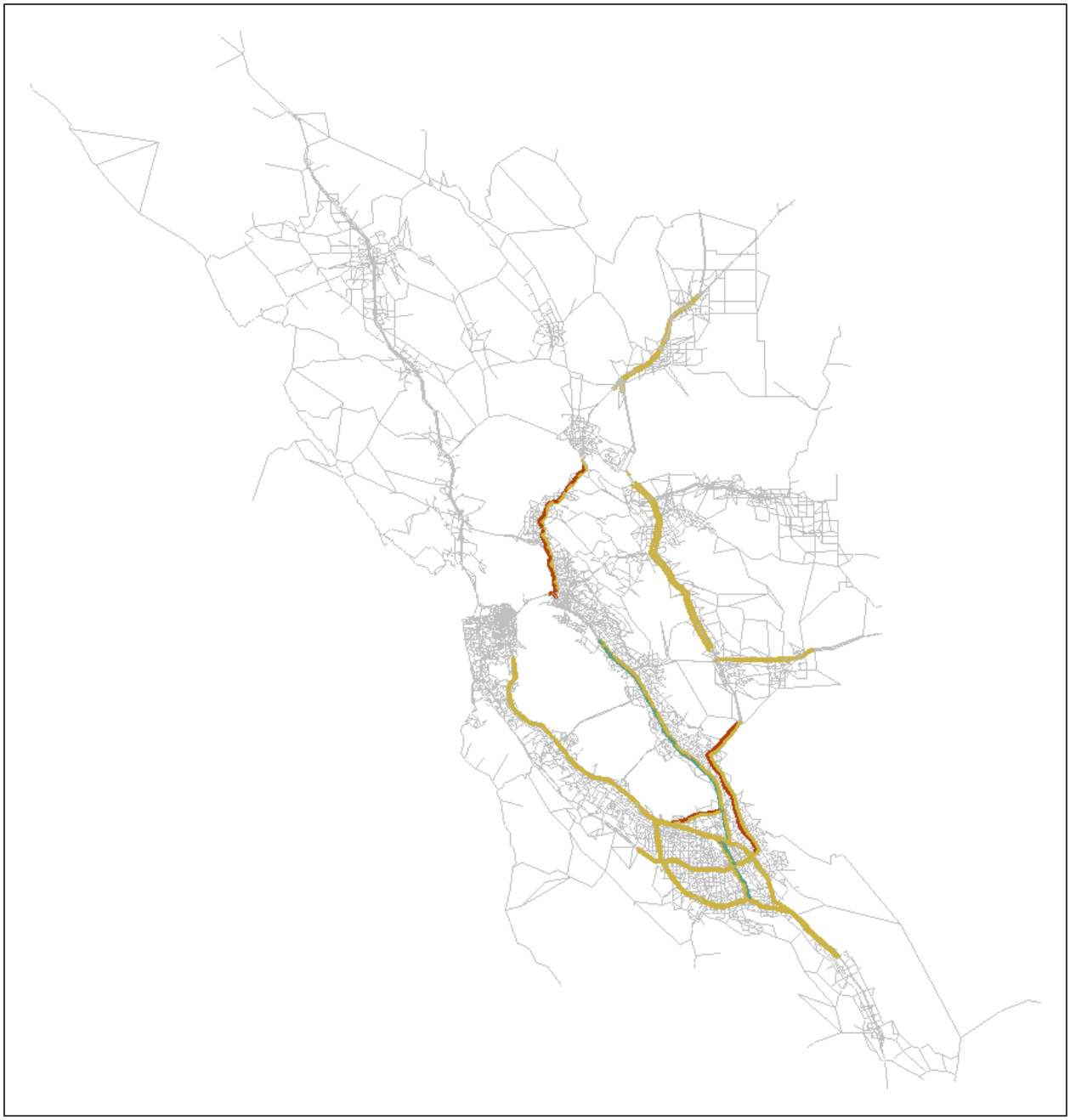

Figure 9: Morning Commute Express Lane Prices for Proposed Plan Alternative

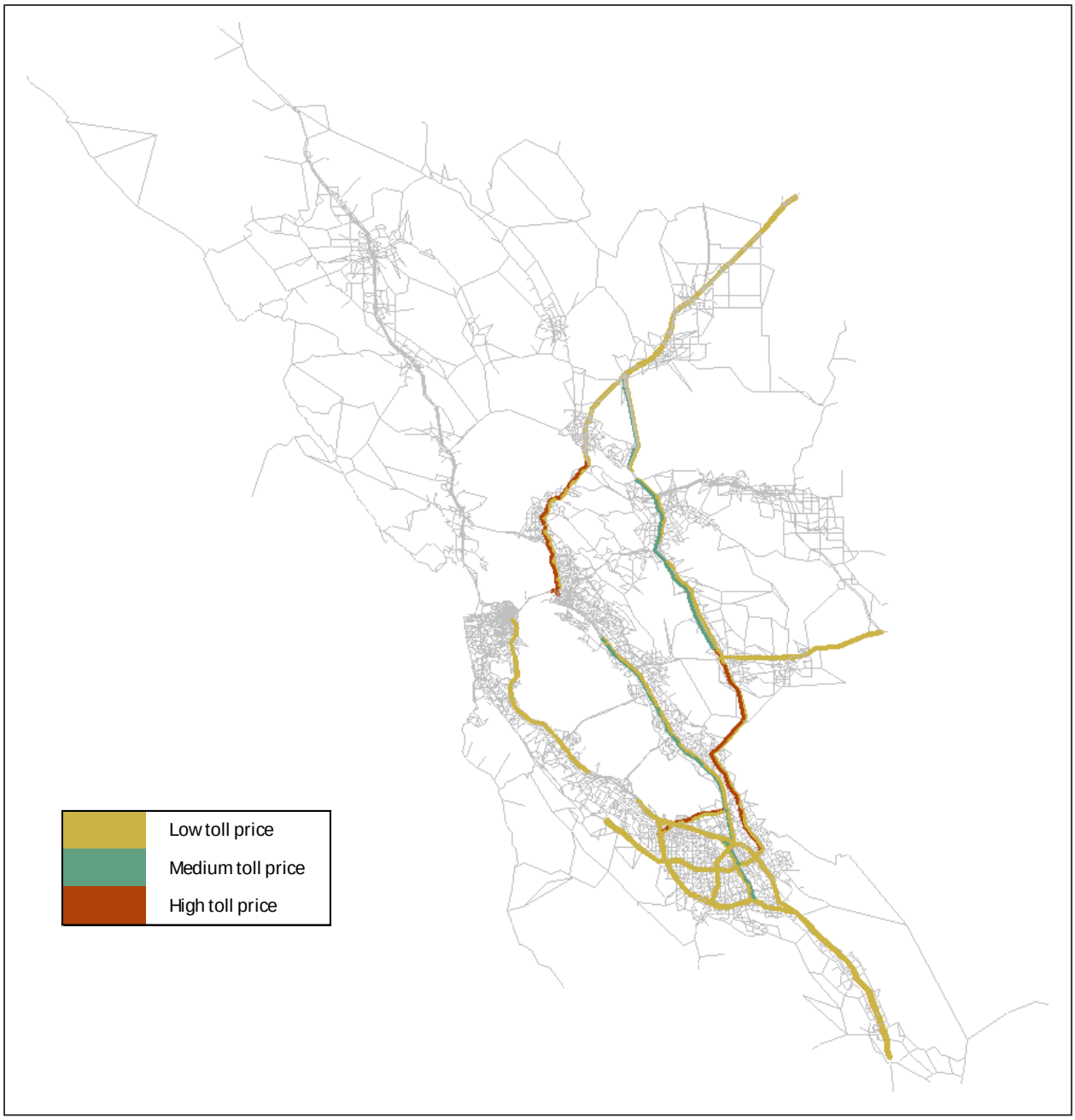

Figure 10: Morning Commute Express Lane Prices for Main Streets Alternative

Figure 11: Morning Commute Express Lane Prices for Big Cities and EEJ Alternatives

Transit Fares

The forecast year transit networks pivot off a year 2015 baseline network, i.e. the alternatives begin with 2015 conditions and add/remove service to represent the various alternatives. The transit fares in 2015 are assumed to remain constant (in real terms) in all of the forecast years. We are therefore explicitly assuming that transit fares will keep pace with inflation and that transit fares will be as expensive in the forecast year as they are today, relative to parking prices, bridge tolls, etc. As a simplification, we assume travelers pay the cash fare to ride each transit service. Table 5 includes fare prices in year 2015 expressed in both year 2000 and year 2015 dollars (i.e., the table does not include information about the cost of taking transit in the year 2000).

Table 5: Year 2015 Common Transit Fares

Operator	*Base fare*	
	$2000	*$2015*
San Francisco Municipal Transportation Agency (Muni)	$1.57	$2.25
Alameda/Contra Costa Transit (AC Transit) – Local buses	$1.47	$2.10
Santa Clara Valley Transportation Authority (VTA) – Local buses	$1.40	$2.00
Santa Clara Valley Transportation Authority (VTA) – Express buses	$2.80	$4.00
San Mateo County Transit (SamTrans) – Local buses	$1.40	$2.00
Golden Gate Transit – Marin County to San Francisco Service	$3.67	$5.25
County Connection (CCCTA)	$1.40	$2.00
Tri-Delta Transit	$1.40	$2.00
Livermore Amador Valley Transit Authority (Wheels, LAVTA)	$1.40	$2.00
Note: this is a sample, rather than an exhaustive list, of Bay Area transit providers and fares.		

Parking Prices

The travel model segments space into travel analysis zones (TAZs). Simulated travelers move between TAZs and, in so doing, burden the transportation network. Parking costs are applied at the TAZ-level: travelers going to zone X in an automobile must pay the parking cost assumed for zone X.

The travel model uses hourly parking rates for daily/long-term (those going to work or school) and hourly/short-term parkers. The long-term hourly rate for daily parkers represents the advertised monthly parking rate, averaged for all lots in a given TAZ, scaled by 22 days per month, then scaled by 8

hours per day; the short-term hourly rate is the advertised hourly rate – generally higher than the rate daily parkers pay – averaged for all lots in a given TAZ. Priced parking in the Bay Area generally occurs in greater downtown San Francisco, downtown Oakland, Berkeley, downtown San Jose, and Palo Alto.

When forecasting, we assume that parking prices change over time per a simple model: parking cost increases linearly with employment density. Across the scenarios, therefore, the parking charges vary with employment density.

Perceived Automobile Operating Cost and Gas Tax

When deciding between traveling in a private automobile or on a transit vehicle (or by walking, bicycling, etc.), MTC assumes travelers consider the cost of operating and maintaining, but not owning and insuring, their automobiles. The following three inputs are used to determine the perceived automobile operating cost: average fuel price, average fleet-wide fuel economy, and non-fuel related operating and maintenance costs.

In an effort to improve consistency among regional planning efforts across the state, the Regional Targets Advisory Committee (formed per Senate Bill 375) recommended that California's metropolitan planning organizations (MPOs) use consistent assumptions for fuel price and for the computation of automobile operating cost in long range planning. Using forecasts generated by the United States Department of Energy (DOE) in the summer of 2013 (and expressed in year 2010 dollars), the MPOs agreed[13] to procedures to consistently estimate forecast year fuel and non-fuel-related prices. The average fleet-wide fuel economy implied by the EMFAC 2014 software is used to represent the average fleet-wide fuel economy. A summary of our assumptions are presented below in Table 6. Note that the prices in Table 6 are presented in year 2015 (i.e., current year) dollars, year 2010 dollars (the units used in the above referenced documentation), and year 2000 dollars (units of the travel model).

In all of the year 2040 scenarios save the No Project, a regional gas tax of 10 cents per gallon ($2015 dollars) is assumed.

[13] Please see the memorandum titled "Automobile Operating Cost for the Second Round of Sustainable Communities Strategies" dated October 13, 2014.

Table 6: Perceived Automobile Operating Cost Calculations

Measure	*Analysis Year* 2010	2040
Average fuel price (Year 2000 dollars per gallon)	$2.51	$4.21
Average fuel price (Year 2010 dollars per gallon)	$3.17	$5.26
Average fuel price (Year 2015 dollars per gallon)	$3.61	$6.06
EMFAC-implied fuel economy (miles per gallon)	20.10	42.36
Non-fuel-related operating cost ($2000 per mile)	$0.04	$0.07
Non-fuel-related operating cost ($2010 per mile)	$0.05	$0.09
Non-fuel-related operating cost ($2015 per mile)	$0.06	$0.10
Perceived automobile operating cost ($2000 per mile) †	$0.17	$0.17
Perceived automobile operating cost ($2010 per mile) †	$0.21	$0.22
Perceived automobile operating cost ($2015 per mile) †	$0.24	$0.24

† – Sum of the fuel-related operating cost (fuel price divided by fuel economy) and non-fuel-related operating cost.

Cordon Tolls

The Proposed Plan, Big Cities and EEJ scenarios include a cordon toll in San Francisco. The scheme requires all vehicles to pay a $6 (in 2015 dollars) fee to enter or leave the greater downtown San Francisco area during the evening commute period. The cordoned area is bounded by Laguna Street to the west, 18th Street to the south, and the San Francisco Bay to the north and east.

Other Key Assumptions

Technology currently allows large numbers of Bay Area residents to work at home. In the forecast years, MTC assumes the trend of workers working at home revealed in Census data from 1980 through 2014 will continue through 2040. Figure 12 presents the historical data, the trend, and the MTC forecasts. These telecommuting assumptions are the same across all year 2040 scenarios, including the No Project.

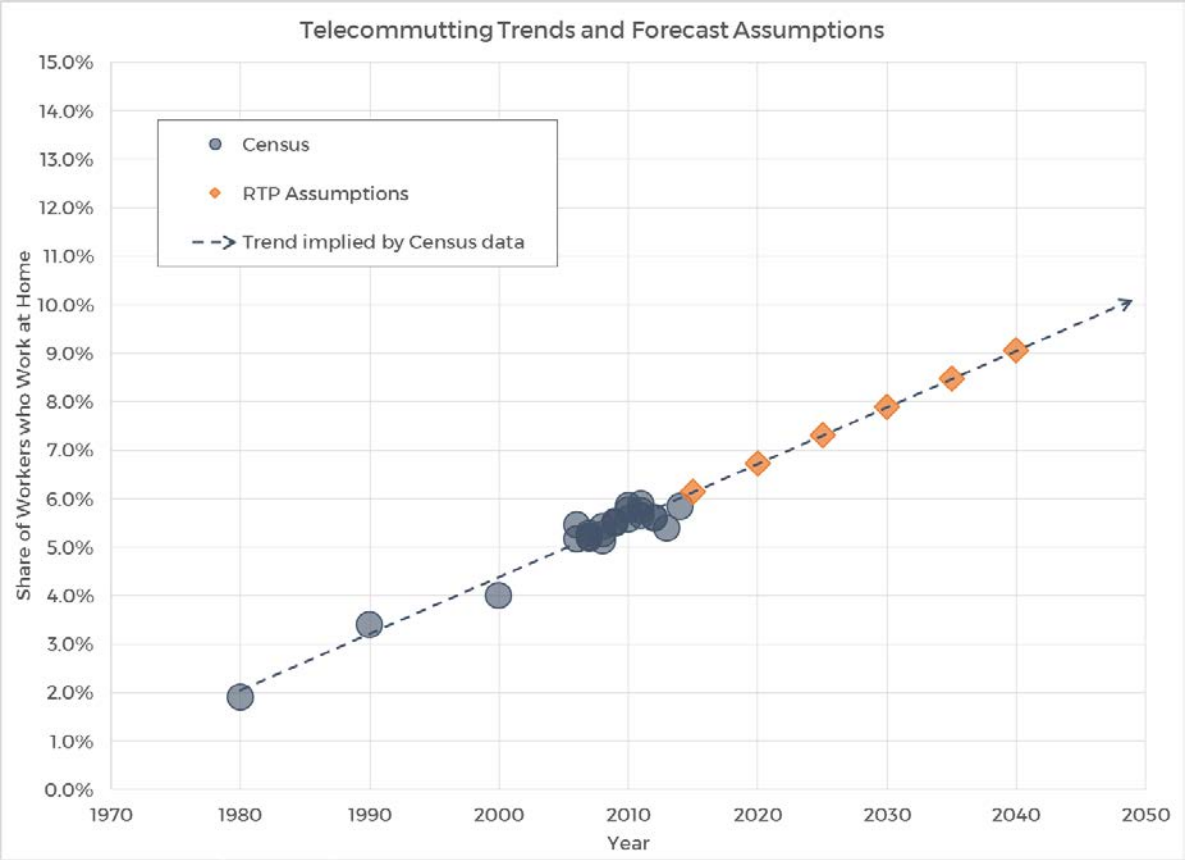

Figure 12: Work at Home Observations, Trends and Forecasts

Chapter 3: Key Results

Selected travel model results across a variety of dimensions are summarized and discussed here. The presented results are not exhaustive and are intended only to give the reader a general sense of the expected behavioral changes in response to differing input assumptions across scenarios.

Performance Targets and Equity Analysis

The purpose of this document is to describe the response of travelers to the projects and policies implemented in the scenarios described in the previous section. Information from the travel model is also used to help assess the performance of each of the scenarios per agency-adopted targets. This information is described in MTC's May 2016 Planning Committee memorandum[14].

Information from the travel model also is used to analyze how different populations are impacted by the investments and policies included in each alternative. This information is described in MTC's May 2016 Planning Committee memorandum[15].

[14] Available here: http://mtc.legistar.com/gateway.aspx?M=F&ID=a78d1547-7db3-4dd2-afdb-2d14fe3aec71.pdf
[15] Ibid.

Automobile Ownership

Figure 13 presents the automobile ownership rates across the four scenarios in the year 2040 simulations as well as year 2015. The differences across scenarios are not dramatic. A key finding is the general increase in zero automobile households in the Proposed Plan, Big Cities and EEJ scenarios.

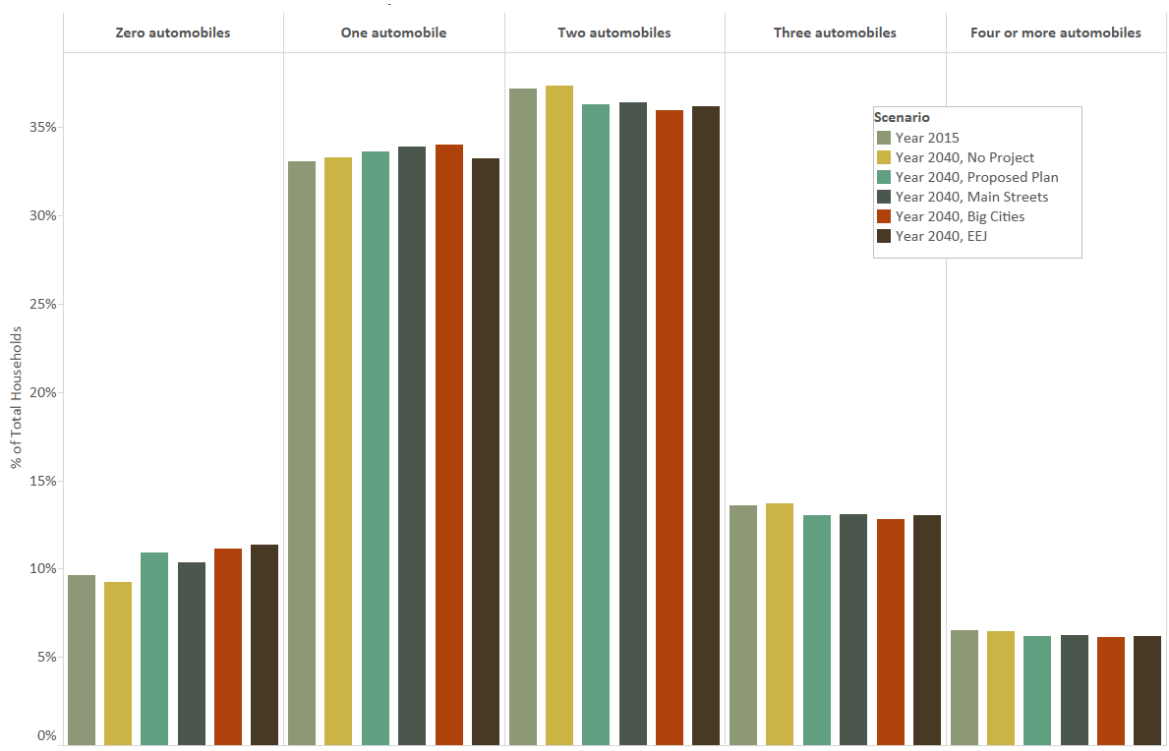

Figure 13: Year 2040 Automobile Ownership Results

Activity Location Decisions

Figure 14 and Figure 15 present the average trip distance by travel mode for all travel and for trips on work tours, respectively. The key finding here is that the Big Cities scenario brings activities slightly closer together, when compared to the 2015 baseline.

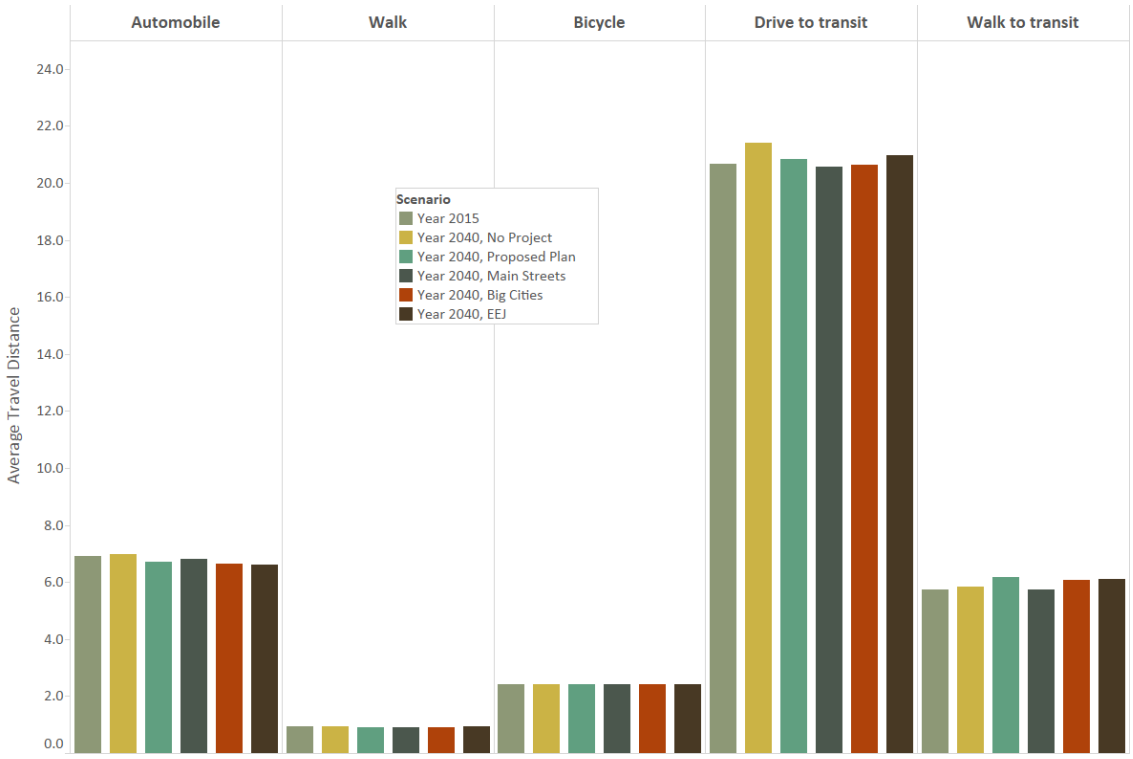

Figure 14: Year 2040 Average Trip Distance

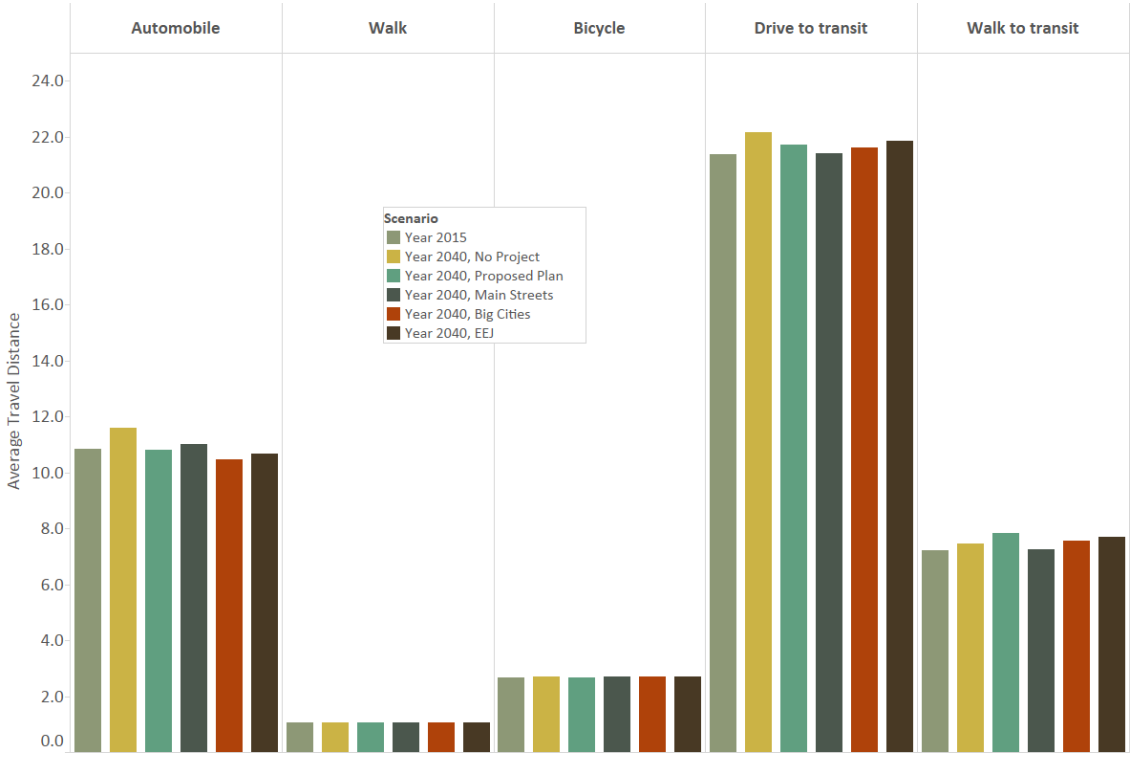

Figure 15: Year 2040 Average Trip Distance for Travel on Work Tours

Travel Mode Choice Decisions

The means by which a traveler gets from point A to point B is referred to as the travel mode. Within MTC's representation of travel behavior, five automobile-based modal options are considered, specifically:

- traveling alone in a private automobile and opting not to pay to use an express lane ("single occupant, no HOT"), an option only available to those in households who own at least one automobile;
- traveling alone in a private automobile and opting to pay to use an express lane ("single occupant, pay to use HOT"), an option only available to those who both own a car and whose journey would benefit from using the express lane facility (e.g., this option is not available to those driving through a residential neighborhood to drop a child at school);
- traveling with one passenger in a private automobile and opting not to pay to use an express lane ("two occupants, no HOT) (these travelers can use carpool lanes for which they are eligible), an option available to all households;
- traveling with one passenger in a private automobile and opting to pay to use an express lane ("two occupants, pay to use HOT"), an option available to all households provided they would benefit from using an express lane (if the express lane facility which benefits travelers allows two-occupant vehicles to travel for free, than these travelers are categorized as "two occupants, no HOT"); and,
- traveling with two or more passengers in a private automobile ("three-or-more occupants") – these travelers are allowed to travel for free on express lane facilities across all the scenarios (as well as carpool facilities).

The travel model explicitly considers numerous non-automobile options which are collapsed in these summaries into the following four options: transit, getting to and from by foot ("walk to transit"); transit, getting to or from in an automobile ("drive to transit"); walk; and, bicycle.

Figure 16 and Figure 17 present the share of trips made by various travel modes. Figure 16 shows shares of travel in automobiles by occupancy category as well as by willingness to pay to use an express lane. Overall, mode shares shift slightly towards transit in the four project scenarios compared with a slight shift towards auto travel in the No Project scenario. Figure 17 presents companion results for non-automobile travel modes, including public transit, walking, and bicycling. Here, we see a slight increase in walk-to-transit in the Big Cities and EEJ scenarios, which reflects the scenarios' increase in transit service and increasingly efficient land development patterns.

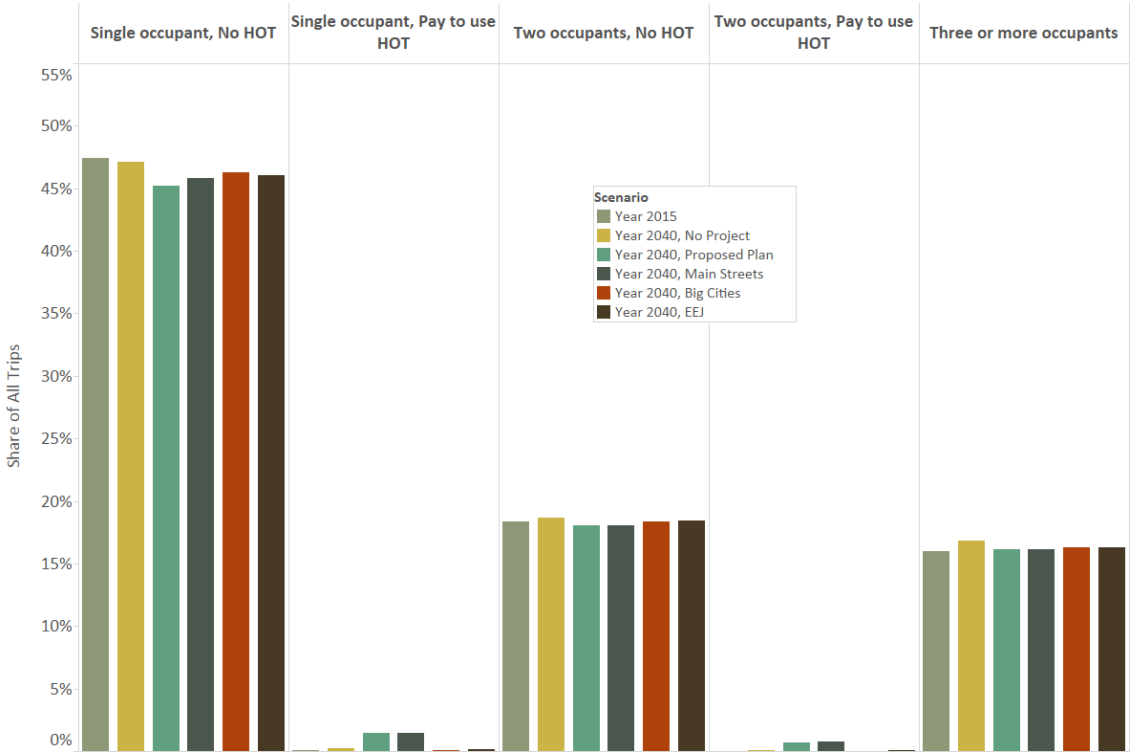

Figure 16: Year 2040 Automobile Mode Shares for All Travel

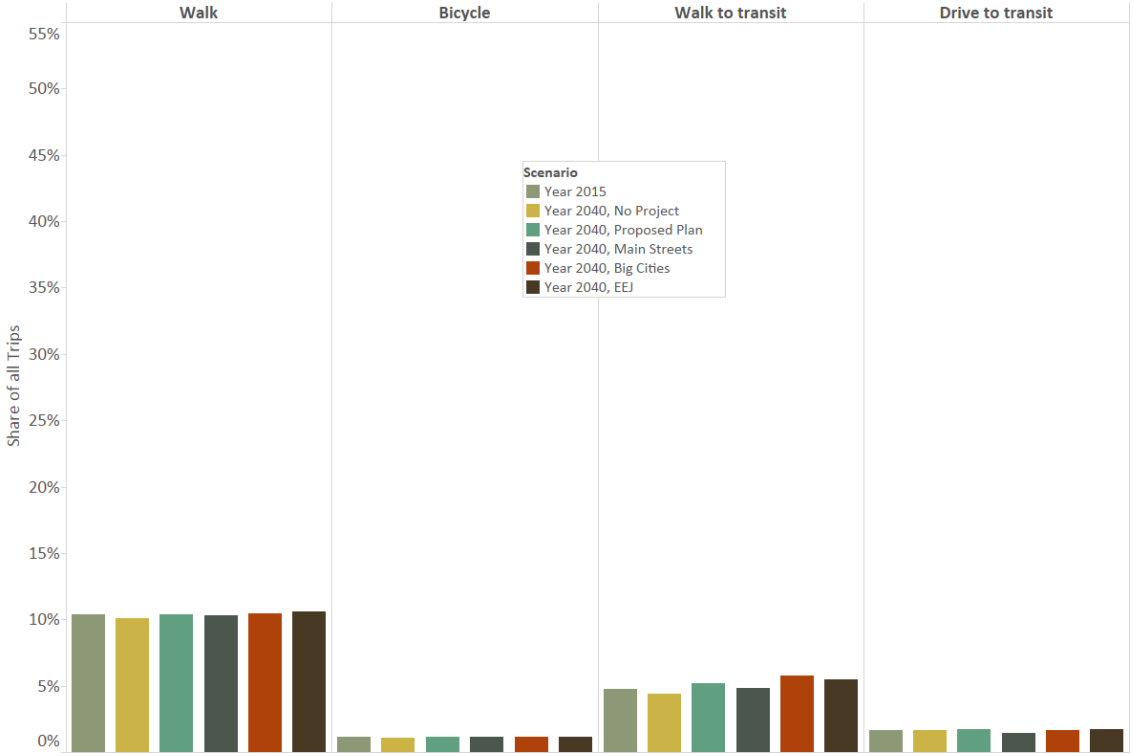

Figure 17: Year 2040 Non-Automobile Mode Shares for All Travel

Aggregate Transit Demand Estimates

Bay Area residents choosing to travel by transit are explicitly assigned to a specific transit route. As a means of organizing the modeling results, MTC groups transit lines into the following technology-specific categories:

- **Local bus**: standard, fixed-route bus service, of the kind a traveler may take to and from a neighborhood grocery store or to work, as well as so-called "bus rapid transit" service.
- **Express bus**: longer distance service typically provided in over-the-road coaches. Golden Gate Transit, for example, provides express bus service between Marin County and Downtown San Francisco.
- **Light rail**: represented in the Bay Area by San Francisco's Muni Metro and streetcar services (F-Market and E-Caltrain), as well as Santa Clara Valley Transportation Authority's light rail service.
- **Heavy rail**: another name for the Bay Area Rapid Transit (BART) service.
- **Commuter rail**: longer distance rail service typically operating in dedicated right-of-way, including Caltrain, Sonoma-Marin Area Rail Transit (SMART), Amtrak's Capitol Corridor, and Altamont Commuter Express.

