1.1 Introduction and Study Approach

This program Environmental Impact Report (EIR) has been prepared on behalf of the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG) in accordance with the California Environmental Quality Act (CEQA). This EIR analyzes the potential significant impacts of the adoption and implementation of the proposed Plan Bay Area composed Plan, which is the update to the 2009 Regional Transportation Plan (RTP) and the new Sustainable Communities Strategy (SCS) for the San Francisco Bay Area.

MTC, ABAG, and Plan Bay Area

MTC is the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area region (which includes Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties). Created by the State Legislature in 1970, MTC functions as both the regional transportation planning agency (RTPA)—a state designation—and, for federal purposes, as the region's metropolitan planning organization (MPO).

As required by State legislation (Government Code Section 65080 et seq.) and by federal regulation (Title 23 USC Section 134), MTC is responsible for preparing the RTP for the San Francisco Bay Area Region. An RTP is a long-range plan that identifies the strategies and investments to maintain, manage, and improve the region's transportation network. In 2009, MTC adopted its most recent RTP, known as the Transportation 2035 Plan for the San Francisco Bay Area.

ABAG is a joint powers agency formed in 1961 pursuant to California Government Code §§ 6500, et seq., and the council of governments (COG) for the San Francisco Bay Area. ABAG conducts regional population and employment projections and the regional housing needs allocation (RHNA) processes (Government Code Section 65584 et seq.). Plan Bay Area is a joint effort led by MTC and ABAG and completed in partnership with the Bay Area's other two regional government agencies, the Bay Area Air Quality Management District (BAAQMD), and the Bay Conservation and Development Commission (BCDC). It meets the requirements of the Sustainable Communities and Climate Protection Act of 2008 Senate Bill 375 (SB 375 Steinberg, 2008), which requires California's 18 metropolitan planning organizations to develop an SCS as a new element of their federally mandated RTP. The SCS demonstrates how the region will meet its greenhouse gas (GHG) reduction targets established by the California Air Resources Board (ARB) through integrated land use, housing and transportation planning, a planning effort requiring the authority and powers vested in both MTC and ABAG.

Plan Bay Area, which covers the period through 2040, is the first Bay Area RTP that is subject to the requirements of SB 375. SB 375 requires that the SCS be integrated into the MPO's RTP and once adopted will be reviewed by ARB to determine whether it would, if implemented, achieve the GHG emission re-

duction target for its region. If the combination of measures in the SCS will not meet the region's target, the MPO must then prepare an alternative planning strategy (APS) that will do so.

Plan Bay Area is a long-range plan that specifies the strategies and investments to maintain, manage, and improve the region's transportation network – which includes bicycle and pedestrian facilities, local streets and roads, public transit systems, and highways. Plan Bay Area also calls for focused housing and job growth around high-quality transit corridors, particularly within areas identified by local jurisdictions as Priority Development Areas. This land use strategy is anticipated to enhance mobility and economic growth by linking the location of housing and jobs with transit, thus offering a more efficient land use pattern around transit and a greater return on existing and planned transit investments.

Purpose of the EIR

The EIR for Plan Bay Area has been prepared in compliance with the California Environmental Quality Act (CEQA) of 1970, as amended. In general, the purpose of the EIR is to:

- Analyze the potential environmental effects of the adoption and implementation of the Plan;
- Inform decision-makers, responsible and trustee agencies, and members of the public as to the range of the environmental impacts of the Plan;
- Recommend a set of measures to mitigate any significant adverse impacts; and
- Analyze a range of reasonable alternatives to the proposed Plan.

The EIR process also provides an opportunity to identify environmental benefits of the proposed Plan that might balance some potentially significant adverse environmental impacts. The final EIR will include a Mitigation Monitoring Program that identifies who will be responsible for implementing identified mitigation measures. As the joint lead agencies for preparing this EIR, MTC and ABAG will rely on the EIR analysis of potential environmental effects in their review of the proposed Plan prior to taking action on Plan Bay Area.

This EIR represents the agencies' best effort to evaluate the potential environmental effects of the proposed Plan given its long-term planning horizon. It can be anticipated that conditions will change; however, the assumptions used are the best available at the time of preparation and reflect existing knowledge of patterns of development, travel patterns, mode of travel, and technological factors.

While MTC, along with other regional agencies, prepares Regional Airport and Seaport plans, the projects in these advisory plans do not require MTC funding or approvals. As such, these plans are separate from the proposed Plan and are subject to separate review processes. Therefore, this EIR does not analyze the environmental effects of these plans.

Notice of Preparation and Public Scoping

CEQA regulations require an early and open process for determining the scope of issues that should be addressed prior to implementation of a proposed action. The Notice of Preparation (NOP) provides formal notification to all federal, state, regional, and local agencies involved with funding or approval of

the project, and to other interested organizations and members of the public, that an EIR will be prepared for the project. The NOP is intended to encourage interagency communication concerning the proposed action and to provide sufficient background information about the proposed action so that agencies, organizations, and individuals can respond with specific comments and questions on the scope and content of the EIR. A copy of the NOP is provided in Appendix A and the written comments received during the 30-day NOP period are available on the project website, www.onebayarea.org, and referenced in Appendix B.

MTC and ABAG initiated the scoping process on June 11, 2012. As required by CEQA, MTC and ABAG sent a copy of the NOP to the State Clearinghouse within the California Office of Planning and Research. The Clearinghouse is responsible for monitoring compliance of state agencies in providing timely responses. The Clearinghouse assigned state identification number SCH# 2012062029 to this EIR. The NOP was also filed with the county clerks in each of the nine Bay Area counties and posted on the Plan Bay Area website (www.onebayarea.org). State and federal resource agencies, the Bay Area Partnership (which is comprised of representatives of congestion management agencies, transit operators, public works directors, and other state and federal governmental agencies) and interested individuals and organizations were also sent either copies of the NOP via certified mail, or were notified of the availability of the NOP by postcard in the mail, or email if no mailing address was provided.

SCOPING MEETINGS

Five regional public scoping meetings were held to solicit agency and public comments on the EIR:

- Wednesday, June 20, 2012, 6:00 p.m. to 8:00 p.m., Joseph P. Bort MetroCenter, 101 Eighth Street, Oakland, CA
- Thursday, June 21, 2012, 10:00 a.m. to Noon, Dr. Martin Luther King, Jr. Library, 150 East San Fernando Street, San José, CA
- Monday, June 25, 2012, 1:30 p.m. to 3:30 p.m., Solano County Events Center, 601 Texas Street, Fairfield, CA
- Tuesday, June 26, 2012, 10:00 a.m. to Noon, San Francisco Planning + Urban Research (SPUR), 654 Mission Street, San Francisco, CA
- Wednesday, June 27, 2012, 1:30 p.m. to 3:30 p.m., Embassy Suites Hotel, 101 McInnis Parkway, San Rafael, CA

In addition, meetings with Bay Area Congestion Management Agency planning directors and local jurisdiction planning directors, business community members, and equity groups, were held during the scoping period for further input. The NOP and public scoping meetings also help to meet the MAP-21 requirements pertaining to public involvement in the development of the RTP. In particular, through the NOP and scoping process, resource agencies, public agencies, Tribal governments, transportation providers, and the public had an opportunity to provide early input on environmental issues and concerns that could be addressed as part of the environmental assessment for the proposed Plan.

Additional information about the comprehensive public involvement process for Plan Bay Area is available on the Plan Bay Area website (www.onebayarea.org) and is described in Chapter 1.2 of this EIR.

EIR Scope

PROGRAM EIR

This is a program EIR, as defined in Section 15168 of the CEQA Guidelines as: "[An EIR addressing a] series of actions that can be characterized as one large project and are related either: (1) Geographically; (2) As logical parts in the chain of contemplated actions; (3) In connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental impacts which can be mitigated in similar ways."

Program EIRs can be used as the basic, general environmental assessment for an overall program of projects developed over a multi-year planning horizon. A program EIR has several advantages. For example, it provides a basic reference document to avoid unnecessary repetition of facts or analysis in subsequent project-specific assessments. It also allows the lead agency to consider the broad, regional impacts of a program of actions before its adoption and eliminates redundant or contradictory approaches to the consideration of regional and cumulative impacts.

As a programmatic document, this EIR presents a region-wide assessment of the potential impacts of the proposed Plan. It focuses on the entire set of projects and programs contained in the proposed Plan. Individual transportation and development project impacts are not addressed in detail; rather the focus of this EIR is to address the impacts of a program of projects, which, individually or in the aggregate, may be regionally significant. Where appropriate, it also provides a county-by-county assessment. However, it does not evaluate subcomponents of the proposed Plan nor does it assess project-specific impacts of individual projects. For example, the physical impacts of major regional transportation expansion projects are addressed, while potential impacts on specific wetlands or a specific species habitat by an individual interchange reconstruction project is not discussed, unless it can be surmised that the effect would be large or otherwise regionally significant. This approach does not relieve local jurisdictions of the responsibility for evaluating project-specific, locally significant impacts; see the "Relationship to other EIRs" section below for more details. All impacts of individual projects will be evaluated in future environmental review, as relevant, by the appropriate implementing agency as required under CEQA and/or NEPA prior to each project being considered for approval, as applicable.

This EIR evaluates potentially significant environmental impacts and includes mitigation measures to offset potentially significant effects. The EIR identifies potential regional as well as generalized localized impacts. Further, the EIR distinguishes transportation and land use impacts so that a potential "hybrid" alternative can be readily selected for adoption, if appropriate. This EIR provides the basis for subsequent tiered CEQA documents for project-specific or site-specific environmental reviews that will be conducted by implementing agencies as land use and transportation projects in the Plan are more clearly defined and more detailed studies prepared. Specific analysis of localized impacts in the vicinity of individual projects is not included in this program level EIR.

ENVIRONMENTAL ISSUE AREAS

The focus of this EIR is on environmental issues and concerns identified as possibly significant by MTC and ABAG in their NOP, as well as issue areas identified as a result of scoping comments. The issues identified for analysis by this EIR include whether the proposed Plan could result in the following:

Transportation

- Increase in per-trip travel time for commute and non-commute purposes, vehicle miles traveled (VMT) on facilities experiencing level of service F, or per-capita VMT
- Exceedance of regional transit service capacity

Air Quality

- Conflict with or obstruct air quality plans
- Increase in short-term construction-related emissions
- A net increase of emissions of criteria pollutants from on-road mobile sources
- Exposure of sensitive receptors or disproportionally impacted communities to substantial toxic air contaminant concentrations

Land Use, Housing, Agriculture, and Physical Displacement

- Conversion of agricultural lands, open space, or forest land
- Conflict with locally adopted land use plans, including general plans and zoning
- Disruption of residential or business uses or displace population and housing
- Alterations in the characteristics and qualities of an existing neighborhood or community by separation

Energy

- Increase per capita energy use
- Inconsistency with adopted plans or policies related to energy conservation

Greenhouse Gases and Climate Change (including Sea Level Rise)

- Failure to reduce net and per-capita CO_2 emissions from on-road mobile sources
- A net increase in direct and indirect GHG emissions
- Impede attainment of State executive order goals
- Increased vulnerability of land uses and transportation network to sea-level rise
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases

Noise

- Exposure of people to construction, highway, transit, or airport noise levels, or ground borne vibration, in excess of established standards

Geology and Seismicity

- Increased exposure of people or structures to the risk of property loss, injury, or death involving: rupture of a known earthquake fault; strong seismic ground shaking; and/or seismic-related ground failure
- Soil erosion or topsoil loss
- Location of projects on: a geologic unit or soil that is unstable or would become unstable as a result of the project; on expansive soils; or on weak, unconsolidated soils

Water Resources

- Violation of water quality standards or waste or stormwater discharge requirements
- Interference with or reduce rates of groundwater recharge due to increased amount of impervious surfaces
- Increase in erosion by altering the existing drainage patterns of a site
- Increase in non-point pollution of stormwater runoff or rates and amounts of runoff due to additional impervious surfaces
- Placement of structures within a 100-year flood hazard area which would impede or redirect flows
- Exposure of people to significant risk of loss, injury, or death involving flooding, seiche, tsunami, or mudflow

Biological Resources

- An adverse effect on sensitive or special-status species, riparian habitat, protected wetlands, or other sensitive natural community
- Interference with the movement of any native resident, migratory fish, or wildlife species
- Conflict with adopted local conservation policies

Visual Resources

- An adverse effect on scenic vistas
- Damage to scenic resources seen from a scenic highway
- Degradation of existing visual character of communities, rural areas, or open space
- A new source of substantial light or glare
- Casting of shadows that cause a public hazard or degrade visual/aesthetic character

Cultural Resources

- An adverse change that damages the significance of a historic resource, unique archaeological resource, and/or a unique paleontological resource/site
- Disruption of any human remains

Public Utilities

- An adverse effect on water supply, wastewater/stormwater facilities, or landfill capacity

Hazardous Materials

- Creation of hazards to the public or environment due to transport, use, or disposal of hazardous materials, or reasonably foreseeable upset and accident conditions that release hazardous materials
- Emission of hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school
- Location of a project on a hazardous materials site
- Safety hazards for people in proximity to an airport
- Interference with emergency response or evacuation plans
- Exposure of people to significant risk of loss, injury, or death involving wildland fires

Public Services and Recreation

- Need for expanded facilities in order to maintain adequate schools, emergency services, police, fire, and park and recreation services
- Deterioration of existing neighborhood and regional parks or other recreational facilities

Impacts on mineral resources are not specifically addressed in this EIR. As indicated in the NOP, no significant impacts of regional importance are expected to occur in that issue area; this impact area will be addressed in project-specific environmental documents as relevant.

EIR Organization

EXECUTIVE SUMMARY

This EIR begins with an executive summary of the environmental analysis, which outlines the proposed Plan and alternatives and includes a review of the potentially significant adverse regional environmental impacts of the proposed Plan and the measures recommended to mitigate those impacts. The executive summary also indicates whether or not those measures mitigate the significant impacts to a less than significant level. Finally, the executive summary describes the alternatives and their merits as compared to the proposed Plan, identifies the environmentally superior alternative among them, and describes areas of known controversy and issues to be resolved.

PART ONE: INTRODUCTION AND PROJECT OVERVIEW

Part One includes two chapters. Chapter 1.1 (this chapter) describes the relationship between the proposed Plan and the EIR, the organization of the EIR, and the basic legal requirements of a program level EIR. It discusses the level of analysis and the alternatives considered as well as how this EIR is related to other environmental documents and the EIR's intended uses. Chapter 1.2 introduces the purpose and objectives of the proposed Plan and summarizes specific information to describe the proposed Plan and complete the EIR analysis. This includes a description of the existing project setting, an outline of the

Bay Area's projected population and employment growth rates and proposed development patterns through the 2040 planning horizon year, and all proposed transportation projects and programs. State and federal planning regulations guiding the development of the RTP and SCS are also described.

PART TWO: SETTINGS, IMPACTS, AND MITIGATION MEASURES

Part Two describes the existing physical and regulatory settings for each of the environmental issue areas analyzed in the EIR, the potential impacts of the proposed Plan on these environmental issue areas, and measures to mitigate the potential impacts identified. Each issue area is analyzed in a separate chapter. Each chapter is organized as follows:

- Physical Setting;
- Regulatory Setting;
- Impact Significance Criteria;
- Method of Analysis;
- Summary of Impacts; and
- Impacts and Mitigation Measures.

PART THREE: ALTERNATIVES AND CEQA-REQUIRED CONCLUSIONS

Part Three includes a description of the alternatives to the proposed Plan and an assessment of their potential to achieve the objectives of the proposed Plan while reducing potentially significant adverse regional environmental impacts. Part Three also includes a comparison summary table of regional environmental impacts associated with the alternatives. As required by CEQA, an environmentally superior alternative is identified. Finally, Part Three includes an assessment of the impacts of the proposed Plan and alternatives in several subject areas required by CEQA, including:

- Significant irreversible environmental changes;
- Significant unavoidable impacts;
- Growth-inducing impacts;
- Cumulative impacts; and
- Impacts found to be not significant.

PART FOUR: BIBLIOGRAPHY AND REPORT AUTHORS

Part Four includes a bibliography and a list of report authors.

APPENDICES

Appendix A includes the Notice of Preparation (NOP) of this EIR and Appendix B includes reference to the comments received on the NOP and at the scoping meetings (available in full on the project website, www.onebayarea.org). Appendix C includes detailed lists of the transportation projects included in the proposed Plan and the alternatives studied in the EIR. Appendix D summarizes scoping comments on the alternatives. Appendix E includes the Air Quality Analysis Methodology. Appendices F through I include detailed supporting data on impact analyses for geology, water, biology and hazards, respectively.

EIR Approach

TIMEFRAME

For analytic purposes in this EIR, 2010 is the base year (existing conditions), except for greenhouse gas emissions where 2005 is the base year for one criterion to demonstrate compliance with SB 375. 2040 is the horizon year (future conditions) when it is assumed that the proposed Plan will be fully implemented. The proposed Plan covers an approximately 25-year planning period, and the year 2040 represents the last year of the plan when projects/programs are anticipated to be fully implemented.

ALTERNATIVES

CEQA requires EIRs to evaluate a reasonable range of alternatives to the proposed project that could feasibly attain most of the basic project objectives and would avoid or substantially lessen any of the significant environmental impacts. In addition, CEQA requires assessment of the likely foreseeable future condition if the proposed project were not implemented; this scenario is called the No Project alternative.

This EIR evaluates the proposed Plan and four alternatives. This EIR also identifies the environmentally superior alternative and documents the relative environmental advantages and disadvantages of the alternatives. As with the evaluation of the proposed Plan, this EIR evaluates impacts of the No Project alternative and the other alternatives in 2040, the horizon year for the proposed Plan.

The proposed Plan and four alternatives are briefly described below. A full description of each alternative is provided in Chapter 3.1. In keeping with the order of alternatives in the Notice of Preparation, the No Project alternative is Alternative 1 and the proposed Plan analyzed in this EIR is Alternative 2. The proposed Plan, No Project, and two of the alternatives are designed to accommodate projected regional growth by 2040 (see Chapter 1.2 for details). One alternative, the Enhanced Network of Communities, is designed to accommodate more growth as it intended to identify areas sufficient to allow the region to meet the housing demand to meet projected employment growth projection, thereby reducing the in-commute.