Figure 18 presents the estimates of transit boardings by these categories on the typical weekday simulated by the travel model. Ridership increases from about 2.3 million daily boardings in 2015 to over 3 million daily boardings in all project scenarios, and over 3.4 million boardings in the 2040 Big Cities scenario.

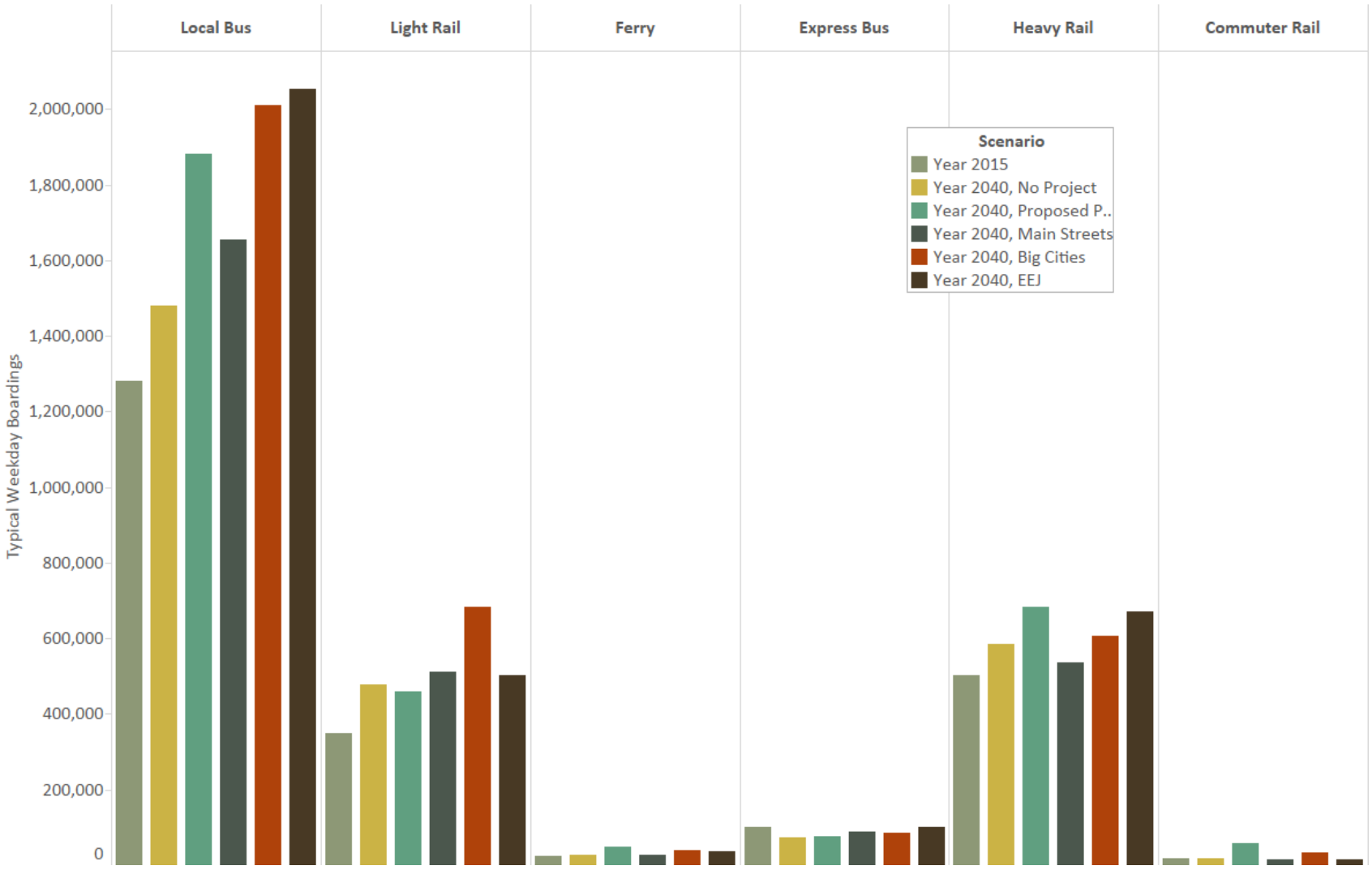

Figure 18: Year 2040 Typical Weekday Transit Boardings by Technology

Roadway Utilization and Congestion Estimates

Trips made by automobile are first aggregated into matrices identifying each trip's origin and destination, and then "assigned" to a representation of the Bay Area's roadway network. The assignment process iteratively determines the shortest path between each origin-destination pair, shifting some number of trips to each iteration's shortest path, until the network reaches a certain level of equilibrium – defined as a state in which travelers cannot change to a lower "cost" route (where cost includes monetary and non-monetary (time) expenditures). Several measures of interest are generated by the assignment process, including vehicle miles traveled, delay, and average travel speed.

Please note that MTC maintains three separate estimates of the quantity of vehicle miles traveled (VMT), as follows:

(1) the quantity assigned directly to the highway network;
(2) the quantity (1) plus so-called "intra-zonal" VMT (i.e., travel that occurs at a geographic scale finer than the travel model's network representation), which is computed off-line; and,
(3) the quantity (2) adjusted to match the VMT the California Air Resources Board (CARB) believes takes place in the Bay Area (a number slightly higher than MTC's estimate).

In this document, the VMT identified as (1) in the above list is presented.

Figure 19 first segments VMT into five time periods and then scales the VMT by the number of hours in each time period. The result is the intensity of VMT by time of day as well as the increase in VMT from 2015 to 2040. Overall, VMT varies only slightly across the year 2040 alternatives, with the Big Cities and EEJ scenarios having the lowest VMT.

Figure 20 presents the average freeway speed across scenarios. Looking at the speeds during the morning and evening commute periods, we see a reduction in speed (or, said another way, an increase in congestion) from the year 2015 scenario to the year 2040 No Project scenario. Each of the alternatives improves freeway speeds.

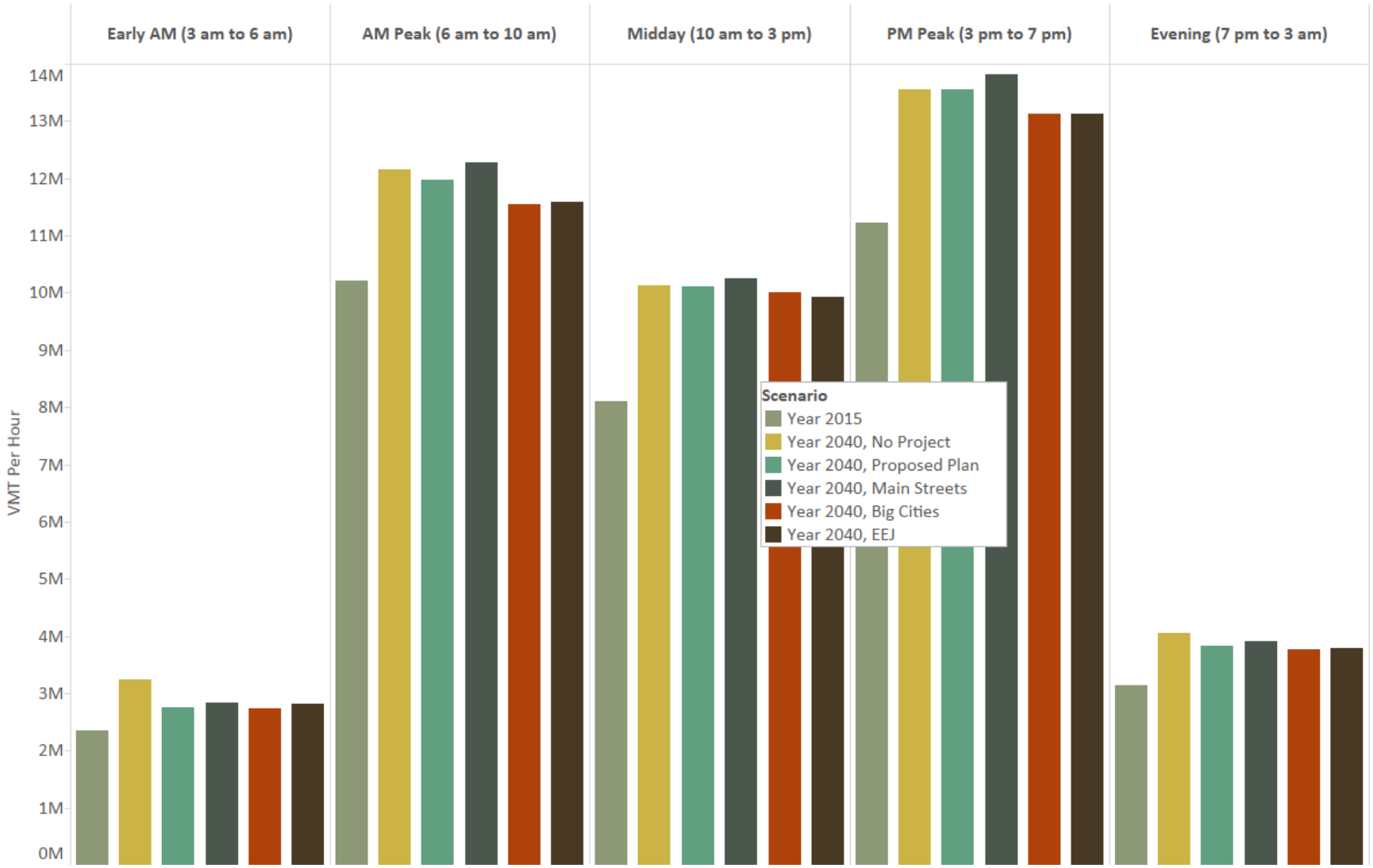

Figure 19: Year 2040 Vehicle Miles Traveled per Hour by Time Period

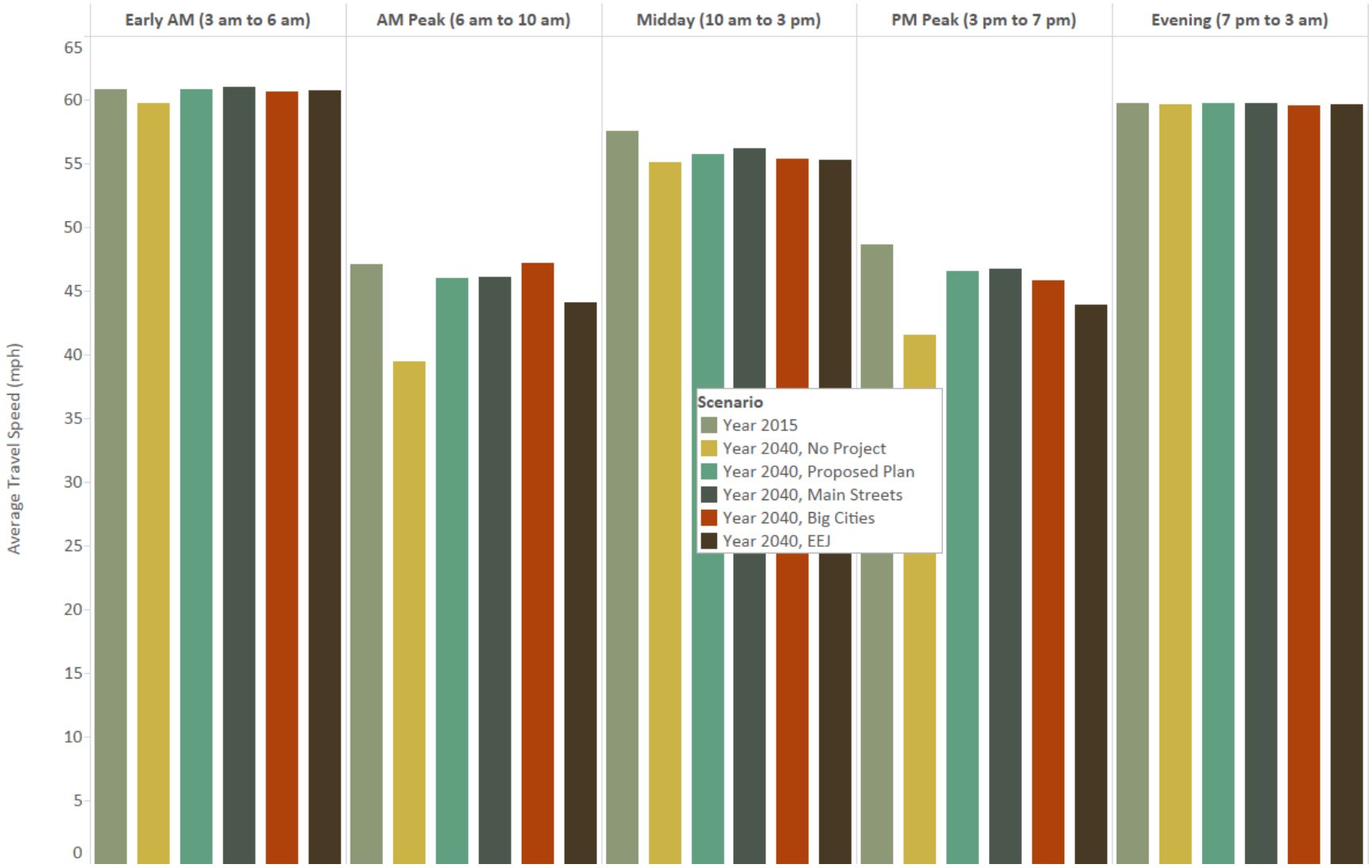

Figure 20: Year 2040 Average Vehicle Speeds on Freeways

Appendix A: Off-Model Emission Reduction Estimates

Off-Model Emission Reduction Estimates

MTC, with consultant assistance, prepared off-model analyses of various strategies, referred to as climate initiatives, anticipated to produce measurable per-capita greenhouse gas (GHG) emission reductions. Investments are made in programs that will accelerate the adoption of clean vehicle technologies and promote the use of sustainable travel modes.

The 2013 Plan Bay Area included an analysis of a variety of off-model strategies. In 2015, MTC reassessed the current strategies and explored new ones for inclusion in the update to Plan, Plan Bay Area 2040. This assessment took into account findings from the implemented strategies and review of new and emerging strategies not included in Plan Bay Area.

Based on the ICF assessment, MTC plans to include many of the climate strategies that were included in Plan Bay Area, namely:

- Commuter Benefits Ordinance;
- Car Sharing;
- Vanpools and Employer Shuttles;
- Regional Electric Vehicle Charger Network;
- Vehicle Buyback and PEV Incentive;
- Clean Vehicles Feebate Program; and
- Smart Driving.

Strategies not currently captured by MTC's travel model were added to the Plan update:

- Targeted Transportation Alternatives;
- Trip Caps;
- Bike Share; and
- Bicycle Infrastructure.

Each Climate Policy Initiative is summarized in the following pages, including a description of the project objective, contextual background, assumptions and methodology, analytic steps and results.

Emission Rates

To calculate the carbon dioxide (CO_2) emissions reductions from the Climate Policy Initiatives, the California Emissions Model (EMFAC) trip end emission rates and exhaust per mile emission rates for light and medium duty vehicles were used. The regional average rates for annual CO_2 emissions from light and medium duty vehicles are applied to the calculated trip reductions and VMT reductions, which are summarized in the individual policy descriptions below.

In order to compare results with SB 375's regional GHG emissions targets derived using EMFAC2007, EMFAC2014 GHG emissions outputs have been converted to EMFAC2007 equivalents by applying an adjustment methodology in accordance with ARB staff's guidance and consultation for the off-model analysis in order to derive the CO_2 emission factors used in the 2020 and 2035 CO_2 reduction estimates. Unadjusted EMFAC2014 outputs were used to create emission factors for 2040 CO_2 reduction

estimates. Table 1 summarizes the CO_2 emission factors used for passenger vehicles. Except where otherwise noted, we use these factors throughout our analysis.

Table 1: CO_2 emission factors

	2020 (based on EMFAC2007 equivalents)	**2035** (based on EMFAC2007 equivalents)	**2040** (based on EMFAC2014 outputs)
CO_2 Exhaust Emission Rate (grams per mile)	386.45	389.19	386.75
CO_2 Trip End Emission Rate (grams per trip)	80.75	79.09	85.80

Commuter Benefits Ordinance

In fall 2012, Senate Bill (SB) 1339 authorized the Bay Area Air Quality Management District (Air District) and MTC to adopt and implement a regional commuter benefits ordinance in the San Francisco Bay Area on a pilot basis through December 31, 2016. The goal of the pilot was to promote the use of transit and other sustainable commute modes in order to reduce single-occupant vehicle commute trips, traffic congestion, GHG and other pollutants. After completion of the pilot, MTC and the Air District achieved bi-partisan support in the State Legislature, and SB 1128 was signed by Governor Brown on September 22, 2016. SB 1128 extends the provisions of the Commuter Benefits Ordinance (CBO), establishing the pilot program permanently. MTC and the Air District continue to jointly administer the program and implement the law.

The CBO requires employers with 50 or more full-time employees in the Bay Area to offer their employees incentives to commute to work by modes other than driving alone. Employers can choose to offer one of the following options in order to make sustainable commute modes more attractive to their employees:

- Pre-Tax Benefit - allows employees to exclude their transit or vanpooling expenses from taxable income (IRS Code Section 132 (f));
- Employer-Provided Subsidy - provides a subsidy to reduce or cover employees' monthly transit or vanpool costs;
- Employer-Provided Transit - provides a free or low-cost transit service for employees, such as a bus, shuttle or vanpool service; or
- Alternative Commuter Benefit - provides an alternative commuter benefit that is as effective in reducing single-occupancy commute trips as Options 1, 2 or 3.

Off-model analysis is necessary to capture CO_2 reductions from the CBO because MTC's last household travel survey, which informs its model, was conducted in 2010, and does not capture the impacts of new strategies that change travel behavior such as this one. The CBO might be captured by a future model once it has been implemented to the extent that the options offered through the ordinance influence people's behavior in a way that can be captured by the travel surveys, and once the model framework has been altered to include inputs that are reflective of the CBO.

Assumptions and methodology

In Plan Bay Area, CO_2 reductions due to the CBO were projected based on research and evidence from similar efforts, particularly San Francisco's CBO, which has been in effect in since 2009. In 2015, MTC completed an evaluation of the CBO based on a random sample survey of over 1,400 Bay Area employees.[1] In the update to the Plan, Plan Bay Area 2040, the same methodology is applied to estimate CO_2 reductions as in the previous Plan, but the assumptions are based on MTC's evaluation.

CBOs encourage employees to shift from driving alone to taking transit, carpooling, bicycling or walking by offering incentives to cover the costs of using these modes or by providing shuttle/vanpool service. In order to quantify the benefits, the number of employees covered by the CBO and the corresponding VMT reduction are estimated.

Additionally, the number of employees at businesses that begin to offer benefits due to the CBO are estimated for each of the 34 superdistricts in MTC's travel model. The total number of employees in each superdistrict for each scenario-year was also collected and compared to the current Dun and Bradstreet size of business data to identify the percentage of employees in each superdistrict that work at businesses with 50 or more employees subject to the CBO. Region-wide, slightly over 50 percent of employees work at establishments with 50 or more employees, though the percentages range from 31% to 68 percent for individual superdistricts. Since some employers already offer the types of benefits described in the legislation, the methodology estimated the percentage of employees who do not already receive the benefits, which includes all new employees (i.e., employees added between 2015 and the scenario year) and a percentage of current (2015) employees. In 2009, the City and County of San Francisco enacted a CBO and found that 46 percent of employers already offered one of the required benefits prior to implementation of the city's ordinance.[2] Accordingly, 54 percent of current employees in the Bay Area are assumed to be receiving new benefits as a result of the CBO. This is a conservative estimate when applied to areas outside of San Francisco which is well-served by transit and other options to driving alone, and has many progressive employers who are more likely to offer their workers benefits to take advantage of these options independent of a CBO. The results were summed across all superdistricts within each of the nine Bay Area counties to estimate the total number of employees that receive benefits due to the CBO at the county level.

From MTC's evaluation of the CBO, which included a survey of employees, the county-level estimates of the percentage of employees who are aware that their employer offers a CBO program and the percentage of employees who reduce at least one SOV trip due to the CBO were determined. The methodology assumes that as time passes, all employers will comply with the CBO and all employees will be aware of the benefits available to them. These findings were applied to the average regional reduction in vehicle trips and VMT for employees who respond to the CBO to estimate VMT reductions. Table 2 summarizes the evaluation results used in the analysis.

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[1] Bay Area Air Quality Management District, Metropolitan Transportation Commission. Bay Area Commuter Benefits Program, Report to the California Legislature. February 2016. http://www.baaqmd.gov/~/media/files/planning-and-research/commuter-benefits-program/reports/commuter-benefits-report.pdf

[2] Data supplied by the San Francisco Department of Environment.

Table 2: Summary of CBO evaluation findings[3]

County	% of eligible employees who reduce SOV trips due to CBO	% of eligible employees who are aware of CBO benefits	% of eligible employees who reduce SOV trips due to CBO (adjusted)	Average yearly trip reductions for employees who reduce SOV trips	Average yearly VMT reductions for employees who reduce SOV trips
Alameda	4.5%	51.5%	8.7%	36.0	697.5
Contra Costa	7.6%	43.8%	17.4%	36.0	697.5
Marin	7.0%	32.0%	21.9%	36.0	697.5
Napa	8.8%	42.4%	20.8%	36.0	697.5
San Francisco	7.1%	75.0%	9.5%	36.0	697.5
San Mateo	8.8%	53.8%	16.4%	36.0	697.5
Santa Clara	6.4%	56.2%	11.4%	36.0	697.5
Solano	0.0%	28.0%	0.0%	36.0	697.5
Sonoma	0.0%	21.8%	0.0%	36.0	697.5

Analysis steps

To calculate CO_2 reductions due to the CBO, the methodology:

1. Identified the current and future number of employees for each MTC superdistrict.
2. Subtracted current from future employees to calculate the number of new employees for each MTC superdistrict.
3. Multiplied the number of current employees by the estimated percentage of employees who do not currently receive commuter benefits (54%) and added the result to the number of new employees to calculate the total number of employees who do not currently receive commuter benefits.
4. Multiplied the result by the percentage of employees in each superdistrict that are currently employed at businesses with over 50 employees to estimate the total number of employees who are newly eligible for CBO benefits in each superdistrict.
5. Summed results across all superdistricts within each county.
6. Multiplied the result by the adjusted percentage of eligible employees in each county who reduce drive-alone trips due to the CBO (see Table 2) and summed results across all counties to estimate the total number of employees who change behavior due to the CBO.
7. Multiplied the result by the average annual reduction in vehicle trips and VMT per affected employee (see Table 2) to estimate total annual reduction in vehicle trips and VMT.
8. Summed the product of trip-end emission rates and daily vehicle trip reductions and the product of exhaust emission rates and daily VMT reductions to calculate total CO_2 emission reductions.

Results

Table 3 and Table 4 summarize the CO_2 reductions due to the CBO.

Table 3: Daily CO_2 emissions reductions due to CBO (short tons)

EIR Alternative	2020	2035	2040
Proposed Plan	296	328	340

[3] MTC Climate Initiatives Program Evaluation: Commuter Benefits Ordinance, Prepared for MTC by True North Consulting, 2015. A summary of findings is available at http://mtccms01.prod.acquia-sites.com/sites/default/files/CIP%20Evaluation%20Summary%20Report_7-13-15_FINAL.pdf.

Main Streets	297	329	343
Big Cities	297	327	339
EEJ	297	327	340

Table 4: Per capita CO_2 emissions reductions from 2005 baseline due to CBO (percent)

EIR Alternative	2020	2035	2040
Proposed Plan	-0.36%	-0.35%	-0.34%
Main Streets	-0.36%	-0.35%	-0.35%
Big Cities	-0.36%	-0.35%	-0.34%
EEJ	-0.36%	-0.35%	-0.34%

Car Sharing

Car sharing allows individuals to rent vehicles by the minute or by the hour, thus giving them access to an automobile without the costs and responsibilities of individual ownership. Car sharing is growing rapidly in the Bay Area through traditional for-profit/non-profit services (City CarShare/Carma, Zipcar, UHaul Car Share, Enterprise CarShare), peer-to-peer car sharing (Getaround, RelayRides) and one-way car share services (Scoot, some preliminary offerings from Zipcar).

Traditional car sharing businesses operate on a membership basis. Users pay an annual fee in addition to hourly and sometimes per-mile rates. Gas, maintenance, parking, insurance and 24-hour access are included in the membership and usage rates. The pricing scheme is set up to encourage the use of the vehicles for errands, airport pickups and other short trips. For trips longer than one day, it is usually less expensive to rent a vehicle through a car rental agency. Traditional car sharing models are most effective for households in neighborhoods that are served by high-quality transit where vehicles are only infrequently needed. After joining a car sharing program, households in these neighborhoods can sometimes shed one or more vehicles due to the variety of modes accessible to them and the occasional use of a car sharing vehicle. In less dense neighborhoods, car sharing may allow a two- or three-car family to shed one car by making a vehicle accessible for the rare instances that multiple vehicles are needed at the same time. Car sharing can also help to enable and expand the trend of younger generations putting off obtaining licenses at age 16 and purchasing vehicles. In general, car sharing members are required to have a clean driving record and be over the age of 18 in order to join. Businesses can also sign up for business memberships to avoid maintaining or reduce the size of a company fleet of vehicles.

Peer-to-peer car sharing (also known as P2P) allows an individual to rent out his/her private vehicle when not in use. Participation in this car sharing model generates income for the owner and provides a wide range of vehicle types and prices to the renter. Peer-to-peer is similar to the traditional car sharing model insofar as vehicles need to be returned to the starting location, but differ in that they are more likely to succeed than traditional car sharing in less dense, suburban neighborhoods.[4] This is because the service is providing additional income to the vehicle owner, and the usage does not need to be high

[4] Hampshire, R. and C. Gaites, Peer-to-peer Carsharing: Market Analysis and Potential Growth, *Transportation Research Record* 2217, 2011.

enough to completely offset the vehicle ownership costs. One peer-to-peer company, Getaround, was launched in 2011 and has built a rapidly growing network of vehicles, including in the Bay Area cities of San Francisco, Berkeley and Oakland.

One-way car sharing allows a driver to pick up a vehicle in one location and drop it off at another—in some cases a dedicated pod; in others, wherever is convenient within a set geographic area. This model could allow an individual who takes transit to work to then pick up a vehicle and run errands on her way home. This model also allows vehicles to turn over more frequently since users can drive to an event, park the car, let someone else rent it and then pick up a different vehicle nearby for their return trip, which can lead to higher utilization of vehicles. Some of the more widespread one-way car sharing services include Car2Go, operated by Mercedes-Benz, and ZipCar's one-way service, both of which currently operate in seven cities. Scoot, a one-way scooter sharing system, currently operates in San Francisco.

Car sharing has positioned itself to cause a major shift in the market, but it is not captured in MTC's travel model, and accordingly is accounted for off-model. Car sharing reduces emissions in two primary ways: by lowering the average VMT of members and by allowing trips to be taken with more fuel-efficient vehicles than would have been used without car sharing. While shared transportation modes are becoming ever more popular and car sharing may continue to increase absent any intervention by MTC, MTC will be helping to accelerate expansion through this program. MTC could offer grants to fund a variety of efforts to encourage car sharing, potentially including opening new traditional car sharing offices or pods in underserved communities, developing parking codes that remove barriers to one-way car sharing and marketing and outreach programs.

Assumptions and methodology

CO_2 reductions due to car sharing are based on the number of Bay Area residents who are in the age groups likely to adopt car sharing and who live in communities that are compact enough to promote shared use. Research shows that adults between the ages of 20 and 64 are most likely to adopt car sharing, and estimates that between 10 percent[5] and 13 percent[6] of the eligible population in more compact areas when car sharing is available. With the introduction of one-way and peer-to-peer car sharing, as well as the implementation of regional strategies to support car sharing, adoption rates are assumed to reach 14 percent of the eligible population in dense urban areas (i.e., areas with at least ten people per residential acre) by 2035, while three percent of the eligible population could adopt car sharing by 2035 in suburban areas. Table 5 below summarizes the assumptions with respect to adoption rates.

[5] Zipcar. http://www.zipcar.com/is-it#greenbenefits. Accessed March 20, 2017.
[6] Zhou, B., Kockelman, K, and Gao, R. "Opportunities for and Impacts of Carsharing: A Survey of the Austin, Texas Market", TRB, 2009.

Table 5: Car sharing adoption rates

Scenario year	Adoption rates in urban areas (>10 people/res acre)	Adoption rates in suburban areas (<10 people/res acre)
2020	12%	0%
2035	14%	3%
2040	14%	3%

Research by Robert Cervero[7] indicates that on average traditional car share members drive seven fewer miles per day than non-members. This is mostly due to the members who shed a vehicle after joining car sharing. Their daily VMT drops substantially and outweighs the increase in VMT from car share members that previously did not have access to a vehicle. In addition to this reduction in VMT, when members drive in car share vehicles, their per-mile emissions are lower because car share vehicles are more fuel efficient than the average vehicle. Research by Martin and Shaheen[8] shows that the car share fleet uses 29 percent less fuel per mile than the passenger vehicle fleet in general, a difference assumed to persist through 2040. The same paper also shows that on average, members of traditional car sharing programs drive an average of 1,200 miles in car sharing vehicles per year. Also assumed is annual car share mileage will remain constant over time.

Although there are currently no one-way car sharing programs in the Bay Area, it is expected that this model will emerge over the coming years. Recent research suggest that while one-way car sharing still reduces CO_2 emissions, but not as much as traditional car sharing. For this analysis, it is assumed that one-way car sharing is not yet widespread in the Bay Area in 2020. However, by 2035, it is assumed that 20 percent of Bay Area car sharing members will be participating in a one-way car sharing program rather than a traditional program, and by 2040 this figure will increase to 25 percent. Table 6 summarizes these assumptions.

Table 6: One-way car sharing participation rates

	2020	2035	2040
Percent of car share members that participate in one-way car sharing (rather than traditional programs)	0%	20%	25%

New research by Martin and Shaheen[9] indicates that on average one-way car share members drive 1.07 fewer miles per day than non-members. Additionally, the one-way car sharing fleet uses 45 percent less fuel per mile, a difference assumed to persist through 2040. The same paper also shows that on average, members of traditional car sharing programs drive an average of 104 miles in car sharing vehicles per year. This mileage is also assumed to remain constant over time.

[7] Cervero, Golub, and Nee, "City CarShare: Longer-Term Travel-Demand and Car Ownership Impacts", July 2006, TRB 2007 Annual Meeting paper.
[8] Martin, Elliot, and Susan Shaheen, “Greenhouse Gas Emission Impacts of Carshaing in North America,” 2010, Mineta Transportation Institute. MTI Report 09-11.
[9] Martin, Elliot, and Susan Shaheen, "Impacts of Car2Go on Vehicle Ownership, Modal Shift, Vehicle Miles Traveled, and Greenhouse Gas Emissions", July 2016, Working Paper.

Analysis steps

To calculate the CO_2 emission reductions due to car sharing, the methodology:

1. Calculated the residential density of every TAZ (transportation analysis zone) during the scenario year by dividing the total population by the residential acres.
2. Summed the total car sharing eligible population (between the ages of 20 and 64) for urban areas (TAZs with a population density greater than 10 residents per residential acre) and for suburban areas (TAZs with a population density greater than 10 residents per residential acre).
3. Calculated total future car share membership population by multiplying the factors in Table 5 by the total car sharing eligible population in urban and suburban areas, respectively.
4. Applied the percentages in Table 6 above to determine the number of members in both traditional and one-way car sharing services.
5. Calculated the daily VMT reduction by multiplying the miles shed per day per member (7 miles in traditional car sharing programs, and 1.07 miles in one-way car sharing programs) to the number of members of each service type and summed the result across both service types.
6. Multiplied daily VMT reductions by exhaust emission rates to calculate CO_2 emission reductions due to car share members driving less.
7. Calculated the total annual miles driven in car share vehicles in the Bay Area by multiplying the car sharing member estimates for traditional and one-way car sharing by 1,200 annual miles, and 104 annual miles respectively. This was divided by the assumed number of travel days/year (250) to determine daily VMT for vehicles in each car share service type.
8. Multiplied daily VMT for vehicles in each car share service type by the vehicle efficiency gains for each service type (29% for traditional services and 45% for one-way services) and by exhaust emission rates to estimate CO_2 reductions due to car share members driving more efficient vehicles.
9. Summed CO_2 emission reductions due to car share members driving less (Step 6) and CO_2 reductions due to car share members driving more efficient vehicles (Step 8) to estimate total CO_2 reductions due to car sharing.

Results

Table 7 and Table 8 summarize the CO_2 reductions due to car sharing.

Table 7: Daily CO_2 emissions reductions due to car sharing (short tons)

EIR Alternative	2020	2035	2040
Proposed Plan	-1,713	-1,935	-1,900
Main Streets	-1,709	-1,936	-1,900
Big Cities	-1,694	-1,925	-1,895
EEJ	-1,713	-1,936	-1,901

Table 8: Per capita CO_2 emissions reductions from 2005 baseline due to car sharing (percent)

EIR Alternative	2020	2035	2040
Proposed Plan	-2.09%	-2.06%	-1.92%
Main Streets	-2.09%	-2.06%	-1.92%
Big Cities	-2.07%	-2.05%	-1.91%
EEJ	-2.09%	-2.06%	-1.92%

Vanpools and Employer Shuttles

Vanpool

MTC has coordinated a vanpool program since 1981 to encourage alternative commutes and reduce congestion and emissions. To date, MTC's 511 vanpool program recruitment has consisted of online passenger and driver matching, employer outreach, up to $500 for startup fees, empty seat subsidies to encourage continued participation when a passenger is lost, free bridge tolls, and various other incentives. With these basic incentives there is an operational vanpool fleet in the Bay Area of over 515 vans. Since vanpools are not represented in MTC's travel model, the travel model cannot be used to assess the impacts of expanding the vanpool program, and therefore is captured off-model.

Employer shuttles

In addition to these traditional vanpools, there has been explosive growth in the number of employer-provided shuttles in the Bay Area. These shuttles are used as a recruiting tool and they allow for increased worker productivity due to the onboard wireless internet, thus turning commute time into productive time. Rough estimates indicate that the technology company shuttles that operate between San Francisco and Silicon Valley transport close to 17,500 people per workday.[10] The Google shuttle alone carried over 9,000 employees to work on peak days in 2015.[11] Google's shuttle system began as a vanpool in 2006 and rapidly grew into the current system. Prior to the SB 375 CO_2 emissions baseline year (2005) there were very few employer provided shuttles in the region. For purposes of this analysis there are assumed to have been no shuttles prior to 2005.

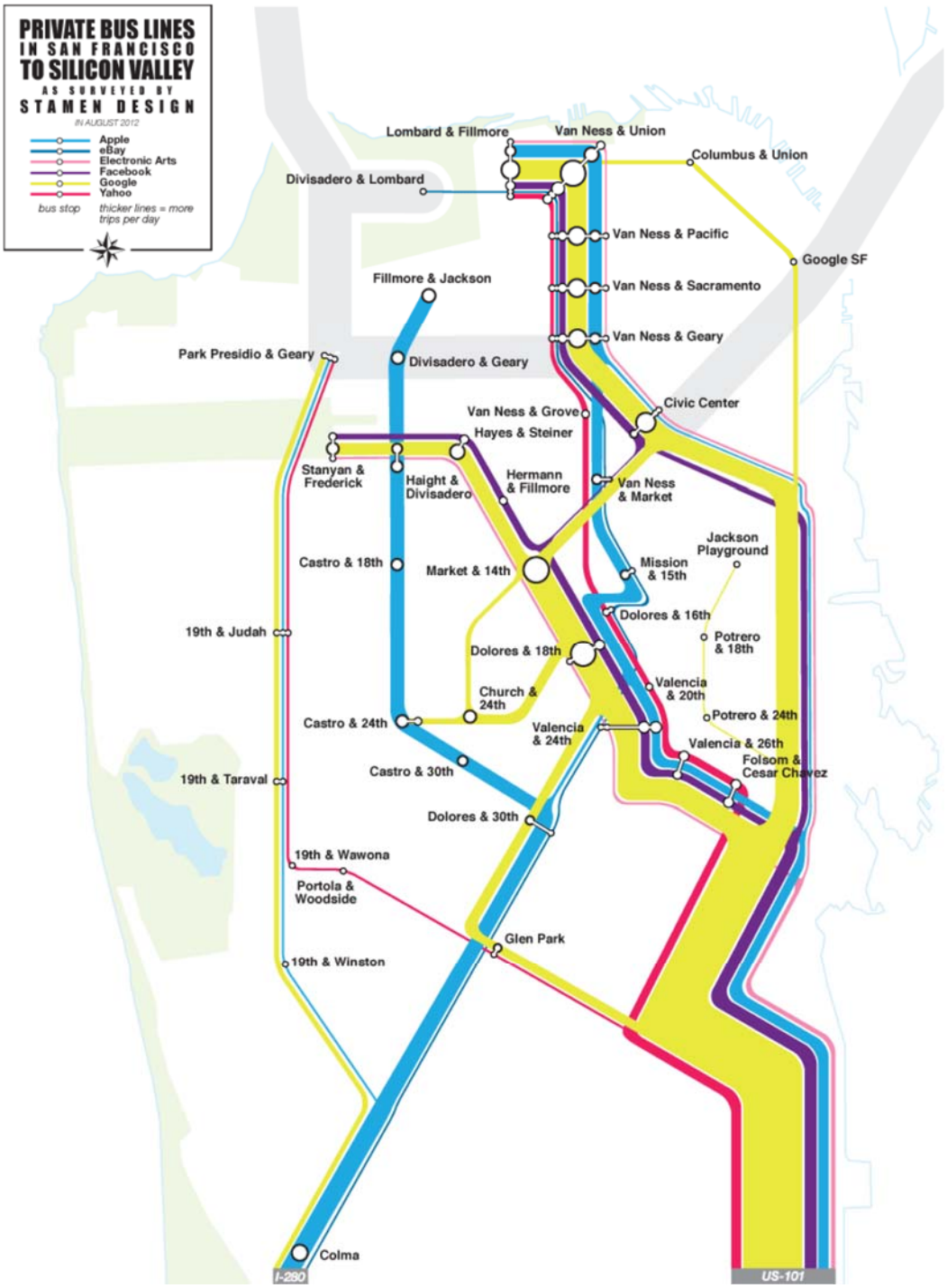
There are private shuttles running through all parts of the Bay Area including some that connect the East Bay and San Mateo County to Silicon Valley, some that operate just within San Francisco and San José, and others from BART and Caltrain stations to corporate campuses. These shuttles are not represented in MTC's travel model, and the 2010 travel survey that informs the model does not reflect the rapid growth in employer shuttles in recent years nor its impact on travel patterns, and therefore shuttles are accounted for off-model. To be conservative, the 17,500 daily employer operated shuttle riders from

[10] Based on Stamen's estimate that San Francisco shuttles carry approximately equal to 35% of Caltrain ridership levels (https://hi.stamen.com/the-city-from-the-valley-57e835ee3dc6#.4ic9o338l). Obtaining shuttle ridership levels is extremely difficult due to the confidential nature of the information since businesses use these shuttles as a recruiting tool. In the month prior to Stamen releasing their work, Caltrain reported ridership levels of 50,000 passengers per weekday.

[11] Google. 2016. Environmental Report, https://environment.google/projects/environmental-report-2016/. Accessed March 20, 2017

San Francisco to the Silicon Valley are assumed to account for all employer operated shuttle riders in the Bay Area.

Figure 1: Employer-operated shuttles running from San Francisco to Silicon Valley[12]



[12] *Source:* Stamen Design. The City from the Valley. 2012. https://hi.stamen.com/the-city-from-the-valley-57e835ee3dc6#.ifn458frg

Assumptions and Methodology

Vanpools

MTC plans to implement a vanpool program similar to programs already in operation in San Diego, Los Angeles, Denver, Arizona and elsewhere. San Diego's program began in 2001 and saw five to ten percent growth in the vanpool fleet every year through fiscal year 2013. LA Metro began its program in 2007 and the vanpool fleet has grown about 14 percent per year. MTC assumes the incentives these program provided will increase the Bay Area's vanpool fleet, increasing the number of vans in 2020 to 700 and doubling the 2013 fleet by 2035 (this equates to 1,030 vanpools), after which the number of vanpools would stabilize. The sustained fleet of 1,030 vans is slightly more than the 1996 peak of 900 vans. Accordingly, MTC plans to reevaluate the incentive package to reduce monthly operating costs.

Over time, the vanpool incentive is expected to become self-funding. This is accomplished by reporting the ridership mileage to the National Transit Database (NTD) which returns funding to the region for transit. Cities such as San Diego, Los Angeles, Denver and Arizona have found that NTD reporting of vanpool data returns more money to a jurisdiction than the amount spent to offset vanpool costs. For example, the Northern Virginia Transportation Commission found that failure to report vanpool data in the Washington, D.C. metropolitan area resulted in a $6-$8 million loss per year, and that each $1 invested would have returned more than $2 in transit funds.[13] Los Angeles spends $7 million annually to off-set vanpool costs and brings back $20 million in additional transit funding.[14] While the amount returned varies depending on the number of passenger miles travelled; vanpools that log more miles and carry more passengers have higher returns. MTC estimates that for every $1 spent on vanpools, it could expect a return of about $1.40 in transit funds.

Along with the increased subsidy, the methodology assumes that vanpools have an average of 10.8 passengers and roundtrip distance of 110 miles, both of which are expected to remain constant over time. In order to account for the emissions from the vanpool van itself, the calculations only account for 9.8 passengers in the van. Reducing the vanpool size is a simplified proxy for the emissions from the shared van.

The population that shifts to vanpools is expected to be consistent with the general population's commute mode share. Emissions reduced from a commuter switching from a single occupancy vehicle (SOV) are assumed to be 100 percent. Emissions reduced from a commuter switching from a two person carpool are assumed to be 50 percent. Emissions reduced from a commuter switching from a 3+ person carpool are assumed to be 33 percent. Shifts from other modes (walking, biking, or transit modes) are not assumed to reduce CO_2 emissions, because these modes emit fewer CO_2 emissions per mile than vanpools. In reality, it is unlikely that anyone would shift from walking or biking, which are typically short-distance modes, to a long-distance vanpool trip, and MTC focuses on providing vanpools for routes that are not currently well-served by transit. However, assuming consistency with the general commute mode share produces a conservative estimate of CO_2 reductions.

[13] Northern Virginia Transportation Commission; FTA Section 5307 Earnings Potential from Vanpools in DC Metropolitan Region; Revised: August 7, 2009.
[14] MTC October 2014 interview with LA Metro program manager, Jamie Carrington.

Since the baseline year for the SB 375 CO_2 emissions reduction target is 2005, the current vanpool fleet of 515 vans is not included in the analysis; only growth above and beyond 515 vans is included in the calculations.

Employer shuttles

Increases in the shuttle fleet from 2013 forward is assumed to be caused by companies meeting the requirements of the Commuter Benefit Ordinance (CBO). However, the benefits of existing shuttles are analyzed as the CBO program evaluation found that 46 percent of employers were already offering a benefit prior to the ordinance. The CBO therefore does not estimate the CO_2 reductions associated with these travelers. Some of these commuters take transit, which is captured in MTC's travel model. However, those who take shuttles are not captured in the model, and for this reason, the benefits of the existing shuttles are analyzed. To be conservative, the 17,500 daily employer operated shuttle riders from San Francisco to the Silicon Valley are assumed to account for all employer operated shuttle riders in the Bay Area.

The shuttles are assumed to carry an average of 30 passengers[15] and that the average round trip commute on a shuttle is 40 miles.[16] The assumption is if shuttle service was unavailable, the passenger commute mode split would mirror that of the general population. This is a conservative estimate given that some sources suggest shuttle riders would be likely to otherwise drive. For example, San Francisco County's survey of shuttle riders, which indicated that 63 percent of shuttle riders would have otherwise driven alone to work,[17] while the countywide drive-alone mode share is closer to 43 percent.[18]

Also accounted for are emissions from shuttle vehicles, assuming that they emit CO_2 at the same rate as urban buses. This likely overestimates emissions from shuttles since the shuttle fleet incorporates a range of vehicle sizes and the employers who have taken a proactive approach to sustainable transportation often strive to use the cleanest vehicles and fuels available. The exhaust emission rate extracted from EMFAC and used for 2020 shuttles is 2,265 grams/mile. The 2035 exhaust emission rate is 2,112 grams/mile, and the 2040 rate is 1,988 grams/mile.

Analysis steps

Vanpool

To calculate the CO_2 emission reductions due to vanpools, the methodology:

1. Multiplied the projected increase in vanpools by the number of passengers (minus the driver) to obtain number of vanpool participants.
2. Estimated the number of vehicle round trips reduced by vanpools, accounting for the previous mode selection of the vanpool participants by multiplying the number of vanpool participants by

[15] SFCTA Strategic Analysis Report (SAR) 08/09-2. The Role of Shuttle Services in San Francisco's Transportation System. http://www.sfcta.org/sites/default/files/content/Planning/Shuttles/Final_SAR_08-09_2_Shuttles_062811.pdf Most shuttles have a capacity of 25 passengers but the large employers operated shuttles that seat 50 to 70 passengers. An average capacity of 30 passengers per shuttle seems reasonable.
[16] Many shuttles operate from BART or Caltrain to employers offices. For this analysis the average round trip commute length includes a passenger's travel on transit since that is part of their low emission commute.
[17] SFCTA Strategic Analysis Report (SAR) 08/09-2. The Role of Shuttle Services in San Francisco's Transportation System. http://www.sfcta.org/sites/default/files/content/Planning/Shuttles/Final_SAR_08-09_2_Shuttles_062811.pdf
[18] See https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk.

each of the vehicle mode shares and an adjustment factor that accounts for the number of passengers and summed the results (i.e., vanpool participants * drive alone mode share * 1 + vanpool participants * 2 person carpool mode share * 0.5 + vanpool participants * 3 person carpool mode share * 0.33).
3. Multiplied the number of vehicle round trips reduced by 2 to estimate the daily one-way vehicle trips reduced.
4. Multiplied the number of vehicle round trips reduced by the round trip vanpool mileage to obtain daily VMT reduced.
5. Summed the product of trip-end emission rates and daily vehicle trip reductions and the product of exhaust emission rates and daily VMT reductions to calculate total CO_2 emission reductions.

Employer Shuttles

To calculate the CO_2 emission reductions due to employer shuttles, the methodology:

1. Estimated the number of vehicle round trips reduced by employee shuttles, accounting for the previous mode selection of the shuttle riders by multiplying the number of shuttle riders by each of the vehicle mode shares and an adjustment factor that accounts for the number of passengers and summed the results (i.e., shuttle riders * drive alone mode share * 1 + shuttle riders * 2 person carpool mode share * 0.5 + shuttle riders * 3 person carpool mode share * 0.33).
2. Multiplied the number of vehicle round trips reduced by 2 to estimate the daily one-way vehicle trips reduced.
3. Multiplied the number of vehicle round trips reduced by the average round trip shuttle mileage to obtain daily VMT reduced.
4. Summed the product of trip-end emission rates and daily vehicle trip reductions and the product of exhaust emission rates and daily VMT reductions to calculate total CO_2 emission reductions due to shuttle riders.
5. Calculated the minimum number of shuttle trips required to transport the shuttle riders by dividing the number of shuttle passengers by the average shuttle capacity.
6. Multiplied the number of shuttle trips by the round trip mileage of the shuttles to calculate the minimum shuttle VMT needed to serve the passengers.
7. Multiplied the shuttle VMT by the EMFAC emission rates for urban buses to obtain the shuttle vehicle emissions.
8. Subtracted the shuttle vehicle emissions (step 7) from the emissions reductions due to shuttle riders (step 4) to obtain the net emissions reduced.

Results

Table 9 and Table 10 summarize the combined CO_2 reductions due to vanpools and employer shuttles.

Table 9: Daily CO_2 emissions reductions due to vanpooling and employer shuttles (short tons)

EIR Alternative	2020	2035	2040
Proposed Plan	-220	-328	-332
Main Streets	-221	-347	-354
Big Cities	-222	-321	-327
EEJ	-218	-322	-323

Table 10: Per capita CO_2 emissions reductions from 2005 baseline due to vanpooling and employer shuttles (percent)

EIR Alternative	2020	2035	2040
Proposed Plan	-0.27%	-0.35%	-0.33%
Main Streets	-0.27%	-0.37%	-0.36%
Big Cities	-0.27%	-0.34%	-0.33%
EEJ	-0.27%	-0.34%	-0.33%

Regional Electric Vehicle Charger Program

Plug-in electric vehicles (PEVs) have the potential to significantly reduce CO_2 emissions from motor vehicles. Today, the Bay Area is the leading market for PEV sales, including both plug-in hybrid electric vehicles (PHEVs) and battery electric vehicles (BEVs). PHEVs have a hybridized powertrain which is fueled by chemical energy from a battery or by gasoline/diesel. BEVs are powered exclusively by the chemical energy from a battery. The focus of this strategy is on expanding the charging opportunities for PHEVs by establishing a regional public network of electric vehicle charging stations.

The costs of installing charging infrastructure can be high, and there are other barriers (e.g., on-site electrical capacity) that may also limit the potential for deploying charging infrastructure at workplaces. This program will be designed to help overcome some of those barriers by providing financial assistance to interested employers, retailers, parking management companies and others that qualify. PG&E received approval to install up to 7,500 charging stations in its service territory with a minimum of 15 percent in disadvantaged communities; this parallel process will support this program's goal of expanding charging opportunities for PHEV drivers. A regional network of charging infrastructure will provide drivers an opportunity to plug in while at work, which is where most vehicles spend most of their time parked when not at home. This will mean that PHEVs are able to travel more miles using electricity and fewer using gasoline, reducing CO_2 emissions.

MTC's travel model does not account for the mix of passenger vehicle and fuel types (e.g., conventional vehicles, PHEVs, BEVs, hybrids, etc.) in the Bay Area. Instead, the mix of vehicles, as well as the amount of miles that PHEVs travel using gasoline versus electricity, is accounted for in the emissions rates that MTC draws from EMFAC. This means that CO_2 reductions due to strategies that increase the miles that vehicles travel using electricity, like this one, must be captured off-model, by adjusting the assumptions contained within EMFAC. The assumptions from EMFAC, which fully accounts for the impact of state policies to reduce vehicle emissions, were used as a basis for analyzing this strategy.

Assumptions and methodology

The Plan Bay Area analysis was revised to account for improved fuel economy estimates, updated vehicle populations, and new vehicle sales in the Bay Area based on data included in EMFAC. PG&E's expected investment to deploy 7,500 chargers in the Bay Area was also incorporated along with the assumption that MTC would fund additional chargers after PG&E's initial investment. The analysis assumes a total of 76,000 chargers deployed, roughly one charger for every five PHEVs, which would enable all of these PHEVs to be able to plug in at work if multiple vehicles are able to plug into a single charger over the course of a day).

In the baseline, it was assumed that 40 percent of miles traveled by PHEVs would be in charge-depleting mode, i.e., electric miles instead of gasoline-powered miles. This comes from EMFAC, which indicates that:

> [CARB] staff modeled PHEVs as having a 25-mile all-electric range, which equates to a utility factor of 0.40. For the average commute, this would mean that 40 percent of the VMT could be from all-electric, and 60 percent would be from gasoline operations.[19]

This percentage is assumed to increase to 80 percent due to the Regional Charger Program. PHEVs have what is referred to as an all-electric range of between ten and fifty miles. For instance, the Ford C-MAX Energi has an all-electric range of 21 miles; the first-generation Chevrolet Volt has an all-electric range of 38 miles; and the second-generation Volt has a range of 53 miles. Data from The EV Project[20] and a paper from GM engineers[21] indicate that drivers of the Chevrolet Volt, a proxy for a PHEV with a 40-mile range (PHEV-40), are able to drive about 74 percent of their total miles in EV-mode without support from the internal combustion engine. Data from Ford Motor Company[22] indicate that vehicles in their Energi line, including the C-Max and Fusion, both of which are proxies for a PHEV with a 20-mile range (PHEV-20), travel about 33 percent of miles using electricity. ICF estimates that the current market is about 50/50 for PHEV-20/PHEV-40 today. Note that these values represent driver behavior during the early stages of charging infrastructure deployment, during which there has been no substantial dedicated effort to maximize eVMT. In other words, absent any concerted effort to deploy charging infrastructure to maximize electric miles, the average PHEV is likely traveling about 54 percent of its miles using electricity.

A network of regional charging infrastructure will further increase the percentage of miles that PHEVs travel in electric mode and the methodology assumes:

- Each charger deployed through the Regional Charger Network serves multiple vehicles each day over the course of a four-hour charging shift
- The chargers deployed are Level 2 chargers that deliver electricity with a rating of 5 kW; and
- The average electric vehicle consumes 0.35 kWh/mi.

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[19] California Air Resources Board, EMFAC2014 Volume III – Technical Documentation v1.0.7, May 2015. Available online at http://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf.

[20] EV Project, Quarterly Reports e.g., http://www.theevproject.com/cms-assets/documents/127233-901153.q2-2013-rpt.pdf.

[21] Duhon, A., Sevel, K., Tarnowsky, S., and Savagian, P., "Chevrolet Volt Electric Utilization," SAE Int. J. Alt. Power. 4(2):269-276, 2015.

[22] Proceedings EVS29, Montreal.

A ratio of approximately one charger for every five vehicles over the program years is assumed, consistent with charger-to-vehicle ratios estimated by Electric Power Research Institute (EPRI) for workplace and public charging opportunities and research conducted by ICF regarding charging optimization.[23]

These assumptions mean that these chargers would provide enough electricity to power 57 electric miles per day. Given that there are expected to be 420,000 PHEVs in the Bay Area in 2035 and 76,000 chargers funded through this program, this is equivalent to ten electric miles per PHEV per day. According to EMFAC, the average vehicle travels an average of 31 miles per day, so this additional electricity amounts to 32 percent of miles traveled. Given that the charger program is designed to fill gaps in charging opportunities, this is added to the baseline of 54 percent eVMT, which equals 86 percent. Even though there is the potential for improvements in the parameters that form the basis for the assumptions used to derive the additional eVMT potential of the regional charger network—battery sizing, vehicle efficiency, charger utilization, power delivered—over the next several decades, a conservative 80 percent eVMT assumption is used.

It is conceivable that the increased availability of chargers could increase the sales of BEVs in addition to increasing the percentage of electric miles for PHEVs, but this effect is not included in the calculations to be conservative.

Analysis steps

To determine the CO_2 emission reductions from charging infrastructure deployment throughout the region, the methodology:

1. Modified the percentage of miles traveled in charge depleting mode from the baseline 40% to 80%.
2. Determined the CO_2 emissions reduction.
    a. The CO_2 emissions attributable to PHEVs are based on how many miles each vehicle spends in each mode (charge depleting or gas/diesel).
    b. The CO_2 emission reductions are determined as the difference between the emissions attributable to the PHEV versus the emission that would have otherwise occurred using an average conventional gasoline vehicle.
3. Made no changes to the VMT.

Results

Table 11 and Table 12 summarize the CO_2 reductions due to the Regional Charger Program.

[23] D. Bowermaster, EPRI. *How Much Electric Vehicle Charging is Needed?* California Plug-in Electric Vehicle Collaborative Meeting, August 2012.

Table 11: Daily CO_2 emissions reductions due to the Regional Charger Program (short tons)

EIR Alternative	2020	2035	2040
Proposed Plan	-252	-1,188	-1,287
Main Streets	-252	-1,188	-1,287
Big Cities	-252	-1,188	-1,287
EEJ	-252	-1,188	-1,287

Table 12: Per capita CO_2 emissions reductions from 2005 baseline due to the Regional Charger Program (percent)

EIR Alternative	2020	2035	2040
Proposed Plan	-0.35%	-1.42%	-1.46%
Main Streets	-0.35%	-1.42%	-1.46%
Big Cities	-0.35%	-1.42%	-1.46%
EEJ	-0.35%	-1.42%	-1.46%

Emission reductions are consistent across all EIR alternatives since the analysis does not rely on inputs from MTC's travel model.

Vehicle Buyback & PEV Incentive

Plug-in electric vehicles (PEVs) are being adopted at significant levels today in the Bay Area, and the Zero Emission Vehicle (ZEV) Program and the Low-Carbon Fuel Standard in California are regulatory drivers for advanced vehicle technologies and alternative fuels. However, despite the near-term success of PEVs in the Bay Area, PEV sales are still relatively small, representing just 3.5 percent of total new light-duty vehicle sales. There is also some uncertainty regarding the medium- to long-term availability of PEV purchase incentives; for example, California's Clean Vehicle Rebate Program changed in 2016 to adjust incentives based on household income, and the federal tax credit could change in future tax reform. Furthermore, one of the main drivers today for PEV sales, particularly for PHEVs, is HOV lane access: PHEVs are eligible for the green sticker and BEVs are eligible for the white sticker and qualify for HOV lane access through January 1, 2019. Although the California Air Resources Board (CARB) has continued to expand the number of HOV stickers for PEVs, it is likely that they will be limited and eventually discontinued, as they were for non-plug-in hybrid vehicles.

This program can provide a combination of an incentive of up to $2,500 to purchase a PEV along with the buyback of older, less efficient vehicles. This is intended to extend the market for PEVs into a broader range of income classes. Most analysts agree that the first adopters of PEVs are generally higher income individuals who own their homes, and in many cases, own or have owned a hybrid electric vehicle (e.g., a Toyota Prius). The higher purchase price of PEVs makes it difficult for middle and low income consumers to purchase them. Older and wealthier individuals tend to buy more new vehicles than other cross-sections of the population. This demographic also tends to buy newer cars more frequently. Furthermore, research from IHS Markit has shown that owners of both new and used vehicles are holding on to their vehicles longer, the scrappage rate has flattened, and the average age of vehicles has increased; the researchers forecast that the population of oldest vehicles (16 or more years)

will grow the fastest, increasing by 30% by 2021.[24] Additionally, CARB estimates that half of cars live to be 15 years old and one quarter live to be 20 years old. Interestingly, if a vehicle does survive to 20, there is a 40 percent chance it will be on the road for another ten years after that.[25] This will impact the turnover of the fleet significantly and may slow the purchase of new vehicles, including plug-in electric vehicles.

The vehicle buyback program seeks to accelerate fleet turnover while also incentivizing the purchase of advanced vehicle technology. The program will be designed to target older vehicles meeting a certain fuel economy threshold (as measured via miles per gallon, MPG) for scrapping, and will be coordinated with the Air District's Vehicle BuyBack Program. The consumer is only eligible for the program if the new vehicle being purchased is a PHEV or BEV. The incentive amount will vary with the fuel economy of the vehicle being traded in (measured in MPG) as well as the vehicle type being purchased (e.g., PHEV or BEV). Depending on the fuel economy threshold set by the program, the combination vehicle buyback and incentive program is intended to induce demand in middle and lower income brackets that might otherwise delay car purchasing, purchase a new conventional vehicle or purchase a used vehicle.

MTC's travel model does not account for the mix of passenger vehicle and fuel types (e.g., conventional vehicles, PHEVs, BEVs, hybrids, etc.) in the Bay Area. Instead, the mix of vehicles is accounted for in the emissions rates that MTC draws from EMFAC. This means that CO_2 reductions due to strategies that increase the proportion of clean vehicles in the passenger fleet, like this one, must be captured off-model, by adjusting the assumptions contained within EMFAC. The assumptions from EMFAC, which fully accounts for the impact of state policies to reduce vehicle emissions, were used as a basis for analyzing this strategy.

Assumptions and Methodology

The analysis was updated from Plan Bay Area to account for improved fuel economy estimates, updated vehicle populations, and new vehicle sales in the Bay Area based on data included in EMFAC.

We made the following assumptions in this methodology:

- Implementation of this program will begin in 2020.
- 94,000 additional PEVs will be on the road by 2035. This is a modest annual increase of about 1.5% in new vehicle sales attributable to the buyback incentive program.
- For the initial analysis, the deployed vehicles are evenly split between PHEVs and BEVs.
- The average incentive levels are $1,500 per PHEV and $2,500 per BEV. However, the actual incentive will vary based on the MPG of the vehicle being traded in as well as the technology of the vehicle being purchased.