Alternative 1: No Project

The No Project alternative consists of two elements: (a) the existing 2010 land uses plus continuation of existing land use policy as defined in adopted general plans, zoning ordinances, etc. from all jurisdictions in the region and (b) the existing 2010 transportation network plus highway, transit, local roadway, bicycle and pedestrian projects that have either already received full funding or are scheduled for full funding and received environmental clearance by May 1, 2011.

Alternative 2: The Proposed Plan

Alternative 2 is the proposed Plan analyzed in this EIR. This alternative assumes a land use development pattern that concentrates future household and job growth into Priority Development Areas (PDAs) identified by local jurisdictions. It pairs this land development pattern with MTC's Preferred Transportation Investment Strategy, which dedicates nearly 90 percent of future revenues to operating and maintaining the existing road and transit system. A more detailed overview of the proposed Plan is in Chapter 1.2.

Alternative 3: Transit Priority Focus

This alternative includes the potential for more efficient land uses in Transit Priority Project (TPP) areas, as defined by Senate Bill 375 (PRC section 21155), and would be developed at higher densities than existing conditions to support high quality transit. The transportation investment strategy in this alternative tests a slightly reduced express lane network that focuses on HOV lane conversions and gap closures, as well as increased funding for the implementation of recommendations from the Comprehensive Operations Analysis of BART and AC Transit above what is included in the Preferred Transportation Investment Strategy. This alternative also includes a Regional Development Fee based on development in areas that generate high levels of vehicle miles travelled, and a higher peak period toll on the San Francisco-Oakland Bay Bridge.

Alternative 4: Enhanced Network of Communities

This alternative seeks to provide sufficient housing for all people employed in the Bay Area with no in-commuters from other regions and allows for more dispersed growth patterns than the proposed Plan, although development is still generally focused around PDAs. The transportation investment strategy is consistent with the Preferred Transportation Investment Strategy, also used in the proposed Plan, and includes a higher peak period toll on the San Francisco-Oakland Bay Bridge.

Alternative 5: Environment, Equity and Jobs

This alternative seeks to maximize affordable housing in opportunity areas in both urban and suburban areas through incentives and housing subsidies. The suburban growth is supported by increased transit service to historically disadvantaged communities and a reduced roadway network. This alternative includes imposing a Vehicle Miles Traveled (VMT) tax and a higher peak period toll on the San Francisco-Oakland Bay Bridge to fund transit operations.

CUMULATIVE IMPACT ASSUMPTIONS

Section 15130 of the CEQA Guidelines requires that an EIR evaluate potential environmental impacts that are individually limited but cumulatively significant. CEQA defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines § 15355). "'Cumulatively considerable' means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects" (CEQA Guidelines § 15065(a)(3)). This means that cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

The proposed Plan, which includes region-wide transportation improvements and land use development patterns in the Bay Area to accommodate projected regional growth through 2040, is a cumulative plan by definition. As such, the environmental analysis included in each issue area of this EIR is a cumulative analysis compliant with the requirements of CEQA and the CEQA Guidelines. Furthermore, this EIR contains analysis of cumulative regional impacts, as differentiated from more generalized localized impacts for every identified impact area as relevant. A summary of cumulative effects is included in Part 3, which addresses Alternatives and CEQA Required Conclusions.

RELATIONSHIP TO OTHER EIRS

This EIR has updated the description, analysis, and conclusions contained in EIRs for the prior Bay Area RTPs, including the Draft and Final EIRs prepared for the Transportation 2035 Plan (December 2008 and April 2009, respectively). Unlike the prior RTPs, Plan Bay Area also contains the Sustainable Communities Strategy (SCS) component for the first time, and this EIR includes analysis of impacts associated with the SCS.

As a program EIR, the preparation of this document does not relieve the sponsors of the projects listed in the proposed Plan from the responsibility of complying with the requirements of CEQA and/or NEPA for projects requiring federal funding or approvals. As appropriate, individual projects may be required to prepare a more precise, project-level analysis to fulfill CEQA and/or NEPA requirements. The lead agency responsible for reviewing these projects shall determine the level of review needed, and the scope of that analysis will depend on the specifics of the particular project. These projects may, however, use the discussion of regional impacts in this program EIR as a basis of their assessment of these regional or cumulative impacts. These projects may also be eligible for CEQA streamlining under SB 375 – see "Future Environmental Review" below for more details.

INTENDED USES OF THE EIR

The CEQA Guidelines (Section 15124(d)) require EIRs to identify the agencies that are expected to use the EIR in their decision-making, and the approvals for which the EIR will be used. This EIR will inform MTC and ABAG, in addition to other responsible agencies, persons, and the general public, of the potential environmental effects of the proposed Plan and the identified alternatives. MTC and ABAG will use the EIR as part of its review and approval of Plan Bay Area.

The lead agencies for projects analyzed in this program EIR may use it as the basis for their regional cumulative analysis of specific project impacts, together with the projected growth in the region. Cities and counties may use information in this EIR in their future housing elements. Bay Area congestion management agencies (CMAs) may incorporate information provided in this EIR into future county transportation plans such as congestion management programs, countywide transportation plans, or county bike and pedestrian plans. Other agencies expected to use the EIR include: Caltrans, transportation authorities, transit providers in the region (such as Muni, BART, AC Transit, SamTrans, Caltrain, SolTrans, WestCAT, ACE, Water Emergency Transit Authority, etc.), the Bay Conservation and Development Commission, the Bay Area Air Quality Management District, and cities and counties.

Mitigation measures described in this EIR may be incorporated into project-level environmental impact analyses by project sponsors or local agencies as appropriate to mitigate identified project-level impacts.

This EIR is also intended to help activate the CEQA streamlining benefits of SB 375 for local jurisdictions and private development, described in the "SB 375 CEQA Streamlining" section below.

APPROVALS FOR WHICH THE EIR WILL BE USED

This EIR is being prepared for use by MTC and ABAG in its review and approval of the proposed Plan Bay Area. The EIR is intended to be solely used for the approval of Plan Bay Area and should not be solely relied upon by implementing agencies for the approval of individual projects included in Plan Bay Area. However, information in this document can be referenced as applicable.

Future Environmental Review

This program EIR is a first-tier document that addresses the broad environmental issues affecting the nine-county Bay Area due to the adoption and implementation of Plan Bay Area. As such, future programs or projects may "tier off" this programmatic EIR, as stipulated in CEQA and associated legislation. Tiering means using analysis contained in a broader EIR (e.g., one prepared for a general plan) with later EIRs and negative declarations on narrower projects.

Prior to SB 375, there were already several provisions in CEQA for the exemption and streamlining of environmental analysis for subsequent projects consistent with a program for which a program EIR had been prepared. Some examples include:

- *Tiering*. Where a first-tier EIR has been certified for a policy, program, or ordinance, the scope of later EIRs need not examine those significant effects of later projects that have already been mitigated or avoided as part of the prior project approval, as evidenced in the findings adopted for the prior project; or were examined at a sufficient level of detail in the prior EIR that they can be mitigated or avoided by site-specific revisions, the imposition of conditions, or by other means in connection with the approval of the later project (PRC Section 21094). Later CEQA documents must state explicitly that the lead agency is using the tiering concept, and they must refer to this EIR and state where a copy may be examined.
- *Exemptions Similar to Tiering*. Where special rules apply to projects consistent with general plans, community plans, and zoning for which EIRs were prepared, project-specific CEQA review is limited and focused on significant effects specific to the project or its site (PRC Section 21083.3); and residential projects pursuant to a Specific Plan for which an EIR has been prepared need not prepare an EIR or negative declaration unless a subsequent EIR is required pursuant to CEQA Guidelines Section 15162 (new or changed information on significant impacts)(Government Code Section 65457 and CEQA Guidelines Section 15182).

SB 375 CEQA STREAMLINING

Pursuant to SB 375, after adoption of an SCS, projects consistent with the land use designation, density, building intensity, and applicable policies included in the SCS are exempt from CEQA if they meet certain specified criteria intended to ensure that the individual project is consistent with the SCS and will not have additional impacts not considered in the SCS EIR or, if not, may qualify to omit CEQA review of growth-inducing impacts and climate change impacts related to cars and light duty trucks. To facilitate tiering under SB 375 provisions in particular, the EIR analysis provides substantial evaluation of cumulative and growth-inducing impacts. In line with the intent of SB 375, these analyses relate to how land use and transportation program choices influence individual and household transportation behavior, and the resulting air quality, greenhouse gases, transportation, noise, and other effects that result. To the extent possible, subsequent local plans and projects consistent with the SCS should be able to rely on the analysis in this EIR of growth-inducing and cumulative effects in their environmental analyses.

SB 375 provides CEQA streamlining provisions for certain "residential/mixed use residential projects" and "transit priority projects" (TPPs) to encourage integrated land use and transportation planning. To take advantage of these CEQA streamlining provisions, projects must pre-qualify based on two criteria:

1. A project must be consistent with the land use designation, density, building intensity, and applicable policies in an approved SCS or Alternative Planning Strategy (APS) (PRC section 21155).

2. A project must be considered a Residential/Mixed Use Residential Project or a Transit Priority Project (TPP), as defined in SB 375 (PRC section 21159.28).

Residential/Mixed Use Residential Projects and Transit Priority Projects

To qualify as a residential mixed use project, at least 75 percent of the total building square footage of the project must consist of residential use (PRC section 21159.28).

To qualify as a TPP, a project must (a) contain at least 50 percent residential use, based on total building square footage, and if the project contains between 26 percent and 50 percent nonresidential uses, a floor area ratio of not less than 0.75; (b) provide a minimum net density of at least 20 dwelling units per acre; and (c) be within one-half mile of a major transit stop or high-quality transit corridor included in a regional transportation plan.

A project is considered to be within one-half mile of a major transit stop or high-quality transit corridor if all parcels within the project have no more than 25 percent of their area farther than one-half mile from the stop or corridor and if not more than 10 percent of the residential units or 100 units, whichever is less, in the project are farther than one-half mile from the stop or corridor. A *major transit stop* is defined as a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. A *high-quality transit corridor* is defined as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours (PRC section 21155).

TPP projects may be eligible for a Sustainable Communities Environmental Assessment (SCEA) or a Limited EIR. (PRC section 21155.2) Further, certain TPP projects that meet special criteria, outlined in **Table 1.1-1** are considered a Sustainable Communities Project and are exempt from CEQA review (PRC section 21155.1).

Streamlining Requirements

Table 1.1-1 lists the pre-requisites and qualifications for Residential/Mixed-Use Residential, TPPs, and Sustainable Communities projects and the corresponding CEQA streamlining benefits. Projects that use the SB 375 CEQA streamlining benefits will still need to obtain discretionary permits or other approvals from the lead agency and the local jurisdiction, in accordance with local codes and procedures, including any agreements related to zoning, design review, use permits, and other local code requirements. Other development projects that do not fall into any of these categories can still use this EIR for regular CEQA tiering benefits – see the following section on "Additional Tiering Opportunities."

TABLE 1.1-1: REQUIREMENTS FOR CEQA STREAMLINING RELATED TO AN SCS

Project Designation	*Mixed Use Residential Project*	*Transit Priority Project*	*Sustainable Communities Project*
Prerequisites	• MPO adopts an SCS or APS that can achieve region's GHG emissions reduction target • ARB accepts the SCS or APS • Proposed project is a residential or residential mixed-use project consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in the SCS or APS • Project has incorporated applicable mitigation measures or performance standards required by a prior environmental document • Regardless of any CEQA streamlining or exemption benefits that a project receives from the SB 375 CEQA provisions, the lead agency must consider the merits of the project before moving forward with project approvals in accordance with local codes and procedures		
Qualifications	• At least 75% of total building square footage for residential use	• At least 50% of total building square footage for residential use OR • If 26% - 50% of total building square footage is nonresidential, a minimum FAR of 0.75 • Minimum net density of 20 du/acre • Within 0.5 miles of major transit stop or high-quality transit corridor included in the RTP	*Everything for Transit Priority Project PLUS:* • Served by existing utilities • Applicant pays all applicable fees • Does not contain wetlands or riparian areas • Does not have significant value as a wildlife habitat and does not harm any protected species • Not on the Cortese List • No risks from hazardous substances • No impacts to historic resources • No wildfire, seismic, flood, public health risk • Not on developed open space • 15% more energy - efficient than Title 24 • Uses 25% less water than average households • Site is no more than eight acres • No more than 200 housing units • No net loss of affordable housing within project area • No building greater than

TABLE 1.1-1: REQUIREMENTS FOR CEQA STREAMLINING RELATED TO AN SCS

Project Designation	*Mixed Use Residential Project*	*Transit Priority Project*	*Sustainable Communities Project*
			75,000 square feet • Does not conflict with nearby industrial uses • Meets minimum affordable housing requirements as prescribed in SB 375 OR in-lieu fee paid OR 5 acres of open space per 1,000 residents provided
Streamlining Benefits	Environmental documents are **not** required to reference, describe or discuss: • Growth-inducing impacts • Impacts from car and light-duty truck trips on global warming or the regional transportation network • A reduced-density alternative to project (EIRs only)	The Lead Agency may determine whether to pursue a Sustainable Communities Environmental Assessment (SCEA) or a Limited Environmental Review *SCEA:* • Lead agency only prepares an initial study which identifies all significant impacts, except for growth-inducing impacts and impacts from car and light-duty truck trips on global warming or the regional transportation network • Cumulative effects identified and mitigated for in previous applicable EIR's shall NOT be treated as cumulatively considerable for the project • Shall contain mitigation measures to avoid or mitigate to a level of insignificance all significant effects identified • 30 day public comment period • May be approved after the lead agency conducts a public hearing, reviews comments received, and finds that all potentially significant effects have been identified, analyzed, and mitigated to a level of insignificance • The fee to appeal a planning	**Exempt from CEQA** Lead agency may file a Notice of Exemption upon project approval

TABLE 1.1-1: REQUIREMENTS FOR CEQA STREAMLINING RELATED TO AN SCS

Project Designation	*Mixed Use Residential Project*	*Transit Priority Project*	*Sustainable Communities Project*
		commission decision to the decision-making body shall not exceed $500 • Deferential review standard – the burden of proof for legal challenge is on the petitioner/plaintiff *Limited Analysis EIR* • First two bullets of SCEA plus the EIR does not need to analyze off - site alternatives to the project	

ADDITIONAL TIERING OPPORTUNITIES

In 2010, two new bills (SB 1456 and AB 231) amended tiering provisions further to facilitate use of prior statements of overriding considerations and prior analyses of cumulative effects in order to streamline CEQA analysis of subsequent projects:

- SB 1456 (2010) allows the lead agency preparing a tiered EIR to rely on assessment of cumulative impacts in a prior EIR. If a lead agency determines that a cumulative effect has been adequately addressed in a prior EIR and provided that the later project's incremental contribution to the cumulative effect is not cumulatively considerable, that cumulative effect is not required to be examined in a later EIR, mitigated negative declaration, or negative declaration.
- AB 231 (2010) allows the lead agency to rely on a statement of overriding considerations made in a prior EIR for a later project. If a prior EIR has been certified for a program, plan, policy, or ordinance, based on a finding of overriding considerations, the lead agency for a later project that uses an EIR tiered from that program, plan, policy, or ordinance may incorporate by reference that finding of overriding considerations, subject to certain conditions.

1.2 Overview of the Proposed Plan Bay Area

The proposed Plan Bay Area serves as the 2040 Regional Transportation Plan (RTP) for the San Francisco Bay Area region as well as the region's Sustainable Communities Strategy (SCS) as required under SB 375. The "SCS" is by definition the combined land use and transportation plan. The proposed Plan represents a transportation and land use blueprint of how the Bay Area addresses its transportation mobility and accessibility needs, land development, and greenhouse gas emissions reduction requirements through the year 2040. The Plan document presents its purpose and goals, tracks trends and evaluates project performance, details financial assumptions and expenditures, profiles key investments, and sets forth actions that the region would advocate and pursue over the next several years. See the Draft Plan Bay Area and supplementary reports document for full details. These can be found at, respectively:

- http://onebayarea.org/regional-initiatives/plan-bay-area/draft-plan-bay-area.html
- http://onebayarea.org/regional-initiatives/plan-bay-area/draft-plan-bay-area/supplementary-reports.html

This chapter describes the regional setting, growth forecasts and regulatory framework to provide the context for the proposed Plan. This background information is followed by a description of the proposed Plan, including the Plan purpose and objectives, key components, growth strategy, implementation strategy, and proposed programs.