Analysis steps

[24] "Vehicles Getting Older: Average Age of Light Cars and Trucks in U.S. Rises Again in 2016 to 11.6 Year, IHS Markit Says." Press release from IHS Markit, November 2016. Available online at: http://news.ihsmarkit.com/press-release/automotive/vehicles-getting-older-average-age-light-cars-and-trucks-us-rises-again-201

[25] Report to the California Legislature, Accelerated Light-Duty Vehicle Retirement Program. http://www.arb.ca.gov/research/apr/reports/l2070.pdf. Accessed March 20, 2013.

To calculate CO_2 reductions due to the introduction of PEVs, the methodology:

1. Determined the difference between the daily CO_2 emissions attributable to the PEV versus the emissions that would have otherwise occurred using an average conventional gasoline vehicle. For PHEVs this depends on the assumed proportion of time spent in charge depleting mode versus gas/diesel mode.
2. Multiplied the result by the number of new PEVs expected to be deployed due to the program.

Results

Table 11 and Table 12 summarize the CO_2 reductions due to the Vehicle Buyback and PEV Incentive Program.

Table 13: Daily CO_2 emissions reductions due to the Vehicle Buyback and PEV Incentive Program (short tons)

EIR Alternative	2020	2035	2040
Proposed Plan	0	-363	-234
Main Streets	0	-363	-234
Big Cities	0	-363	-234
EEJ	0	-363	-234

Table 14: Per capita CO_2 emissions reductions from 2005 baseline due to the Vehicle Buyback and PEV Incentive Program (percent)

EIR Alternative	2020	2035	2040
Proposed Plan	0%	-0.44%	-0.27%
Main Streets	0%	-0.44%	-0.27%
Big Cities	0%	-0.44%	-0.27%
EEJ	0%	-0.44%	-0.27%

Emissions reductions will be realized after 2020, which is when program implementation is planned. Emissions reductions are consistent across all EIR alternatives because the analysis does not rely on inputs from the travel model.

Clean Vehicles Feebate Program

Originally coined in the 1990s, feebate programs are envisioned as a revenue-neutral approach to shift buying habits in the transportation and energy sectors. MTC is proposing to use a feebate program to incentivize consumers to scrap older vehicles and purchase higher performing, cleaner vehicles. A feebate program uses a combination of fees and rebates to change consumer behavior. Consumers purchasing a vehicle that emit more carbon dioxide on a gram per mile basis than a defined standard are assessed a fee at the point of purchase. These fees are used to provide rebates to consumers that purchase vehicles that emit less CO_2 on a gram per mile basis than the defined standard.

Feebates have been used with some success in other countries, including Denmark, France, the Netherlands and Norway. The structure of a feebate program for California was studied in considerable

detail for CARB.[26] In fact, California has come close to implementing a statewide feebate program on multiple occasions through legislative efforts – the first time in the early 1990s and more recently in 2008. Feebate programs have been proposed as a legislative initiative (e.g., AB 493 Ruskin in 2007), whereby implementation authority would be delegated to CARB and the State Board of Equalization, and a feebate program is not dissimilar from the fee that was approved by the Legislature via AB 434 (Sher, Chapter 807, Statutes of 1991) establishing the Transportation Fund for Clean Air (TFCA). Moving forward, MTC will engage with CARB and the Air District to determine how the program would be implemented and how to progress legislation prior to the start of the program. The feebate program would require legislation to provide regional agencies with the authority to implement it.

MTC's travel model does not account for the mix of passenger vehicle and fuel types (e.g., conventional vehicles, PHEVs, BEVs, hybrids, etc.) in the Bay Area. Instead, the mix of vehicles is accounted for in the emissions rates that MTC draws from EMFAC. This means that CO_2 reductions due to strategies that increase the proportion of clean vehicles in the passenger fleet, like this one, must be captured off-model, by adjusting the assumptions contained within EMFAC. The assumptions from EMFAC, which fully accounts for the impact of state policies to reduce vehicle emissions, were used as a basis for analyzing this strategy.

Assumptions and methodology

The analysis draws heavily from results reported by Bunche & Greene's feebate analysis for CARB. The lower-end estimate of impact of feebates on average fuel economy (1.6 percent) from their analysis is assumed. The major benefits of the feebate programs are attributable to the first several years of the program. In their report, the authors state, "In later years the level of CO_2 emissions reduction relative to the standard diminishes as the standard becomes more stringent."

It is assumed that the feebate program is introduced in 2020 and that there are not any increases in fuel economy standards at the state or national level after 2025. To maintain consistency with the Bunch & Greene study, this analysis assumes a $20 per g/mi feebate rate in a single benchmark system. Based on a sensitivity analysis performed by Bunch & Greene, an increase to $30 per g/mi feebate rate will yield a 50 percent increase in CO_2 reductions.

Since Plan Bay Area, the analysis was updated to account for improved fuel economy estimates, updated vehicle populations, and new vehicle sales in the Bay Area based on data included in EMFAC.

Analysis steps

To calculate the CO_2 emission reductions due to the Clean Vehicles Feebate Program, the methodology:

1. Estimated the improvement in fuel economy (back-calculated based on grams per mile estimates) of the new vehicle fleet due to the feebate program. Maximum improvement at the outset of the program is about 2.9%; by 2040, the improvement is reduced to 0.1%.
2. Based on vehicle turnover, estimated the modified fuel economy of entire fleet after the change to improved fuel economy of new vehicles as of 2020 due to the feebate program.

[26] Greene, David L. & Bunch, David S., "Potential design, implementation, and benefits of a feebate program for new passenger vehicles in California", Prepared for the California Air Resources Board, Contract UCD 08-312, February 2011.

3. Calculated the differential in well-to-wheels CO_2 emissions[27] of the modified fleet versus baseline fleet.

Results

Table 15 and Table 16 summarize the CO_2 reductions due to the Clean Vehicles Feebate Program.

Table 15: Daily CO_2 emissions reductions due to the Clean Vehicles Feebate Program (short tons)

EIR Alternative	2020	2035	2040
Proposed Plan	0	-682	-446
Main Streets	0	-682	-446
Big Cities	0	-682	-446
EEJ	0	-682	-446

Table 16: Per capita CO_2 emissions reductions from 2005 baseline due to the Clean Vehicles Feebate Program (percent)

EIR Alternative	2020	2035	2040
Proposed Plan	0%	-0.82%	-0.51%
Main Streets	0%	-0.82%	-0.51%
Big Cities	0%	-0.82%	-0.51%
EEJ	0%	-0.82%	-0.51%
No Project	0%	-0.82%	-0.51%

Emission reductions will be realized after 2020, which is when program implementation is planned. Emission reductions are consistent across all EIR alternatives because the analysis does not rely on inputs from the travel model.

Smart Driving

When discussing transportation sector CO_2 reduction strategies, experts often refer to a three-legged stool consisting of vehicle technology, cleaner fuels and driver behavior. California's state agencies are leading the way on the first two legs, and SB 375 focuses on a key approach to changing driver behavior, reducing VMT by investing in alternatives to driving, locating housing closer to jobs and creating complete communities. In addition to changing how *much* someone drives, people can change *how* they drive through training in the techniques of smart driving. Smart driving behaviors are easy-to-implement actions (e.g., change in driving style, vehicle maintenance, etc.) that any driver can do. Research shows that it is possible to affect significant and swift reduction in emissions through behavior change.[28] MTC's

[27] Well-to-wheels (WTW) analysis refers to lifecycle analysis applied to transportation fuels and their use in vehicles. The analysis includes, for instance, resource extraction, fuel production, delivery of the fuel to vehicle, and end use of fuel in vehicle operations.

[28] See http://assets.511.org/pdf/drivesmart/Smart-Driving-Resource-Guide.pdf for a MTC's review of relevant research.

Smart Driving campaign reduces CO_2 emissions by promoting the driver behaviors that have been shown most effective in improving vehicle efficiency.

This strategy builds on series of previous actions by MTC. From 2013 to 2015, MTC conducted a pilot smart driving campaign that consisted of three core programs, which MTC evaluated to understand which approaches produce the most significant CO_2 reductions:[29]

- Fuel economy meters
- Smart driving lessons
- Smartphone app

In 2015, MTC expanded its smart driving investments into a region-wide program called Drive Smart Bay Area. The program development and implementation included:

- Selecting a smart driving in-vehicle device to distribute to drivers
- Developing a marketing strategy
- Developing a program website and video
- Establishing two device purchasing options
- Implementing the marketing strategy

As part of Plan Bay Area 2040, MTC is assessing the program's evaluation report prior to further implementation of the *Drive Smart Bay Area* program. Off-model analysis is necessary to capture CO_2 reductions due to this strategy because most of the behaviors promoted through *Drive Smart Bay Area* reduce vehicle emission rates, which come from EMFAC, not from MTC's travel model.

Assumptions and methodology

Implementation of the smart driving program is assumed to begin in 2020. Gas prices are currently relatively low, which would mean less consumer interest in the program and fewer CO_2 reductions if it were implemented today. It is assumed that gas prices will rise again by 2020 to the level that they were at when MTC completed its initial evaluations of the strategies discussed below, and remain at least that level thereafter. Therefore the changes to emission rates due to smart driving behaviors are assumed to be constant over time.

Smart driving educational campaign

In February 2011, MTC conducted a Baseline Climate Initiatives Survey that asked Bay Area residents about the ease of adopting various smart driving behaviors.[30] Of the respondents, 55 percent stated that it would be very easy or easy to practice "smooth acceleration and deceleration and staying at or below the speed limit." The U.S. Department of Energy reports that rapid acceleration and deceleration, and speeding can lead to fuel economy reductions from five percent on city streets to 33 percent on

[29] MTC Climate Initiatives Program Evaluation: Smart Driving, Prepared for MTC by ICF, 2015. A summary of findings is available at: http://mtccms01.prod.acquia-sites.com/sites/default/files/CIP%20Evaluation%20Summary%20Report_7-13-15_FINAL.pdf

[30] MTC conducted a Baseline Climate Initiatives Survey in February 2011. It was a 15 minute random digit dial and cell phone sample of Bay Area driving age residents. It was offered in English, Mandarin, and Spanish and had an overall margin of error of ±3.5%

freeways,[31] but current studies demonstrate a much lower average fuel economy savings of two to four percent[32] for smart driving behaviors.[33] This analysis assumes a conservative fuel efficiency reduction from smooth acceleration and deceleration of three percent.

60 percent of participants stated that it would be very easy or easy to practice "at least once per week, link several trips together, such as going shopping and to the post office, which you would normally make separately." For this analysis, this statement is interpreted to mean the driver will link three shopping trips per week due to the campaign (effectively reducing two trips).

The number of people to adopt smart driving behaviors is based on the survey results listed above and other cost effectiveness assumptions related to marketing investments. Preliminary cost estimates indicate that $1 million in advertising and education can purchase 8,000,000 TV views, 5,000,000 radio listeners and 15,000,000 online hits. Since the public needs to see or hear an advertisement multiple times before recognizing the message and being able to practice the requested behavior change; costs assume twelve views are needed for to internalize the message.[34] In order to reduce CO_2 emissions, potential adopters must also be capable of and motivated to make a change. For trip linking practices, ten percent of potential adopters are assumed to adopt the behavior. For smooth acceleration and deceleration, a more conservative assumption of five percent is used to avoid double counting the benefits of the fuel economy meter distribution program (see below for more details).

Fuel economy meters

Under this program, MTC would offer a rebate to consumers who purchase an on-board diagnostics (OBD)-connected after-market device similar to those made by Automatic and provided by MTC under Drive Smart Bay Area and the ones tested in the initial smart driving pilots. Recent studies have demonstrated an average fuel economy savings of two to four percent from smart driving education and devices. The MTC-funded smart driving pilot found that the installation of OBD-connected smart driving devices resulted in a 1.6 percent improvement in fuel economy; however the results are not statistically significant because they fall within the background fluctuation in fuel economy that was observed among the participating vehicles.[35] MTC also funded a study at UC Davis to test a smart driving app with different types of feedback. The most effective feedback mechanism (presenting the journey fuel

[31] US Department of Energy, Office of Energy Efficiency and Renewable Energy, US Environmental Protection Agency, Model Year 2005 Fuel Efficiency Guide, DOE/EE-0302

[32] While recent studies have found a range in the potential fuel efficiency improvements from smart driving techniques from zero to 18%, the substantial range in results is likely due to shortcomings in the studies including: insufficient sample sizes, short study periods, variations in the testing environment (simulations or tracks versus real-world driving conditions), and the lack of statistically significant findings. The 2-4% range is seen in studies that overcome these issues.

[33] Kurani, K., Stillwater, T., and Jones, M., 2013. Ecodrive I-80: A Large Sample Fuel Economy Feedback Field Test: Final Report. Institute of Transportation Studies Report: ITS-RR-13-15. Available at http://www.fueleconomy.gov/feg/pdfs/EcoDrive%20I-80.pdf

[34] The estimated number of views needed for the target audience to engage with the message varies dramatically by the medium and quality of the creative, but 12 views is seen as relatively standard conversion rate by marketing firms such as RHDG and Wit Media.

[35] ICF. 2015. *Climate Initiatives Program: Evaluation Summary Report*. Available at: http://mtccms01.prod.acquia-sites.com/sites/default/files/CIP%20Evaluation%20Summary%20Report_7-13-15_FINAL.pdf

economy in the center of the screen) had a statistically discernable effect of a 15.5 percent reduction in fuel consumption; however, the sample size was small with approximately 18 people viewing that version of feedback.[36] Given these varied findings, a three percent fuel economy savings from OBD-connected devices is used.

The analysis assumes that MTC will distribute 900,000 OBD-connected devices by 2035, covering roughly 30 percent of all Bay Area registered vehicles. This assumptions does not account for the fact that an increasing number of vehicles, particularly hybrids, come with displays that show information such as real-time fuel efficiency, five-minute-average fuel efficiency, overall trip fuel efficiency, or simple diagrams that indicate relative fuel efficiency.[37] This may help to further accelerate the spread of smart driving behaviors beyond the behavior change induced by the devices that MTC distributes.

Analysis steps

Smart driving educational campaign

Smooth acceleration and deceleration

In order to estimate CO_2 reductions due to smooth acceleration and deceleration, the methodology:

1. Estimated the total number of media impressions by multiplying the media ad-buy for smooth acceleration and deceleration by the estimated number of impressions per million dollars of media spend (28 million impressions/$1 million).
2. Estimated the number of residents who internalize the campaign messaging by dividing the total media impressions by the estimated number of views required for engagement (12).
3. Estimated the number of potential adopters by multiplying the total number of residents who internalized the campaign messaging by the percent of Bay Area residents who responded that adopting smooth acceleration and deceleration behaviors would be easy or very easy.
4. Estimated the number of residents who adopt the behavior by multiplying the number of potential adopters by the by the assumed adoption rate (5%).
5. Estimated the total daily VMT affected by the smart driving behavior by multiplying the number of behavior adopters by the regional average daily VMT per capita.
6. Estimated the equivalent quantity of VMT reduced due to smooth acceleration and deceleration by multiplying the total daily VMT affected by the assumed fuel efficiency savings of smooth acceleration and deceleration (3%).
7. Calculate the CO_2 emissions reduced by multiplying the equivalent VMT reduced by the EMFAC exhaust emissions CO_2 factor.

Trip linking

In order to estimate CO_2 reductions due to trip linking, the methodology:

1. Repeated Steps 1-4 of the smooth acceleration and deceleration calculations above, substituting using the appropriate assumptions for trip linking, to estimate the number of residents who adopt the behavior.

[36] Ibid.

[37] Barkenbus, Jack, 2010. *Eco-driving: An overlooked climate change initiative.* Journal of Energy Policy, 38 (2010) 762–769.

2. Estimated the annual vehicle trips reduced by the behavior adopters by multiplying the total number of behavior adopters by the assumed number of trips reduced per week (2) and the number of weeks per year (52).
3. Calculated the total annual VMT reduced by multiplying the annual vehicle trips reduced by the average length of a shopping trip in the region (approximately 4.6 miles; varies by year and scenario).
4. Divided the results of steps 2 and 3 by the assumed number of driving days per year (300) to calculate total daily trips and VMT reduced.
5. Summed the product of trip-end emission rates and daily vehicle trip reductions and the product of exhaust emission rates and daily VMT reductions to calculate total CO_2 emission reductions.

Fuel economy meters

In order to estimate CO_2 reductions due to trip linking, the methodology:

1. Estimated the total number of devices to be distributed by dividing the total investment by the assumed price per device (including program management fees).
2. Calculated the total daily VMT affected by the smart driving behavior by multiplying the number of behavior adopters by the regional average daily VMT per vehicle.
3. Estimated the equivalent quantity of VMT reduced due to fuel economy meters by multiplying the total daily VMT by the assumed fuel efficiency savings of the fuel economy meters (3%).
4. Calculated the CO_2 emissions reduced by multiplying the equivalent VMT reduced by the EMFAC exhaust CO_2 emissions factor.

Results

Table 17 and Table 18 summarize the CO_2 reductions due to MTC's efforts to promote smart driving.

Table 17: Daily emissions reductions due to smart driving (short tons)

EIR Alternative	2020	2035	2040
Proposed Plan	0	-677	-669
Main Streets	0	-681	-677
Big Cities	0	-672	-663
EEJ	0	-662	-655

Table 18: Per capita emissions reductions from 2005 baseline due to smart driving (percent)

EIR Alternative	2020	2035	2040
Proposed Plan	0%	-0.72%	-0.67%
Main Streets	0%	-0.72%	-0.68%
Big Cities	0%	-0.71%	-0.67%
EEJ	0%	-0.70%	-0.66%

Targeted Transportation Alternatives

Targeted transportation alternatives programs employ a variety of strategies, including individual travel consultation, organized events, and distribution of outreach and informational materials to encourage people to shift from driving alone to carpooling, transit, biking, or walking for any of their trips. These programs are "targeted" because they tailor activities and materials to focus on the travel needs and transportation options that are available in specific job centers or residential neighborhoods. Several MPOs and large cities in the U.S. administer these programs, partnering with local governments, transit agencies, employers and transportation management associations to customize projects to different communities. Examples from other jurisdictions operating programs for ten years or more with positive results include Portland Metro's Regional Travel Options program, the City of Portland's SmartTrips program and the City of Seattle's InMotion program.

In addition, several public agencies in the Bay Area currently have marketing programs in place. Two of the Climate Initiative Innovative Grant pilot projects funded by MTC from 2011-13, GoBerkeley and Connect, Redwood City!, include targeted transportation alternatives components. The former involved working with property managers to market travel options and provide free bus passes to residents of multifamily transit-oriented developments, while the latter included focused outreach to employers with billboard and print advertising to promote alternatives to driving alone. These two projects were among the most effective Climate Initiative projects at reducing CO_2 emissions, and the targeted transportation alternatives components of these projects stood out for their cost effectiveness and results.

MTC's Targeted Transportation Alternatives Program is considering a similar implementation approach to Portland Metro's Regional Travel Options grant program, which issues grants to public agencies, transportation management associations, and non-profits to implement projects that make it easier for travelers to get around without driving alone.[38]

Off-model analysis is necessary to capture CO_2 reductions from targeted transportation alternatives programs. MTC's last travel survey which informs the travel model, was conducted in 2010, and does not capture the impacts of new strategies that change travel behavior such as this one. These strategies might be captured by a future model once they have been implemented to the extent that they influence people's behavior and can be captured by the travel surveys, and once the model framework has been altered to include inputs that represent the presence of behavior change strategies.

Assumptions and Methodology

Data from two community-based travel marketing programs from the Portland, OR metropolitan area was used to estimate CO_2 reductions for a regional targeted transportation alternatives program in the Bay Area. Since travel marketing programs are typically targeted toward employees or households; this strategy includes both workplace and residential components, and uses data from different programs to assess each component. Employee-focused programs can be more cost-effective at reaching workers

[38] http://www.oregonmetro.gov/tools-partners/grants-and-resources/travel-options-grants

who are concentrated at large employers, making outreach efficient. However, residential programs can produce greater CO_2 reductions per person reached because they affect all trips, not just commute trips.

Evaluation data from employer-focused projects in Portland Metro's Regional Travel Options program[39] was used to assess the impact of programs that target employers and data from the City of Portland's SmartTrips program,[40] which focuses on households, to assess the impacts of residential programs. These are longstanding programs, and each has conducted multiple rounds of evaluation, with each round covering multiple projects. Information was collected on the cost per year of marketing to an individual household/employee, the percentage of residents/employees receiving program information who change behavior (penetration rate), and the reduction in SOV mode share for those residents/employees from evaluations of these two programs. These were then applied to the daily number and distance of trips for all trips (for households) and for commute trips (for employees) to estimate VMT impacts. Evaluations of targeted transportation alternatives programs typically focus on impacts during the year after programs are implemented; long-term evaluations that provide information on how long behavior change persists due to marketing programs is not currently available. Therefore, the methodology uses a conservative assumption that behavior change lasts for five years before participants revert to their previous travel patterns. Table 19 summarizes these assumptions.

Table 19: Summary of Targeted Transportation Alternatives assumptions

	Households	Employees
Average cost per year of marketing to a household/employee	$3.11	$4.34
Average penetration rate	29%	33%
Average reduction in SOV mode share among participants	11%	9%
Average daily one-way driving trips affected	5.47	2
Average one-way trip length (miles)[41]	6.4	10.6
Number of years for which behavior change persists[42]	5	5

MTC's investment in this strategy is the primary input in the CO_2 estimates. Based on the budget available and the amount of CO_2 reductions that it needs to achieve, MTC anticipates investing $2.15 million in this strategy per year, with $2 million going to residential programs and $150,000 going to employee programs. Since this is a new strategy, MTC will be working with consultants to develop an approach to implementation.

[39] Metro, Regional Travel Options Program Evaluation Report, 2012, http://www.oregonmetro.gov/sites/default/files/appendix_d_rto_evaluation_2012.pdf.
[40] Portland Bureau of Transportation, Past SmartTrips 2004-2010, http://www.portlandoregon.gov/transportation/56703.
[41] This is an output from MTC's travel model, and the value varies for different scenarios and years. The values shown are for the Proposed Plan in 2035; values for other scenario/year combinations range from 6.2-6.5 (household) and 10.2-11.2 (employee)
[42] For 2020, we used a value of 3 since the strategy will take effect in 2017, and will only have been in place for 3 years.

Analysis steps

The amount of CO_2 reductions that MTC realizes through this strategy depends on the amount that it invests. To calculate CO_2 reductions based on the amount invested, the methodology:

1. Allocated the investment between household and employee programs.
2. Divided the respective household/employee investments by the average cost per year of marketing to a household/employee and multiplied by the penetration rate in order to calculate the total number of participants.
3. Multiplied the total number of participants by the average reduction in SOV mode share among participants and the average daily one-way driving trips affected to calculate the average daily number of vehicle trips reduced due to programs funded that year.
4. Multiplied the average daily number of vehicle trips reduced by the number of years for which behavior change persists to estimate the total average daily number of vehicle trips reduced in any given year. This accounts for the fact that programs funded in previous years produce ongoing vehicle trip reductions.
5. Multiplied daily vehicle trips reduced by the average one-way trip length to calculate the average daily VMT reductions.
6. Summed the product of trip-end emission rates and daily vehicle trip reductions and the product of exhaust emission rates and daily VMT reductions to calculate total CO_2 emission reductions.

Results

Table 20 and Table 21 summarize the CO_2 reductions due to Targeted Transportation Alternatives.

Table 20: Daily CO_2 emissions reductions due to Targeted Transportation Alternatives (short tons)

EIR Alternative	2020	2035	2040
Proposed Plan	-954	-1,604	-1,578
Main Streets	-958	-1,598	-1,586
Big Cities	-952	-1,581	-1,553
EEJ	-948	-1,574	-1,552

Table 21: Per capita CO_2 emissions reductions from 2005 baseline due to Targeted Transportation Alternatives (percent)

EIR Alternative	2020	2035	2040
Proposed Plan	-1.17%	-1.71%	-1.59%
Main Streets	-1.17%	-1.70%	-1.60%
Big Cities	-1.16%	-1.68%	-1.57%
EEJ	-1.16%	-1.67%	-1.57%

Trip Caps

Trip caps set limits on the number of vehicle trips to and from workplaces, and enforce these limits via regular traffic counts and penalties for non-complying workplaces. By limiting the number of vehicle trips to a level below unrestricted access, trip caps can reduce CO_2 emissions. Local governments have the ability to set trip caps on new development projects through development agreements, but their

authority to enact caps on existing development is more limited. Trip caps therefore typically focus on minimizing the traffic impacts of new office or commercial development. Several South Bay cities, including Mountain View, Sunnyvale, Cupertino and Menlo Park, have enacted trip caps,[43] as has the City of Los Angeles. Stanford University and Santa Clara County have had a trip cap in effect for over ten years. Most of these caps focus on individual development projects, but Mountain View's trip cap covers an entire business district, providing a promising template for a program to encourage trip caps in employment centers throughout the Bay Area.[44] They are an increasingly popular strategy to reduce vehicle trips in the Bay Area's high-growth employment centers, and MTC can promote their use throughout the region, reducing CO2 emissions.

Trip caps complement, but do not duplicate, other commute transportation demand management strategies included in the off-model analysis, such as the Commuter Benefits Ordinance (CBO). These other strategies act as "carrots" that provide employees incentives to use sustainable commute modes; trip caps are a "stick" that require employers to reduce trips by employees or face fines. Trip caps also apply to different employers than other TDM strategies; for example the CBO applies to all employers with 50+ employees throughout the Bay Area whereas trip caps apply to all new businesses, regardless of size, in designated employment areas. In order to implement trip caps across the region, MTC is considering offering assistance to local governments through its existing planning grant programs.

Off-model analysis is necessary to capture CO_2 reductions from trip caps because MTC's last travel survey, which informs its model, was conducted in 2010, and does not capture the impacts of new strategies that change travel behavior such as this one. These strategies might be captured by a future model once they have been implemented to the extent that they influence people's behavior in a way that can be captured by the travel surveys, and once the model framework has been altered to include inputs that represent the presence of behavior change strategies.

Assumptions and Methodology

Estimating CO_2 reductions due to trip caps involves multiplying the number of employees affected by trip caps by the average reduction in vehicle trips for employees subject to caps, and then converting the result to CO_2 reductions.

In order to determine the number of employees affected, two assumptions were made where trip caps can apply:

1. Trip caps generally apply in employment centers where there is a high enough concentration of businesses to justify the effort in adopting a cap. All traffic analysis zones (TAZs) with more jobs than residents are assumed to represent employment centers.
2. Trip caps are feasible in areas where there is a high enough density of jobs and land uses to support transit, carpooling and other sustainable commute options which is assumed to be the case in all TAZs designated as either urban or suburban in MTC's travel model.

[43] For a summary of South Bay trip cap programs, see Cities21, Palo Alto Comp Plan Transport Element, Extended Comments, September 1, 2015, http://www.cities21.org/cms/PA_Transp_Elem_C21.pdf.
[44] City of Mountain View, North Bayshore Transportation Demand Management (TDM) Plan Guidelines, February 2015, http://www.mountainview.gov/civicax/filebank/blobdload.aspx?BlobID=15164.

Trip caps would apply to all new employees located in TAZs that met both of these criteria.

The next step was to determine the reduction in vehicle trips due to the trip cap. The baseline number of vehicle trips per employee in each TAZ where trip caps apply were estimated. To this, the average vehicle trip reduction from the City of Mountain View's North Bayshore Transportation Demand Management (TDM) Plan Guidelines was applied, which is based on a target of 45 percent drive-alone mode share and 10 percent carpool mode share.[45] According to MTC's travel model, the current regional average carpool occupancy is 2.58 people per carpool, and the cap is equivalent to 0.98 vehicle trips per employee per day. This represents a 40 percent decrease from the current level of 1.62 vehicle trips per employee per day, which was calculated based on the current mode share for home-based work trips to the superdistrict containing the North Bayshore area—76 percent drive alone and 14 percent carpool, according to MTC's travel model.

The 40 percent reduction in the North Bayshore trip cap represents an average estimate for the effectiveness of trip caps that should apply throughout the region, because it reflects both the opportunities and challenges that will be present in many Bay Area locations. On one hand, the area is experiencing high demand for commercial development and the City of Mountain View took a proactive approach to minimizing the traffic impacts of new development through the trip cap. On the other hand, the North Bayshore area is very challenging to serve with alternatives to driving given that it is cut off from the rest of Mountain View by the Bayshore Freeway and is home to the Shoreline Amphitheatre, the Google campus, and other land uses that are not conducive to walking, bicycling or transit.

Analysis steps

To calculate CO_2 reductions due to trip caps, the methodology:

1. Identified all TAZs where trip caps are likely to apply: urban and suburban TAZs with more jobs than households.
2. Identified the current drive-alone and carpool mode share for home-based work trips to each of the trip-capped TAZs.
3. Calculated the average number of daily vehicle trips per employee in each trip-capped TAZ by dividing carpool mode share by current average carpool occupancy, adding the result to the drive-alone mode share, and multiplying the sum by two to account for round trips to and from work.
4. Estimated the reduction in daily vehicle trips per employee by applying the trip cap reduction factor derived from the Mountain View North Bayshore TDM Plan (40%) to the result of Step 4.
5. Multiplied the result of step 4 by the number of new employees projected for the TAZ between 2015 and the scenario year to estimate the total reduction in daily vehicle trips for each trip-capped TAZ.
6. Multiplied the result of step 5 by the average trip distance for home-based work trips for each trip-capped TAZ to estimate the total reduction in daily VMT for each trip-capped TAZ.
7. Summed the total reduction in daily vehicle trips across all trip-capped TAZs.
8. Summed the total reduction in daily VMT across all trip-capped TAZs.
9. Summed the product of trip-end emission rates and daily vehicle trip reductions and the product of exhaust emission rates and daily VMT reductions to calculate total CO_2 emission reductions.

[45] City of Mountain View 2015, p. 4-3.

Results

Table 22 and Table 23 summarize the CO_2 reductions due to Trip Caps.

Table 22: Daily CO_2 emissions reductions due to trip caps (short tons)

EIR Alternative	2020	2035	2040
Proposed Plan	-120	-688	-856
Main Streets	-150	-764	-1,111
Big Cities	-143	-646	-836
EEJ	-150	-622	-761

Table 23: Per capita CO_2 emissions reductions from 2005 baseline due to trip caps (percent)

EIR Alternative	2020	2035	2040
Proposed Plan	-0.15%	-0.73%	-0.86%
Main Streets	-0.18%	-0.81%	-1.12%
Big Cities	-0.18%	-0.69%	-0.84%
EEJ	-0.18%	-0.66%	-0.77%

Expanded Bike Share System

Bike share systems provide bicycles that members of the public can borrow and use for limited durations (typically under a day) in exchange for a fee. In most systems, bike share bicycles must be borrowed from and returned to designated docking stations, though some systems have payment technology and locks mounted on bicycles to allow users to leave them anywhere in the service area. In August 2013, in collaboration with MTC, the Air District implemented a bike share system in the Bay Area on a limited pilot basis called Bay Area Bike Share (BABS). BABS consists of approximately 700 bikes deployed across 70 stations; approximately half in San Francisco and the other half in South Bay cities. Stations are located at key destinations such as transit hubs and employment and commercial areas. In 2015, Motivate, a private company, took over management of BABS, and with corporate sponsorship, rebranded and will expand the system tenfold, including new service areas in the inner East Bay.[46] MTC will be promoting bike sharing through its existing or new outreach programs.