Regional Setting

STUDY AREA

The Bay Area region consists of nine counties: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma. The total population of the region in 2010 was 7.15 million, with the most populous counties being Santa Clara (1.69 million), Alameda (1.37 million), and Contra Costa (1.05 million).[1] According to the Department of Conservation, only about 17 percent of the region's approximately 4.5 million acres was developed in 2010.[2] The remaining undeveloped area includes open space and agricultural lands as well as water bodies (excluding the San Francisco Bay) and parks. Comparatively, 28 percent of the region is identified as protected open space. **Figure 1.2-1** illustrates the

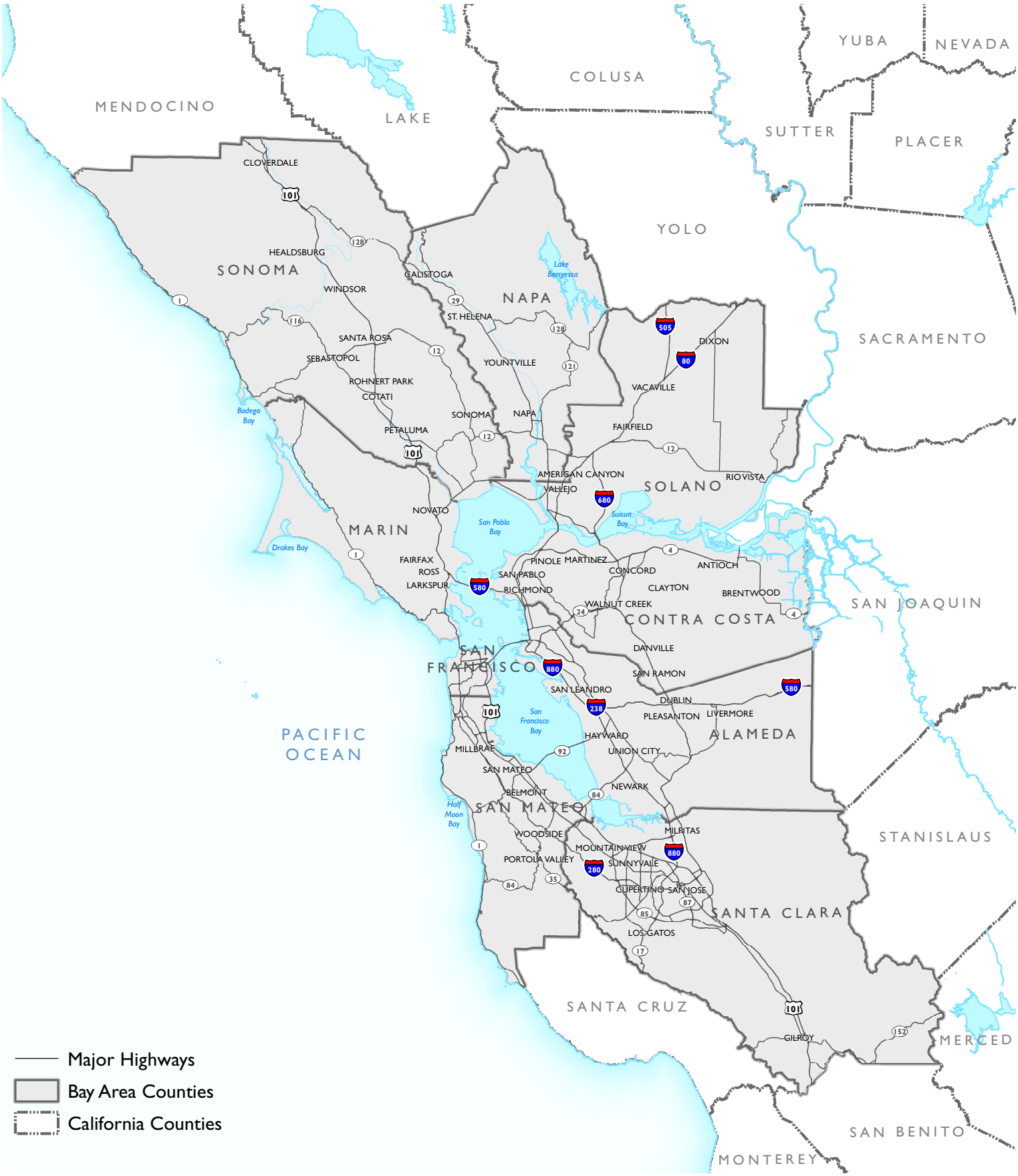
[1] US Census, 2010.

[2] California Department of Conservation Farmland Mapping and Monitoring Program, 2010 for Alameda, Contra Costa, Marin, Napa, San Mateo, Santa Clara and Solano; data for San Francisco is from 2006.

regional location of the Bay Area. More information about the San Francisco Bay Area physical setting is provided by environmental issue area in the settings sections throughout Chapter 2 of this EIR.

Figure 1.2-1

Regional Location



Data Source: Metropolitan Transportation Commission, 2012; Cal-Atlas Geospatial Clearinghouse, 2012; The Conservation Lands Network GIS Data Sets, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

0 5 10 20 Miles

1 in = 18 miles

This page intentionally left blank.

PROJECTED GROWTH

Overall Regional Growth Context and Trends

In recent years, the State of California and the Bay Area have shifted from growth rates that outpace the nation to growth more on par with the rest of the nation. This reflects the maturing of some of the industries and companies that make up the state and regional economies. Geographic constraints and policy protections for resource lands also limit spatial expansion in the region, which has fueled part of the economic growth in California in the last century. Finally, demographic changes in the region's workforce, in particular the aging and looming retirement of the Baby Boom generation, will slow labor force growth. This means that a growing share of job opportunities in the region will be through turnover and replacing retiring workers, although the number of new jobs will continue to grow.

The Bay Area in previous decades experienced a pattern of major suburban housing production and employment growth, supported by the expansion of the highway transportation network. This population provided a labor force for employment growth at suburban locations. While this decentralization of jobs combined with the growth of affordable housing options in suburban communities created new opportunities for many areas in the region, it also led to high levels of traffic congestion, increases in the cost of and time spent commuting, higher percentages of low-income families living in the outer suburbs, and the loss of agricultural lands and natural resources.

The boom years that defined and allowed for the past 40 years of housing development have passed. Today, recovering from the recession, improving housing affordability in suburban areas, and providing housing for low and moderate income households in high-demand, job-rich areas are among the region's greatest challenges.

By 2040, the region is projected to have a total of approximately 4.5 million jobs and 3.4 million housing units, or an additional 1.1 million jobs and 660,000 housing units from 2010 levels. The region's population is expected to grow from 7.15 million people in 2010 to 9.3 million in 2040.[3] **Table 1.2-1** summarizes the following key elements of the growth projections:

- The 2040 job forecast was established from an analysis of economic and demographic trends, housing production, and the Bay Area's unique role in the national and state economies. Over the long term, the region's share of national job growth is expected to increase as industries concentrated within the Bay Area grow at faster rates than elsewhere in the country. In addition to reflecting the changing dynamics of the national economy, this assumption is intended to help ensure that the region plans for adequate housing to support job growth. The forecast was informed by a study by the Center for Continuing Study of the California Economy.[4]
- The 2040 employment forecast reflects an increase of 850,000 jobs beyond pre-recession levels. Because of the high unemployment levels in the 2010 base year, a significant number of new jobs are projected to be filled by unemployed existing residents over this period.

[3] Association of Bay Area Governments, Jobs-Housing Connection Strategy, May 16, 2012.

[4] Center for Continuing Study of the California Economy, "Bay Area Job Growth to 2040", February 2012.

- The 2040 housing forecast was based upon an analysis of past production, challenges associated with increasing the inventory of multi-family housing brought to market, and future policy supports, acknowledging that high housing costs and limited production is a factor constraining the ability of the region to accommodate future job growth. This was informed by a study from Dr. Karen Chapple of the University of California, Berkeley.[5]
- With the re-absorption of some 40,000 vacant, foreclosed units, the projected 660,000 new units will allow the region to accommodate the population growth forecast through 2040. As of 2010, the region had approximately 178,000 vacant housing units; this number will reduce to 138,000 vacant units in 2040 for a regionwide vacancy rate of 4 percent.
- These projections assume that the ratio of employed residents per job within the nine-county region remains constant. This ratio reflects the number of Bay Area residents that commute outside of the region to reach jobs, and the number of jobs within the region filled by residents from outside the Bay Area.

TABLE 1.2-1: PROJECTED REGIONAL GROWTH BY 2040

	2010	*2040*	*Growth*	*%*
Population	7,151,000	9,299,000	2,148,000	30%
Households	2,608,000	3,308,000	700,000	27%
Housing Units	2,786,000	3,446,000	660,000	24%
Jobs	3,385,000	4,505,000	1,120,000	33%

Source: Association of Bay Area Governments, Jobs-Housing Connection Strategy, May 16, 2012.

Employment

Over half of the region's employment growth of 1.1 million new jobs is expected by ABAG to occur between 2010 and 2020, which includes the recovery of close to 300,000 jobs lost since 2007. Many of these jobs will be filled by currently unemployed or underemployed individuals. From 2020 to 2040, the rate of job growth is forecast to slow down as retiring Baby Boomers exit the labor force.

The growth of 1.1 million jobs does not necessarily translate directly into new office, commercial or industrial space. About one third of these jobs could potentially be accommodated within existing offices and facilities given current vacancy rates. Overall trends suggest a transition toward a more focused employment growth pattern for the region. This focused growth takes a variety of forms across the numerous employment centers throughout the region.

- **Knowledge-based, culture, and entertainment at regional centers.** Contrary to previous trends of job decline in major regional centers, the recent growth of professional services in close proximity to urban amenities is expected to lead to an increase of job growth in Downtown San Francisco, Downtown Oakland, and Downtown San José—assuming an appropriate provision of infrastructure, transit, and access to affordable housing. The new wave of businesses and professionals' demand for building space prioritizes flexibility to adjust spaces to multiple functions

[5] Chapple, Karen, "Evaluating the effects of projected job growth on housing demand," 2012.

and requires less office space per worker relative to the early growth of traditional downtown office space.

- **Multiple activities and transit at office parks.** Office parks have and are expected to continue to accommodate a growing number of employees. However, given the limited land available for new office parks, existing vacant office space, and the preference for walkable, transit-served neighborhoods by a growing number of employers, office parks are expected to grow at a slower pace than in recent decades. Existing office parks are also using less space per worker, providing transit access, and in some cases adding housing, services and amenities. The emerging private shuttle services run by some employers, particularly in San Mateo and Santa Clara Counties, are expected to grow and improve transit access for their employees while lessening, but not fully mitigating, increased freeway traffic congestion related to employment growth.
- **Downtown areas and transit corridors serving residents.** Over the last decade, downtown areas in medium and small cities throughout the region have been expanding their services and jobs. The increase in the senior population, combined with the region's changing ethnic demographic profile, is expected to increase the need and demand for local services in downtown areas in close proximity to residential locations with greater transportation choices.
- **New vitality of industrial and agricultural land.** Manufacturing and wholesale distribution have experienced declining employment in many of the region's key industrial areas. However, in recent years a different and very diverse mix of businesses has relocated to these areas. In addition to basic services such as shuttle services, refuse collection or concrete plants, industrial lands are now occupied by a wide range of businesses from food processing to high tech product development, car repair, graphic design, and recycling among others. Because of their building and space needs, these economic sectors are coalescing in traditional industrial lands. The trends in agricultural land have paralleled those of industrial land in its increasing diversity of activities. But, in the case of agricultural land, growth is related to the addition of services and tourism. Beyond tourism, agricultural land and activity in the region is also a strong quality of life attractor for residents of the Bay Area.

Population

The forecasted population growth to 9.3 million people by 2040 is based on projected regional employment growth shaped by national economic and demographic forecasts. The relationship of jobs to population was calculated by the Center for the Continuing Study of California's Economy based upon population characteristics. The population characteristics used in the projections incorporates information from the 2010 Census and a statewide forecast produced by the California Department of Finance in 2007. The Jobs-Housing Connection Scenario used for the proposed Plan includes an adjustment of 0.7 percent more employed residents than the numbers forecast by the Center for the Continuing Study of California's Economy (CCSCE).[6] This adjustment is the result of assuming the 2010 in-commute ratio until 2040.

[6] Levy, Stephen, *Bay Area Job Growth to 2040: Projections and Analysis*, Center for Continuing Study of the California Economy, February 2012. http://www.onebayarea.org/pdf/3-9-12/CCSCE_Bay_Area_Job_Growth_to_2040.pdf.

Two major demographic changes shape the forecast of household and job growth: the increase in the senior population and the increase in Latino and Asian populations. These demographic changes lead to three major trends in the regional growth by 2040:

- **Increase in group housing.** The increase in the senior population results in an increase in the amount of residential care facilities, which is a major component of group housing. More than 66,000 additional group housing residents are forecasted by 2040. This is a conservative estimate based on current conditions.
- **Decline in labor force participation**. The overall labor force participation rate declines given the increase in the senior population, even taking into account increases in the percentage of people working beyond the age of 65. This means that, by 2040, 49.8 people out of 100 will be employed or looking for work, compared to 51.6 in 2010.
- **Increase in household size**. The number of people per household is expected to increase from 2.69 in 2010 to 2.75 in 2040 as a result of the increase in the Latino and Asian populations, which typically have larger average households, as well as the number and percentage of multi-generational households.[7]

Project Background

This section summarizes the planning context of the proposed Plan, building on MTC's most recent RTP–the Transportation 2035 Plan–the regional land use and development strategy jointly developed by MTC and ABAG–known as FOCUS–as well as other recent regional initiatives that influence Plan Bay Area. This section also outlines the major federal and state regulations that shape the proposed Plan and the planning process that led to development of the Plan.

EXISTING REGIONAL TRANSPORTATION AND LAND USE PLANS

Transportation 2035 Plan for the San Francisco Bay Area

The Transportation 2035 Plan was adopted by MTC in 2009 and pursued the following eight goals: Maintenance and Safety, Reliability, Efficient Freight Travel, Security and Emergency Management, Clean Air, Climate Protection, Equitable Access, and Livable Communities. The 2035 Plan was organized around a series of goals and performance objectives intended to improve transportation-related health and safety while being cost effective and reducing travel delays. Plan Bay Area will update this RTP by providing a new estimate of revenues likely to be available through 2040, transportation projects that fit within this budget, and adding a land use and housing element as required by SB 375.

The Transportation 2035 Plan assumed $226 billion in estimated revenue over the lifetime of the plan, with the included set of projects constrained to within that budget. Much of this revenue—$194 billion, or 86 percent—was considered already committed:

- $165 billion dedicated to maintaining and operating the existing regional transportation network, and

[7] Association of Bay Area Governments, Jobs-Housing Connection Strategy, May 16, 2012.

- $29 billion committed to expansion of the regional transportation network.

The remaining $32 billion was uncommitted discretionary revenue allocated for new projects, which included:

- $7.0 billion towards local road pavement maintenance,
- $6.4 billion towards transit vehicle replacement and 25 percent of the highest-rated transit assets,
- $6 billion for transit and roadway expansion projects,
- $2.2 billion towards the Transportation for Livable Communities Program,
- $1.6 billion towards the Freeway Performance Initiative,
- $400 million towards the Regional Bicycle Network, and
- $400 million towards the Lifeline Transportation Program.

In addition, Transportation 2035 included the development of a Regional HOT Lanes Network projected to generate revenue of $6.1 billion (net of operating, maintenance and capital expenditures) over the life of the Plan to implement other corridor improvements. Plan Bay Area will update and replace the Transportation 2035 Plan.

FOCUS

In 2008, MTC and ABAG created a regional initiative called FOCUS to support efforts by local jurisdictions and regional agencies to encourage the growth of jobs and production of housing in areas with amenities and existing infrastructure. Through FOCUS, local governments identified Priority Development Areas (PDAs) and Priority Conservation Areas (PCAs), which are keys to the implementation of Plan Bay Area. More information on PDAs and PCAs is provided later in Chapter 1.2.

Regional Housing Need Allocation

As part of the region's planning efforts, ABAG must identify areas within the region sufficient to house an eight-year projection of the regional housing need. The State periodically assigns a Regional Housing Needs Allocation (RHNA) to each region in California. Working with regional and local government, the regional housing need is allocated to individual jurisdictions, which must then show the ability to accommodate that level of additional housing. The current RHNA period for the Bay Area covers 2007-2014.

The next round of the RHNA (2014-2022) will allocate housing units within the region consistent with the development pattern included in the region's SCS.

Transit Sustainability Project

The analysis for the most recent regional transportation plan, Transportation 2035, suggested that the region's transit system is not sustainable based on current projections of transit costs and reasonably anticipated revenues. Transportation 2035 identified a region-wide transit capital deficit of $17 billion and operating budget deficits of $8 billion over the next 25 years. To add to the challenge, between 1997 and 2008, service hours and passenger trips did not keep pace with increases in operating costs, even after accounting for inflation.

MTC's Transit Sustainability Project (TSP) aimed to establish a framework and implementation plan for a more robust, financially viable transit system that is both cost-effective and customer-focused. The TSP focused on three goals:

- **Improve financial condition.** Contain costs and cover a greater percentage of operating and capital costs with a growing share of passenger fare revenues; secure more reliable streams of public funding.
- **Improve service for the customer.** Upgrade the system so that it functions as an accessible, user-friendly and coordinated network for transit riders, regardless of mode, location or jurisdiction.
- **Attract new riders to the system.** Accommodate new riders in an era of emission reduction goals, and support ridership growth through companion land use and pricing policies.

In May 2012, MTC approved the TSP recommendations, including: performance measures and targets; the Transit Performance Initiative, an investment and incentive strategy to improve public transit; and additional customer-focused service, institutional, and paratransit recommendations. These measures and targets are incorporated into the transportation investment strategy of the proposed Plan.

Coordinated Public Transit-Human Services Plan

MTC adopted a Coordinated Public Transit/Human Services Transportation Plan in 2007 that focuses on the transportation needs of the region's low-income, elderly and disabled populations. The plan also provides strategies for coordinating service for the three populations.

Community-Based Transportation Planning Program

The Community-Based Transportation Planning Program created a collaborative planning process that involves residents in low-income Bay Area communities, community- and faith-based organizations that serve them, transit operators, county congestion management agencies, and MTC. Each completed Community-Based Transportation Plan contains: demographic analysis of the area; documented community outreach strategies with results; and a listing of community-prioritized transportation gaps and barriers, strategies or solutions to address identified gaps, and potential funding sources for implementation. The Plans also identify stakeholders committed to implementing the plan. Project findings are forwarded to applicable local or county-level policy boards, as well as to MTC, for consideration in planning, funding and implementation discussions.

Countywide Transportation Plans

Each of the nine county Congestion Management Agencies within the Bay Area prepares a long-range planning and policy document that assesses transportation needs and guides transportation priorities and funding decisions for that county over a 20- to 25-year horizon. These countywide plans identify transportation projects and programs that are forwarded to MTC for consideration in the long-range RTP.

REGULATORY SETTING

The following laws and regulations form the basis for the need for the proposed Plan Bay Area. These federal and State laws authorize the RTP and SCS and guide its content.

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was signed into law in 2005 and reauthorized highway, highway safety, transit, and other surface transportation programs for five years (2005-2009) totaling $244.1 billion. Under SAFETEA-LU, the U.S. Department of Transportation (USDOT) required that Metropolitan Planning Organizations (MPOs), such as MTC, review and update the long-range transportation plan at least every four years in air quality nonattainment and maintenance areas and at least every five years in attainment areas, requiring a four year update for the Bay Area's RTP. The current RTP, Transportation 2035, was adopted under SAFETEA-LU.

Moving Ahead for Progress in the 21st Century (MAP-21)

The Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law in July 2012 and reauthorized the federal highway and public transportation programs for 2013 and 2014 for a total of $105 billion, holding funding flat relative to prior years. The bill marks a notable departure from prior surface transportation acts in several respects, most notably its short duration, elimination of earmarks, consolidation of programs, and introduction of performance measures into the federal transportation policy framework. While the bill retains many of the larger highway and transit programs of its predecessor, SAFETEA-LU, it eliminates almost 100 smaller programs and distributes a much larger share of funds by formula (93 percent compared to 83 percent under SAFETEA-LU).

Under MAP-21, the U.S. Department of Transportation requires that metropolitan planning organizations, such as MTC, prepare long-range transportation plans and update them every four years if they are in areas designated as "nonattainment" or "maintenance" for federal air quality standards. Plan Bay Area fulfills this requirement. Prior to enactment of MAP-21, the primary federal requirements regarding RTPs were included in the metropolitan transportation planning rules—Title 23 CFR Part 450 and 49 CFR Part 613. MAP-21 makes a number of changes to the statutes that underpin these regulations, and revisions to the regulations are expected to be made in early 2013. Key federal requirements for long range plans include:

- RTPs must be developed through an open and inclusive process that ensures public input; seeks out and considers the needs of those traditionally underserved by existing transportation systems; and consults with resource agencies to ensure potential problems are discovered early in the RTP planning process;
- RTPs must be developed for a period of not less than 20 years into the future;
- RTPs must reflect the most recent assumptions for population, travel, land use, congestion, employment, and economic activity;
- RTPs must have a financially constrained element, transportation revenue assumptions must be reasonable, and the long range financial estimate must take into account construction-related inflation costs;
- RTPs must include a description of the performance measures and performance targets used in assessing the performance of the transportation system;
- A system performance report evaluating the condition and performance of the system with respect to performance targets adopted by the state that details progress over time;

- RTPs may include, for illustrative purposes, additional projects that would be included in the adopted RTP if reasonable additional resources beyond those identified in the financial plan were to become available;
- RTPs may include multiple scenarios for consideration and evaluation relative to the state performance targets as well as locally-developed measures;
- RTPs must conform to the applicable federal air quality plan, called the State Implementation Plan (SIP), for ozone and other pollutants for which an area is not in attainment; and
- RTPs must consider planning factors and strategies in the local context.

California Regional Transportation Plan Guidelines

The RTP Guidelines adopted by the California Transportation Commission (CTC) state that the CTC cannot program projects that are not identified in the RTP. Section 65080 states that the RTP shall contain three distinct elements:

- A **Policy Element** that reflects the mobility goals, policies and objectives of the region;
- An **Action Element** that identifies programs and actions to implement the RTP; and
- A **Financial Element** that summarizes the cost of implementing the projects in the RTP in a financially constrained environment.

The proposed Plan covers all appropriate issues associated with each element and also serves all the specific planning purposes outlined in greater detail in the CTC RTP Guidelines, including:[8]

- Addressing no less than a 20-year planning horizon;
- Including both long-range and short-range strategies/actions;
- Addressing issues specified in the policy, action and financial elements identified in California Government Code Section 65080;
- Specifying how travel demand modeling methodology, results and key assumptions were developed as part of the RTP process;
- Containing a public involvement program that meets the requirements of Title 23, CFR part 450.316(a);
- Identifying public policy decisions by local, regional, state and federal officials regarding transportation expenditures and financing;
- Involving numerous stakeholders such as community-based organizations, Native American Tribal Governments, local elected officials, and Federal, State and local agencies early in the transportation planning process;
- Discussing intermodal and connectivity issues, highways, mass transportation, the regional airport system, regional pedestrian needs, regional bicycle needs, the California Coastal Trail, rail transportation, maritime transportation, and goods movement;

[8] See California Transportation Commission's 2010 Regional Transportation Plan Guidelines.

- Identifying the objective criteria used for measuring the performance of the transportation system;
- Containing a list of financially constrained projects and identify any regionally significant projects; and
- Containing estimates of costs and revenue sources that are reasonably expected to be available to operate and maintain the freeways, highway and transit within the region.

MPOs, such as MTC, that are located in nonattainment areas must update their RTPs at least every four years. If the current RTP is determined to be adequate such that an update is not warranted, the MPO may re-adopt the current RTP.

Once adopted, the RTP guides the development of the Transportation Improvement Program (TIP) for the region. The TIP is a comprehensive listing of all Bay Area transportation projects that receive federal funds or that are subject to a federally required action. The TIP sets forth MTC's investment priorities for transit and transit-related improvements, highways and roadways, and other surface transportation improvements. MTC prepares and adopts the TIP every two years. The TIP covers at least a four-year period and contains a priority list of projects grouped by year. Further, the TIP is also financially constrained by year (meaning that the amount of dollars programmed must not exceed the amount of dollars estimated to be available in that year). Each project or project phase included in the TIP must be consistent with the approved RTP. MTC's own enabling statutes (State Government Code Section 66508 through Section 66513) reflect the federal and State requirements for preparation of a RTP.

Executive Order S-3-05 (Gov. Schwarzenegger, June 2005)

This Order recognizes California's vulnerability to climate change, noting that increasing temperatures could potentially reduce snow pack in the Sierra Nevada, which is a primary source of the State's water supply. Additionally, according to this Order, climate change could influence human health, coastal habitats, microclimates, and agricultural yield. The Order set the greenhouse gas reduction targets for California: By 2010, reduce GHG emissions to 2000 levels; by 2020 reduce GHG emissions to 1990 levels; by 2050 reduce GHG emissions to 80 percent below 1990 levels. This corresponds to an approximate 27 percent reduction by 2030 to 1990 levels, or 55 CO_2e in total emissions which correlates to 41 percent reduction over today's levels by 2030. These statewide GHG targets relate directly to the regional GHG reductions that an SCS must achieve.

California Global Warming Solutions Act of 2006 (AB 32) (Calif. Health & Safety Code Sections 38500 et seq.)

In September 2006, Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the California Global Warming Solutions Act (Health and Safety Code Section 38500 et seq.). The Act requires the reduction of statewide GHG emissions to 1990 levels by the year 2020. This change, which is estimated to be a 30 percent reduction from business as usual emission levels projected for 2020, will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. The Act also directs the California Air Resources Board (ARB) to develop and implement regulations to reduce statewide GHG emissions from stationary sources and address GHG emissions from vehicles.

AB 32 required ARB to develop a Climate Change Scoping Plan outlining the State's strategy to achieve the 2020 greenhouse gas emissions limit. The Scoping Plan, finalized in December 2008, proposes a

comprehensive set of actions designed to reduce overall greenhouse gas emissions and set 427 million metric tons of carbon dioxide equivalent emissions (MMTCO2e) as the 2020 statewide greenhouse gas emissions target. Reducing greenhouse gas emissions to these levels means cutting approximately 30 percent from business-as-usual emission levels projected for 2020. In addition to energy efficiency and cleaner energy programs, the Scoping Plan establishes targets for transportation-related greenhouse gas emissions for regions throughout California. These targets are those that an SCS, such as Plan Bay Area, must achieve.

SB 375

California State Senate Bill (SB) 375 went into effect in 2009 to help achieve the goal of reducing greenhouse gas (GHG) emissions to levels established by ARB and mandated under AB 32. The Bay Area's per-capita GHG emission reduction targets are -7 percent in 2020 and -15 percent in 2035 from 2005 levels.

The primary purpose of SB 375 is to integrate land-use and transportation planning to help lower GHG emissions and vehicle miles traveled through the development of an SCS. If the SCS is unable to achieve the GHG emission reduction targets, an Alternative Planning Strategy (APS) must be developed to demonstrate how the targets could be achieved. Plan Bay Area is both an RTP and SCS.

As stated in SB 375, "The Sustainable Communities Strategy shall:

1. Identify the general location of uses, residential densities, and building intensities within the region;
2. Identify areas within the region sufficient to house all the population of the region, including all economic segments of the population, over the course of the planning period of the regional transportation plan taking into account net migration into the region, population growth, household formation and employment growth;
3. Identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to Section 65584;
4. Identify a transportation network to service the transportation needs of the region;
5. Gather and consider the best practically available scientific information regarding resource areas and farmland in the region;
6. Consider the state housing goals specified in Sections 65580 and 65584;
7. Set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by the state board; and
8. Allow the regional transportation plan to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Sec. 7506)."

Plan Development Process

The process to develop the Bay Area's joint RTP and SCS that became the proposed Plan Bay Area began in March 2010. The process was shaped by the region's GHG emissions reduction target set by ARB. Public and agency involvement was a key component for each step of the planning process. The planning process for Plan Bay Area was unique in that it involved two agencies—MTC and ABAG—working together to create a strategy for two inter-related outcomes: a land use development pattern and a transportation system. The land use pattern developed is known as the Jobs-Housing Connection Strategy (JHCS) and the transportation system developed is known as the Transportation Investment Strategy (TIS). This section describes how these two components of the proposed Plan were developed; a description of the strategies included in each component is provided later in Chapter 1.2.

Development of the proposed Plan consisted of the creation and evaluation of scenarios, transportation and land development modeling, and public participation. These planning components integrated with one another to lead to the proposed Plan and its alternatives.

SCENARIO ANALYSIS

Multiple rounds of scenario analyses were conducted to inform development of Plan Bay Area. The Initial Vision Scenario, released in March 2011, provided a starting point for conversations with local governments and Bay Area residents about where new development should occur and how new long-term transportation investments can serve this new growth. The Initial Vision Scenario was developed by MTC and ABAG with input from local governments and county Congestion Management Agencies. Local jurisdictions identified places that could accommodate the region's future population and job growth as well as potential policies, strategies, and incentives to support this growth.

The local input gathered was used as the basis for creating a range of alternative land use development scenarios, with the purpose of expanding the regional dialogue on the type of development, planning strategies, and investments to define the SCS. The alternative land use patterns in the scenario analysis included:

- **Unconstrained Core Concentration**. Housing and job growth was concentrated in locations served by frequent transit service and core Bay Area locations within a 45-minute transit commute area of San Francisco, Oakland or San José.
- **Constrained Core Concentration.** Similar to the unconstrained version of this scenario, housing and job growth was distributed to selected Priority Development Areas in the inner Bay Area, focusing on major downtowns and areas along the region's core transit network.
- **Focused Growth.** The region's growth was distributed more evenly along transit corridors and job centers, with an emphasis on development in Priority Development Areas and Growth Opportunity Areas.
- **Outward Growth.** Higher levels of growth were identified in the inland Bay Area with some emphasis on focused growth near suburban transit hubs; this scenario was closer to historical trends than other land use options considered.

The Initial Vision and Unconstrained Core Concentration scenarios assumed unconstrained development, very strong employment growth, and unprecedented funding to support housing affordability. The growth rates assumed in these scenarios, and the ability of many cities to accommodate such growth, was not determined to be feasible; this finding was confirmed later through the jobs and housing forecasts that informed the JHCS. The other three scenarios used a lower figure based upon analysis of expected economic growth, financial feasibility, and reasonable planning strategies.

Two transportation network scenarios were also developed:

- **Transportation 2035 Plan Network**. This approach continued the multimodal investment strategy in Transportation 2035, with significant funding for operations and maintenance of the existing system and limited expansions of highway and transit networks.
- **Core Capacity Transit Network**. This approach significantly increased transit service frequencies along the core transit network, kept Transportation 2035 investment levels for maintenance and bike/pedestrian projects, and reduced Transportation 2035 roadway expansion investments. This scenario would require additional capital and operating funds to pay for the major expansion of the region's transit services.

The land use scenarios were matched up with the transportation network scenarios that best supported the pattern of development. The Initial Vision and Outward Growth land use scenarios were matched with the Transportation 2035 Plan Network, while the Unconstrained Core Concentration, Constrained Core Concentration, and Focused Growth land use scenarios were matched with the Core Capacity Transit Network. These combined scenarios were then measured against the performance targets adopted by MTC and ABAG (two required targets and eight voluntary targets) and five equity measures. Based upon the performance of the scenarios, additional local input, and stakeholder feedback, ABAG developed the Jobs-Housing Connection Strategy. The Strategy then went through several iterations to meet the GHG emissions reduction target mandated by AB 32 and SB 375 and to better coordinate transportation, jobs, and housing throughout the region.

With regard to the Transportation Investment Strategy, the alternative scenarios process highlighted the need to develop a constrained transportation investment package that provided greater funding for operating and maintaining the existing system, while also providing additional funds for public transit. Incorporating six primary strategies—GHG reduction, "Fix It First," OneBayArea grants, high-performing project prioritization, efficiency-focused programs, and transit sustainability initiatives—this process led to the creation of the Preferred Transportation Investment Strategy.

The Jobs-Housing Connection Strategy was then combined with the Transportation Investment Strategy to create the Preferred Land Use and Transportation Investment Strategy adopted by the ABAG Executive Board and the MTC Commission in May 2012 and evaluated as the proposed Plan Bay Area in this EIR. The alternatives evaluated in this EIR, including the proposed Plan, were approved by the ABAG Executive Board and the MTC Commission in July 2012.

METHOD OF ANALYSIS

The proposed Plan is based on transportation and land use forecasts developed using the MTC/ABAG integrated model. This forecasting tool combined the travel demand forecasting model, known as Travel Model One, with the land use forecasting model, known as UrbanSim.

Travel Demand Forecasting Model – Travel Model One

The MTC travel demand model, Travel Model One, is a regional activity-based travel model for the San Francisco Bay Area. This model is actually a set of individual models that perform different functions, leading to projections of future Bay Area travel. The models were developed from a database that consists of the MTC 2000 Bay Area Household Travel Survey (BATS 2000) and traffic and transit counts that are used to validate the model results. The model was re-validated using available American Community Survey 2005 data to reflect updated demographics; since 2010 Census data was not yet available at the beginning of this planning and modeling cycle, the model was used to forecast transportation trends to the baseline year of 2010.

Travel Model One produced all of the key outputs used in assessing the significance of transportation impacts, including outputs such as vehicle miles traveled, vehicle hours of delay, and accessibility, as well as other outputs such as volume to capacity ratios and level of service. For modeling and planning, the Bay Area was divided into 1,454 travel analysis zones (TAZs). Various transportation investment packages (known as scenarios) were analyzed using this model. To analyze the proposed Plan, the proposed transportation improvements (listed later in Chapter 1.2 and Appendix C) were implemented in the model on top of the region's existing transportation infrastructure. By coding these improvements into the model framework, it is possible to forecast the impacts of each alternative on regional travel patterns.

Land Use Forecasting Model – UrbanSim

ABAG is responsible for making long-term forecasts of population, households, and employment, as well as working with local jurisdictions on land use planning issues. As such, ABAG developed regional control totals—forecasted numbers of households and employed residents—for the time period between 2010 and 2040. These control totals were developed by examining historical trends and estimating how future economic conditions and demographic trends might affect the region's overall population.

UrbanSim, the regional land use forecasting model, relied upon these regional control totals as model inputs. Based on the assumed levels of household and job growth in the region, UrbanSim analyzed the impact of specific policy inputs, such as zoning, fees, incentives, and growth boundaries, on the regional development pattern. For each parcel in the region viable for potential development, UrbanSim conducted a pro forma analysis, meaning that it calculated the profitability of new development or redevelopment on that parcel given market demands and trends. Multiple types of development, reflecting a spectrum of allowable densities for both residential and commercial uses based on local zoning, were analyzed to determine the most profitable development type. These parcel-level simulations over the lifespan of the proposed Plan were aggregated to generate land use data at the TAZ-, PDA-, city-, and county-level. This data ranged from housing choice preferences (single-family versus multi-family) to job classifications' geographical distributions (concentrated versus distributed). This data is used in this EIR to assess the distribution and degree of future development around the Bay Area and its possible impacts.

Integration of Travel Model One and UrbanSim

In order to appropriately consider the symbiotic relationship of transportation and land use, Travel Model One and UrbanSim are unified in an integrated model framework. This allows for analysis of how transportation projects affect the surrounding land use pattern, as well as how changes to household and employment locations affect transportation demand—the evaluation required of an SCS.

From a mechanical perspective, the models integrated by exchanging data on household, employment, and mobility metrics at critical time points in the analysis. UrbanSim performed its analysis for every year through 2040, while Travel Model One performed its analysis for key horizon years (2020, 2035, etc.). For those key horizon years, the two models exchanged data—Travel Model One updated UrbanSim's understanding of regional mobility, while UrbanSim updated Travel Model One's understanding of household and job distributions. This periodic "sync" between the two models made it possible to reflect the improved mobility of a new transit station and how that might attract additional households and jobs in the station vicinity.

For calculations relying on outputs from Travel Model One and population totals (i.e., per capita VMT or per capita energy use), model-simulated population levels were used to ensure consistency. Simulated population may be slightly different than overall population forecasts for Plan Bay Area EIR and alternatives due to slight variability in modeling tools. Further clarification on this issue is in the Plan Bay Area EIR technical appendices.

References

The Summary of Predicted Traveler Responses and Summary of Predicted Land Use Responses supplemental documents, released in March 2013, provide detail regarding the modeling assumptions and outputs for Plan Bay Area. MTC and ABAG also have a large body of detailed published documentation regarding the integrated travel demand and land use model. This data and other documents can be obtained from the OneBayArea website at www.onebayarea.org.

PUBLIC PARTICIPATION

The Public Participation Plan for Plan Bay Area identified strategies to address major public comments on the draft plan, involve more Bay Area residents, simplify and demystify, build relationships in underserved communities, make the process more transparent, and provide more electronic access. The Public Participation Plan includes a set of goals and performance benchmarks used to measure the effectiveness of the Plan Bay Area public participation program.