Bike share reduces CO_2 emissions by enabling users to take short-distance trips by bicycle instead of by car, and in some cases bike share can eliminate longer trips by enabling users to connect to transit. As the bike share system expands, further CO_2 reductions will be realized. Motivate's plans for the bike share system are still evolving, but CO_2 reductions are quantified based on information currently available to MTC about the planned system.

Assumptions and methodology

Based on information from Motivate, the criteria for service area expansion in Berkeley, Emeryville, Oakland, San Francisco and San Jose includes transit-rich, densely developed areas, in addition to some targeted neighborhoods for equitable access. Since the service areas are still being decided, the priority

[46] http://www.bayareabikeshare.com/expansion

development areas (PDAs) or areas in which most of the region's growth is anticipated to occur, were used to identify neighborhoods in each city that met these criteria. A contiguous bike share service area was then mapped that included these neighborhoods. Summarized below are the boundaries of the service area for each city:

- Berkeley: bike share covers the area east of College Ave., south of Cedar St., west of 6th St., and extends south to the city limits for contiguity with the Emeryville/Oakland bike share network.
- Emeryville: bike share covers the entire city east of Interstate 80.
- Oakland: North of Interstate 580, bike share covers the area west of College/Broadway. South of Interstate 580, the bike share service area is bounded in the southeast by 55th Ave. and in the southwest by 12th St. / San Leandro St., except for the area around Jack London square, where it extends down to the harbor.
- San Francisco: bike share covers most of the city, excluding hilly residential neighborhoods around Twin Peaks / Mt. Sutro, the Sunset, industrial lands along the Bayfront, and major parks. Though the Sunset meets the criteria for density and transit service, it was excluded as it is isolated from the rest of the service area.
- San Jose: bike share covers downtown and the residential neighborhoods surrounding it. The service area is bounded by Interstates 680 and 101 in the northeast, Tully Rd. in the southeast, Monterey Highway and Meridian Ave. in the west, and Berryessa Rd. and Hedding St. in the northwest.

With these geographic areas mapped, the number of residents and jobs in each using 2010 Census and Longitudinal Employer-Household Dynamics data were calculated. Information from Motivate on the approximate number of bikes in each city and the number of bikes per station was used to estimate the number of planned stations for each city.

The Institute for Transportation and Development Policy (ITDP) *Bike-Share Planning Guide* includes data on the effectiveness (in terms of the number of trips per 1,000 residents) of different bike share systems and compares effectiveness to different system characteristics.[47] ITDP finds that station density best explains bike share usage, and uses linear regression analysis to identify the relationship between station density and effectiveness. ITDP's data from U.S. systems was used to determine the equation best describing the relationship between station density and daily trips per 1,000 residents for U.S. systems:

*Daily trips per 1,000 residents = 1.74 * station density + 17.2*

This equation was then applied to the station density and number of residents in each bike share service area to estimate the total number of bike share trips per day. Table 24 summarizes the data and calculations for each service area.

[47] Institute for Transportation and Development Policy, *The Bike-Share Planning Guide*, Fig. 3, p. 45, https://www.itdp.org/the-bike-share-planning-guide-2/.

Table 24: Summary of bike share service areas by city

City	Number of bikes	Bikes per station	Total stations	Area (km2)	Stations per km2	Estimated daily bike share trips per 1000 residents	Current number of residents	Estimated current daily bike share trips (pop-based)
Berkeley	400	10	40	11.5	3.5	23.1	79,090	1,823
Emeryville	100	10	10	2.6	3.8	23.7	8,596	204
Oakland	850	10	85	34.8	2.4	21.3	207,116	4,401
San Francisco	4,500	15	300	67.0	4.5	24.8	659,773	16,356
San Jose	1,000	10	100	46.3	2.2	20.8	188,213	3,907
Total	**6,850**		**535**	**162**			**1,142,788**	**26,691**

The average regional population growth was applied to estimate the number of bike share trips in each scenario year. This results in a conservative estimate of bike share trips since bike share serves many of the Bay Area's highest-growth communities.

The bike share trips were then converted to VMT reductions based on results from MTC's evaluation of BABS, which found that each bike share trip reduced an average of 1.3 VMT.[48] Many bike share trips do not reduce any VMT because they do not displace vehicle trips, while others only reduce short trips, but the evaluation found that a significant share of bike share trips enables users to connect to transit, eliminating longer trips.

Analysis steps

To calculate CO_2 reductions due to bike sharing, the methodology:

1. Identified a service area for each city with planned bike share and collected data on the area, number of planned bike share stations, and population for each service area.
2. Divided the number of bike share stations by the area of each service area to calculate the number of stations per square kilometer.
3. Applied a regression formula derived from ITDP to estimate the number of daily trips per 1,000 residents in each service area.
4. Multiplied the results by the number of residents in each area to estimate the number of daily bike share trips in each service area, and summed results across all service areas.
5. Multiplied total daily bike share trips by average population growth for the scenario year to estimate future total daily bike share trips.
6. Multiplied the result by the average VMT reduced per bike share trip to estimate total VMT reductions due to bike share.
7. Multiplied exhaust emission rates by daily VMT reductions to calculate total CO_2 emission reductions.

[48] MTC Climate Initiatives Program Evaluation: Pilot Bike-sharing Program, Prepared for MTC by Eisen-Letunic, 2015.

Results

Table 25 and Table 26 summarize the CO_2 reductions due to the expanded bike share system. CO_2 reductions do vary slightly between the different EIR alternatives assessed, but the differences between alternatives are not visible at the level of precision shown in the tables.

Table 25: Daily CO_2 emissions reductions due to the expanded bike share system (short tons)

EIR Alternative	2020	2035	2040
Proposed Plan	-18	-21	-22
Main Streets	-18	-21	-22
Big Cities	-18	-21	-22
EEJ	-18	-21	-22

Table 26: Per capita CO_2 emissions reductions from 2005 baseline due to the expanded bike share system (percent)

EIR Alternative	2020	2035	2040
Proposed Plan	-0.02%	-0.02%	-0.02%
Main Streets	-0.02%	-0.02%	-0.02%
Big Cities	-0.02%	-0.02%	-0.02%
EEJ	-0.02%	-0.02%	-0.02%

Expanded Bicycle Infrastructure

Bicycle infrastructure makes it safer, more convenient, and more pleasant for people to bike instead of driving. Research has found that many people are interested in bicycling more, but are concerned about being hit by motor vehicles.[49] Building new infrastructure allows trips by bicycle instead of driving. As of 2005, the Bay Area had over 6,500 miles of bike lanes and trails, and this number is projected to increase to over 11,300 miles by 2035, significantly increasing the number of bicyclists and reducing VMT and CO_2 emissions as a result. Off-model analysis is required to account for CO_2 reductions due to improving bicycle infrastructure. MTC's model estimates bicycle trips based on based on trip distance alone, and does not capture the quality of bicycle infrastructure nor how infrastructure affects travel.

MTC's Regional Bicycle Plan 2009 Update[50] estimated the cumulative cost of building out the regional bikeway network as $1.4 billion dollars. Local governments are assumed to fund projects not included in the regional bikeway network.

[49] Dill, J., and N. McNeil, Four Types of Cyclists? Testing a Typology to Better Understand Bicycling Behavior and Potential, Oregon Transportation Research and Education Consortium, August 10, 2012, http://web.pdx.edu/~jdill/Types_of_Cyclists_PSUWorkingPaper.pdf.

[50] Metropolitan Transportation Commission. Regional Bicycle Plan for the San Francisco Bay Area 2009 Update. March 2009. http://www.pedbikeinfo.org/pdf/PlanDesign_SamplePlans_Region_SFBayArea2009.pdf

Assumptions and methodology

In order to estimate CO_2 reductions due to expanded bicycle infrastructure, current and planned bicycle infrastructure in the region data was collected. Data on current infrastructure comes from MTC's Regional Bicycle Plan, which included an inventory of bicycle lanes and trails in the region. Data on planned infrastructure comes from an inventory of planned local and regional facilities conducted in 2013, and may underestimate future infrastructure because it does not capture facilities included in more recent plans. The impact on bicycle mode share was then estimated based on research conducted by Dill and Carr,[51] which estimates the absolute increase in bicycle mode share based on the number of bicycle lane-miles per square mile of land. Dill and Carr observed that if bike lane density increases by one lane-mile per square mile, bicycle mode share goes up by an absolute one percent, e.g., if the baseline mode share is two percent, it will increase to three percent. This increase in bicycle mode share was then converted to a reductions in vehicle trips, VMT and CO_2 emissions.

Analysis steps

To calculate CO_2 reductions due to expanded bicycle infrastructure, the methodology:

1. Divided miles of current bicycle lanes by the land area of the region to calculate the current bicycle facility density, in terms of the number of bicycle lanes and trails per square mile.
2. Repeated the step above for the scenario year.
3. Calculated the percent change in bicycle facility density between the current and scenario year.
4. Divided the percent change in bicycle facility density by 100 to estimate the change in bicycle mode share.
5. Multiplied the change in bicycle mode share by the baseline number of daily vehicle trips to estimate the number of daily vehicle trips reduced.
6. Multiplied the result by the average length of bicycle trips for the scenario year to estimate the average daily VMT reduced.
7. Summed the product of trip-end emission rates and daily vehicle trip reductions and the product of exhaust emission rates and daily VMT reductions to calculate total CO_2 emission reductions.

Results

Table 27 and Table 28 summarize the CO_2 reductions due to expanded bicycle infrastructure.

Table 27: Daily CO_2 emissions reductions due to expanded bicycle infrastructure (short tons)

EIR Alternative	2020	2035	2040
Proposed Plan	-24	-50	-52
Main Streets	-24	-51	-54
Big Cities	-22	-48	-51
EEJ	-24	-51	-53

[51] Dill, J., and T. Carr. 2003, Bicycle Commuting and Facilities in Major U.S. Cities: If You Build Them, Commuters Will Use Them – Another Look, *Transportation Research Board* 1828, National Academy of Sciences, Washington, D.C.

Table 28: Per capita CO_2 emissions reductions from 2005 baseline due to expanded bicycle infrastructure (percent)

EIR Alternative	2020	2035	2040
Proposed Plan	-0.03%	-0.05%	-0.05%
Main Streets	-0.03%	-0.05%	-0.05%
Big Cities	-0.03%	-0.05%	-0.05%
EEJ	-0.03%	-0.05%	-0.05%

Appendix D
List of Transportation Control Measures (TCM) Projects

TCM A: Regional Express Bus

Regional Express Bus Program

Vehicle Deployment Throughout the Bay Area[1]

February 18, 2009

Transit Operator	Vehicle Type	Serial Registration[2]	Funds Obligated	Operating Agency	Route	Weekday Service Hours	Weekend Service Hours
AC Transit[3]	Over-The-Road	1M8PDMPA43P055640	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA63P055641	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA83P055642	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPAX3P055643	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	IM8PDMPA33P055645	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA53P055646	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA73P055647	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA93P055648	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA73P055650	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA93P055621	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA03P055652	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA23P055653	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA43P055654	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA63P055655	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPAX3P055657	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA13P055658	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA33P055659	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPAX3P055660	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA13P055661	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	IM8PDMPA73P055664	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	IM8PDMPA83P055656	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	IM8PDMPA03P055666	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	IM8PDMPA93P055665	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	IM8PDMPA53P055663	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	IM8PDMPA33P055662	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	IM8PDMPA23P055667	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	IM8PDMPA03P055649	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPAX3P055674	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA43P055668	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	IM8PDMPA63P055669	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA23P055670	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA43P055671	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA63P055672	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	IM8PDMPA83P055673	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA33P055676	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA53P055677	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	IM8PDMPA73P055678	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA93P055679	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Over-The-Road	1M8PDMPA13P055675	3/25/2001	AC Transit	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Suburban	15GCD201531111916	1/27/2003	AC Transit - Transferred from SamTrans[4]	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Suburban	15GCD201731111917	1/27/2003	AC Transit - Transferred from SamTrans[4]	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Suburban	15GCD201931111918	1/27/2003	AC Transit - Transferred from SamTrans[4]	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
	Suburban	15GCD201031111919	1/27/2003	AC Transit - Transferred from SamTrans[4]	Transbay - Bay, San Mateo, and Dumbarton Bridges	5:00 AM - 12:45 AM	5:30 AM - 12:50 AM
CCCTA	Suburban	15GDD271X21111662	3/25/2002	CCCTA	960B & 960C Mitchell Drive Park & Ride/Bishop Ranch	**960B** 5:15 AM - 7:51 PM **960C** 6:15 AM - 7:50 PM	
	Suburban	15GDD271X21111663	3/25/2002	CCCTA	960B & 960C Mitchell Drive Park & Ride/Bishop Ranch	**960B** 5:15 AM - 7:51 PM **960C** 6:15 AM - 7:50 PM	
	Suburban	15GDD271X21111664	3/25/2002	CCCTA	960B & 960C Mitchell Drive Park & Ride/Bishop Ranch	**960B** 5:15 AM - 7:51 PM **960C** 6:15 AM - 7:50 PM	
	Suburban	15GDD271X21111665	3/25/2002	CCCTA	960B & 960C Mitchell Drive Park & Ride/Bishop Ranch	**960B** 5:15 AM - 7:51 PM **960C** 6:15 AM - 7:50 PM	
	Suburban	15GDD271X21111666	3/25/2002	CCCTA	960B & 960C Mitchell Drive Park & Ride/Bishop Ranch	**960B** 5:15 AM - 7:51 PM **960C** 6:15 AM - 7:50 PM	
	Suburban	15GDD271X21111667	3/25/2002	CCCTA	960B & 960C Mitchell Drive Park & Ride/Bishop Ranch	**960B** 5:15 AM - 7:51 PM **960C** 6:15 AM - 7:50 PM	
	Suburban	15GDD271X21111668	3/25/2002	CCCTA	960B & 960C Mitchell Drive Park & Ride/Bishop Ranch	**960B** 5:15 AM - 7:51 PM **960C** 6:15 AM - 7:50 PM	
	Suburban	15GDD271X21111669	3/25/2002	CCCTA	960B & 960C Mitchell Drive Park & Ride/Bishop Ranch	**960B** 5:15 AM - 7:51 PM **960C** 6:15 AM - 7:50 PM	
	Suburban	15GDD271X21111670	3/25/2002	CCCTA	960B & 960C Mitchell Drive Park & Ride/Bishop Ranch	**960B** 5:15 AM - 7:51 PM **960C** 6:15 AM - 7:50 PM	
	Suburban	15GDD271X21111671	3/25/2002	CCCTA	960B & 960C Mitchell Drive Park & Ride/Bishop Ranch	**960B** 5:15 AM - 7:51 PM **960C** 6:15 AM - 7:50 PM	
	Suburban	15GDD271X21111672	3/25/2002	CCCTA	960B & 960C Mitchell Drive Park & Ride/Bishop Ranch	**960B** 5:15 AM - 7:51 PM **960C** 6:15 AM - 7:50 PM	
	Suburban	15GDD271X21111673	3/25/2002	CCCTA	960B & 960C Mitchell Drive Park & Ride/Bishop Ranch	**960B** 5:15 AM - 7:51 PM **960C** 6:15 AM - 7:50 PM	
	Suburban	15GDD271X21111674	3/25/2002	CCCTA	960B & 960C Mitchell Drive Park & Ride/Bishop Ranch	**960B** 5:15 AM - 7:51 PM **960C** 6:15 AM - 7:50 PM	

TCM A: Regional Express Bus

Regional Express Bus Program

Vehicle Deployment Throughout the Bay Area[1]

February 18, 2009

Transit Operator	Vehicle Type	Serial Registration[2]	Funds Obligated	Operating Agency	Route	Weekday Service Hours	Weekend Service Hours
Fairfield-Suisun	Over-The-Road	1M8PDMPA13P055949	11/14/2002	Fairfield-Suisun	40 Vacaville/Fairfield to Pleasant Hill/Walnut Creek BART	5:00 AM - 9:57 AM & 3:01 PM - 8:31 PM	
	Over-The-Road	1M8PDMPA83P055950	11/14/2002	Fairfield-Suisun	40 Vacaville/Fairfield to Pleasant Hill/Walnut Creek BART	5:00 AM - 9:57 AM & 3:01 PM - 8:31 PM	
	Suburban	15GCD201731111920	1/27/2003	Fairfield-Suisun - Transferred from SamTrans[4]	30 Fairfield to Davis/Sacramento	6:08 AM - 7:05 PM	Sat Only 8:03 AM - 4:43 PM
	Suburban	15CGD201931111921	1/27/2003	Fairfield-Suisun - Transferred from SamTrans[4]	30 Fairfield to Davis/Sacramento	6:08 AM - 7:05 PM	Sat Only 8:03 AM - 4:43 PM
Golden Gate	Over-The-Road	1M8PDMPA53PO55680	11/8/2002	Golden Gate	71 Novato/San Rafael/Marin City/San Francisco	6:35 AM - 8:27 PM	Sat Only 6:59 AM - 7:28 PM
	Over-The-Road	1M8PDMPA73PO55681	11/8/2002	Golden Gate	71 Novato/San Rafael/Marin City/San Francisco	6:35 AM - 8:27 PM	Sat Only 6:59 AM - 7:28 PM
	Over-The-Road	1M8PDMPA93PO55682	11/8/2002	Golden Gate	72 Santa Rosa/Rohnert Park/Cotati/San Francisco	3:54 AM - 8:59 AM & 2:12 PM - 8:05 PM	
	Over-The-Road	1M8PDMPAO3PO55683	11/8/2002	Golden Gate	72 Santa Rosa/Rohnert Park/Cotati/San Francisco	3:54 AM - 8:59 AM & 2:12 PM - 8:05 PM	
	Over-The-Road	1M8PDMPA23PO55684	11/8/2002	Golden Gate	75 Santa Rosa/Rohnert Park/Cotati · Petaluma /Marin Civic Center/San Rafael	5:02 AM - 8:35 AM & 2:59 PM - 7:18 PM	
	Over-The-Road	1M8PDMPA43PO55685	11/8/2002	Golden Gate	75 Santa Rosa/Rohnert Park/Cotati · Petaluma /Marin Civic Center/San Rafael	5:02 AM - 8:35 AM & 2:59 PM - 7:18 PM	
LAVTA	Suburban	15GDD271521110872	3/25/2002	LAVTA	70X Pleasanton - Walnut Creek Express	5:09 AM - 9:16 AM & 3:19 PM - 7:42 PM	
	Suburban	15GDD271721110873	3/25/2002	LAVTA	70X Pleasanton - Walnut Creek Express	5:09 AM - 9:16 AM & 3:19 PM - 7:42 PM	
	Suburban	15GDD271921110874	3/25/2002	LAVTA	70X Pleasanton - Walnut Creek Express	5:09 AM - 9:16 AM & 3:19 PM - 7:42 PM	
	Suburban	15GDD271021110875	3/25/2002	LAVTA	70X Pleasanton - Walnut Creek Express	5:09 AM - 9:16 AM & 3:19 PM - 7:42 PM	
NCTPA	Suburban	15GCD201631111911	1/27/2003	SamTrans Transfering to NCPTA on 2/28/09	June 2009 - Calistoga/Yountville/Napa/American Canyon/Baylink Ferry Terminal	5:00 AM-6:30 PM; Peak Only	
	Suburban	15GCD201831111912	1/27/2003	SamTrans Transfering to NCPTA on 2/28/09	June 2009 - Calistoga/Yountville/Napa/American Canyon/Baylink Ferry Terminal	5:00 AM-6:30 PM; Peak Only	
Tri-Delta	Over-The-Road	1M8PDMPA63P055686	11/8/2002	Tri-Delta	300 Express Commuter Service Brentwood/Pittsburg BART	4:15 AM - 9:07 PM	
	Over-The-Road	1M8PDMPA63P055687	11/8/2002	Tri-Delta	300 Express Commuter Service Brentwood/Pittsburg BART	4:15 AM - 9:07 PM	
	Over-The-Road	1M8PDMPA63P055688	11/8/2002	Tri-Delta	300 Express Commuter Service Brentwood/Pittsburg BART	4:15 AM - 9:07 PM	
	Over-The-Road	1M8PDMPA63P055689	11/8/2002	Tri-Delta	300 Express Commuter Service Brentwood/Pittsburg BART	4:15 AM - 9:07 PM	
Vallejo	Over-The-Road	1M8PDMPA13P055627	11/14/2002	Leased to Fairfield-Suisun[5]	90 Fairfield/El Cerrito Del Norte BART	4:55 AM - 10:35 PM	
	Over-The-Road	1M8PDMPA33P055628	11/14/2002	Leased to Fairfield-Suisun[5]	90 Fairfield/El Cerrito Del Norte BART	4:55 AM - 10:35 PM	
	Over-The-Road	1M8PDMPA53P055629	11/14/2002	Vallejo	78 Vallejo/Benicia/Pleasant Hill BART/Walnut Creek BART	5:00 AM - 8:38 PM	
	Over-The-Road	1M8PDMPA13P055630	11/14/2002	Leased to Fairfield-Suisun[5]	90 Fairfield/El Cerrito Del Norte BART	4:55 AM - 10:35 PM	
	Over-The-Road	1M8PDMPA33P055631	11/14/2002	Leased to Fairfield-Suisun[5]	90 Fairfield/El Cerrito Del Norte BART	4:55 AM - 10:35 PM	
	Over-The-Road	1M8PDMPA53P055632	11/14/2002	Vallejo	78 Vallejo/Benicia/Pleasant Hill BART/Walnut Creek BART	5:00 AM - 8:38 PM	
	Over-The-Road	1M8PDMPA73P055633	11/14/2002	Vallejo	78 Vallejo/Benicia/Pleasant Hill BART/Walnut Creek BART	5:00 AM - 8:38 PM	
	Over-The-Road	1M8PDMPA93P055634	11/14/2002	Vallejo	78 Vallejo/Benicia/Pleasant Hill BART/Walnut Creek BART	5:00 AM - 8:38 PM	
	Over-The-Road	1M8PDMPA03P055635	11/14/2002	Vallejo	78 Vallejo/Benicia/Pleasant Hill BART/Walnut Creek BART	5:00 AM - 8:38 PM	
	Over-The-Road	1M8PDMPA23P055636	11/14/2002	Leased to Fairfield-Suisun[5]	90 Fairfield/El Cerrito Del Norte BART	4:55 AM - 10:35 PM	
	Over-The-Road	1M8PDMPA43P055637	11/14/2002	Leased to Fairfield-Suisun[5]	90 Fairfield/El Cerrito Del Norte BART	4:55 AM - 10:35 PM	
	Over-The-Road	1M8PDMPA83P055639	11/14/2002	Leased to Fairfield-Suisun[5]	90 Fairfield/El Cerrito Del Norte BART	4:55 AM - 10:35 PM	
WestCat	Suburban	15GCD211121111974	3/7/2002	WestCat	30Z Hercules Transit Center/Martinez/BART	5:59 AM - 8:03 PM	
	Suburban	15GCD211521111975	3/7/2002	WestCat	30Z Hercules Transit Center/Martinez/BART	5:59 AM - 8:03 PM	
	Suburban	15GCD211121111976	3/7/2002	WestCat	30Z Hercules Transit Center/Martinez/BART	5:59 AM - 8:03 PM	
	Suburban	15GCD201X31111913	1/27/2003	WestCat - Transferred from SamTrans[4]	LYNX Rodeo/Hercules/San Francisco Transbay Terminal	5:00 AM - 9:45 AM & 3:30 PM - 8:33 PM	
	Suburban	15GCD201131111914	1/27/2003	WestCat - Transferred from SamTrans[4]	LYNX Rodeo/Hercules/San Francisco Transbay Terminal	5:00 AM - 9:45 AM & 3:30 PM - 8:33 PM	
	Suburban	15GCD201331111915	1/27/2003	SamTrans[4]	LYNX Rodeo/Hercules/San Francisco Transbay Terminal	5:00 AM - 9:45 AM & 3:30 PM - 8:33 PM	

1. Please note: MTC does not currently have information compiled on cumulative operating hours for all of the TCRP buses. For projects where the buses have been assigned to routes receiving operating funds that are tied to required performance measures, MTC has data compiled on the annual performance of those routes.
2. Each vehicle may be deployed on any of the approved routes listed for each operator.
3. Vehicles are deployed as needed for various routes on weekdays and weekends. All transbay service does not operate on weekends, but all vehicles may be deployed on weekend transbay service.
4. SamTrans REX service was discontinued in 2007 due to low ridership; all 11 TCRP vehicles purchased for the REX service were reallocated to AC Transit, Fairfield-Suisun Transit, WestCat, and NCTPA.
5. Route 90 service was transferred from Vallejo to Fairfield-Suisun Transit in 2006.

TCM B: Bicycle/Pedestrian Program
TDA ARTICLE 3 [Transportation Development Act Funds for Bicycle and Pedestrian Projects]

	SPONSOR	PROJECT NAME	AMOUNT
FY 2003-04	Alameda County	ADA Compliant Accessible Ramps	$ 105,767
FY 2003-04	Alameda County	Tesla Road Bicycle Lanes	$ 51,000
FY 2003-04	City of Albany	Manor Way Pedestrian Improvements	$ 22,706
FY 2003-04	City of Berkeley	Bicycle Safety Education	$ 30,000
FY 2003-04	City of Berkeley	Prepare plan for implementing future	$ 31,033
FY 2003-04	City of Fremont	Bike Detectors, Bike Logo on Pavement,	$ 128,989
FY 2003-04	City of Hayward	Installation of Wheelchair Ramps	$ 84,198
FY 2003-04	City of Livermore	Complete Portion of S. Livermore Valley	$ 97,301
FY 2003-04	City of Newark	Silliman Activity Center Pedestrian/	$ 59,158
FY 2003-04	City of Oakland	Bancroft Ave. Bike Lanes (96th - Durant)	$ 96,000
FY 2003-04	City of Oakland	Citywide Ped. Curb Ramp Program -	$ 295,266
FY 2003-04	City of Oakland	Lake Merritt 12th St. Dam Ped/Bike	$ 116,000
FY 2003-04	City of Oakland	Pedestrian Bulb Outs-Highland &	$ 100,000
FY 2003-04	City of Oakland	Walk/Bike Calif. Conf. - Alameda Co.	$ 30,000
FY 2003-04	City of Oakland	West City of Oakland Bay Trail	$ 289,000
FY 2003-04	City of Piedmont	Sidewalk Extension and Curb Cuts	$ 6,506
FY 2003-04	City of Pleasanton	ADA Compliant Wheelchair Accessible	$ 38,627
FY 2003-04	City of San Leandro	Install New Curb Cuts & Upgrade	$ 40,000
FY 2003-04	City of Brentwood	Installation of Wheelchair Ramps	$ 30,000
FY 2003-04	City of Concord	Iron Horse Trail Rte 242 Undercrossing	$ 36,000
FY 2003-04	City of Concord	Wren Avenue Ped. Improvements	$ 45,000
FY 2003-04	Contra Costa County	Bicycle/Pedestrian Safety Education	$ 21,500
FY 2003-04	Contra Costa County	Olympic Blvd. Ped. Path Phase II	$ 115,000
FY 2003-04	City of Lafayette	Hough Avenue Sidewalk	$ 37,000
FY 2003-04	City of Moraga	Rheem Blvd./Moraga Rd. Intersection	$ 66,100
FY 2003-04	City of Pittsburg	Polaris Drive Bike Facility	$ 77,500
FY 2003-04	City of San Ramon	Dougherty Road Sidewalk	$ 25,000
FY 2003-04	Marin County	Bicycle/Pedestrian Bridge	$ 140,000
FY 2003-04	Mill Valley	Signage Project	$ 7,200
FY 2003-04	City of Novato	Commuter Bikeway Connection	$ 402,286
FY 2003-04	City of Novato	Hill Road Path Connection	$ 60,000
FY 2003-04	City of San Anselmo	Purchase & Install Bicycle Racks	$ 15,000
FY 2003-04	Napa County	Yountville Cross Rd. Bike Lane	$ 150,000
FY 2003-04	Yountville	Yountville Cross Rd. Bike Lane	$ 47,000
FY 2003-04	City of Campbell	Westmont Ave. Improvement Project	$ 43,192
FY 2003-04	City of Los Altos	Fremont Ave. Sidewalk Phase III	$ 15,781
FY 2003-04	Los Altos Hills	Paseo Del Roble Pedestrian Bridge	$ 9,554
FY 2003-04	City of Milpitas	Calaveras Blvd. Sidewalk & Bike Path	$ 36,895
FY 2003-04	Mountain View	Access Ramp Installation	$ 24,905
FY 2003-04	Mountain View	Audible Ped. Signal Installations	$ 16,500
FY 2003-04	Mountain View	Bicycle Path Construction	$ 13,113
FY 2003-04	Palo Alto	Baffle Replacements: Calif. Ave.	$ 15,993
FY 2003-04	Palo Alto	Homer Ave. Ped. Bicycle Undercrossing	$ 293,000
FY 2003-04	Palo Alto	Ped. Walkway Lighted Warning System	$ 20,000
FY 2003-04	City of San Jose	ADA Wheel Chair Curb & Ramp Install.	$ 100,000
FY 2003-04	City of San Jose	Certified TDA Fiscal Audit	$ 9,000
FY 2003-04	City of San Jose	Murdock Park Bridge over San Tomas	$ 100,000
FY 2003-04	City of San Jose	Ped & Bike Facility Signing & Striping	$ 100,000
FY 2003-04	City of San Jose	Ped & Bike Safety Education	$ 50,000
FY 2003-04	City of San Jose	Pedro Street Sidewalk Improvement	$ 124,434
FY 2003-04	City of San Jose	Street Sidewalk Improvement	$ 147,435
FY 2003-04	City of Santa Clara	Certified TDA Fiscal Audit	$ 5,000
FY 2003-04	City of Santa Clara	Install Bike & Ped. Improvements	$ 61,815
FY 2003-04	City of Santa Clara	Update City's Existing Bike Plan &	$ 3,900
FY 2003-04	Santa Clara County	Bike Detector @ various Intersections	$ 58,118

TCM B: Bicycle/Pedestrian Program
TDA ARTICLE 3 [Transportation Development Act Funds for Bicycle and Pedestrian Projects]

	SPONSOR	PROJECT NAME	AMOUNT
FY 2003-04	Santa Clara County	Path along McKee Rd. bet Staples Ave.	$ 50,000
FY 2003-04	City of Saratoga	Saratoga Avenue Walkway Project	$ 17,254
FY 2003-04	City of Sunnyvale	Calabazas Creek Trail	$ 50,152
FY 2003-04	San Francisco City and County	Bicycle Projects	$ 404,000
FY 2003-04	San Francisco City and County	Pedestrian Projects	$ 300,000
FY 2003-04	City of Half Moon Bay	Construct Rt. 92 Bicycle Lanes and	$ 485,146
FY 2003-04	City of Pacifica	Milagra Drive Overcrossing at State	$ 240,000
FY 2003-04	City of San Bruno	Crystal Springs Rd. Traffic Signal	$ 20,000
FY 2003-04	City of San Mateo	Bikeway Detection Units	$ 30,000
FY 2003-04	City of San Mateo	Regional Bayfront Trail Upgrade	$ 150,000
FY 2003-04	South San Francisco	Construct San Francisco Bay Trail	$ 100,000
FY 2003-04	South San Francisco	Orange Avenue Intersection Improve.	$ 100,000
FY 2003-04	City of Benicia	Park Road Bike/Ped Improvements	$ 160,000
FY 2003-04	Solano County	Dixon to Davis Bike Route	$ 125,000
FY 2003-04	City of Suisun City	Central County Bikeway	$ 25,000
FY 2003-04	City of Healdsburg	Foss Creek Northwestern Pacific Multi-	$ 99,695
FY 2003-04	City of Petaluma	Washington Creek Multi-Use Path	$ 175,000
FY 2003-04	City of Santa Rosa	Sonoma Ave. Bike Lanes Phase II	$ 50,000
FY 2003-04	Sonoma County	Old Redwood Highway Class II Bike Lanes	$ 350,000
FY 2004-05	Alameda County	Conduct a planning study & develop	$ 38,000
FY 2004-05	Alameda County	Conduct bicycle plan study	$ 59,650
FY 2004-05	Alameda County	Sign & stripe 0.6 miles of 6-foot wide	$ 100,000
FY 2004-05	City of Berkeley	Contract with a qualified consultant	$ 34,281
FY 2004-05	City of Berkeley	Educate children about bicycle safety	$ 30,000
FY 2004-05	City of Fremont	Stripe bike lanes, modify bike lane	$ 121,168
FY 2004-05	City of Hayward	Design & construct ADA wheel chair	$ 88,925
FY 2004-05	City of Newark	Design & construct ADA wheel chair	$ 27,009
FY 2004-05	City of Piedmont	Design & construct ADA wheel chair	$ 6,852
FY 2004-05	City of Pleasanton	Preserve Golf Course	$ 75,000
FY 2004-05	City of San Leandro	Install curb ramps, accessible ped.	$ 41,438
FY 2004-05	City of San Leandro	Install curb ramps, accessible ped.	$ 50,024
FY 2004-05	City of San Leandro	Install curb ramps, accessible ped.	$ 8,000
FY 2004-05	City of Antioch	Improve curbs, ramps, crosswalk, signs	$ 80,000
FY 2004-05	City of Brentwood	Install lighted crosswalk and flashing lights	$ 31,500
FY 2004-05	City of Concord	Construct 500 ft of 4-to 6-foot wide bike/ped path	$ 45,000
FY 2004-05	City of El Cerrito	Conduct a planning study for bicycle/ped needs	$ 26,500
FY 2004-05	City of Lafayette	Construct 125 feet of 5-foot wide	$ 10,000
FY 2004-05	City of Martinez	Replace the two existing unsafe bridges	$ 90,000
FY 2004-05	City of Orinda	Develop a Lamorinda Trail Map & install	$ 28,500
FY 2004-05	City of Pittsburg	Construct Class II and Class III	$ 51,000
FY 2004-05	City of Pittsburg	Sign & stripe 3600 feet of 13-foot wide	$ 52,000
FY 2004-05	City of San Pablo	Install bike/ped friendly lighting	$ 45,100
FY 2004-05	City of Walnut Creek	Construct 2040 feet of asphalt walkway	$ 95,000
FY 2004-05	Contra Costa County	Construct 344 feet of 4.5-foot wide bike/ped path	$ 201,000
FY 2004-05	Contra Costa County	Construct 402 feet of 5-foot wide bike/ped path	$ 158,928
FY 2004-05	Contra Costa County	Provide bicycle & pedestrian safety	$ 20,000
FY 2004-05	City of San Rafael	Construct 6' wide sidewalk & stripe	$ 207,710
FY 2004-05	City of Sausalito	Construct 6' wide sidewalk & stripe	$ 186,290
FY 2004-05	City of Calistoga	Construct 1.0 miles of Class I bike-ped path	$ 270,881
FY 2004-05	City of Napa	Construct 2.0 miles of Class I bikeway	$ 149,727
FY 2004-05	City of Campbell	Construct Class II bike lockers at J.D.	$ 24,308
FY 2004-05	City of Campbell	Widen & regrade bicycle/Pedestrian	$ 515,600
FY 2004-05	City of Cupertino	Construct 1030' bike path	$ 107,622
FY 2004-05	City of Gilroy	Complete 881' of Uvas Creek Class I	$ 50,000
FY 2004-05	City of Gilroy	Refurbish & replace bikeway signs, etc	$ 10,611

TCM B: Bicycle/Pedestrian Program
TDA ARTICLE 3 [Transportation Development Act Funds for Bicycle and Pedestrian Projects]

	SPONSOR	PROJECT NAME	AMOUNT
FY 2004-05	City of Gilroy	Rehabilitate, resurface & stripe 2.5 mile path	$ 60,666
FY 2004-05	City of Los Altos	Construct approx. 300' of concrete bike path	$ 27,354
FY 2004-05	City of Los Altos	Replace approx. 2,800 lineal feet of bike path	$ 17,580
FY 2004-05	City of Los Gatos	Design & construct solution to restore path	$ 35,000
FY 2004-05	City of Morgan Hill	Install bicycle sensitive detector	$ 36,000
FY 2004-05	City of Mountain View	Install countdown pedestrian signals	$ 30,000
FY 2004-05	City of Mountain View	Install curb access ramps at Showers	$ 2,381
FY 2004-05	City of Mountain View	Install curb access ramps at various	$ 15,696
FY 2004-05	City of Mountain View	Purchase & install 14 bicycle lockers	$ 14,506
FY 2004-05	City of Palo Alto	Construct raised pavement pedestrian path	$ 50,000
FY 2004-05	City of San Jose	Construct 0.66 miles of Class I paved path	$ 712,131
FY 2004-05	City of San Jose	Design & construct ADA wheel chair improvement	$ 176,068
FY 2004-05	City of San Jose	Design & construct sidewalk for school	$ 36,000
FY 2004-05	City of San Jose	Design & install 12' wide asphalt path	$ 136,821
FY 2004-05	City of San Jose	Install median island ped. Refuge	$ 185,000
FY 2004-05	City of San Jose	Install sidewalk, ADA curb ramps	$ 90,000
FY 2004-05	City of San Jose	Provide bicycle & pedestrian safety	$ 50,000
FY 2004-05	City of San Jose	Stripe crosswalks, paint pavements	$ 100,000
FY 2004-05	City of Santa Clara	Perform an annual transportation	$ 5,000
FY 2004-05	City of Santa Clara	Stripe crosswalks & paint pavements	$ 62,148
FY 2004-05	City of Saratoga	Install continuous curb & gutter	$ 19,357
FY 2004-05	City of Sunnyvale	Provide gates, signs, fencing and ramps	$ 27,550
FY 2004-05	Santa Clara County	Construct a 3,300' by 5' walkway	$ 63,403
FY 2004-05	Santa Clara County	Sign & restripe 8" stripe on shoulders	$ 121,105
FY 2004-05	SF City/County	Bicycle safety brochures, maps, public education	$ 31,500
FY 2004-05	SF City/County	Prelim. engineering (plan & design) of bike path	$ 200,000
FY 2004-05	SF City/County	Purchase & install bicycle racks	$ 95,000
FY 2004-05	SF City/County	Repair public sidewalks at various locations	$ 115,000
FY 2004-05	SF City/County	Stripe & sign Class II bike lanes	$ 188,500
FY 2004-05	City of Benicia	Final design plans, specs & estimate	$ 124,573
FY 2004-05	City of Suisun City	Constr. 10' wide concrete bike path	$ 86,000
FY 2004-05	City of Vacaville, Transit	Construct 3400 feet of Class I bike/Ped path	$ 148,738
FY 2004-05	Solano Transportation Authority (STA)	Build bridge adjacent to existing path	$ 76,000
FY 2004-05	City of Petaluma	Construction of pedestrian & bicycle path	$ 54,876
FY 2004-05	City of Rohnert Park	Install 80' long bicycle & pedestrian path	$ 160,000
FY 2004-05	City of Santa Rosa	Install directional signage & ADA signs	$ 18,900
FY 2004-05	County of Sonoma	Construct 1.5 miles of Class I Bikeway	$ 160,000
FY 2004-05	County of Sonoma	Conduct bicycle safety education workshop	$ 10,000
FY 2004-05	County of Sonoma	Install 27 "Share Road" bicycle sign	$ 15,000
FY 2004-05	County of Sonoma	Purchase 37 front loading bicycle	$ 5,000
FY 2005-06	San Carlos	Class II bike lanes on Alameda de Las Pulgas and on Brittan Avenue; Class III bike lanes on Old County Road	$ 20,000
FY 2005-06	San Mateo	Design of a pedestrian and bicycle bridge in the vicinity of the Hillsdale interchange of highway U.S. 101	$ 100,000
FY 2005-06	South San Francisco	Bicycle and pedestrian crosswalk and signals at intersection of Spruce Ave. and South San Francisco Linear Park	$ 150,000
FY 2005-06	Half Moon Bay	Construct 6600 foot Class I trail in the right of way of Highway 1 between Highway 92 and Higgins Purisima Rd.	$ 220,000
FY 2005-06	Brisbane	Install 45 feet by 8 feet asphalt cement path adjacent to Shoreline Court; sign and restripe existing Class II bikeway	$ 25,739

TCM B: Bicycle/Pedestrian Program
TDA ARTICLE 3 [Transportation Development Act Funds for Bicycle and Pedestrian Projects]

	SPONSOR	PROJECT NAME	AMOUNT
FY 2005-06	South San Francisco	Construct 363 feet by 12 feet asphalt bicycle and pedestrian trail near the Oyster Point Marina	$ 36,000
FY 2005-06	San Bruno	Construct a Class II bike lane in both directions of Sneath Lane from El Camino Real to Skyline Boulevard	$ 60,000
FY 2005-06	Daly City	Install bike lanes on Callan Blvd from King Dr to Serramonte Blvd and along Serramonte Boulevard	$ 82,000
FY 2005-06	Burlingame	Install bike lane directional signs at 52 locations along north-south bicycle routes throughout the city	$ 17,400
FY 2005-06	Burlingame	Install an in-pavement lighted crosswalk system across Carolan Avenue at Morrell Avenue, including new push buttons	$ 30,000
FY 2005-06	Menlo Park	Install video detection for bikes at 3 intersections: Willow at Middlefield, Marsh at Bohannon, Marsh at Bay	$ 44,000
FY 2005-06	San Mateo	Install bridge railing fencing on the north side of the Nineteenth Avenue Bridge over highway U.S. 101	$ 50,000
FY 2005-06	Menlo Park	Create bicycle lanes on Bay Road between Berkeley Avenue and Willow Road, plus signage	$ 13,600
FY 2005-06	San Mateo	Install bike detection loops at: 3rd + Claremont, 3rd + Delaware, 4th + Claremont, 4th + Delaware	$ 40,000
FY 2005-06	Daly City	Install in-pavement lights and warning signs: Park Plaza Dr. north of Belmar, and Mission St. at Evergreen Ave.	$ 120,000
FY 2005-06	San Mateo	Install pedestrian countdown signal heads at 27 existing signalized intersections throughout the city	$ 50,000
FY 2005-06	Daly City	Install pedestrian countdown signal heads at 15 signalized intersections; and audible warnings at 11 of them	$ 20,000
FY 2005-06	Burlingame	Install pedestrian countdown signal heads with audible pedestrian warnings at 8 signalized intersections	$ 30,900
FY 2005-06	Menlo Park	Create bicycle lanes on Middlefield Road between Willow Road and San Francisquito Creek	$ 2,400
FY 2005-06	San Mateo	Install in-pavement lighted crosswalks: 5th Ave. at Central Park; Bovet Rd. betw. Borel Ave. and El Camino Real	$ 110,000
FY 2005-06	South San Francisco	Install pedestrian countdown signal heads at 12 existing signalized intersections throughout the city	$ 22,000
FY 2005-06	County of San Mateo	Bike detection loops, countdown signal heads with audible warnings, upgrade pedestrian signal actuators	$ 80,509
FY 2005-06	Sebastopol	Construct .5 mile Class I trail between Joe Rodota trail and Sebastopol Avenue and Morris Street intersection	$ 51,356
FY 2005-06	Santa Rosa	Construct connector ramp between Joe Rodota trail and Pierson Reach of Prince Memorial Greenway trail	$ 350,000
FY 2005-06	Windsor	Construct a 950 foot Class I trail within Keiser Park, including brdige crossing a tributary of Starr Creek	$ 112,000

TCM B: Bicycle/Pedestrian Program
TDA ARTICLE 3 [Transportation Development Act Funds for Bicycle and Pedestrian Projects]

	SPONSOR	PROJECT NAME	AMOUNT
FY 2005-06	Contra Costa County, Health Services	Provide bicycle and pedestrian safety education to low-income county residents, particularly children	$ 20,000
FY 2005-06	Concord	Constr't 500 foot Class I trail adjacent to Galindo Crk. + Ygnacio Valley Rd betw. Alberta Way + Pebble Glen Dr	$ 60,000
FY 2005-06	Lafayette	1030 feet x 5 feet sidewalk Sweet Dr. betw Walnut + Woodview; Woodview Dr. betw. St Mary's + Sweet Drive	$ 110,000
FY 2005-06	Antioch	Construct curb ramps and sidewalks at Hillcrest Avenue, Somersville Road, "G" Street, and Dallas Ranch Road	$ 110,000
FY 2005-06	Brentwood	Install pedestrian countdown signal heads + large diameter pedestrian push buttons at 12 signalized intersections	$ 66,000
FY 2005-06	Contra Costa County, Public Works	Construct 240 feet x 5 feet sidewalk and curb ramps on Camino Tassajara and on Hansen Lane	$ 20,000
FY 2005-06	Orinda	Replace 12 existing non-compliant curb ramps in downtown Orinda with ADA compliant ramps	$ 45,000
FY 2005-06	San Pablo	Install in-pavement lighted crosswalks: Market Avenue at 21st St.; 23rd St. at Wilcox Ave.; 23rd St. at Stanford Ave.	$ 180,000
FY 2005-06	Brentwood	Restripe Minnesota Ave. bike lane; install lighted crosswalk; construct 1300 feet of sidewalk, curb and gutter	$ 31,000
FY 2005-06	San Francisco	Public sidewalk repair and reconstruction	$ 180,000
FY 2005-06	San Francisco	Preliminary engineering of curb ramps	$ 270,000
FY 2005-06	San Francisco	Safety brochures, maps, public outreach concerning bicycle pavement arrows, hotline, and bicycle safety advertising	$ 45,000
FY 2005-06	San Francisco	Purchase and install bicycle racks at various locations in San Francisco as requested by the public	$ 100,000
FY 2005-06	San Francisco	Stripe and sign bike lanes: Conservatory Drive East, San Jose Avenue ramps, Townsend Street, and elsewhere	$ 305,000
FY 2005-06	Berkeley	Bicycle & Pedestrian Injury Prevention Program	$ 30,000
FY 2005-06	Berkeley	Ninth Street Bicycle Boulevard extension (Project from FY01/02)	$ 135,000
FY 2005-06	Oakland	ADA Compliant Wheelchair Accessible Ramps (Project Completed FY01/02)	$ 294,548
FY 2005-06	Oakland	Laurel Pedestrian Project, Phase I (Project Completed FY01/02)	$ 200,000
FY 2005-06	Oakland	MacArthur Blvd. Bicycle Lane Design (Project Completed FY01/02)	$ 55,000
FY 2005-06	Oakland	Grand Avenue Transit and Pedestrian Improvements (Project from FY 04/05)	$ 245,847
FY 2005-06	Oakland	ADA Compliant Wheelchair Accessible Ramps Program	$ 121,144
FY 2005-06	Oakland	Market Street Bikeway	$ 165,000
FY 2005-06	Oakland	Bancroft Bikeway Gap Closures	$ 25,000
FY 2005-06	Piedmont	ADA Wheelchair Accessible Ramps and Pedestrian enhancements at Rose/Arroyo & Grand Ave	$ 8,353
FY 2005-06	Hayward	ADA Wheelchair Accessible Ramps	$ 109,309

TCM B: Bicycle/Pedestrian Program
TDA ARTICLE 3 [Transportation Development Act Funds for Bicycle and Pedestrian Projects]

	SPONSOR	PROJECT NAME	AMOUNT
FY 2005-06	San Leandro	Pedestrian Accessibility Improvements & Sidewalk Gap Closures	$ 74,177
FY 2005-06	Fremont	Citywide ADA Compliant Wheelchair Accessible Ramps	$ 158,067
FY 2005-06	Newark	History Center Complex Sidewalks and ADA Wheelchair Accessible Ramps	$ 33,072
FY 2005-06	Union City	San Francisco Bay Trail Specific Plan (Project Completed FY01/02)	$ 63,585
FY 2005-06	Dublin	Bicycle Master Plan	$ 45,144
FY 2005-06	Livermore	Chestnut and N. P Street Bicycle Lanes	$ 113,044
FY 2005-06	Alameda Co. Congestion Management Agency	Alameda Countywide Bicycle Master Plan	$ 20,000
FY 2005-06	County of Alameda	Pedestrian Safety Improvements in the vicinity of Schools	$ 75,775
FY 2005-06	County of Alameda	Pedestrian Safety Improvement Projects - Sidewalk Improvements	$ 75,600
FY 2005-06	County of Alameda	Restriping Bicycle Lanes Along Various Roadways	$ 30,000
FY 2005-06	Benicia	Stripe and sign bike lanes: Military East between East 5th Street and Park Road	$ 25,000
FY 2005-06	Fairfield	Design McGary Road segment of Solano Bikeway Extension and complete extension feasibility study	$ 100,000
FY 2005-06	Suisun City	Construct curb ramps and sidewalks at Whispering Bay Lane and Francisco Dr.	$ 5,400
FY 2005-06	Suisun City	Replace existing non-compliant curb ramps in downtown Suisun City with ADA compliant ramps	$ 11,856
FY 2005-06	Solano County	Reconstruct deck and railings, seismic retrofit, lighting and pathways to railroad trestle bridge over Putah Creek	$ 180,000
FY 2005-06	Campbell	Implement bike lanes on Harriet Ave and Union Ave, Replace Los Gatos creek bridge, and widen Campbell Ave bridge	$ 27,859
FY 2005-06	Campbell	Design and construct sidewalk and bike lanes and edge striping, curb and gutter along Westmont Avenue	$ 39,992
FY 2005-06	Campbell	Widen Campbell Ave. bridge over Los Gatos Creek for bike lane and sidewalk; and reconstruct sidewalk under SR 17	$ 240,000
FY 2005-06	Cupertino	Construct pedestrian and bicycle bridge across Interstate 280 along Mary Avenue between Homestead Rd and Meteor Dr	$ 38,361
FY 2005-06	Los Altos Hills	Replace pedestrian bridge adjacent to the Foothill College entrance road connecting to El Monte Road	$ 11,310
FY 2005-06	Los Gatos	Replace existing College Avenue sidewalk and fencing; and repair Los Gatos Creek Trail footbridge decking	$ 20,000
FY 2005-06	Milpitas	Install ADA pedestrian ramps with truncated dome landings along suggested routes to schools	$ 47,112
FY 2005-06	Morgan Hill	Identify where additional bicycle and pedestrian trails can be established adjacent to creeks and streams	$ 32,000
FY 2005-06	Mountain View	Bicycle boulevard from Mayfield Mall area to Stevens Creek Trail, including signs, markings and signal modifications	$ 25,000

TCM B: Bicycle/Pedestrian Program
TDA ARTICLE 3 [Transportation Development Act Funds for Bicycle and Pedestrian Projects]

	SPONSOR	PROJECT NAME	AMOUNT
FY 2005-06	Mountain View	ADA Compliant Wheelchair Accessible Ramps Program	$ 17,000
FY 2005-06	Mountain View	Produce bicycle and pedestrian education and awareness materials, and a new bike map and multilingual flyers	$ 5,000
FY 2005-06	Mountain View	Install "bikes wrong way" signs on existing poles along California Street and adjacent streets	$ 5,217
FY 2005-06	Palo Alto	Bicycle boulevard along Maybell Ave and Donald Dr.: signs, markings, speed tables, & median refuge islands	$ 75,000
FY 2005-06	San Jose	Install sidewalk, curb and gutter to improve access to Lynhaven Elementary School	$ 90,000
FY 2005-06	San Jose	Install sidewalk, curb and gutter to fill gap on Borina Ave. at Saratoga Ave.	$ 70,000
FY 2005-06	San Jose	Install sidewalk, curb and gutter to improve access on both sides of Yerba Buena Road at Thompson Creek	$ 47,000
FY 2005-06	San Jose	Install sidewalk, curb, gutter and ADA ramps on Carola Avenue at Clarita Avenue	$ 110,000
FY 2005-06	San Jose	Install sidewalk, curb, gutter, pedestrian crossing and median island to provide access to Penitencia Creek County Park	$ 62,000
FY 2005-06	San Jose	Install sidewalk, curb and gutter on Senter Road at Burke Street	$ 58,000
FY 2005-06	San Jose	Install sidewalk, curb and gutter to improve access to Toyon Elementary School	$ 45,000
FY 2005-06	San Jose	Citywide ADA Compliant Wheelchair Accessible Ramps	$ 100,000
FY 2005-06	San Jose	Sign and stripe bicycle and pedestrian facilities, including bike lanes, bike routes, crosswalks, and bike paths	$ 58,397
FY 2005-06	San Jose	Provide bicycle and pedestrian safety education to elementary school children and adults, purchase educational material	$ 35,000
FY 2005-06	Santa Clara	Install and maintain bicycle and pedestrian facilities, including bike lanes, bike routes, crosswalks, and bike paths	$ 78,180
FY 2005-06	Saratoga	Acquire right-of-way to upgrade UPRR railroad crossing in a bulb configuration to allow bicycles to cross at 90 degrees	$ 95,000
FY 2005-06	Sunnyvale	Improve Calabazas Creek Trail with additional gates, signs, fences, ramp modifications, and a bridge across creek	$ 182,048
FY 2005-06	County of Santa Clara	Restripe four co. expressways' shoulders with 8 inch stripes and sign to allow functioning as bicycle shoulder	$ 50,000
FY 2005-06	Brentwood	Crosswalk and sidewalk improvements on Minnesota Avenue between Deer Creek and Sand Creek	$ 31,000
FY 2005-06	Union City	Construct 1750 feet by 15 feet textured decorative concrete sidewalks plus 5 foot bike lanes on both sides of 11th Street	$ 53,142
FY 2005-06	TAM	Update and complete bicycle and pedestrian master plans countywide and for cities and towns in Marin County	$ 160,000

TCM B: Bicycle/Pedestrian Program
TDA ARTICLE 3 [Transportation Development Act Funds for Bicycle and Pedestrian Projects]

	SPONSOR	PROJECT NAME	AMOUNT
FY 2005-06	Campbell	Construct bike lanes on Harriet Avenue north of Westmont Avenue and on Union Avenue south of Campbell Avenue	$ 24,308
FY 2005-06	Larkspur	Design + construct 13 ft wide Class I bike/pedestrian path and modify signals on Magnolia Ave. + Doherty Dr	$ 136,668
FY 2005-06	County of San Mateo	Develop bike route data for GIS, integrate into countywide GIS files, and maintain bike route GIS data	$ 40,000
FY 2005-06	City of Napa	Class I path along Napa Valley Wine Train right of way between Redwood Rd/SR 29 and Vallejo St/Soscol Av	$ 85,271
FY 2005-06	American Canyon	Construct bike lanes and Class I trail adjacent to Commerce Boulevard	$ 34,729
		Total	**$ 21,785,915**

TCM C: Transportation for Livable Communities

FY 2004-05 MTC TLC Planning Program

Project Sponsor	Project Title	TLC Grant
Alameda County		
City of Oakland	Revitalizing Foothill / Seminary: A Model for Oakland's Regional Transit Streets	$ 75,000
City of Berkeley	Downtown Berkeley BART Plaza and Transit Area	$ 75,000
Contra Costa County		
City of Lafayette	BART-Downtown Lafayette Pedestrian Linkages Project	$ 20,000
San Francisco County		
San Jose/Guerrero Coalition to Save Our Streets	The San Jose/Guerrero Neighborhood Plan	$ 75,000
San Mateo County		
Redwood City	Transit Station Sub-area Precise Plan	$ 71,760
SamTrans	Transforming the El Camino Real to Link Caltrain Stations with Vibrant Downtowns in Redwood City, San Carlos and Belmont	$ 63,840
Santa Clara County		
City of Sunnyvale	Murphy Avenue Streetscape Revitalization	$ 75,000
Sonoma County		
City of Santa Rosa	Downtown Pedestrian Linkages Study	$ 44,400
	Total	**$ 500,000**

FY 2004-05 MTC TLC Capital Program

Project Sponsor	Project Title	TLC Grant
City of Oakland, CEDA	Revive Chinatown – Phase 1	$ 2,200,000
City of Union City Public Works Dept.	Union City Intermodal Station –Pedestrian connections and New East Plaza	$ 1,124,000
Richmond Redevelopment Agency	Richmond Transit Village: Intermodal Transit Station	$ 1,581,000
County of Marin	Cal-Park Hill Tunnel Rehab and Class I Bikeway	$ 1,500,000
City of Gilroy	Monterey Streetscape Improvements – Fourth Street to Sixth Street	$ 2,500,000
City of Morgan Hill	Morgan Hill – Depot Street Capital Improvements	$ 2,627,000
Bay Area Rapid Transit District	Daly City BART- St. Charles Pedestrian & Bike Project	$ 501,000
City & Co. of San Francisco Dept. of Public Works	Broadway Streetscape Improvements Project – Phase II	$ 2,000,000
City of South San Francisco	BART Linear Park-Huntington Avenue to Orange Avenue	$ 1,933,000
City of Vallejo	Vallejo Station Pedestrian Links	$ 2,071,000
City of Petaluma/Eden Housing Inc.	Downtown River Apts Riverwalk and Streetscape Improvements	$ 358,000
	Total	***$ 18,394,000***

Contingency Projects

City of Union City Public Works Dept.	Union City Intermodal Station – West Plaza Enhancements	$ 1,713,500
City of Oakland, CEDA	MacArthur Transit Hub Streetscape Improvement Project	$ 1,918,000
Town of Los Gatos Parks & Public Works Dept.	Streetscape & Gateway	$ 2,400,000
City of San Leandro Community Dev. Dept.	East 14th Street South Area Revitalization Project – La Palma District	$ 1,600,000
County of Contra Costa Redevelopment Agency	North Richmond Third Street Upgrades	$ 1,966,000

TCM C: Transportation for Livable Communities

FY 2005-06 Marin County TLC Capital Program

Project Sponsor	Project Title	TLC Grant
Town of Fairfax	Center Boulevard Streetscape Redesign Project	$ 500,000
County of Marin	Fireside Pedestrian and Traffic Safety Project	$ 198,906
Town of Corte Madera	Bayside Trail Improvement Project	$ 371,826
	Total	**$ 1,070,732**

FY 2005-06 Alameda County TLC Capital Program

Project Sponsor	Project Title	TLC Grant
City of Oakland	Coliseum BART Streetscape	$ 500,000
City of Oakland	Oakland Coliseum Pedestrian Walkway	$ 885,000
City of Oakland	W. Oakland Transit Village Streetscape Project	$ 1,300,000
City of Oakland	MacArthur Entry Plaza & 40th Streetscape Project	$ 1,147,000
City of Berkeley	Ashby/Ed Roberts Bicycle/Pedestrian Improvements	$ 1,200,000
City of Union City	Pedestrian/Bicycle Improvements	$ 2,000,000
	Total	**$ 7,032,000**

FY 2005-06 Sonoma County TLC Capital Program

Project Sponsor	Project Title	TLC Grant
City of Petaluma	Petaluma Blvd. Pedestrian Enhancements	$ 485,000
City of Rohnert Park	Rohnert Park City Center Drive Improvements	$ 1,150,000
Town of Windsor	Windsor Pedestrian Enhancements & Traffic Calming	$ 235,000
Sonoma County Reg'l Parks	Sonoma County Santa Rosa Creek Trail	$ 550,000
Town of Windsor	Windsor Old Redwood Hwy Pedestrian Linkages	$ 338,000
Sonoma County Reg'l Parks	Sonoma County Bodega Bay Bicycle & Pedestrian Trail	$ 535,000
City of Santa Rosa	Santa Rosa Courthouse Square Off-Site Improvements & Gateway Street	$ 1,000,000
	Total	**$ 4,293,000**

	Grand Total	**$ 31,289,732**

TCM D: Additional Freeway Service Patrol

The Bay Area FSP is a joint project of the Metropolitan Transportation Commission Service Authority for Freeways and Expressways (MTC SAFE), the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans). The service is provided by private tow truck companies, selected through a competitive bid process, under contract to MTC SAFE. During the hours of operation, the vehicles and drivers are exclusively dedicated to patrolling their freeway beat. The program is intended to augment the MTC SAFE network of motorist-aid call boxes in the nine Bay Area counties.

Current Profile (as of February 2009)
A fleet of 83 trucks patrols some 550 miles of the Bay Area's freeways. Patrol routes are selected based on several factors, including a high rate of traffic and congestion, frequent accidents or stalls, and lack of shoulder space for disabled vehicles.

The FSP tow trucks operate primarily during morning and afternoon commute hours, generally from 6 a.m. to 9 a.m. or 10 a.m. and from 3 p.m. to 6 p.m. or 7 p.m., Monday through Friday. Weekend service is provided in Napa, as well as seasonally along Highway 17, and in some other locations on Sunday.

FSP tow trucks are equipped for nearly any contingency. In addition to the standard auto repair and towing equipment, they carry 5 gallons of diesel fuel, 5 gallons of unleaded gasoline, and 5 gallons of water, as well as an external speaker and public address system.

Funding
The tow trucks are financed with federal, state and local moneys. Local funds come from the MTC SAFE, which is financed by a $1 annual vehicle registration fee in participating counties. The service costs approximately $7 million a year to operate. Another $2 million is invested in sophisticated communications equipment, including an automatic vehicle location system that enables CHP and Caltrans to monitor the location of the trucks and improve dispatching efficiency.