Beginning with the Initial Vision Scenario in 2010, feedback from local jurisdictions and stakeholders helped shape the iterations that resulted in the proposed Plan. The non-profit and business community also played a key role in shaping Plan Bay Area. Business groups highlighted the need for more affordable workforce housing, removing regulatory barriers to infill development, and addressing infrastructure needs at rapidly growing employment centers. Environmental organizations emphasized the need to improve transit access, retain open space, provide an adequate supply of housing to limit the number of people commuting into the region from nearby counties, and direct discretionary transportation funding to communities building housing as proposed. Equity organizations focused on increasing access to housing and employment for residents of all income categories throughout the region and establishing policies to limit the displacement of existing residents.

The planning process also included a series of workshops and an interactive website to engage and gather input from residents throughout the region.

Stakeholder Engagement

The Public Participation program targeted government as well as the community through a variety of meetings, workshops, and committees. Outreach to local governments and public agencies included:

- A half-day local government summit to launch the SCS planning process (April 2010). Local elected officials received a briefing on the requirements of SB 375 and an introduction to the planning process to develop the SCS. The audience included a roughly equal representation of local elected officials, government staff, and representatives from a range of interest groups (business, environment and social equity).
- Meetings in each county with elected officials and the county Congestion Management Agencies (CMAs) to map out a process within each county to develop an Initial Vision Scenario (Fall 2010). This Initial Vision Scenario served as a starting point for discussions on the SCS. Each CMA was expected to work closely with elected officials, local jurisdictions and stakeholder organizations to discuss such issues as where new housing should be sited, how that new housing can be integrated to encourage sustainable growth and development, and how transportation investments should be prioritized to encourage and support sustainable development.
- ABAG staff utilized Basecamp software to provide a forum for local planners and ABAG staff to post comments, schedules, and materials for download. This Bay Area Basecamp has been used to rapidly communicate information and facilitate discussion between a large number of participants without relying on an exhaustive email listserve.
- Consultation with the region's six federally-recognized Native American governments, including a "tribal summit" and individual meetings.
- As required by SB 375 legislation, at least two informational meetings were held in each county for members of the county board of supervisors and city councils, to review and discuss the Draft SCS and consider their input and recommendations.
- MTC and ABAG created the Regional Advisory Working Group (RAWG), a new advisory committee whose primary purpose is to provide input to regional agency staff throughout the development of the SCS. The RAWG includes planning staff representatives of local government, county CMAs, transit agencies, and stakeholder representatives. Each county is represented by at least one local planning director; representatives of various stakeholder groups (including affordable housing, business, real estate developers, equity, and environmental groups) were invited to participate as well.
- A Regional Equity Working Group was created to assist in identifying and providing advice on the major equity issues in the region, such as affordable housing, public health, employment access, environmental justice, affordable transit and schools.
- Meetings with Planning Directors' organizations in each county.
- Consultation with existing advisory committees—MTC's Policy Advisory Council and ABAG's Regional Planning Committee.

MTC and ABAG also held community workshops on Plan Bay Area in each of the Bay Area's nine counties and provided online information and engagement options for the general public.

Public Engagement

To date MTC and ABAG have conducted two series of public workshops in conjunction with the development of Plan Bay Area. In spring 2011, MTC and ABAG partnered with the Silicon Valley Community Foundation on an initiative known as Envision Bay Area, which included an interactive, web-based tool to help residents understand the potential implications and trade-offs associated with different housing, transportation and land-use choices. A version of that tool was adapted for use in a series of 10 public workshops held in each of the nine Bay Area counties (two workshops were held in Alameda County to accommodate the high level of interest from the public). The 2011 workshops drew about 800 participants and gathered input on regional priorities, future housing locations, land use patterns and types, transportation investment strategies, and policies for curbing greenhouse gas emissions. Another nine public workshops, one in each county, were held in winter 2012. The 2012 workshops drew nearly 1,000 participants, who were asked to help rank transportation investment and policy options and provide comments on land use, complete communities, and general regional issues.

In addition to the workshops, two statistically valid telephone surveys were conducted. The first poll, in March and April 2011, interviewed 1,069 residents. The second poll, conducted in December 2011/January 2012, interviewed 1,610 residents. A third poll is being conducted during the public review comment period for the Draft Plan Bay Area and Draft EIR. To have a more in-depth conversation with residents, four focus groups were held in January 2012 with participants recruited from the second poll. MTC also held a virtual workshop online in January and February 2012; over 1,000 participants answered questions similar to the workshop questions.

Targeted Outreach Efforts

In addition, MTC and ABAG partnered with 14 community based organizations (CBOs) selected through a competitive process to assist with engaging low-income communities and communities of color in Plan Bay Area. Two rounds of engagement—in spring 2011 and winter 2012—involved more than 1,800 residents via public meetings, focus groups or through special community events. Each CBO was expected to (a) develop creative and effective ways of engaging their respective communities, (b) gather input from their communities through survey questions about land-use, transportation spending, and transportation policy, as well as solicit feedback on future planning, and (c) provide a summary of the results of their outreach efforts and comments they received. The CBOs utilized a wide range of grassroots, traditional and emerging engagement techniques including outreach to residents; event participation; community meetings; radio announcements; and on-site surveying at community events, at public transportation hubs and on public transportation vehicles.

The planning process was conveyed through a single website—www.OneBayArea.org—so members of the public would have a clear place to go online for current updates, and to request to receive notices and information. This website maintains a library of past workshop meeting materials including minutes and reports and offers interactive web polls and surveys.

Description of Plan Bay Area: Regional Transportation Plan and Sustainable Community Strategy

The proposed Plan Bay Area represents the transportation policy and action statement of how the Bay Area will approach the region's transportation needs through the year 2040, integrated with a land use and housing plan to accommodate anticipated population and job growth, in a manner that will attain targeted reductions in greenhouse gas emissions. This section describes the goals, objectives, and targets of the Plan, as well as the individual components of the Plan.

OVERVIEW

Plan Bay Area reinforces land use and transportation integration per SB 375 and presents a vision of what the Bay Area's land use patterns and transportation networks might look like in 2040. The plan's proposed transportation investments and programs are designed to support the land use pattern, which is itself located and planned in a manner to use the transportation system.

Plan Goals

The Plan aims to achieve focused growth by building off of locally-identified Priority Development Areas and by emphasizing strategic investments in the region's transportation network (including a strong emphasis on operating and maintaining the existing system). The Plan's goals helped guide development of the alternatives and preparation of findings and overriding considerations.

The seven goals of Plan Bay Area are:

- Climate Protection
- Adequate Housing
- Healthy and Safe Communities
- Open Space and Agricultural Preservation
- Equitable Access
- Economic Vitality
- Transportation System Effectiveness

Performance Targets

MTC and ABAG developed 10 performance targets that align with the overarching goals and support the three E's of sustainability –economy, environment, and equity. These targets were used to help evaluate alternative approaches to regional development and select the proposed Plan. Two of the targets, those related to Climate Protection and Adequate Housing, are required by SB 375. The remaining voluntary targets were the result of extensive discussion by the Ad Hoc Committee on SCS Performance Measures and were adopted by MTC and ABAG in January 2011. The Plan Bay Area performance targets are shown in **Table 1.2-2**.

TABLE 1.2-2: YEAR 2040 PERFORMANCE TARGETS FOR PLAN BAY AREA

Goal	*Recommended Target*
Climate Protection	Reduce per-capita CO_2 emissions from cars and light-duty trucks by 15% (required by SB 375)
Adequate Housing	House 100% of the region's projected growth by income level (required by SB 375) without displacing current low-income residents
Healthy and Safe Communities	Reduce premature deaths from exposure to particulate emissions: • Reduce premature deaths from exposure to fine particulates (PM2.5) by 10% • Reduce coarse particulate emissions (PM10) by 30% • Achieve greater reductions in highly impacted areas
	Reduce by 50% the number of injuries and fatalities from all collisions (including bike and pedestrian)
	Increase the average daily time walking or biking per person for transportation by 70% (for an average of 15 minutes per person per day)
Open Space and Agricultural Preservation	Direct all non-agricultural development within the Year 2010 urban footprint (existing urban development and urban growth boundaries)
Equitable Access	Decrease by 10% the share of low-income and lower-middle income residents' household income consumed by transportation and housing
Economic Vitality	Increase gross regional product (GRP) by 110% – an average annual growth rate of approximately 2% (in current dollars)
Transportation System Effectiveness	Increase non-auto mode share by 10%* (to 26% of trips) and decrease automobile vehicle miles traveled per capita by 10%
	Maintain the transportation system in a state of good repair: • Increase local road pavement condition index (PCI) to 75 or better • Decrease distressed lane-miles of state highways to less than 10% of total lane-miles • Reduce share of transit assets past their useful life to zero percent*

* = Targets updated during the scenario analysis process.

Note: The base year for targets, unless specified otherwise, is 2005. For more information see MTC Resolution 3987.

Equity Measures

Five equity performance measures were selected by MTC and ABAG to help develop the proposed Plan. These measures were based on key regional equity concerns identified by the Regional Equity Working Group: Affordability, Growing Equitably, Healthy Communities, Equitable Mobility, and Jobs-Housing Connections. The measures selected were:

- **Housing and Transportation Affordability:** Share of income spent on housing and transportation costs.
- **Displacement Risk:** Share of today's cost-burdened-renter households (those who pay more than half of their income for housing) at risk for displacement based on future growth patterns.

- **Vehicle Miles Traveled Density:** Average daily miles of vehicle travel per square kilometer in residential and commercial areas near major roadways (density of particulate matter emissions is also evaluated as a companion measure).
- **Non-Commute Travel Time:** Average travel time in minutes for shopping, visiting, recreation, etc.
- **Commute Time:** Average commute travel time in minutes.

Performance against the equity measures is assessed by measuring the Plan's impact on identified "communities of concern" and separately on the remainder of the region, in order to compare average results between the two types of communities. Communities of concern are locations with multiple overlapping populations of concern related to transportation, housing, and land use: minority residents, low-income residents, people who do not speak English very well or at all, households with no cars, seniors 75 and over, people with disabilities, single-parent households, and cost-burdened renters who pay more than half of their income for housing. Most of the communities of concern are in the region's urban core, but there are also communities of concern located in suburban areas around the region.

Primary Plan Strategies

The Plan Bay Area goals will be pursued through two kinds of primary planning activities—a recommended land use development pattern and transportation investment strategy—with integrated strategies that address legislative requirements for an RTP and an SCS. The Jobs-Housing Connection Strategy (JHCS) addresses land use in the region, in particular the development of housing and jobs. The Transportation Investment Strategy addresses transportation investments that support the JHCS. The following sections outline these two strategies.

PROPOSED LAND USE DEVELOPMENT STRATEGY

The land use development strategy of the proposed Plan is spelled out in the JHCS. This section explains the proposed Plan's strategy for the development of new housing and commercial land uses through the year 2040, as well as the intended distribution of growth, key programs that will support this pattern, and the implementation approach. Information on the location and amount of anticipated development is presented under the "Distribution of Growth" section below; maps are in the section "All Proposed Projects" at the end of Chapter 1.2.

Objectives

The JHCS sets the following objectives for land use:

- Create a network of complete communities,
- Increase the accessibility, affordability, and diversity of housing,
- Create jobs to maintain and expand a prosperous and equitable regional economy, and
- Protect the region's unique natural environment.

These four objectives are intended to leverage existing community infrastructure and transportation investments, preserve farmland and natural resource lands that Bay Area residents have prioritized for long-term protection, curtail major increases in highway congestion, and provide for shorter commutes

for the region's workforce. Plan Bay Area, through its JHCS, seeks to achieve these land use-related objectives.

Complete communities. The proposed Plan recognizes the diversity of the Bay Area's communities and emphasizes investing in existing neighborhoods according to the needs and aspirations of each community. The plan seeks to provide an array of housing types and transportation choices and envisions a pattern of growth and investment tailored to each of these communities where transit, jobs, schools, services and recreation are conveniently located near people's homes. It also identifies strategies and policies beyond transportation investments and land use changes that will help foster complete communities—including support for improved public schools, healthier communities, expanded parks and recreation facilities, and efforts to make neighborhoods safer for all.

Accessibility, affordability, and diversity of housing. The region's existing neighborhoods encompass a wide variety of housing types, but affordability is a significant challenge for low and moderate-income households. In addition, young professionals and young families along with the growing senior population are driving changes in housing preferences and demanding more options closer to services. These trends are addressed in the proposed Plan by focusing on strategic investments for the production of affordable housing and the preservation of homes that are affordable to low- and moderate-income households. The proposed Plan encourages housing development—particularly affordable housing—in locations near transit and services to lower the combined housing and transportation costs for households in these neighborhoods. This allows households to spend money on other essential needs such as food, health care, or education.

Jobs and prosperity. The proposed Plan attempts to curtail major increases in highway congestion and provide for shorter commutes for the region's workforce. These issues are addressed in order to minimize and avoid constraints on economic growth and reduce negative impacts on quality of life. In addition, the proposed Plan recognizes the importance of key industrial lands and identifies strategies to ensure that they continue to support the region's economic diversity and vitality.

Protecting the environment. By concentrating new development in existing neighborhoods, the proposed Plan should help protect the region's natural resources, water supply, and open space by reducing development pressure on rural areas. This growth pattern would allow the region to consume less energy, reducing household costs and the emission of greenhouse gases. The region's greenbelt of agricultural, natural resource, and open space lands is a treasured asset that both contributes to the region's quality of life and supports regional economic development, and the proposed Plan encourages the retention of these assets by directing nearly all non-agricultural development within the urban footprint and by supporting the continuation of agricultural activities in rural communities. Details on the strategy are provided below.

Strategy

The basis for the JHCS is the growth projection developed by ABAG, as described above. These projections forecast the Bay Area adding over 2 million people, 1.1 million new jobs, and 660,000 new housing units between 2010 and 2040. To plan for this future growth, Plan Bay Area calls for focused housing and job growth around high-quality transit corridors, particularly within areas identified by local jurisdictions as Priority Development Areas. This land use strategy enhances mobility and economic growth by linking housing and jobs with transit to create a more efficient land use pattern around transit and help

achieve a greater return on existing and planned transit investments. Ultimately local planning efforts and government policies as well as decisions made by private business and residents will create the region's future development pattern.

The proposed Plan's growth pattern is shaped around:

- Priority Development Areas,
- The region's core transit network,
- The Bay Area's network of open spaces and conservation land, including Priority Conservation Areas, and
- Opportunities to increase access to job centers.

Priority Development Areas (PDAs) are nominated by local jurisdictions as appropriate places to concentrate future growth. PDAs are existing neighborhoods served by transit and supported by local plans (both existing and to-be-completed) to provide a wider range of housing options along with amenities and services to meet the day-to-day needs of residents in a pedestrian-friendly environment. Under the proposed Plan, the nearly 200 PDAs would absorb about 77 percent of new housing and 63 percent of new jobs on about 5 percent of the Bay Area's total land area. Regional centers in Oakland, San Francisco, and San José will account for about 14 percent of new housing and 17 percent of job growth. Medium size cities will also play an important role by adding a mix of new housing, employment, and services in strategic locations. As a result of this focused growth, under the proposed Plan about 99 percent of new housing would be within the region's existing urban footprint, helping retain open space and agricultural land. North Bay counties would also take a very small share of growth—Napa and Marin counties will account for about 1 percent each of the total regional housing growth and Sonoma and Solano counties will account for 5 and 3 percent, respectively.

Local jurisdictions have chosen a Place Type for each PDA (such as regional center, transit neighborhood, or rural town), which provides a general set of guidelines for the character, scale, and density of future growth and best matches the community vision for the area. The level of growth in each of the region's PDAs reflects its role in achieving regional objectives. A key part of the PDA strategy is to move away from an unplanned "project-by-project" piecemeal approach, toward the creation of attractive complete communities that meet the needs of existing and new residents and workers.

Many PDAs are also Transit Priority Project (TPP)-eligible areas, and most of the TPP-eligible land in the Bay Area is within PDAs. TPPs are a key aspect of SB 375 legislation and are eligible for certain types of CEQA streamlining, as explained in *Chapter 1.1*: *Introduction and Study Approach*. TPPs must be within one-half mile of a major transit stop or high-quality transit corridor included in a regional transportation plan.

The region's core transit network (existing and planned) and the related services will provide a strong foundation upon which to distribute future growth. Many PDAs include at least one station served by the region's major heavy- and light-rail systems and will be nodes connecting the majority of the region's housing and jobs by 2040. For example, three planned heavy rail expansion projects—BART to Silicon Valley, BART to Antioch ("eBART"), and Sonoma-Marin Area Rail Transit (SMART)—provide an opportunity to more efficiently link residents to the region's major job centers. Targeted residential and commercial development around stations along these new corridors (reflecting local plans) can help

ease the Bay Area's chronic housing shortage, improve the cost-effectiveness of new service, and preserve regional open space.