Implementation Plan
See the attached Implementation Plan, which is also available at:
http://www.fsp-bayarea.org/implementation_plan/Iplan.pdf

BAY AREA FREEWAY SERVICE PATROL PROGRAM
IMPLEMENTATION PLAN

Revised 06/01/07

BEAT ID	CONTRACTOR	LOCATION COUNTY	LOCATION ROUTE	BEAT LIMITS	CALTRANS ONE WAY LENGTH (IN MILES)	START DATE	ENDING DATE	WEEKDAYS AM SHIFT	WEEKDAYS MIDDAY SHIFT	WEEKDAYS PM SHIFT	SUNDAY PM SHIFT	# OF TOW TRUCKS	# OF PICKUP TRUCKS	# OF FLATBED TRUCKS	# OF BACKUP TRUCK	NOTES	TOTAL CONTRACT HOURS	BEAT ID
1	Redhill Towing	ALA	980	Interstate 580 to Interstate 880	2.03	07/01/07	07/26/09	6:00-10:00		15:00-18:30	13:00-19:00	2	1			b	12,395	1
		ALA	880	7th Street to Jackson Street	2.04													
		ALA	24	Interstate 580 to Contra Costa County Line	4.39													
		CC	24	Contra Costa County Line to Oak Hill Road	6.25													
		CC/ALA	*13*	*State Route 24 to Redwood Avenue*	(4.23)											e		
2	A-One Towing Service	ALA	80	Powell Street to Contra Costa County Line	4.25	07/01/07	07/26/09	6:00-10:00	10:00-15:00	15:00-19:00	13:00 - 19:00	2	1		1	a, b, c	15,755	2
		CC	80	Alameda County Line to San Pablo Dam Road	4.34													
		ALA/CC	580	Interstate 80 to Western Drive/Pt. Molate	6.01													
3	Palace Garage	ALA	880	Alvarado-Niles Road to State Route 238	7.66	06/25/07	06/26/11	06:00-10:00		15:00-19:00	13:00-19:00	2				b,c	17,132	3
		ALA	92	Interstate 880 to Clawiter Road	1.91													
4	Palace Garage	ALA	880	Broadway to State Route 238	10.55	07/01/07	07/26/09	6:00-10:00		15:00-19:00	13:00-19:00	2	1			b	13,170	4
		ALA	238	Interstate 880 to Interstate 580	2.11													
5	K&S Tow	CC	680	Stone Valley Road to Marina Vista Road	13.89	07/02/07	07/04/11	06:00-09:00		14:00-18:30		2	1		1	b	22,523	5
		CC	24	Oak Hill Road U/C to Interstate 680	2.87													
6	B&A Body Works & Towing	SM	101	State Route 92 to SF City Limit/101 to Foster City Boulevard	14.23	07/01/07	07/05/09	6:00-10:00	10:00-15:00	15:00-19:00		2	2		1	a, b	18,754	6
		SM	92	Interstate 101 to Foster City Boulevard	1.47													
7	Redhill Towing	MRN	101	Alexander to 3rd Street/Irwin Street (Central San Rafael Exit)	10.28	07/03/05	07/06/08	6:00-10:00		15:00-19:00	13:00 - 19:00	2			1	b, c	13,090	7
		MRN	580	Highway 101 to Interstate 580 San Quetin	1.60													
8	Campbell's Towing	SCL	101	Blossom Hill Road to Ellis Street	18.40	07/01/07	07/05/09	6:00-10:00		15:00-19:00	13:00 - 19:00	2	2		1	b, c	16,808	8
		SCL	237	Highway 101 to Lawrence Expressway	2.12													
9	Campbell's Towing	SCL	280	Interstate 680/Highway 101 to Foothill Exp.	11.45	06/11/07	06/10/11	6:00-10:00		15:00-19:00		3	1		1	b	32,032	9
		SCL	85	Junction Route 280 to El Camino Real	3.3													
		SCL	87	State Route 85 to Hwy. 101	9.22													
10	Sunrise Enterprise 87	SCL-SM	101	Ellis Street to State Route 92	17.44	06/11/07	06/10/11	6:00-10:00		15:00-19:00		2	1			a, b	24,024	10
		SCL	92	Junction Route 101 to El Camino Real	0.93													
11	B&A Body Works & Towing	SF	101	Cesar Chavez to San Mateo Co. Line	2.92	06/11/07	06/12/11	6:00-10:00	10:00-15:00	15:00-19:00	10:00-16:00	2				a, b,c	22,473	11
		SF	280	San Mateo Co. Line to Highway 101	4.34													
		SM	101	Harney Way to San Francisco Co. Line	0.41													
		SM	280	Geneva/Ocean Avenue to San Francisco Co. Line	1.77													
	(Bridge Tow Coverage)	*SF*	*280*	*Highway 101/Interstate 280 Interchange to Sixth Street*	(3.2)											e		
	(Bridge Tow Coverage)	*SF*	*80*	*Cesar Chavez to Interstate 80/Fourth Street*	(1.5)											e		
12	Ken Betts Towing	CC	80	San Pablo Dam Road to Cummings Skyway	8.39	07/09/07	07/10/11	6:00-10:00	10:00-15:00	15:00-19:00	13:00-19:00	2				a, b, c	22,473	12
13	Bill's Towing	MRN	101	Interstate 580 to Junction Route 37	9.13	06/25/07	06/26/11	6:00-10:00		14:30-18:30	13:30-18:30	2				b, c	17,282	13
14	All Ways Tow & Transport	ALA	880	Mowry Avenue to Alvarado Niles Road	5.84	07/01/07	07/24/09	6:00-10:00		15:00-19:00		2				b	8,272	14
		ALA	84	Thornton Avenue to Interstate 880	2.26													
15	Yarbrough Bros. Towing	SON	101	Wilfred Avenue to River Road	10.8	07/02/07	07/01/11	6:30-9:30		15:30-18:30		1					6,006	15
16	Lima Tow	SCL	17	Junction Route 9 to Summit Road	7.07	07/09/07	07/10/11	6:30-9:30		15:30-18:30	See separate beat 16/SC schedule	1				b, c, f	7,974	16
17	Sierra Hart	SOL	12	Interstate 80 to Napa Co. Line	2.95	07/23/07	07/24/11	6:00-10:00		15:00 -19:00	8:00-16:30 Sat. & Sun.	1 wkdy, 2 wknd			1 wkdy		15,573	17
		NAP	12	Napa Co. Line to Sonoma Co. Line	11.60													
		NAP	29	State Route 37 to Oakville Cross Road	24.0													
		SON	12	Sonoma Co. Line to Junction 116	4.90													
		NAP	*29*	*Oakville Cross Road to State Route 128*	(1.8)											e		
18	All Ways Tow & Transport	SCL	880	Junction Route 237 to Alameda County Line	2.08	07/01/07	07/10/09	6:00-10:00		15:00-19:00		2				b	8,112	18
		ALA	880	SCL County Line to Mowry Avenue	7.18													
19	Lima Tow	SCL	880	Junction Route 237 to Junction Route 17	8.42	07/01/07	07/10/09	6:00-9:00		15:00-19:00		2	1			b	10,647	19
		SCL	17	Junction Interstate 880 to Junction Route 9	6.88													
		SCL	237	Junction Interstate 880 to Lawrence Expressway	4.70													
20	Nelson's Tow	SM	280	*Geneva/Ocean Avenue* to Interstate 380	8.18	07/01/07	07/10/09	6:30-9:30		15:00-18:00		2				b	6,084	20
		SM	380	Interstate 280 to Highway 101	1.67													
21	Matos Towing & Transport	ALA	680	Scott Creek to Alcosta Boulevard	21.35	07/01/07	07/10/09	5:30-9:30		15:00-19:00		1	1	1	1	b	12,168	21
22	Palace Garage	ALA	580	Vasco Road to Santa Rita	8.25	07/23/07	07/24/11	5:30-9:30		15:30-19:00	13:00-19:00	2	1			b, c, d	25,685	22
		ALA	580	Grant Line Road to Vasco Road	8.23													
23	Campbell's Towing	SCL/ALA	680	Highway 101 to Scott Creek Road	10.17	07/01/07	07/10/09	5:30-9:30		15:00-19:00		2				b	8,112	23
24	Roadrunner Tow	SOL	680	Interstate 80 to Junction 780	14.30	07/23/07	07/22/11	6:00-9:00		15:30-18:30		1				g	6,036	24
		SOL	780	Junction 680 to Junction 80	6.42													
25	B&D Towing	CC	4	Hillcrest Avenue to Pacheco Blvd.	20.39	07/01/07	07/17/09	5:30-9:30		15:30-19:00		2	1			b	11,520	25
		CC	242	State Route 4 to Interstate 680	3.4													
26	A-One Tow Service	ALA	580	Harrison Street/Oakland Avenue to Junction Route 238	13.47	07/01/07	07/17/09	6:30-9:30		15:30-18:30		1		1		b	6,144	26
		ALA	*13*	*Redwood Avenue to Interstate 580*	(0.0)											e		
27	Palace Garage	ALA	580	Santa Rita Road to Junction 238	12.86	06/25/07	06/26/11	6:00-9:30		15:30-18:30	13:00-19:00	2	1			b,c	21,020	27
28	Bill's Towing	MRN/SON	101	State Route 37 to East Washington Boulevard	13.1	07/01/07	07/17/09	5:30-9:30		15:30-18:30		1				b	3,584	28
29	Roadrunner Tow	SOL	80	Magazine Street to Abernathy Road	14.04	07/09/07	07/10/11	6:00-9:00		15:30-18:30	13:00-19:00	2				b, c, h	15,020	29
					0													
30	Nelson's Tow	SM	92	State Route 1 to Highway 280	8.03	07/23/07	07/22/11	6:00-9:30		15:30-18:30		2				b	13,013	30
		SM	280	Interstate 380 to State Route 92	10.20													
		SM	92	Interstate 280 to Highway 101	4.83													
31	Campbell's Towing	SCL	101	Blossom Hill Road to East Dunne Avenue	12.6	07/01/07	07/19/09	6:00-9:00		16:00-19:00	13:00 - 19:00	2				b, c	6,900	31
32	Dick's Automotive Transport	SCL	85	Interstate 280 to Cottle Road	16.48	07/01/07	07/17/09	6:00-9:00		16:00-19:00		2				b	6,144	32
33	Yarbrough Bros. Towing	SON	101	East Washington Boulevard to Wilfred Avenue	10.26	07/24/05	07/20/08	6:00-9:00		15:30-18:30		1				b	4,482	33
34	Vacaville Tow	SOL	80	Abernathy Road to I-505 Vaca Valley Road	12.54	07/09/07	07/10/11	6:00-9:00		15:30-18:30	13:00-19:00	2				b, c, h	15,020	34
35	Palace Garage	CC	680	Alcosta Boulevard to Stone Valley Road	10.36	07/09/07	07/08/11	6:00-9:00		15:00-18:30		1				b	6,507	35
36	Ken Betts Towing	CC	4	Interstate 80 to Pacheco Blvd.	11.8	07/23/07	07/22/11	6:00-9:30		15:30-19:00		1					7,007	36
37	Vacaville Tow	SOL	80	Junction I-505 to Richards Blvd.	16.4	07/23/07	07/24/11	6:00-9:00		15:30-18:30	13:00-19:00	2				b, c, h	15,032	37
					539.67							**65 wkdy, 66 wknd**	**15**	**2**	**8 wkdy, 7 wknd**		**493,973**	

TCM E: Transit Access to Airports

BART to San Francisco International Airport:
S. San Francisco: From Colma BART station to the new SFO station; Extend BART system to the San Francisco International Airport.

BART Fares and Schedules
The latest BART fares and schedules (as of January 2008) can be found at: http://www.bart.gov/guide/brochures.aspx

Service Adjustments
See attached document for service adjustments overtime since June 2003 through December 2006.

SFO Service Changes Over Time

Below is a list and description of service changes that have been implemented since the San Francisco Extension opening on June 22, 2003 through December 31, 2006. Some of these changes are major system changes. Other changes are more minor involving train sizing.

June 22, 2003 - SFO Initial Service

Bay Point trains provide service to Millbrae during all hours of operation, all week. Dublin trains provide service to the San Francisco Airport (SFO) during all hours of operation, all week. These routes operate on 15 minute headways during the weekday, and on 20 minute headways during evenings and on weekends. A shuttle train provides service between Millbrae and SFO on 20 minute headways during all hours of operation, all week. In addition to the base 15 minute service, three AM peak period rush trains provide service from Bay Point to Daly City, then operate express from Daly City to SFO. These three trains return during the evening peak period and operate express from SFO to Daly City, then on to Bay Point.

1. Direct service to/from Millbrae and direct service to/from SFO
2. Peak rush trains provide Bay Point line passengers direct service to/from SFO during the peak periods
3. 20 minute shuttle does not synch with the 15 minute base service during the day

February 9, 2004

Bay Point trains provide direct service to SFO, then continue to Millbrae. On the return trip these trains follow the same route back to Bay Point. This service route has been called the "Reverse L" service because the shape of the service on the SFO extension resembles a backward or reverse "L" shape. During the 3-1/2 hour AM and PM peak period on weekdays, Richmond trains provide direct service to Millbrae, then continue to SFO. On the return trip these trains follow the same route back to Richmond. This service route is referred to as the "L" service. The Richmond trains do not operate on the weekend. When the Richmond trains are operating on the extension during the week the Bay Point trains terminate at SFO and do not continue to Millbrae. At all other times (off-peak, evenings and weekends) the Bay Point trains complete the "Reverse L" service pattern. There are no other direct peak period rush trains. Service during the day (and during the peak rush) is 15 minutes, while evenings and weekends operate at 20 minute headways.

1. Provides for direct service on all extension routes to Millbrae and SFO, no need to transfer
2. 20 minute shuttle (during normal 15 minute service) replaced by 15 minute direct trains
3. During off-peak, evenings and weekends, direct service to Millbrae is through the SFO station

March 8, 2004

Train sizing adjustments: Train 361 increased from 4 to 5-car train off-peak. Train 441 changed to 10-car peak size for all PM trips instead of breaking to 5-car train on last trip. Other minor adjustments were made to the 200s and 500s.

September 13, 2004

Bay Point trains provide direct service to SFO, then continue to Millbrae. This service provides "Reverse L" service and operates during all hours of operation, all week. During the 3 hour AM and PM peak period on weekdays, Richmond trains provide direct service to SFO, then continue to Millbrae in a "Reverse L" service configuration. During the 3 hour AM and PM peak period (weekdays only) the Richmond and Bay Point trains both provide service directly to and from Millbrae/SFO. The Richmond trains do not operate on the weekend. Service during the day on each route (and during the peak rush) is 15 minutes, while evenings and weekends operate at 20-minute headways.

1. Provides for direct service on all extension routes to Millbrae and SFO, no need to transfer

2. During all hours, direct service to Millbrae is through the SFO station (but is effectively every 7.5 minutes during the 3 hour AM and PM peak periods)

December 13, 2004
Train sizing adjustments were made to better match capacity with demand, generally to shorter trains.

April 23, 2005
Train sizing adjustments: The 300 series trains on Saturday were increased from 8 to 9-car trains.

June 13, 2005
Train lengths were generally shortened to an 8-car plan in two phases, in June and August, 2005, with peak size trains running all day on the Bay Point line.

August 15, 2005
Second phase of implementing the "8-car" plan.

September 12, 2005
Dublin trains provide direct service to SFO, then continue to Millbrae in a "Reverse L" service configuration. Only the Dublin trains will provide service to the extension on weekdays and weekends. Richmond and Bay Point trains will truncate at Daly City. Service during the day (and during the peak rush) is 15 minutes, while evenings and weekends operate at 20-minute headways. Although direct service from Bay Point has been replaced with this new service, the transfer time from a Bay Point base train to SFO train (from Dublin) is only 3-4 minutes in each direction.

September 22, 2005
Extend service from Richmond and lengthen trains. Up to six consists will be lengthened from 4 to 8-car trains. Richmond trains to Daly City will be extended to Colma for two hours in the morning and two hours in the evening.

October 10, 2005
The following adjustments were made:

Weekday
100s - three trains lengthened
200s - one train lengthened, Make/Break timing changed
300s - several trains lengthened with a few trains reduced in size
400s - one train lengthened
500s - No change since September 22, 2005 (Make/Break timing)

Saturday
300s - some trains lengthened

Sunday
300s - some trains lengthened

December 5, 2005
The following adjustments were made:

Weekday
100s – 115 becomes the last AM Break train
300s – Train 323 and 363 increased from 8-car to 9-car trains

Saturday
200s – All trains are now 6-car trains during the day

January 30/31, 2006e
The following adjustments were made:

Weekday
100 Series Trains (net +1)
Train 101 +1 (9 to 10 cars) peak increase
Train 115 off peak increase 4 to 5 cars

200 Series Trains (net 0)
No change

300 Series Trains (net –2)
Train 365 off peak decrease only on dispatches of 20:58, 22:19, and 23:38
Train 367 +1 (9 to 10 cars) off peak decrease only on dispatches of 21:18, 22:39, and 24:00
Train 371 –1 (10 to 9 cars)
Train 377 –1 (10 to 9 cars)
Train 381 –1 (10 to 9 cars)
Train 331 -2 (10 to 8 cars)
Train 335 +2 (8 to 10 cars)

400 Series Trains (net +2)
Train 443 –1 (9 to 8 cars) for AM peak period only
Train 445 +1 (8 to 9 cars)
Train 453 –1 (9 to 8 cars) for PM peak period only
Train 455 +2 (8 to 10 cars) and off peak increase 4 to 5 cars

500 Series Trains (net +10)
Train 501 +1 (8 to 9 cars) peak increase and off peak increase 4 to 5 cars
Train 503 +1 (8 to 9 cars) peak increase and off peak increase 4 to 5 cars
Train 505 +1 (8 to 9 cars) peak increase
Train 507 +1 (8 to 9 cars) peak increase
Train 509 +1 (8 to 9 cars) peak increase
Train 511 +1 (8 to 9 cars) peak increase
Train 513 +1 (8 to 9 cars) peak increase and off peak decrease 8 to 5 cars
Train 519 +1 (8 to 9 cars) peak increase
Train 521 +1 (8 to 9 cars) peak increase and off peak increase 4 to 5 cars
Train 523 +1 (8 to 9 cars) peak increase

Saturday
100s – no change
200s – no change
300s – All 8-car trains are now 9-car trains
400s – no change
500s – Four trains increased from 4 to 5-cars (501, 505, 511, and 515)

Sunday
200s – no change
300s – no change
500s – All trains 9-car midday and some offpeak increased from 4 to 5-cars (503, 505, and 515)

Appendix E
Methodology for Bay Area Conformity Determinations

Winston H. Hickox
Agency Secretary

Air Resources Board

Alan C. Lloyd, Ph.D.
Chairman
1001 I Street • P.O. Box 2815 • Sacramento, California 95812 • www.arb.ca.gov

Gray Davis
Governor

November 30, 2001

Mr. Wayne Nastri
Regional Administrator
U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, California 94105

Dear Mr. Nastri:

The Air Resources Board (ARB/Board) hereby transmits the Bay Area emission factor model (SF Bay Area-EMFAC 2000) to the U.S. Environmental Protection Agency (U.S. EPA) for approval and use in the 2001 San Francisco Bay Area State Implementation Plan (Bay Area SIP) and subsequent Bay Area conformity determinations.

SF Bay Area-EMFAC 2000 is tailored specifically to the San Francisco Bay Area. The emission factors contained in SF Bay Area-EMFAC 2000, along with updated activity data from the Metropolitan Transportation Commission (MTC), provide the basis for the mobile source emissions budgets in the 2001 Bay Area SIP. SF Bay Area-EMFAC 2000 will be used for subsequent Bay Area conformity determinations. At a public meeting on November 1, 2001 the ARB Board approved SF Bay Area-EMFAC 2000 for these purposes following a 30-day public notice. At the time the Bay Area SIP was being developed, this model was the most current emission factor model available. SF Bay Area-EMFAC 2000 was based on EMFAC2000. The documentation for EMFAC2000 was publicly available beginning in May 2000 and made available for use by the Bay Area Air Quality Management District when it began developing the 2001 Bay Area SIP in November 2000.

The three Bay Area co-lead agencies responsible for developing the Bay Area SIP have committed to do a mid-course review of the Bay Area SIP by December 31, 2003 and revise the 2001 SIP by March 2004. ARB has committed to submit the revised Bay Area SIP to U.S. EPA by April 15, 2004. The mid-course review will use the most current emission factor model available at that time to develop the mobile source emissions budgets. This model will be EMFAC2001 or its successor.

This transmittal provides documentation of the emission factors and activity data used in SF Bay Area-EMFAC 2000 to develop the 2001 Bay Area SIP. In addition, it includes the methodology ARB will be using to conduct Bay Area conformity determinations.

SF Bay Area-EMFAC 2000 Emission Factor Model Documentation

Comparison between MVEI7F/7G and SF Bay Area-EMFAC 2000

The emission factors used in the SF Bay Area-EMFAC 2000 emission factor model represent a major improvement over emission factors used in older models such as MVEI7F and MVEI7G. SF Bay Area-EMFAC 2000 exhaust hydrocarbon emission rates are significantly higher than the emission rates included in the older models. The increase in exhaust hydrocarbon rates is mainly a result of the following changes:

- More accurately reflecting real-world driving by using the Unified Cycle (UC) driving cycle rather than the Federal Test Procedure (FTP);
- Using new speed adjustment factors to better reflect how emissions change as average driving speeds change;
- Representing 45 model years, rather than only 35; and
- Incorporating new vehicle test data.

Evaporative hydrocarbon emission rates in SF Bay Area-EMFAC 2000 are also significantly higher than the older models' emission rates. The most important changes causing the increase in evaporative hydrocarbon emission rates include:

- Higher hot soak emission rates, especially for older catalyst-equipped vehicles;
- Higher running loss emission rates, based on new data; and
- Including emissions for vehicles with liquid fuel leaks.

Emission rates for oxides of nitrogen (NOx) are also significantly higher in SF Bay Area-EMFAC 2000 than in the older models. The increased estimates of NOx emission rates are primarily due to the following changes:

- Inclusion of "off-cycle NOx" (i.e., NOx emissions that were not represented in the certification driving cycle); and
- Incorporation of new vehicle test data for catalyst equipped passenger cars and light trucks.

Incorporation of Latest Standards

SF Bay Area-EMFAC 2000 also includes the effects of recently adopted standards on the emissions of the on-road fleet. The future year emission rates in SF Bay Area-EMFAC 2000 reflect the adopted standards described below.

<u>Supplemental Federal Test Procedure</u>
Two supplemental test procedures to the FTP were adopted by the Board in July of 1997. These new standards are applicable to passenger cars, light-duty trucks, and medium-duty vehicles weighing 8,500 pounds or less. These standards require the

control of excess emission of hydrocarbon and oxides of nitrogen during “off-cycle” operations (high speed and hard acceleration), and excess emissions associated with the use of air conditioning. The new standards are to be phased-in between 2001 and 2005.

Low Emission Vehicles (LEVII)

The second phase of Low Emission Vehicle Standards (LEVII) was adopted by the Board in November of 1998. This action imposed more stringent hydrocarbon, carbon monoxide, NOx and exhaust particulate matter emissions standards for passenger cars, light-duty trucks and medium-duty vehicles up to 14,000 pounds sold in California beginning in 2003.

Near Zero Evaporative Standards

Also in November 1998, the Board adopted new standards for the emissions of evaporative hydrocarbons (diurnal, hot soak and resting loss). The standards were reduced from 2 grams per test (hot soak plus diurnal) for passenger cars, to 0.5 grams per test.

New On-Road Motorcycle Standards

In December of 1998, the Board adopted lower exhaust emission standards for on-road motorcycles. These standards, which may require future motorcycles to utilize catalytic converters, are applicable to new motorcycles sold in California beginning in 2004.

Off-Cycle NOx Mitigation

In a settlement reached between the federal government, the Air Resources Board and heavy-duty engine manufacturers, several mitigation measures were agreed to regarding off-cycle NOx emissions. In addition to ending the practice of defaulting to an advanced timing condition during extended cruise operation, several manufacturers have agreed to perform “low emission” rebuilds for in-use engines. These rebuilds will lower the emissions of the in-use fleet.

New Exhaust Emissions Standards for Urban Transit Buses

In February of 2000, the Board adopted a regulation that allows transit agencies the choice between either a diesel or alternative fuel “path” to lower emissions. Beginning in 2002, over the course of 10 years, this regulation requires increased introduction of

cleaner engine buses in transit agencies' fleets, use of cleaner diesel fuel, retrofits to reduce exhaust particulate matter (PM) emissions from older diesel buses, and use of zero-emission buses (ZEBs).

Public Review

The emission factors used in SF Bay Area-EMFAC 2000 were developed in a 3-year process and were subject to public review and comment during three workshops held in 1998, 1999, and 2000. Throughout the comment period, ARB received a number of written and verbal comments, which were addressed in the development of the emission factor model.

Further detail regarding the development of the SF Bay Area-EMFAC 2000 emission factor model may be found in the attached Technical Support Documentation. The Technical Support Documentation refers to broader work on the statewide EMFAC2000 emission factor model, but also applies to the region specific SF Bay Area-EMFAC2000.

Activity Data Documentation

The Bay Area vehicle miles traveled (VMT), VMT growth rates, and VMT-speed distributions incorporated into SF Bay Area-EMFAC 2000 represent the best current activity data estimates available. The derivation of these estimates are explained below.

Vehicle Miles of Travel

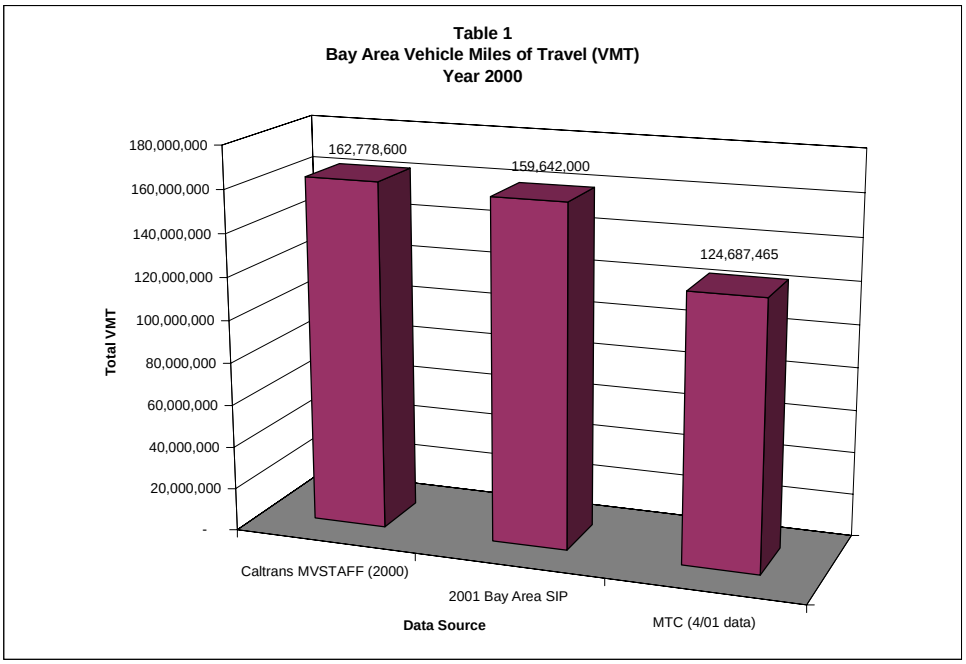
Bay Area VMT estimates for calendar year 2000 are based on the ARB VMT estimation methodology using mileage accrual rates derived from Smog Check odometer data and Department of Motor Vehicle vehicle populations (see Section 7 of the attached Technical Support Documentation for further detail on the ARB VMT estimation methodology).

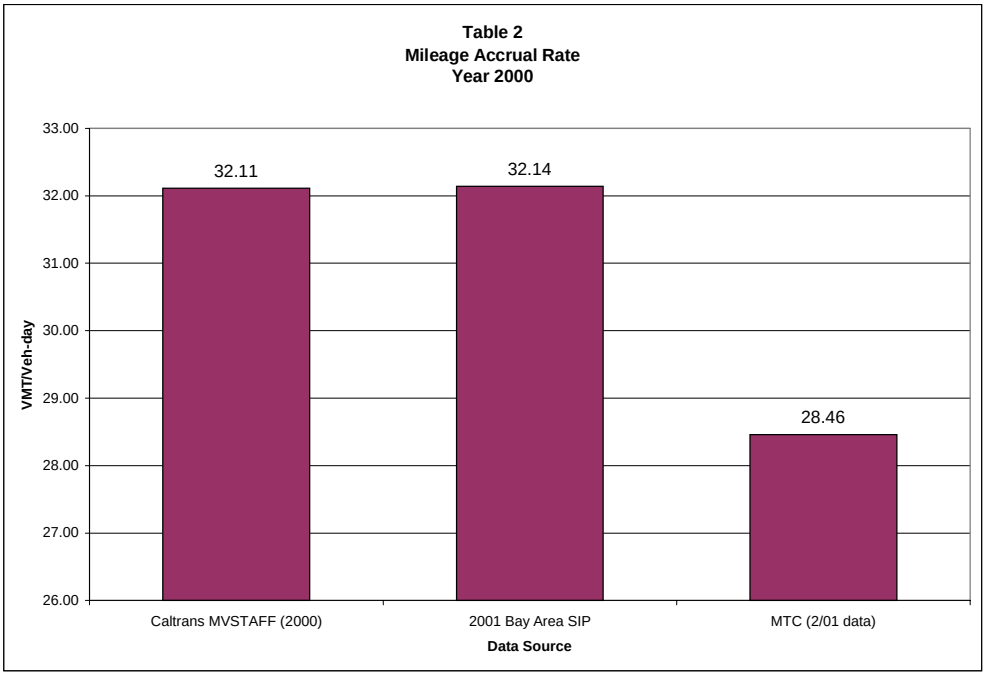
The decision to use ARB's VMT estimate instead of the VMT estimate from MTC's BAYCAST-90 travel demand model for calendar year 2000 was made in an agreement between MTC and ARB. As Table 1 illustrates, MTC's 2000 VMT estimate for the region is about 22 percent lower than both ARB and Caltrans' estimates. The ARB and Caltrans[1] methods for estimating VMT were developed independently of each other, yet fall within 1 percent of each other.
Additional justification for using the ARB VMT estimation methodology is found in the estimate of the number of miles driven by each vehicle per day (i.e., the mileage accrual

[1] Caltrans' VMT estimate was taken from the annual "Motor Vehicle Stock, Travel, and Fuel Forecast" (MVSTAFF) report. The MVSTAFF report forecasts statewide VMT based on statewide vehicle population data from the DMV, fuel consumption estimates from the Board of Equalization, and fuel economy estimates derived from the national fuel economy standards. Statewide VMT estimates are then disaggregated to the county level using county auto registration and road system mileage ratios.

rate). Table 2 compares mileage accrual rates from various data sources. MTC's estimates appear too low to be consistent with odometer readings collected in the Smog Check program. MTC's mileage accrual estimates are 11 percent lower than both Caltrans' ARB's estimates for the Bay Area.

For the purposes of the 2001 Bay Area SIP, MTC agreed to use ARB's 2000 VMT estimate. It was also agreed that the difference in VMT between ARB's and MTC's calendar year 2000 VMT estimates would be used as a "correction" for all future analysis years.





VMT Growth Rates

In the agreement between ARB and MTC, ARB agreed to use MTC's VMT growth rate as implied by the VMT estimates produced by BAYCAST-90. The rationale for this is that while ARB questions the level of travel in calendar year (CY) 2000 as estimated by MTC's travel demand model, ARB is not questioning future year growth projections included in the travel demand model.

VMT-Speed Distributions

The final pieces of activity data provided by MTC and incorporated into SF Bay Area-EMFAC 2000 are the VMT-speed distributions for two calendar years (2000 and 2005). Based on consultation between MTC and ARB staff, ARB incorporated the VMT-speed distributions into SF Bay Area-EMFAC 2000 by applying CY2000 speed distributions to CYs 2000-2003, and CY2005 speed distributions to CYs 2004+.

Methodology for Bay Area Conformity Determinations

For all Bay Area conformity determinations based on the mobile source emissions budgets set in the Bay Area SIP (using SF Bay Area-EMFAC 2000), the following step-wise methodology will be followed:

1. MTC will submit to ARB updated VMT-speed distributions and updated VMT estimates by county for all relevant analysis years. ARB will follow the procedures below for analysis years for which MTC does not submit new activity data (i.e. for which activity data does not change from MTC's original SIP submittal):
    - ARB will use the speed distributions submitted by MTC for the most recent calendar year prior to the analysis year of interest. For example, if MTC submits new VMT-speed distributions for 2005 and 2010, but not for the 2006 analysis year, the 2006 analysis year will use the speed distributions submitted for 2005. VMT-speed distributions will not be interpolated.
    - The VMT estimate for each county will be interpolated using county-specific compounded growth rates.[2] The interpolated VMT will then be used for the following steps.

2. ARB will calculate VMT for the portions of Sonoma and Solano Counties that fall in the San Francisco (S.F.) Air Basin. This is necessary since the SIP budgets are based on the S.F. Air Basin (which covers only the southern portions of Solano and Sonoma Counties), while the MTC VMT estimates include the full nine Bay Area counties. The county portions will be calculated by multiplying the full county VMT submitted by MTC by the VMT ratio (partial county/county) derived from SF Bay Area-EMFAC 2000.[3] In year 2000, about 71 percent of Solano County, and 77 percent of Sonoma County VMT occurred in the S.F. Basin.

3. ARB will calculate the year 2000 difference in VMT between the VMT estimate included in the SF Bay Area-EMFAC 2000 runs[4] and the VMT estimate submitted by MTC for conformity.[5] The resulting differences by county represent the VMT "correction" between ARB and MTC's VMT estimates.

4. The VMT correction will be added by county to the submitted VMT for all analysis years, resulting in the "target" VMT estimate that will be used for the conformity modeling runs.[6]

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[2] For example, 2006 VMT is interpolated from 2005 and 2010 VMT estimates submitted by MTC by the following equation: $VMT_{2006} = (VMT_{2010} / VMT_{2005})^{0.2} * VMT_{2005}$

[3] For the S.F. Basin portions of Solano and Sonoma County VMT:
S.F. Basin County Portion VMT_{MTC} = [S.F. Basin County Portion $VMT_{SFBayArea\text{-}EMFAC2000}$ / Total County VMT $_{SFBayArea\text{-}EMFAC2000}$] * Total County VMT_{MTC}

[4] SF Bay Area-EMFAC 2000 calculates VMT based on Smog Check odometer readings and DMV vehicle registration data for light duty vehicle classes, and instrumented truck data for the truck classes.

[5] VMT $correction_{county\ a}$ = SIP VMT_{CY2000} – MTC VMT_{CY2000}

[6] Target $VMT_{county\ a}$ = MTC $VMT_{county\ a}$ + VMT $correction_{county\ a}$

5. The county-specific target VMT in the conformity modeling runs will be achieved in SF Bay Area-EMFAC 2000 by modifying the county-specific vehicle populations in SF Bay Area-EMFAC 2000 using the What-if-Scenario (WIS) option. Since vehicle population and VMT are linearly related in SF Bay Area-EMFAC 2000, to obtain the "target" vehicle population, ARB staff will take the ratio between the SIP VMT estimates and the target VMT for each analysis year and apply them to the SIP vehicle population estimates for each respective analysis year.[7]

6. Once the target vehicle populations have been calculated, ARB staff will run SF Bay Area-EMFAC 2000 using the WIS option to adjust vehicle populations by county, and incorporate any updated speed distributions.

7. ARB staff will then apply control factors to the model output to adjust for emission reduction measures not included in the SF Bay Area-EMFAC 2000 emission factor model or changed since the model was developed.

8. Finally, ARB staff will compare the results to the SIP budgets for the conformity demonstration.

If you have questions regarding this submittal, you may contact me at (916) 445-4383, or have your staff contact Ms. Cynthia Marvin, Chief of the Air Quality and Transportation Planning Branch, at (916) 322-7236.

Sincerely,

/s/

Michael P. Kenny
Executive Officer

Enclosures

cc: See next page.

[7] Target Veh Pop = [((Target VMT – SIP VMT) / SIP VMT) * SIP Veh Pop] + SIP Veh Pop

cc: (w/o Enclosures)
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Ms. Cynthia Marvin
Air Resources Board

January 2003

Recommended Methods for Use of EMFAC2002 To Develop Motor Vehicle Emissions Budgets and Assess Conformity

As the agency charged with estimating motor vehicle emissions for air quality plans, the Air Resources Board (ARB) has improved the EMFAC modeling tool for use in combination with estimates of vehicle population and activity to develop motor vehicle emissions budgets and assess transportation conformity. The most recent version of this tool, EMFAC2002, has been transmitted to the U.S. Environmental Protection Agency (U.S. EPA) for approval for use in State Implementation Plans (SIPs) and conformity assessments. This paper describes the recommended practices for ARB, air districts, metropolitan planning agencies (MPOs) and regional transportation planning agencies (RTPAs) to use vehicle activity in conjunction with EMFAC2002 emission rates to calculate emissions budgets and conduct conformity assessments.

The vehicle activity indicators commonly used to develop emissions inventories are vehicle trips and vehicle miles of travel (VMT) by speed, vehicle class and time of day. Though not a direct measure of travel activity, vehicle population may also be a variable for these purposes, as described below.

Vehicle trips. In California, MPOs and RTPAs use demographic forecasts and travel demand models to develop estimates of current and future daily VMT, daily vehicle trips and average travel speeds for links in the transportation network. ARB separately estimates daily vehicle trips, but defines trips as the number of times a vehicle is started, rather than a number of specific daily destinations. This distinction is important; ARB and U.S. EPA studies find that vehicles are started five to six times per day, while trips associated with destinations as reported through travel surveys and predicted in travel demand models occur three to four times per day. Because start emissions and the duration of time between starts are crucial to emissions estimation, ARB equates vehicle trips with vehicle starts. Though EMFAC2002 permits model users to alter estimates of vehicle trips used to estimate emissions, ARB recommends that the model's default estimates of vehicle trips (starts), developed from instrumented vehicle studies, be used for air quality planning and conformity purposes.[1] Alternatively, for vehicle classes where appropriate local data are made available for review through the interagency consultation process, use of trip factoring or other methods to fully account for vehicle starts may be employed. Such alternative approaches should be discussed in the interagency consulation process.

[1] An exception would occur when a user chooses to factor these start-based trips to account for trip reduction programs. EMFAC2002 start-based trips rather than destination-based trips should serve as the baseline for this adjustment. The adjustment would be made through the What-If Scenario (WIS) function of EMFAC2002 as follows, where TRS denotes the trip reduction scenario:

*WIS Input TRS Trips = EMFAC Default Trips * (RTPA TRS Trips / RTPA Baseline Trips)*

Vehicle speeds. Most travel demand models provide output of estimated average speed by time period and link that may be summarized for use in EMFAC2002. For each major vehicle class and up to 24 hourly time periods, total VMT is divided into 13 different speed "bins" (5 mph through 65 mph) and used as input to EMFAC2002. ARB recommends continuation of this current practice to develop emissions budgets and assess conformity. Travel from intrazonal trips should be assigned to the appropriate speed bin based on the speed assigned to that travel in the travel demand model. VMT for each speed bin and time period can be used as input through the WIS function of EMFAC2002. It is also possible to input this data specific to vehicle class if adequate and defensible local data are available.

Vehicle population. Vehicle trips (starts) in EMFAC2002 are estimated as a function of the number of vehicles, or vehicle population, by county. The population of each class of motor vehicle is estimated and forecast from Department of Motor Vehicles (DMV) registration data. EMFAC2002 assumes there is a relationship between vehicle population and VMT, carried through mileage accrual rates.[2] In the default case, the model assumes *vehicle population * mileage accrual = VMT.* ARB-preferred practice is to maintain this internal consistency, for reasons explained below.

Vehicle miles of travel. Daily VMT is both an emissions model input usually provided by MPOs/RTPAs and a model output used to estimate exhaust emissions. ARB staff reviews MPO/RTPA estimates of VMT and vehicle speeds, and supports these estimates for use in air quality plans whenever we agree they are reasonable and defensible. Use of the latest estimates of MPO/RTPA VMT and speeds in plan development facilitates the subsequent federal transportation conformity process. This is particularly important for any year for which the plan creates emissions budgets, as conformity rules allow no emissions budget exceedance, regardless of how small. As there may be some variance between default EMFAC2002 VMT and more recent MPO/RTPA estimates to be used for SIP development, we are recommending a procedure to more exactly incorporate into emissions budgets revised VMT estimates for emissions budget analysis years.

Although it is possible to directly input VMT into EMFAC2002 through the model's WIS function, it is generally not recommended to do this independent of vehicle population because of the desire to properly estimate start and evaporative emissions tied to the size of the vehicle fleet. A change in total forecasted miles of travel implies a change either in the number of vehicles traveling those miles or in mileage accrual rates. For future years, we generally recommend making vehicle population the variable, rather than mileage accrual. Thus, VMT adjustment would usually occur through vehicle population adjustment in the model's WIS function, according to this formula:

*WIS Input Population = EMFAC Default Population * (RTPA VMT / EMFAC Default VMT)*

[2] Accrual rates are miles traveled per year as a function of vehicle age, derived from the Bureau of Automotive Repair Smog Check database as described in Section 7.1 of the EMFAC2000 Technical Support Document, found via http://www.arb.ca.gov/msei/on-road/latest_revisions.htm#pcaccrual.

The result of this modification is that emissions estimates more precisely incorporate the daily VMT provided by each MPO/RTPA to calculate exhaust emissions, and vehicle population is adjusted for consistency with this assumption of higher or lower VMT, providing similarly modified start and evaporative emissions.[3] Though the emissions impact of using this approach will often be small, we believe the approach is appropriate given the desire to fully reflect the impacts of changes in travel activity on all emissions processes. Use of consistent methods in air quality plans and conformity assessments will both reduce potential conformity problems and preserve the integrity of the SIP and conformity processes.

Alternatively, local data may indicate that changes in VMT are tied more closely to changes in household or business rates of travel than to changes in vehicle ownership. Or, improved travel demand modeling may project auto ownership rates with a high degree of confidence. In such cases it may be appropriate to adjust total mileage accrual rather than vehicle population. It is also possible to derive a modified VMT forecast from adjustments to both variables in EMFAC2002. Planning agencies are encouraged to present alternative approaches for consideration in the interagency consultation process.

Recommendations

1. ARB recommends that the EMFAC2002 default estimates of vehicle trips, based on starts per day, be used for SIP development and conformity purposes. Model defaults for trips may be factored to account for trip reduction scenarios, but should not be replaced with estimates that do not account for all vehicle starts. Alternative approaches, such as the factoring of travel demand model trip outputs for appropriate classes to account for additional starts, may be considered through interagency consultation.

2. We recommend continuation of current practices for input of latest speed distributions for SIPs and conformity assessments. Travel from intrazonal trips should be assigned to the appropriate speed bin based on the speed assigned to that travel in the travel demand model.

3. To fully reflect the impacts of modified VMT forecasts on all emissions processes, in the calculation of SIP emissions budgets, and in the assessment of conformity with those budgets, vehicle population should be adjusted in EMFAC2002 proportional to the estimated VMT change. Local circumstances may alternatively support adjustment of mileage accrual rates, subject to interagency consultation.

[3] After adjusting VMT through use of the population variable in the WIS function of EMFAC, a user who desires to match VMT even more exactly (to the mile instead of the tens of miles) can then adjust VMT in the WIS without disturbing the population adjustment. This is unlikely to have a discernible impact on emissions, however.

Appendix F
SAFE Vehicle Rule Part 1 EMFAC Adjustment Factor Methodology and Correspondence

CALIFORNIA
AIR RESOURCES BOARD

Gavin Newsom, Governor
Jared Blumenfeld, CalEPA Secretary
Mary D. Nichols, Chair

March 5, 2020

Elizabeth Adams
Director, Air and Radiation Division
Region 9
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105

Dear Ms. Adams:

With this letter, the California Air Resources Board (CARB) is providing to the U.S. Environmental Protection Agency (U.S. EPA) the attached EMission FACtor (EMFAC) Off-Model Adjustment Factors that account for the impacts of the Safer Affordable Fuel-Efficient (SAFE) rule. CARB is seeking U.S. EPA's concurrence that these factors are appropriate for metropolitan planning organizations and regional transportation planning agencies to use in their regional conformity determinations.

CARB has estimated the vehicle tailpipe and evaporative emissions impacts from the SAFE Vehicles Rule Part One: One National Program adopted by U.S. EPA and the National Highway Traffic Safety Administration (NHTSA). The SAFE Vehicles Rule Part One impacts some of the underlying assumptions in the EMFAC2014 and EMFAC2017 models. The attached document provides off-model adjustment factors that can be used to adjust emissions output from the EMFAC model (only EMFAC2014 and EMFAC2017) to account for the impacts of this rule.

If you have any questions or need further information, please contact Dr. Sam Pournazeri, Branch Chief, Mobile Source Analysis Branch at sam.pournazeri@arb.ca.gov or (916) 322-2022.

Sincerely,

Steven S. Cliff, Ph.D.
Deputy Executive Officer

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EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One

November 20, 2019

Summary

Staff at the California Air Resources Board's (CARB) have estimated the vehicle tailpipe and evaporative emissions impacts from the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program" adopted by the U.S. Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA). The SAFE Vehicle Rule Part One impacts some of the underlying assumptions in the EMFAC2014 and EMFAC2017 models. This document provides the off-model adjustment factors that can be used to adjust emissions output from EMFAC model (only EMFAC2014 and EMFAC2017) to account for the impacts of this rule.

What is the SAFE Vehicle Rule Part One?

On September 27, 2019, the United States Environmental Protection Agency (U.S. EPA) and the National Highway Traffic Safety Administration (NHTSA) published the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program." (84 Fed. Reg. 51,310 (Sept. 27, 2019.) The Part One Rule revokes California's authority to set its own greenhouse gas emissions standards and set zero-emission vehicle mandates in California. California expects Part Two of these regulations to be adopted later in the Fall of 2019. We will not know the full impacts of these rules until Part Two is released.

How Does the SAFE Vehicle Rule Impact Criteria Emissions?

As CARB has previously stated[1], both the GHG emission standards and the ZEV sales standards reduce criteria pollutants. As a result of the loss of the ZEV sales requirements, there may be fewer ZEVs sold and thus additional gasoline-fueled vehicles sold in future years. This would increase criteria pollutant emissions in multiple ways. A ZEV inherently has zero evaporative emissions of hydrocarbons in the form of gasoline vapors, which escape from the tank and fuel lines during operation and while parked. A gasoline-fueled vehicle with evaporative emissions is assumed to take the place of each ZEV that will not be sold. This leads to an overall increase in hydrocarbon emissions. Additionally, tailpipe emissions of NOx, hydrocarbons, carbon monoxide, and particulate matter also increase as a result of each additional gasoline-fueled vehicle. This increase occurs for several reasons despite the presence of a criteria pollutant "fleet average" standard[2] that CARB has in place for hydrocarbons

[1] https://ww2.arb.ca.gov/carbs-comments-safe-proposal

[2] The Low Emission Vehicle III program requires manufacturers to average emissions from all vehicles in their fleet to meet the standard. In theory, the elimination of some ZEVs (which are counted in such an

and NOx. First, the fleet average does not apply to particulate matter and carbon monoxide, meaning each incremental gasoline-fueled vehicle generates additional tailpipe emissions of both pollutants. Second, because the fleet average is based on a single test cycle and does not fully capture all operating conditions, additional tailpipe emissions of all criteria pollutants occur for every incremental gasoline-fueled vehicle. Third and most significantly, both tailpipe and evaporative criteria pollutant emissions substantially increase over time due to deterioration of the emission controls on gasoline-fueled vehicles. ZEVs have no such deterioration. Thus, even with the fleet-average standard offsetting a portion of the tailpipe emissions by starting some gasoline-fueled vehicles at lower emission levels early in their life, this slight difference is overwhelmed by the increase in emissions from deterioration over the life of the vehicle.

More stringent ZEV and GHG standards are critical to reach attainment of air quality standards and meet climate needs. If standards cannot become more stringent, these mandates will be very difficult to meet. ZEV technologies, in particular, are needed in both light-duty and heavy-duty fleets to help commercialize this technology. As a result, the long-term threat to air quality is substantial as cleaner technologies, especially ZEVs, do not penetrate the fleet at the scale necessary and emissions are not reduced as needed.

What is EMFAC?

EMission FACtors (EMFAC) is California's federally-approved on-road mobile source emission inventory model that reflects California-specific driving and environmental conditions, fleet mix, and most importantly the impact of California's unique mobile source regulations such as the Low-Emission Vehicle (LEV) program including the LEV II and LEV III standards, California inspection and maintenance programs, and its in-use diesel fleet rules. The EMFAC model supports CARB's regulatory and air quality planning efforts and fulfills the federal Clean Air Act and the Federal Highway Administration's transportation planning requirements. The U.S. EPA has approved both EMFAC2014 and EMFAC2017 for use in state implementation plan (SIP) and transportation conformity analyses. For more information on EMFAC, please visit: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/msei-modeling-tools.

How Did CARB Analyze the SAFE Vehicle Rule Part One's impact on vehicle emissions?

CARB estimated the change in vehicle emissions of the California light-duty vehicle fleet using its EMission FACtor (EMFAC) model. Both EMFAC2014 and EMFAC2017 default models, with an "annual average" setting, were run to estimate statewide vehicle emissions by calendar year, vehicle category, fuel type, and model year

average as zero emissions) would cause some of the remaining or increased number of gasoline-fueled vehicles to need to be certified to lower (cleaner) levels in order to still meet the same fleet average.

projected to occur under the existing Federal and CARB GHG standards and CARB ZEV requirements that were in place at the time of the analysis. These default results were then adjusted in a post-processing step to reflect the proposed SAFE Vehicle Rule[3]. As a result of freezing new ZEV sales at model year 2020 levels, the projected fleet for 2021 and beyond was modified to reflect a lower number of future ZEVs and a corresponding greater number of future gasoline internal combustion engine vehicles (and thus, a higher portion of vehicle miles traveled (VMT) by gasoline vehicles). The increased number of gasoline vehicles were put into appropriate criteria pollutant certification categories under CARB's Low Emission Vehicle (LEV) III criteria pollutant standards to maintain compliance with the required fleet average.

How is EMFAC impacted by the SAFE Vehicle Rule Part One?

Generally, after the SAFE Vehicle Rule Part One becomes effective on November 26, 2019, EMFAC2014 and EMFAC2017 will not accurately estimate future transportation emissions until they are updated with new assumptions reflecting the SAFE Vehicle Rule Part One in off-model adjustment factors provided by CARB.

What are Off-Model Adjustment Factors and how should they be applied?

CARB has prepared off-model adjustment factors for both the EMFAC2014 and EMFAC2017 models to account for the impact of the SAFE Vehicle Rule Part One. These adjustments provided in the form of multipliers can be applied to emissions outputs from EMFAC model to account for the impact of this rule. The adjustment factors are provided in Table 1 for EMFAC2014 and Table 2 for EMFAC2017 (Note these factors do not include upstream emissions associated with fuel demand, as EMFAC only estimates tailpipe and evaporative emissions).

[3] More details can be found in CARB's letter submitted to US EPA and NHTSA on November 6, 2019 available at: https://www.regulations.gov/document?D=NHTSA-2018-0067-12447

Table 1. Off-Model Adjustment Factors for Gasoline Light Duty Vehicle[4] Emissions in **EMFAC2014**

Adjustment Factors for **EMFAC2014** Gasoline Light Duty Vehicles					
Year	NOx Exhaust	TOG Evaporative	TOG Exhaust	PM Exhaust	CO Exhaust
2021	1.0001	1.0001	1.0001	1.0012	1.0004
2022	1.0002	1.0004	1.0001	1.0034	1.0013
2023	1.0005	1.0008	1.0003	1.0066	1.0026
2024	1.0010	1.0014	1.0005	1.0105	1.0041
2025	1.0016	1.0021	1.0009	1.0149	1.0058
2026	1.0022	1.0030	1.0012	1.0183	1.0076
2027	1.0029	1.0039	1.0016	1.0208	1.0095
2028	1.0036	1.0050	1.0020	1.0224	1.0116
2029	1.0044	1.0063	1.0025	1.0241	1.0139
2030	1.0052	1.0078	1.0030	1.0260	1.0162
2031	1.0061	1.0095	1.0036	1.0279	1.0186
2032	1.0071	1.0114	1.0042	1.0299	1.0210
2033	1.0081	1.0134	1.0050	1.0320	1.0235
2034	1.0091	1.0156	1.0059	1.0341	1.0260
2035	1.0103	1.0179	1.0070	1.0362	1.0285
2036	1.0114	1.0202	1.0082	1.0382	1.0309
2037	1.0125	1.0224	1.0096	1.0400	1.0332
2038	1.0137	1.0247	1.0111	1.0418	1.0353
2039	1.0148	1.0269	1.0126	1.0435	1.0372
2040	1.0158	1.0290	1.0141	1.0449	1.0389
2041	1.0167	1.0309	1.0154	1.0461	1.0404
2042	1.0176	1.0326	1.0168	1.0471	1.0418
2043	1.0183	1.0340	1.0180	1.0480	1.0429
2044	1.0190	1.0352	1.0190	1.0487	1.0439
2045	1.0195	1.0364	1.0199	1.0494	1.0448
2046	1.0200	1.0373	1.0206	1.0499	1.0454
2047	1.0204	1.0384	1.0213	1.0504	1.0461
2048	1.0208	1.0393	1.0218	1.0508	1.0467
2049	1.0209	1.0400	1.0221	1.0510	1.0470
2050	1.0210	1.0406	1.0224	1.0512	1.0472

[4] LDA, LDT1, LDT2 and MDV vehicle categories in EMFAC

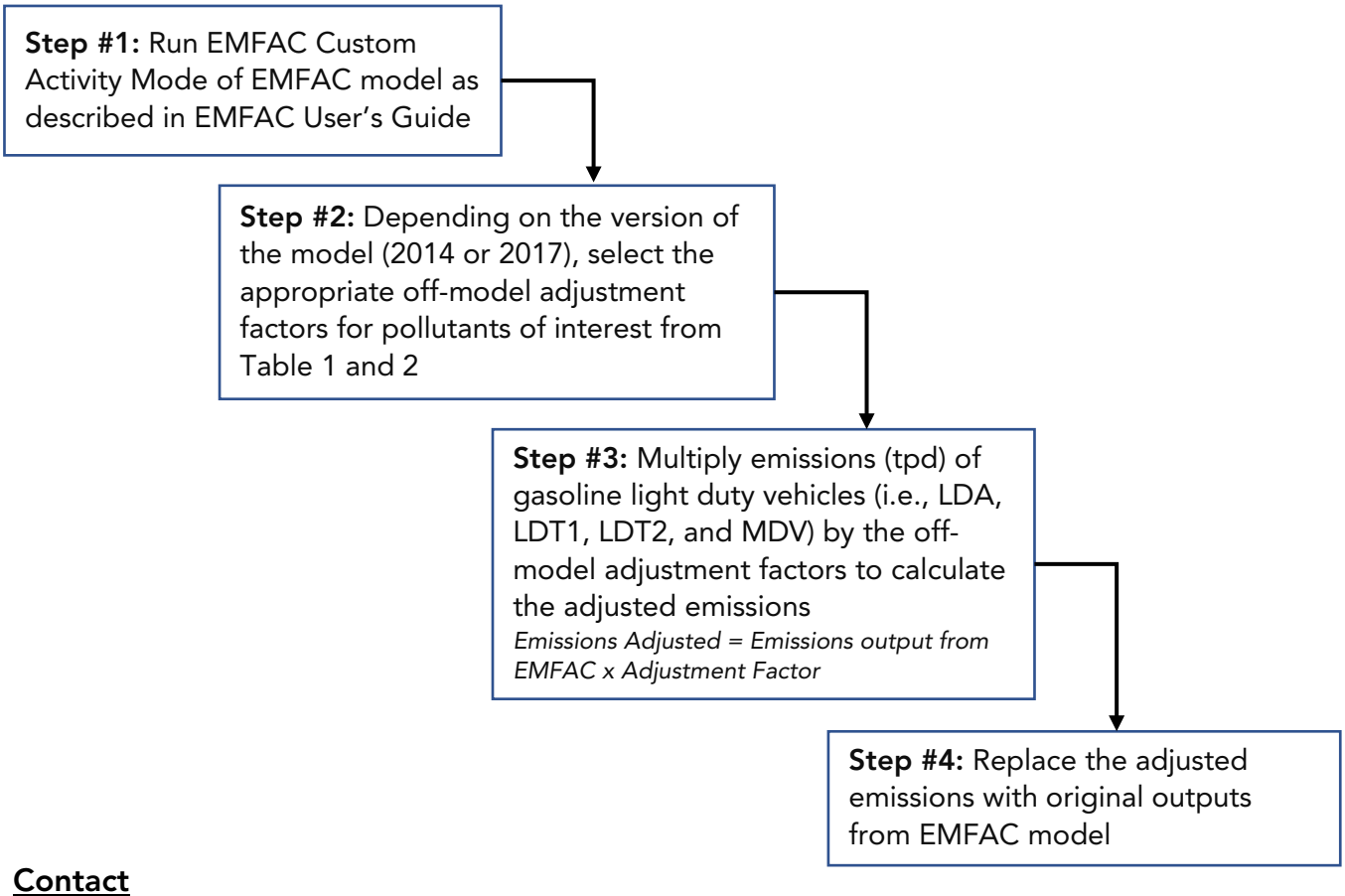
Table 2. Off-Model Adjustment Factors for Gasoline Light Duty Vehicle Emissions in **EMFAC2017**

Adjustment Factors for **EMFAC2017** Gasoline Light Duty Vehicles					
Year	NOx Exhaust	TOG Evaporative	TOG Exhaust	PM Exhaust	CO Exhaust
2021	1.0002	1.0001	1.0002	1.0009	1.0005
2022	1.0004	1.0003	1.0004	1.0018	1.0014
2023	1.0007	1.0006	1.0007	1.0032	1.0027
2024	1.0012	1.0010	1.0011	1.0051	1.0044
2025	1.0018	1.0016	1.0016	1.0074	1.0065
2026	1.0023	1.0022	1.0020	1.0091	1.0083
2027	1.0028	1.0028	1.0024	1.0105	1.0102
2028	1.0034	1.0035	1.0028	1.0117	1.0120
2029	1.0040	1.0042	1.0032	1.0129	1.0138
2030	1.0047	1.0051	1.0037	1.0142	1.0156
2031	1.0054	1.0061	1.0042	1.0155	1.0173
2032	1.0061	1.0072	1.0047	1.0169	1.0189
2033	1.0068	1.0083	1.0052	1.0182	1.0204
2034	1.0075	1.0095	1.0058	1.0196	1.0218
2035	1.0081	1.0108	1.0063	1.0210	1.0232
2036	1.0088	1.0121	1.0069	1.0223	1.0244
2037	1.0094	1.0134	1.0074	1.0236	1.0255
2038	1.0099	1.0148	1.0079	1.0248	1.0265
2039	1.0104	1.0161	1.0085	1.0259	1.0274
2040	1.0109	1.0174	1.0090	1.0270	1.0281
2041	1.0113	1.0186	1.0095	1.0279	1.0288
2042	1.0116	1.0198	1.0099	1.0286	1.0294
2043	1.0119	1.0207	1.0103	1.0293	1.0299
2044	1.0122	1.0216	1.0106	1.0299	1.0303
2045	1.0124	1.0225	1.0109	1.0303	1.0306
2046	1.0125	1.0233	1.0111	1.0308	1.0309
2047	1.0127	1.0240	1.0113	1.0311	1.0311
2048	1.0128	1.0246	1.0115	1.0314	1.0313
2049	1.0128	1.0252	1.0116	1.0316	1.0315
2050	1.0129	1.0257	1.0117	1.0318	1.0316

The off-model adjustment factors need to be applied only to emissions from gasoline light duty vehicles (LDA, LDT1, LDT2 and MDV). Please note that the adjustment factors are by calendar year and includes all model years.

For example, the Custom Activity Mode of EMFAC2014 and 2017 is designed to perform emissions assessments for determining conformity with the state implementation plan. These types of assessments are most often done by various transportation planning agencies and air districts throughout California which require the user to create custom activity data files containing vehicle miles travelled (VMT) and/or speed profile data. This customized activity data will then be used for scaling the default vehicle emissions produced by EMFAC model. The off-model adjustment factors provided in this document can be applied to gasoline light duty vehicle emissions outputs of the EMFAC Custom Activity Mode, as illustrated in Figure 1.

Figure 1. Process to apply EMFAC Off-Model Adjustment Factors



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San Francisco, CA 94105-3901

MAR 12 2020

Steven Cliff, Ph.D.
Division Administration, California Division
California Air Resources Board
1001 I Street
Sacramento, California 95812

Dear Dr. Cliff:

I am responding to your letter of March 5, 2020, requesting U.S. Environmental Protection Agency concurrence that EMFAC2014 and EMFAC2017 off-model adjustment factors can be used for transportation conformity determinations in California.

We understand that the EMFAC off-model adjustment factors are multipliers that would be applied to gasoline vehicle emissions modeled by EMFAC2014 and EMFAC2017. EPA considers these factors to be acceptable for use because the effect of their application is more conservative than necessary. Therefore, these factors may be used in transportation conformity determinations and state implementation plan development.

If you have any questions regarding this letter, please contact me at (415) 972-3183 or Karina O'Connor at (775) 434-8176.

Sincerely,

Elizabeth J. Adams

Elizabeth J. Adams
Director, Air and Radiation Division

cc: Richard Corey, CARB
Kurt Karperos, CARB

Federal Highway Administration
California Division Office
650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001

Federal Transit Administration
Region IX Office
90 7th Street
San Francisco, CA 94103
(415) 734-9490

March 2, 2020

John Busterud
Regional Administrator
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105

Subject: Appropriate Model for Transportation Conformity In California

Dear Mr. Busterud:

Clean Air Act (CAA) section 176(c) requires that Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) funded or approved highway and transit projects be consistent with ("conform to") the purpose of the State Implementation Plan (SIP). Under the U.S. Environmental Protection Agency's (EPA's) regulations, transportation conformity determinations must be based on the latest emission estimation model available. See 40 CFR section 93.111. The latest EPA approved California EMission FACtor (EMFAC) models are EMFAC2014 and EMFAC2017. See 84 FR 41717 (August 15, 2019).

On September 27, 2019, EPA and the National Highway Traffic Safety Administration (NHTSA) jointly issued the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program. This action withdrew the waiver EPA had previously provided to California for that State's greenhouse gas (GHG) program and Zero Emissions Vehicle (ZEV) mandate under section 209 of the Clean Air Act, and finalized regulatory text that made explicit that those State programs would also be preempted under NHTSA's authorities. *See* 84 FR 51310 (September 27, 2019).

In light of the One National Program rule, can you please confirm that FHWA and FTA should continue to use EMFAC2014 and 2017 for transportation conformity determinations in the State of California?

Sincerely yours,

Vincent Mammano
Division Administrator, California Division
Federal Highway Administration

Sincerely yours,

Ray Tellis
Regional Administrator, Region 9
Federal Transit Administration

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

MAR 12 2020

OFFICE OF THE
REGIONAL ADMINISTRATOR

Vincent Mammano
Division Administration, California Division
Federal Highway Administration
650 Capitol Mall, Suite 4-100
Sacramento, California 95814

Raymond Tellis
Regional Administrator, Region 9
Federal Transit Administration
90 7th Street
San Francisco, California 94103

Subject: Appropriate Model for Transportation Conformity in California

Dear Mr. Mammano and Mr Tellis:

I am responding to your letter of March 2, 2020, requesting the U.S. Environmental Protection Agency (EPA) to confirm that the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) should continue to use EMFAC2014 and EMFAC2017 for transportation conformity determinations in California.

Clean Air Act section 176(c)(1) requires that the latest emissions estimates be used in transportation conformity analyses. The EPA's last approval of an update to the EMFAC model was on August 15, 2019 when EPA approved EMFAC2017, the last major update to EMFAC 2014, the previous version of EMFAC.[1] In our approval action we initiated a two-year grace period for transition to EMFAC2017 for regional transportation conformity analyses and a one-year grace period for project level conformity analyses. The EPA-approved models in California continue to be EMFAC2017, and, during the EMFAC2017 conformity grace periods, EMFAC2014.

The California Air Resources Board (CARB) has developed and recently submitted to the EPA certain EMFAC adjustment factors.[2] We understand these off-model adjustment factors to be multipliers that would be applied to gasoline vehicle emissions modeled by EMFAC2014 and EMFAC2017. EPA considers these factors to be acceptable for use because the effect of their application is more conservative than necessary. Therefore, EPA has informed CARB that these factors may be used in transportation conformity determinations and state implementation plan development.

[1] 84 FR 41717.
[2] Letter dated March 5, 2020 from Steven S Cliff, Ph.D., Deputy Executive Officer, CARB to Elizabeth Adams, Director, Air and Radiation Division, EPA, Region 9.

If you have any questions regarding this letter, please contact me at (415) 947-4235 or Elizabeth Adams at (415) 972-3183.

Sincerely,

for John W. Busterud
Regional Administrator, Region IX.

cc Richard Corey, California Air Resources Board
Steven Cliff, California Air Resources Board
Kurt Karperos, California Air Resources Board