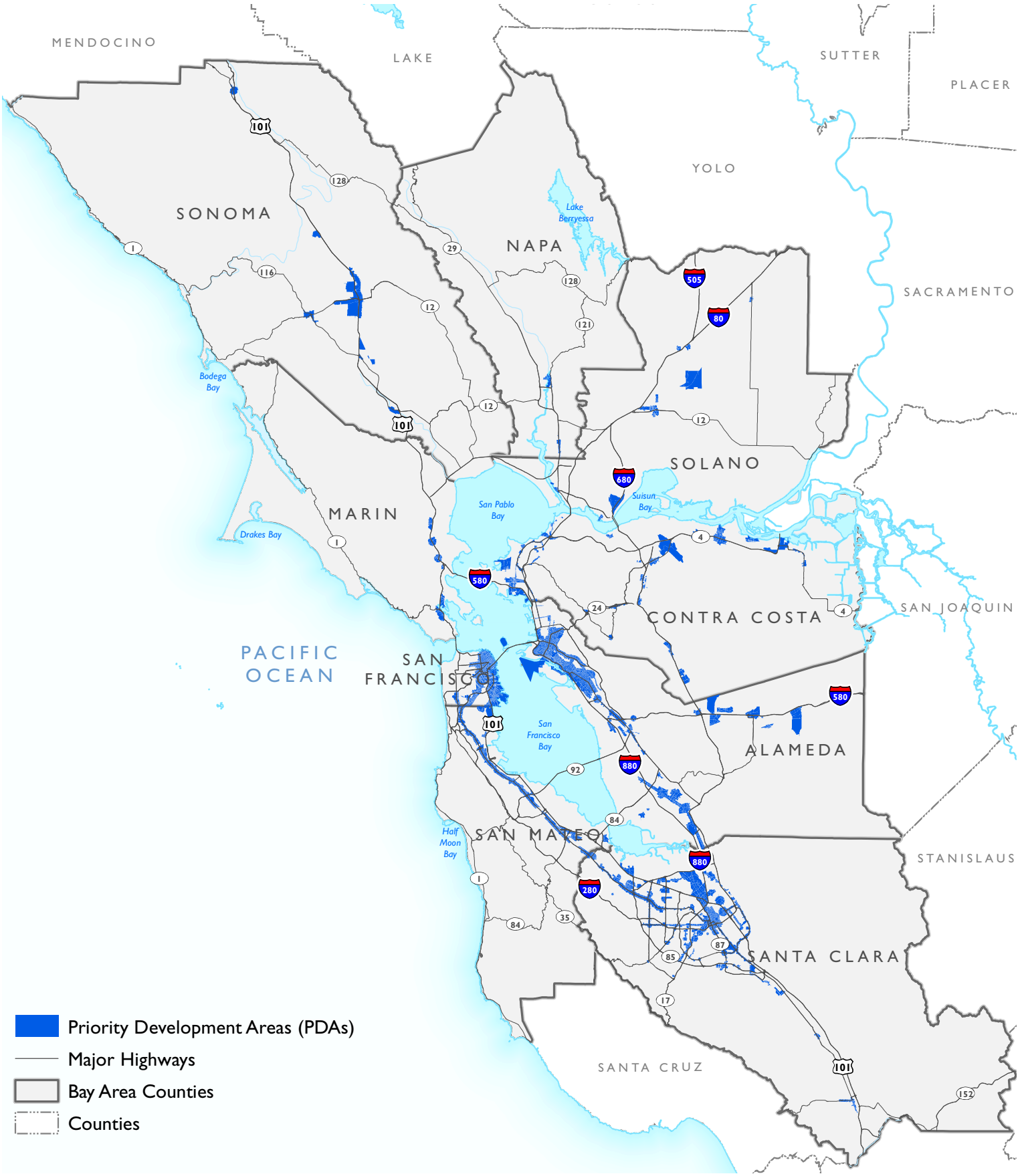
Priority Conservation Areas (PCAs) comprise over 100 regionally significant open spaces for which there exists broad consensus for long-term protection but face nearer-term development pressure. The PCAs designated in the proposed Plan will expand a regional greenbelt dedicated for preservation or protected by federal, state, and local policies. PCAs play a particularly important role in implementing the growth strategy in the North Bay—where they are central to the character and economy of many communities.

Increasing access to job centers for Bay Area residents has long been identified as a regional planning objective. To reinforce the Bay Area's existing strengths and areas of potential future growth, the strategy takes into account the location of clusters of knowledge sector industries—focusing on PDAs with excellent transit access.

Figure 1.2-2 shows the locations of the PDAs and PCAs in the Bay Area. **Figure 1.2-3** shows the existing urbanized footprint of the region and where it is expected to expand under the proposed Plan. Urbanized land was calculated as areas with more than four households per acre or more than 10 jobs per acre.

Figure 1.2-2

Priority Development Areas (PDAs)



Data Source: Metropolitan Transportation Commission, 2013; Cal-Atlas Geospatial Clearinghouse, 2012; The Conservation Lands Network GIS Data Sets, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

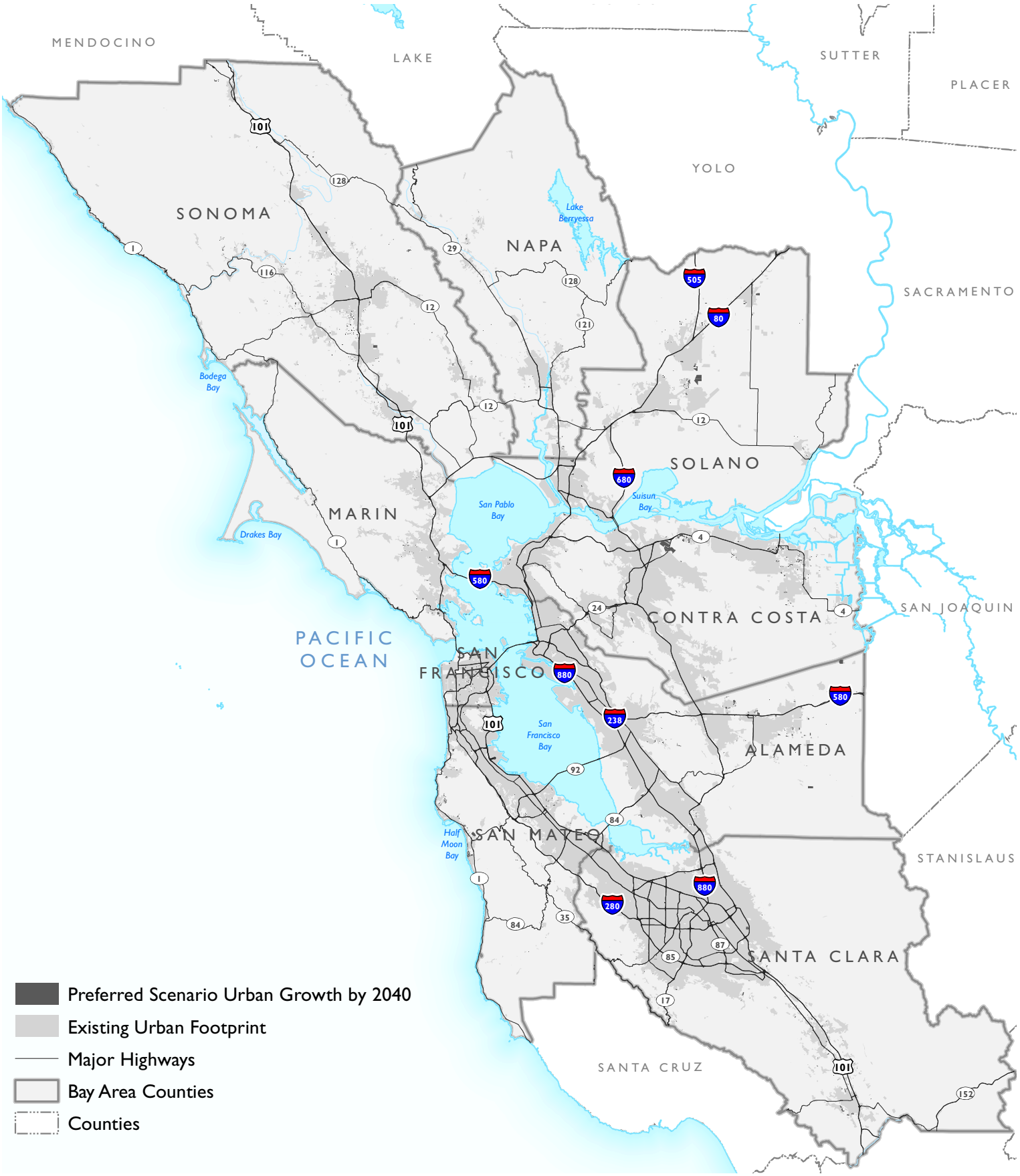
0 5 10 20 Miles

1 in = 16 miles

This page intentionally left blank.

Figure 1.2-3

Urbanized Land in 2010 and 2040



Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

0 5 10 20 Miles

1 in = 16 miles

This page intentionally left blank.

Distribution of Growth

The distribution of new employment growth is linked to transportation infrastructure and local input. Employment growth is organized under three major groups: knowledge-sector jobs, population-serving jobs, and all other jobs. Knowledge-sector jobs, such as information technology companies, legal or engineering offices, or biotechnology firms, are expected to grow based on current concentration, specialization, and past growth as well as transit service and access. Population-serving jobs, such as retail and food service positions, are expected to grow in a manner reflecting the distribution of future household growth. All other jobs, including government, agriculture and manufacturing, are expected to grow according to the existing distribution of jobs in each of these sectors.

The distribution of new housing begins with local plans at the county, city, and PDA levels. Housing growth in each place was then adjusted to ensure that regional goals were advanced based on the following five regional growth factors: (1) level of transit service; (2) vehicle-miles traveled (VMT) per household; (3) employment by 2040; (4) low-wage workers commuting from outside each place; and (5) housing value. More housing growth was directed to locations where the transit system can be utilized more efficiently, where workers can be better connected to jobs, and where residents can access high-quality services. Housing growth was next adjusted to account for anticipated levels of growth outside PDAs, including that on presently undeveloped land, and to ensure that no county or city's proposed growth substantially deviates from local plans. The distribution accounts for current high vacancy rates by city by factoring absorption of existing vacant units to accommodate future households. It also assumes an increase in group housing, reflecting the high rate of growth in the older population in the coming decades.

Growth by County

Tables 1.2-3, 4, 5, and 6 show projected housing and job growth by county under the proposed Plan. Reflecting the proposed Plan's strategic emphasis on the core regional transit network and connecting homes and jobs, San Francisco, San Mateo, Santa Clara, and Alameda counties account for the majority of housing growth (77 percent) and job growth (76 percent). Within these counties, the Bay Area's three regional centers—San Francisco, San José, and Oakland—are projected to accommodate 42 percent of the region's housing growth and 38 percent of total job growth by 2040. Counties will generally retain the same proportion of the region's housing stock, as shown in **Table 1.2-4.**

TABLE 1.2-3: HOUSING GROWTH BY COUNTY

	Housing Units				*Households*			
County	*2010*	*2040*	*Change*	*%*	*2010*	*2040*	*Change*	*%*
Alameda	582,500	730,500	148,000	25%	545,000	705,000	160,000	29%
Contra Costa	400,000	480,000	80,000	20%	375,000	463,000	88,000	23%
Marin	111,000	119,000	8,000	7%	103,000	112,000	9,000	9%
Napa	55,000	61,000	6,000	11%	49,000	56,000	7,000	14%
San Francisco	377,000	469,000	92,000	24%	346,000	447,000	101,000	29%
San Mateo	271,000	327,000	56,000	21%	258,000	316,000	58,000	22%
Santa Clara	632,000	843,000	211,000	33%	604,000	819,000	215,000	36%
Solano	153,000	175,500	22,500	15%	142,000	169,000	27,000	19%
Sonoma	204,500	236,500	32,000	16%	186,000	221,000	35,000	19%
REGION*	2,786,000	3,446,000	660,000	24%	2,608,000	3,308,000	700,000	27%

Note:

*2010 values include seasonal units; Regional 2040 and growth totals include 4,340 seasonal units that were not distributed throughout the region.

Source: ABAG, 2012.

TABLE 1.2-4: COUNTY PROPORTION OF REGIONAL HOUSING

County	*2010*	*% Region*	*2040*	*% Region*
Alameda	582,500	21%	730,500	21%
Contra Costa	400,000	14%	480,000	14%
Marin	111,000	4%	119,000	3%
Napa	55,000	2%	61,000	2%
San Francisco	377,000	14%	469,000	14%
San Mateo	271,000	10%	327,000	9%
Santa Clara	632,000	23%	843,000	24%
Solano	153,000	5%	175,500	5%
Sonoma	204,500	7%	236,500	7%
REGION	2,786,000	100%	3,446,000	100%

Source: ABAG, 2012.

Table 1.2-5 shows that job growth is expected to be more evenly distributed than housing growth, with most counties near the regional average of a 33 percent increase. As **Table 1.2-5** also shows, some counties are expected to have a difference in growth between the number of jobs and employed residents. Across the region, however, these numbers equalize. The consequence will be some shift in patterns of in- and out-commuting between Bay Area counties. The Bay Area will continue to have slightly more jobs than employed residents—by around 116,000 jobs in 2010 and 155,000 jobs in 2040. This mismatch represents in-commuting from outside the nine counties, such as from Tracy or Sacramento. The proposed Plan holds this rate of in-commuting steady at about 3.4 percent.

In part, the existing in-commute can be explained by the significant difference in the median housing costs of the counties of origin for the commuters and the Bay Area counties in which they work. For example, some workers in the Bay Area currently commute into the region from San Joaquin County where the median housing price between 2006 and 2010 was $318,600, compared to $637,000 in the Bay Area region, or half the price.[9]

It has been suggested that, if sufficient housing opportunities were provided in the Bay Area, the existing in-commute would be greatly reduced. However, it is important to acknowledge that many of the commuters that travel to the Bay Area for work may actually prefer to live outside of the Bay Area for various reasons (not just the reduced cost of housing). Thus, even if sufficient housing opportunities were provided in the Bay Area, there would still be commuting into the region.

TABLE 1.2-5: JOB GROWTH BY COUNTY

	Jobs				*Employed Residents*			
County	*2010*	*2040*	*Change*	*%*	*2,010*	*2,040*	*Change*	*%*
Alameda	694,000	948,000	254,000	37%	668,000	891,000	223,000	33%
Contra Costa	345,000	467,000	122,000	35%	442,000	579,000	137,000	31%
Marin	111,000	129,000	18,000	16%	118,500	136,500	18,000	15%
Napa	71,000	90,000	19,000	27%	57,000	69,000	12,000	21%
San Francisco	569,000	759,000	190,000	33%	414,000	560,000	146,000	35%
San Mateo	345,000	445,000	100,000	29%	347,000	446,500	99,500	29%
Santa Clara	926,000	1,230,000	304,000	33%	823,000	1,159,000	336,000	41%
Solano	132,000	180,000	48,000	36%	174,000	224,000	50,000	29%
Sonoma	192,000	257,000	65,000	34%	225,500	285,000	59,500	26%
REGION	3,385,000	4,505,000	1,120,000	33%	3,269,000	4,350,000	1,081,000	33%

Source: ABAG, 2012.

Table 1.2-6 shows the changes in the ratio of jobs to households in each county. Regionally, this ratio is expected to increase by 5 percent as a slightly higher proportion of the population works, and due to more people holding multiple jobs. All counties except Santa Clara will see an increase in this ratio, with above-average growth in the outlying counties of Contra Costa, Napa, Solano, and Sonoma.

[9] U.S. Census Bureau, 2006-2010 American Community Survey.

TABLE 1.2-6: JOBS-HOUSEHOLD RATIOS BY COUNTY

County	*2010*	*2040*	*% Change*
Alameda	1.27	1.34	5%
Contra Costa	0.92	1.01	9%
Marin	1.07	1.15	7%
Napa	1.45	1.59	10%
San Francisco	1.64	1.70	3%
San Mateo	1.34	1.41	5%
Santa Clara	1.53	1.50	-2%
Solano	0.93	1.07	14%
Sonoma	1.03	1.17	13%
REGION	1.30	1.36	5%

Source: ABAG, 2012

Concentration of Growth in PDAs

The majority of regional growth through 2040 is allocated within PDAs. PDAs are expected to accommodate 77 percent of new households and 63 percent of new jobs. As a result, small cities, single-family neighborhoods, and rural areas throughout the Bay Area have a very small share of the overall growth by 2040 and are expected to retain their scale and character.

Table 1.2-7 shows the growth in households in PDAs compared to other areas of each county and the region. The proposed Plan would direct most (77 percent) of the household growth through 2040 to PDAs, taking the proportion of the region's households within PDAs from 23 to 37 percent.

The distribution of PDA vs. non-PDA growth varies by county. In the most urban counties—Alameda, San Francisco, San Mateo, and Santa Clara—most household growth will be directed into PDAs, ranging from 78 to 92 percent. Three counties—Contra Costa, Solano, and Sonoma—will see just over half (between 55 and 61 percent) of future growth in PDAs. The two slowest growing counties, Marin and Napa, will see two-thirds of their household growth occur outside of PDAs. In every county of the Bay Area, however, the proportion of households located within a PDA will increase.

TABLE 1.2-7: HOUSEHOLD GROWTH IN PDAS

County	*2010*	*% of County*	*2040*	*% of County*	*Change*	*% of Growth*
Alameda	**545,100**		**705,300**		**160,200**	
PDAs	187,200	34%	312,400	44%	125,200	78%
Other	357,900	66%	392,900	56%	35,000	22%
Contra Costa	**375,400**		**463,100**		**87,700**	
PDAs	46,200	12%	99,800	22%	53,600	61%
Other	329,200	88%	363,300	78%	34,100	39%
Marin	**103,200**		**112,000**		**8,800**	

TABLE 1.2-7: HOUSEHOLD GROWTH IN PDAS

County	*2010*	*% of County*	*2040*	*% of County*	*Change*	*% of Growth*
PDAs	8,600	8%	11,600	10%	3,000	34%
Other	94,600	92%	100,400	90%	5,800	66%
Napa	**48,900**		**56,300**		**7,400**	
PDAs	1,100	2%	3,600	6%	2,500	34%
Other	47,800	98%	52,700	94%	4,900	66%
San Francisco	**345,800**		**447,300**		**101,500**	
PDAs	184,000	53%	277,400	62%	93,400	92%
Other	161,800	47%	169,900	38%	8,100	8%
San Mateo	**257,800**		**315,700**		**57,900**	
PDAs	59,100	23%	103,200	33%	44,100	76%
Other	198,700	77%	212,500	67%	13,800	24%
Santa Clara	**604,200**		**819,100**		**214,900**	
PDAs	160,100	26%	341,500	42%	181,400	84%
Other	444,100	74%	477,600	58%	33,500	16%
Solano	**141,800**		**168,700**		**26,900**	
PDAs	7,400	5%	22,100	13%	14,700	55%
Other	134,400	95%	146,600	87%	12,200	45%
Sonoma	**185,800**		**220,700**		**34,900**	
PDAs	25,500	14%	45,600	21%	20,100	58%
Other	160,300	86%	175,100	79%	14,800	42%
REGION	**2,608,000**		**3,308,000**		**700,000**	
PDAs	679,000	26%	1,217,000	37%	538,000	77%
Other	1,929,000	74%	2,091,000	63%	162,000	23%

Source: ABAG, 2013.

Table 1.2-8 gives the same breakdown for jobs. Regionwide just under half (45 percent) of existing jobs are located within PDAs. Under the proposed Plan, almost two-thirds (63 percent) of new jobs are expected to be located in PDAs, pushing the regional proportion of jobs in PDAs to almost one- half (49 percent). Every county will see an increase in the proportion of its jobs located within a PDA. As with household growth, the more urbanized counties will see the majority of their job growth occur in PDAs while Marin and Napa counties will see the majority of new jobs outside of PDAs.

TABLE 1.2-8: JOB GROWTH IN PDAS

County	*2010*	*% of County*	*2040*	*% of County*	*Change*	*% of Growth*
Alameda	**694,500**		**947,600**		**253,100**	
PDAs	307,700	44%	484,600	51%	176,900	70%
Other	386,800	56%	463,000	49%	76,200	30%
Contra Costa	**344,900**		**467,000**		**122,100**	
PDAs	116,900	34%	187,400	40%	70,500	58%
Other	228,000	66%	279,600	60%	51,600	42%
Marin	**110,700**		**129,100**		**18,400**	
PDAs	16,200	15%	20,300	16%	4,100	22%
Other	94,500	85%	108,800	84%	14,300	78%
Napa	**70,700**		**89,500**		**18,800**	
PDAs	12,200	17%	15,700	18%	3,500	19%
Other	58,500	83%	73,800	82%	15,300	81%
San Francisco	**568,700**		**759,500**		**190,800**	
PDAs	471,600	83%	634,400	84%	162,800	85%
Other	97,100	17%	125,100	16%	28,000	15%
San Mateo	**345,200**		**445,300**		**100,100**	
PDAs	113,800	33%	172,800	39%	59,000	59%
Other	231,400	67%	272,500	61%	41,100	41%
Santa Clara	**926,300**		**1,229,800**		**303,500**	
PDAs	401,500	43%	581,800	47%	180,300	59%
Other	524,800	57%	648,000	53%	123,200	41%
Solano	**132,400**		**179,900**		**47,500**	
PDAs	24,700	19%	40,300	22%	15,600	33%
Other	107,700	81%	139,600	78%	31,900	67%
Sonoma	**192,000**		**257,500**		**65,500**	
PDAs	60,800	32%	90,500	35%	29,700	45%
Other	131,200	68%	167,000	65%	35,800	55%
REGION	**3,385,000**		**4,505,000**		**1,120,000**	
PDAs	1,525,000	45%	2,228,000	49%	703,000	63%
Other	1,860,000	55%	2,277,000	51%	417,000	37%

Source: ABAG, 2013.

Transportation corridors in the inner Bay Area, including El Camino Real/The Grand Boulevard, San Pablo Corridor, and East 14th–International Boulevard, also represent a major share of both housing and job growth, accommodating 19 percent of regional housing and 11 percent of regional job growth. This concentrated growth pattern will help leverage the region's existing fixed guideway transit system and

inner-Bay Area improvements identified in the RTP Investment Strategy, including Caltrain electrification, BART to San José, and service enhancements to existing routes.

Major suburban employment centers in Alameda and Contra Costa Counties, including Concord, Walnut Creek, and the Tri-Valley communities of Dublin, Pleasanton, Livermore, and San Ramon, account for over 8 percent of the region's new jobs and nearly 9 percent of its new homes.

With more limited transit access and fewer PDAs, North Bay Counties—Marin, Napa, Solano and Sonoma—are expected to take on a much smaller share of regional growth, accounting for 10 percent of new households and 13 percent of new jobs. Much of this growth will be focused into PDAs such as Downtown Santa Rosa, Petaluma, Fairfield, and Vallejo. In Marin, 22 percent of new jobs and 34 percent of new households are anticipated in PDAs, while the respective shares are 19 and 34 percent in Napa, 33 percent and 55 percent in Solano, and 45 percent and 58 percent in Sonoma. By concentrating growth into the inner Bay Area and communities with frequent transit service, the proposed growth strategy is intended to help North Bay communities maintain their rural and small-town character.

The section "All Proposed Projects" at the end of this chapter includes maps showing the relationship between proposed transportation project and PDAs, and the growth of households and jobs in PDAs.

PROPOSED TRANSPORTATION INVESTMENT STRATEGY

This section explains the overall strategy for investment in the Bay Area's transportation system through the year 2040, as well as the proposed distribution of expected revenues and the transportation project selection process. The transportation investments and policies in the Transportation Investment Strategy are based on available funding through 2040 and will support the proposed Plan's goals by reducing automobile dependency and promoting healthier communities through reduced pollution and cleaner air. In addition to addressing the mobility of people, the Transportation Investment Strategy acknowledges the importance of goods movement corridors and identifies investments and strategies to ensure that these essential resources continue to support the region's economic diversity and vitality.

Lists and maps of major proposed transportation programs are presented later in this chapter, in the section "All Proposed Projects." A comprehensive list of the transportation projects and programs in the proposed Plan is provided in Appendix C.

Figures 1.2-4, 5, 6, and 7 show the largest transportation projects in the proposed Plan—expansions or operational improvements with costs exceeding $50 million. **Figure 1.2-4** shows regional transit system improvements and **Figure 1.2-5** shows local transit improvements; **Figure 1.2-6** maps the locations of road pricing improvements and **Figure 1.2-7** shows highway system improvements. The projects shown on those figures are briefly described in **Table 1.2-9**.

TABLE 1.2-9: MAJOR TRANSPORTATION INVESTMENTS IN THE BAY AREA

Regional Transit System Improvements (Figure 1.2-4)	
1	BART Extension to San José/Santa Clara
2	Caltrain Electrification and Frequency Improvements
3	Caltrain Downtown Extension (4th and King to Transbay Transit Center)
4	eBART to Antioch
5	SMART Commuter Rail (Larkspur to Windsor)
6	Transbay Transit Center
7	Irvington BART Station
8	Union City Commuter Rail Station
9	Hercules Commuter Rail Station
10	New Ferry Routes: Treasure Island, Berkeley, Richmond, Hercules, Redwood City
Local Transit Improvements (Figure 1.2-5)	
1	Van Ness BRT
2	Geary BRT
3	Geneva-Harney BRT
4	East Bay BRT
5	Grand-MacArthur BRT
6	Alameda-Oakland BRT
7	El Camino BRT
8	Santa Clara-Alum Rock BRT
9	Stevens Creek BRT
10	King Road Rapid
11	Central Subway (Chinatown to Caltrain)
12	Embarcadero Streetcar (Fort Mason to Caltrain)
13	Parkmerced Light Rail Extension
14	Bayshore Light Rail Extension
15	Oakland Airport Connector
16	San José Airport People Mover
17	Vasona Light Rail Extension
18	Capitol Expressway Light Rail Extension
19	Transit Effectiveness Project
20	Dumbarton Express Bus Frequency Improvements
Road Pricing Improvements (Figure 1.2-6)	
1	MTC Express Lane Network
2	VTA Express Lane Network
3	Marin-Sonoma Narrows
4	SR-4 HOV Lanes
5	U.S. 101 HOV Lanes
6	Downtown San Francisco Congestion Pricing
7	Treasure Island Congestion Pricing

TABLE 1.2-9: MAJOR TRANSPORTATION INVESTMENTS IN THE BAY AREA

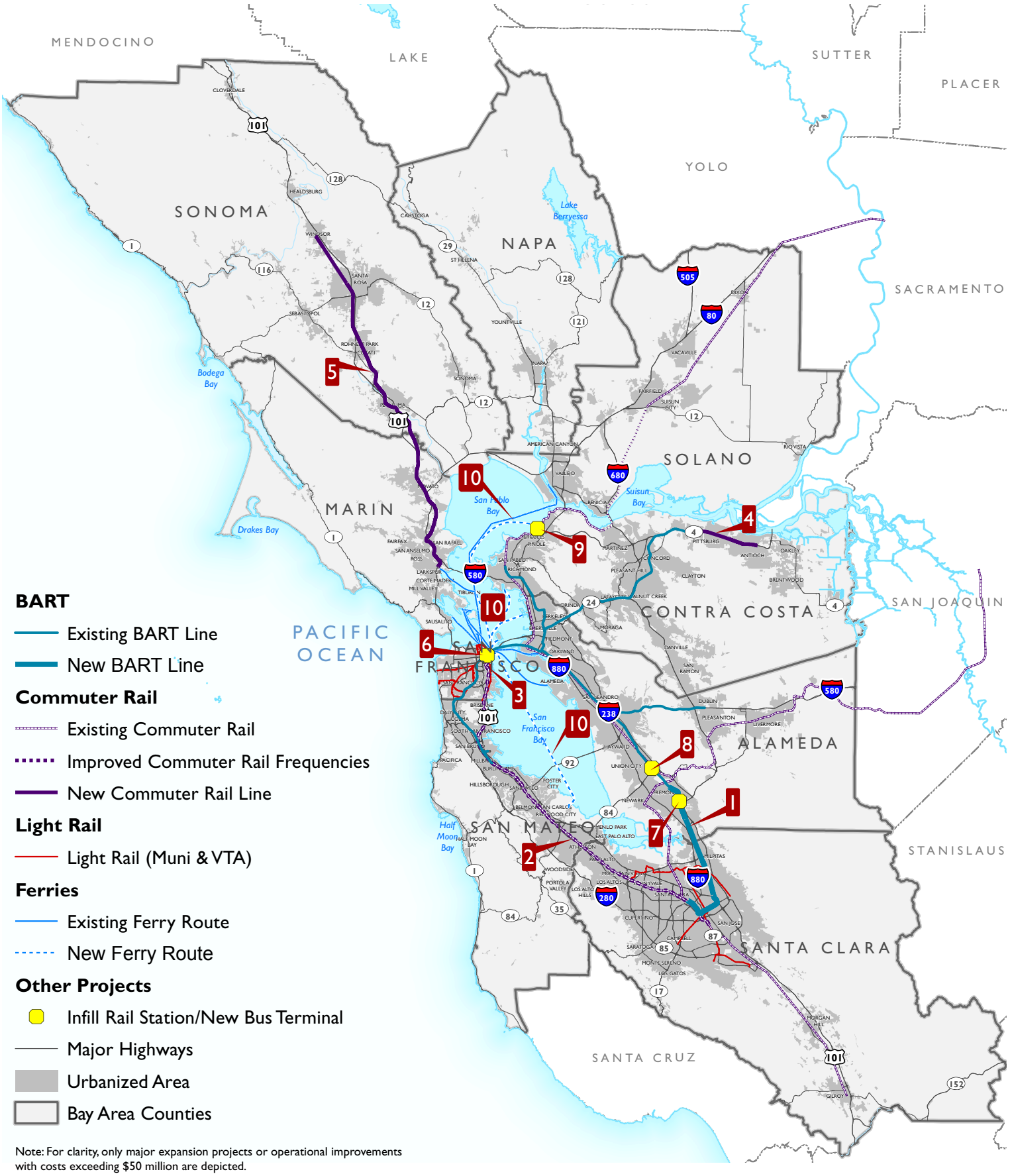
Highway System Improvements (Figure 1.2-7)	
1	Widening from Story Road to Yerba Buena Road
2	Operational Improvements along Presidio Parkway/Doyle Drive and in the Twin Cities/Greenbrae Corridor
3	New Auxiliary Lanes from Oyster Point to San Francisco county line and from Marsh Road to Embarcadero Road
4	Interchange Improvements at: Petaluma Boulevard, Greenbrae, Candlestick Point, Produce Ave, Broadway, SR-92, Woodside Road, Willow Road
5	New Interchanges at: Zanker Road/Skyport Drive and Mabury Road/Taylor St
6	Widening from I-680 to Airbase Parkway
7	Integrated Corridor Management (Emeryville to Crockett)
8	Interchange Improvements at: I-680/SR-12, San Pablo Dam Road, Ashby Ave, and Yerba Buena Island
9	Interchange Improvements at: SR-85 and Senter Road
10	Widening from Greenville Road to North Flynn Road
11	Interchange Improvements at: Vasco Road and Greenville Road
12	Interchange Improvements at: SR-84 and SR-4
13	New Interchange at: Norris Canyon Road
14	Interchange Improvements at: Jackson St, 23rd Ave, 29th Ave, A St, Industrial Parkway, Whipple Road, and SR-262 SR-4 Corridor
15	Widening from Somersville Road to SR-160 and from Lone Tree Way to Balfour Road
16	Interchange Improvements at: SR-160/Phillips Lane SR-12 Corridor
17	Jameson Canyon Widening
18	New Interchange at: Fulton Road
19	Willow Road Expressway (SR-84 to US-101)
20	SR-84 Widening (I-680 to Jack London Boulevard)
21	SR-262 Widening (I-680 to I-880)
22	SR-1 Widening (Fassler Ave to Westport Drive)
23	Redwood Parkway/Fairground Drive Widening
24	SR-238 and SR-185 Operational Improvements
25	SR-85/SR-237 Interchange Improvements
26	SR-92/Clawiter Road/Whitesell St Interchange Improvements

Source: MTC, 2013.

This page intentionally left blank.

Figure 1.2-4

Regional Transit System Improvements



Note: For clarity, only major expansion projects or operational improvements with costs exceeding $50 million are depicted.

Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

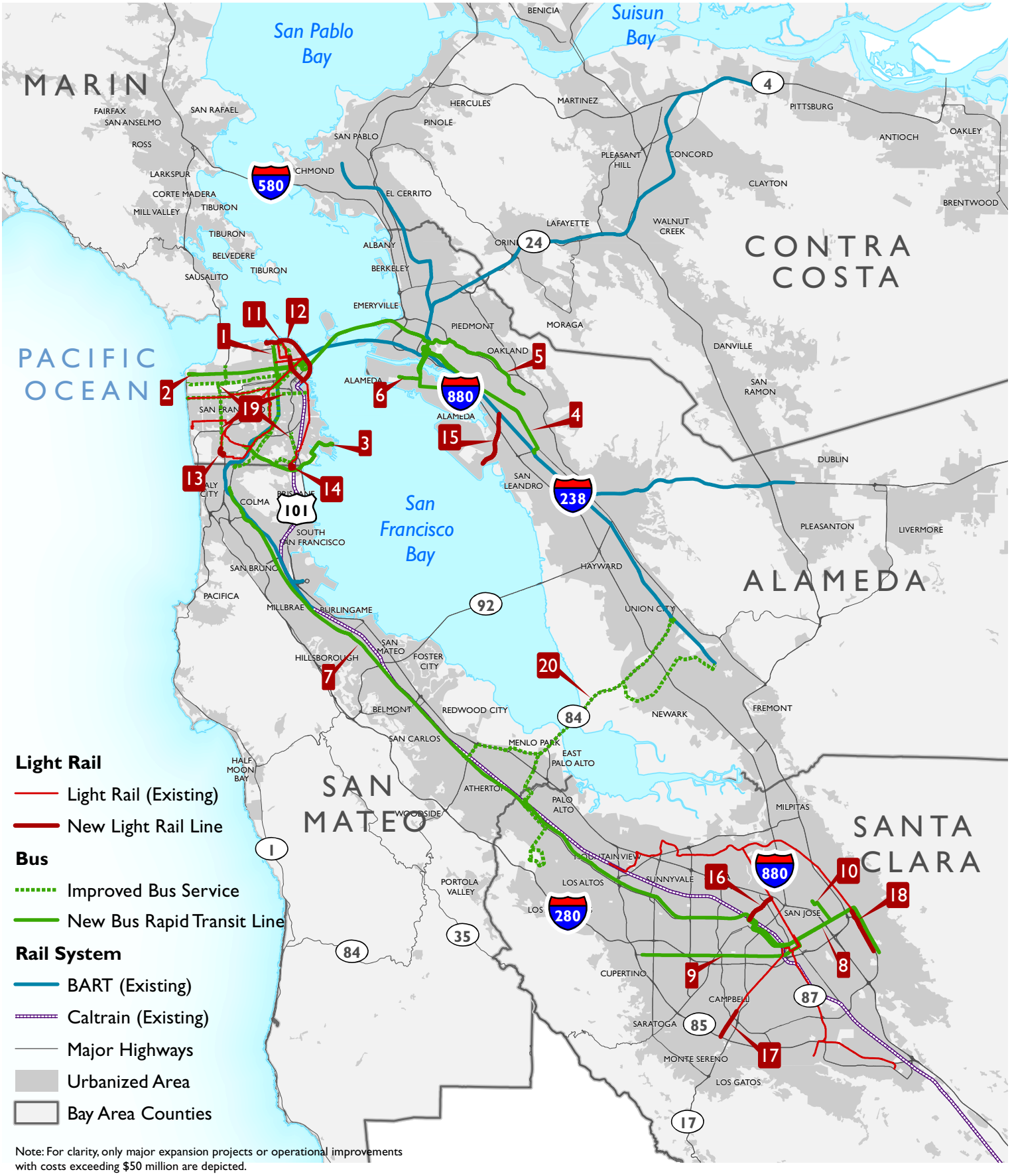
0 5 10 20 Miles

1 in = 16 miles

This page intentionally left blank.

Figure 1.2-5

Local Transit Improvements



Note: For clarity, only major expansion projects or operational improvements with costs exceeding $50 million are depicted.

Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

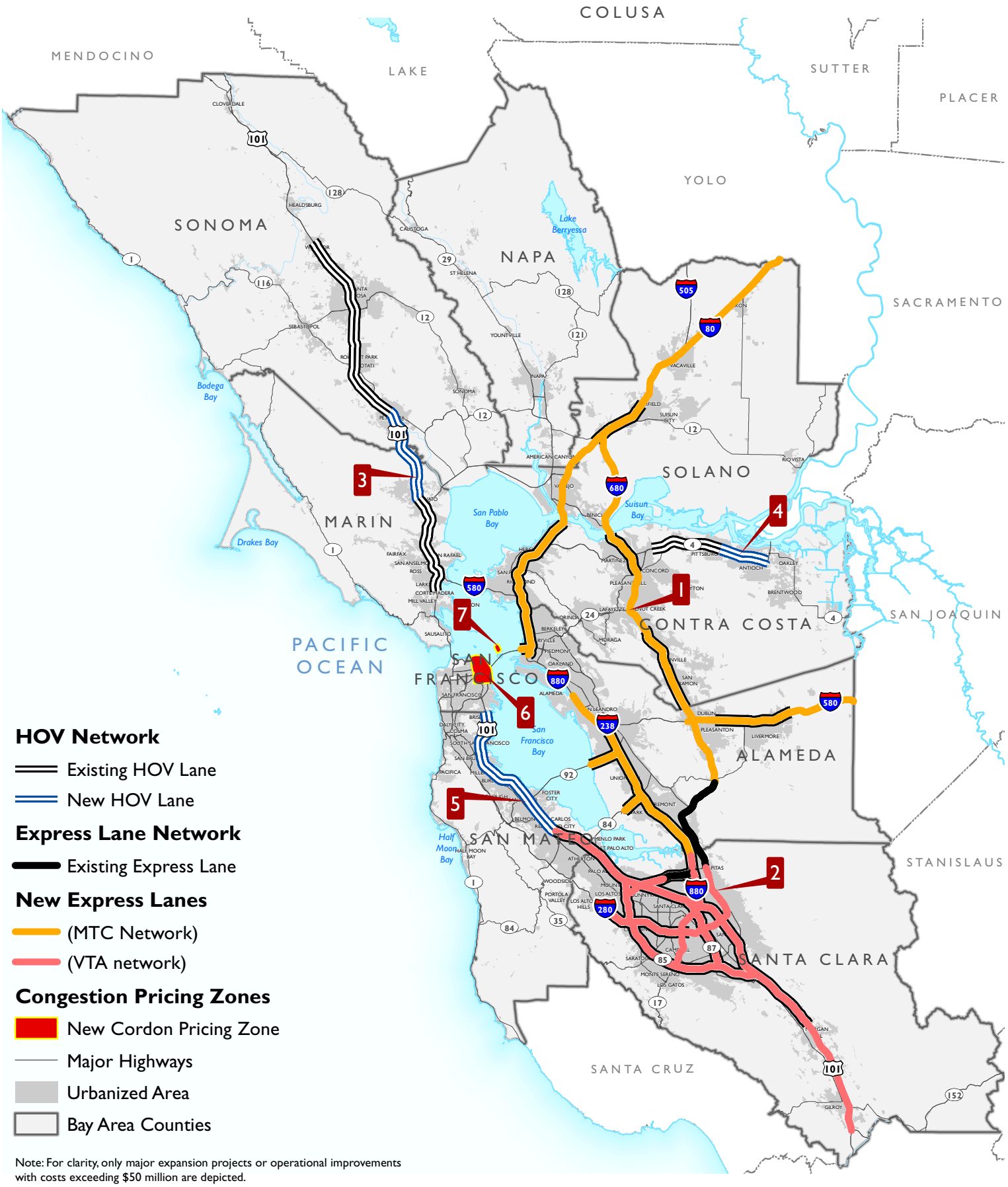
0 2 4 8 Miles

1 in = 7 miles

This page intentionally left blank.

Figure 1.2-6

Road Pricing Improvements



Note: For clarity, only major expansion projects or operational improvements with costs exceeding $50 million are depicted.

Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

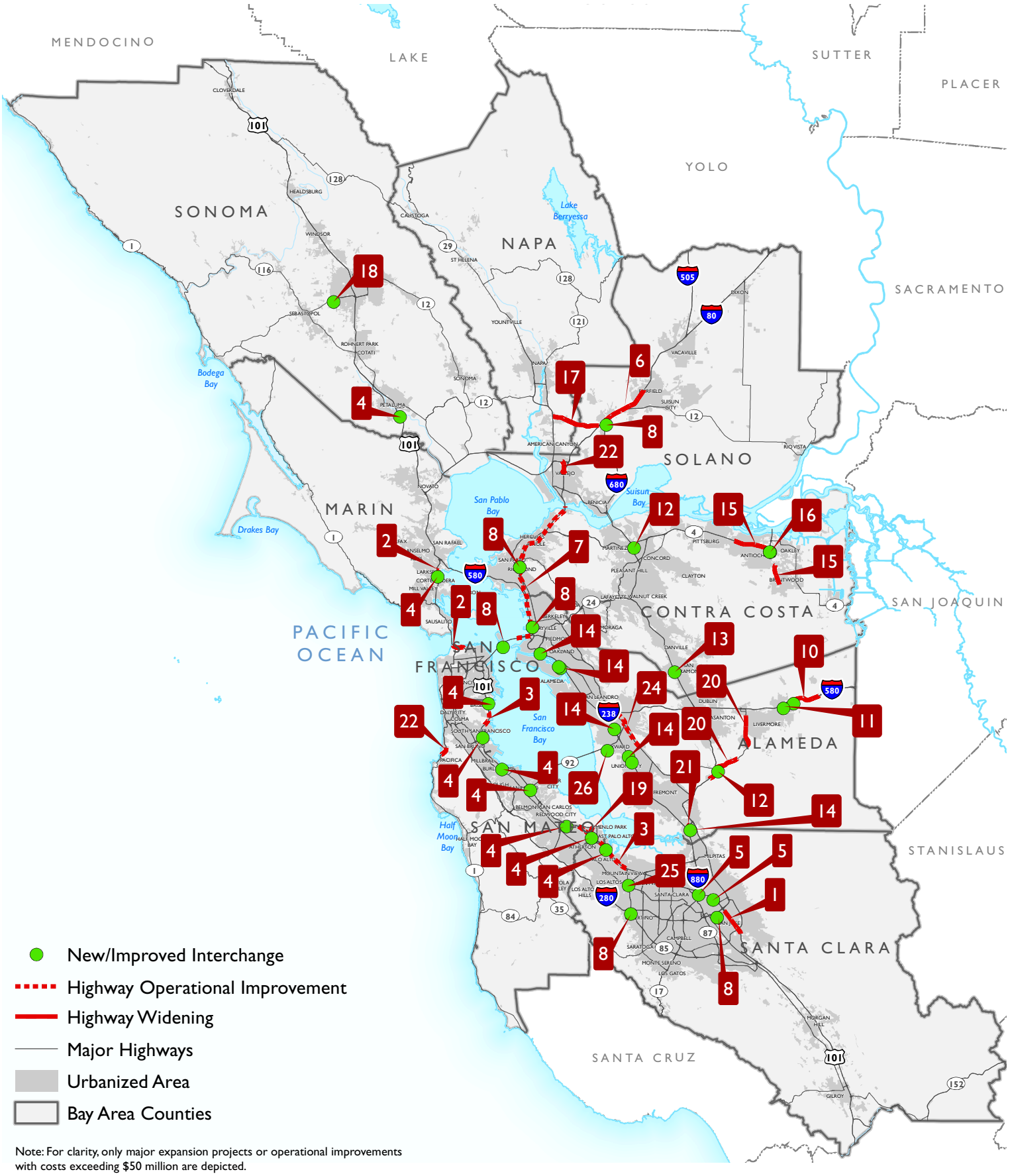
0 5 10 20 Miles

1 in = 16 miles

This page intentionally left blank.

Figure 1.2-7

Highway System Improvements



Note: For clarity, only major expansion projects or operational improvements with costs exceeding $50 million are depicted.

Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

0 5 10 20 Miles

1 in = 16 miles

This page intentionally left blank.

Distribution of Funds

MTC estimates that it will have about $289 billion in revenues to spend on transportation in the Bay Area through the year 2040, a 28 percent increase over the Transportation 2035 Plan budget of $226 billion. These revenues are anticipated to come from the following sources:

- Federal—$33 billion (11 percent)
- State—$45 billion (16 percent)
- Regional—$43 billion (15 percent)
- Local—$154 billion (53 percent)
- Anticipated/Unspecified—$14 billion (5 percent)

Most of the expected transportation revenues through 2040 are allocated to already-committed projects and conditioned discretionary expenditures, mainly transit operations and maintenance. Around 20 percent of the available budget is available for new transportation programs and strategies. Of the $289 billion in anticipated funds for Plan Bay Area, the majority, $232 billion, is dedicated to committed projects. That leaves $57 billion in discretionary revenues available for new investments.

The Transportation Investment Strategy allocates its discretionary funds to prioritize transportation projects that support focused growth, mainly "fix it first" projects that maintain and enhance existing infrastructure and transit service. Around 88 percent of discretionary funds will go to operations and maintenance—distributed roughly 40/60 between roadways and transit, respectively—with the remainder split between expansion of road, transit, and bike/pedestrian networks. Compared to Transportation 2035, the proposed Plan Bay Area would spend a higher percentage of its budget on transit and roadway operations and maintenance, less on expansion of transit network, and roughly the same percent on road and bridge expansion.

Given the larger budget of Plan Bay Area, this actually means a significant increase in money allocated to operations and maintenance and a decline in money budgeted for expansion, as shown in **Table 1.2-10**. For example, the 4 percent increase in the proportion of funds allocated to transit operations and maintenance, when applied to a budget that is 27 percent larger, translates into a 36-percent increase in actual dollars. Measured in dollars, compared to RTP 2035 the proposed Plan would increase operations and maintenance expenditures by $69 billion (up by 37.5 percent) and decrease money for system expansion by $7 billion (down by 16 percent).

TABLE 1.2-10: TRANSPORTATION INVESTMENTS OF PLAN BAY AREA VS. RTP 2035

	Plan Bay Area		*RTP 2035*		*Change*	
	% of Revenues	*$ billion*	*% of Revenues*	*$ billion*	*% Change in Total $*	*$ billion*
O&M-Transit	55%	$159	51%	$116	+ 37%	+ $43
O&M-Roads/Bridges	33%	$94	30%	$68	+ 38%	+ $26
Expansion-Transit	7%	$21	14%	$32	- 34%	- $11
Expansion-Roads/Bridges	5%	$15	5%	$11	+ 36%	+ $4
TOTAL		**$289**		**$227**		**+$62**

Source: MTC, 2013.

Strategy

The proposed investment plan is guided by six strategies which support the "three E's" of sustainability (economy, environment and equity) that stand at the top of Plan Bay Area's goals. The estimated $57 billion in discretionary revenues will be distributed among the following strategies, plus a $2 billion reserve:

Maintain and sustain the existing system ($15 billion) by continuing the Transportation 2035 investment approach to fully fund timely transit vehicle replacement and 70 percent of the other high priority transit capital needs. Furthermore, this strategy will fully fund operating needs for existing transit services and invest in state bridge rehabilitation and retrofit. It will also strive to make the transit system sustainable by implementing the recommendations of the Transit Sustainability Project.

Build next generation transit ($5 billion) by developing a regional funding strategy to implement transit projects that receive a high performance score. These investments set the stage for the next generation of capital transit investments, identify New Starts/Small Starts candidates, and outline an early High Speed Rail investment strategy on the Peninsula Corridor. High performing transit projects include:

- BART to San José: Phase 2 – Berryessa to Santa Clara
- Irvington BART Station
- Van Ness Bus Rapid Transit
- Grand-MacArthur Bus Rapid Transit
- $660 million for future investment in transit in the East Bay

Boost transit and road efficiency ($4 billion) of the existing transportation system by improving reliability and reducing delay in congested corridors, charging drivers a fee to drive in specific congested areas and using the revenue to fund transportation improvements, maximizing the efficiency and management of existing roadway infrastructure, and limiting roadway expansion to only the most essential locations. Projects that would be funded under this strategy include a regional Express Lanes network and the Freeway Performance Initiative. System efficiency projects include:

- Caltrain Service Frequency and Electrification
- Better Market Street
- SFMTA Transit Effectiveness Project
- BART Metro: Phase 1—Bay Fair
- Congestion Pricing for San Francisco and Treasure Island

OneBayArea Grants ($14 billion) will reward jurisdictions that produce housing near transit and create healthy communities, target investments in PDAs, support planning efforts for transit-oriented development in PDAs, and support PCAs. These grants will support and leverage investments currently encompassed in existing initiatives such as the Regional Bicycle Program and Transportation for Livable Communities (TLC). Funds that support Local Streets and Roads (LS&R) operations and maintenance overlap with the "Maintain and Sustain" strategy.

County priorities ($16 billion) based on discretionary funding requests for local priority projects submitted by CMAs. The projects are heavily focused on maintenance of the existing transportation system, followed by expansion and bicycle/pedestrian investments. Many of these projects also will receive complementary funding from one of the other investment strategies.

Protect the environment ($630 million) by making modest investments to support innovative policy initiatives to help the region achieve and possibly exceed its greenhouse gas emission reduction targets. The relatively slow population growth expected in the Bay Area, in combination with relatively efficient existing travel patterns, limits the scale of transformational change in the region's GHG emissions levels through land use changes and traditional transportation investments alone. The Plan Bay Area climate policy initiatives emphasize clean vehicles and smart driving. The proposed Plan includes a suite of programs including incentives to: promote a switch to clean and electric vehicles; extend electric vehicle ranges; increase car sharing and van pools; and implement a smart driving strategy with in-vehicle fuel economy meters plus an education campaign. The initiatives also include funding to invest more in the most successful Climate Initiatives Grants funded under Transportation 2035. These grants are testing innovative and creative ways to reduce transportation emissions.

Project Selection Process

In April 2011, MTC received over 1,000 projects submitted for consideration in response to its open "call for projects" for Plan Bay Area. Each of the nine CMAs assisted MTC by coordinating project submittals for their county. In addition, CMAs were responsible for the public involvement and outreach activities related to the call for projects and to coordinate with members of the public on project ideas. Caltrans and multi-county transit operators were allowed to submit directly to MTC, but coordination with the CMAs was encouraged by MTC.

MTC staff then worked with CMA staff and local project sponsors to identify projects and programs deemed "committed" as defined by MTC's Committed Funds and Projects Policy (see MTC Resolution No. 4006), which was adopted in April 2011. The Committed Funds and Projects Policy determines which projects proposed for inclusion in the Plan are not subject to discretionary action by the Commission because the projects are fully funded and are too far along in the project development process to consider withdrawing support, and which fund sources are subject to discretionary action by the Com-

mission for priority projects and programs. In general, "committed" projects are projects that have received environmental clearance and have full funding plans or are funded exclusively with local funds. Many projects that were considered "committed" in RTP 2035 are considered "uncommitted" in Plan Bay Area because of the more restricted definition of a committed project, resulting in many more projects undergoing performance evaluations and giving the Commission greater discretion in prioritizing projects for the investment strategy.

Approximately 900 uncommitted or "discretionary" projects were evaluated to identify high- and low-performing projects using two primary methodologies. Larger projects were evaluated individually, while smaller projects were grouped by project type. First, projects were qualitatively assessed against the 10 performance targets adopted by MTC and ABAG (see Plan Goals and Targets section above). Second, the largest projects underwent a benefit-cost assessment to compare the monetized project benefits and project costs, in order to gauge their cost-effectiveness. The benefit-cost assessment was more extensive than the approach taken in Transportation 2035, as it included a wide range of costs and benefits (travel time, CO_2 emissions, particulate emissions, ROG/NO_x emissions, health impacts from active transportation, injuries and fatalities from collisions, property damage from collisions, vehicle operating costs, vehicle ownership costs, and noise). The release of the draft performance assessment results in November 2011 allowed for feedback from MTC commissioners, CMAs, project sponsors, and other stakeholders; the final results were released by the MTC Planning Committee in January 2012.

The project performance assessment identified high-performing and low-performing projects. Thirteen high-performing projects were identified and prioritized for regional funding in Plan Bay Area; some of the most significant of these projects are listed earlier in this section under "Build Next Generation Transit." These projects were identified based on their high levels of cost-effectiveness and strong support for the Plan Bay Area targets. Thirty-two low-performing projects were also identified. Of these, twenty-eight projects appealed for inclusion in Plan Bay Area despite their low performance on cost-effectiveness or targets support and either adjusted the scope or phase of the project seeking inclusion in the Plan or changed funding sources to only local dollars. Eight of the low-performing projects were able to demonstrate compelling reasons for their inclusion in the Plan as originally submitted. Additional information on the project performance assessment can be found in the supplemental report on the OneBayArea website, www.onebayarea.org.

PROPOSED PLAN IMPLEMENTATION

Implementation of the proposed transportation investment strategy is consistent with past RTPs. The successful implementation of the proposed land use development strategy is more complex, however, since MTC and ABAG do not have land use authority. Implementation of the land use strategy will require its adoption by the local jurisdictions in the Bay Area; local governments (the nine counties and 101 cities of the region) have sole authority to create and implement land use plans.

EXPECTED PLAN PERFORMANCE VS. SB 375 TARGETS

The land use development strategy and transportation investment strategy described above combine to form the proposed Plan analyzed in this EIR. The proposed Plan is projected to hit the two targets mandated by SB 375:

- **Greenhouse Gas Emissions**. Extremely efficient growth patterns are required to meet the GHG emission reduction goal. The proposed Plan concentrates growth into walkable communities along the region's extensive transit network, provides incentives for clean vehicles and smart driving, and directs investment into operating and maintaining, rather than expanding, the region's current transportation network. As a result, by 2035, per capita greenhouse gas emissions from transportation are projected to decline by 16.4 percent from today, exceeding the region's target of 15 percent.
- **Adequate Housing**. The proposed Plan is expected to produce adequate housing within the region for all income groups, creating 660,000 new units to go along with the 40,000 existing vacant units, to accommodate 700,000 new households overall (with another 138,000 units vacant). Of these units, 26 percent will be affordable to very low income households, 17 percent to low income households, 17 percent to moderate income households, and 39 percent to above moderate income households. The level of affordable housing production does assume planning support, coordination of regulations, and increase in public funding. The proposed Plan assumes that in-commuting from outside the region will continue at 2010 levels.

ALL PROPOSED PROJECTS

This section includes detailed maps and tables that outline the major land use and transportation components of the proposed Plan. One set of maps shows both the locations of PDAs in the region and the major transportation projects to be built under the proposed Plan together, displaying the connection between these strategies. Some PDAs, such as rural town centers, are not connected to any proposed transportation projects. A second set of maps conveys the amount of housing growth expected in the region's PDAs under the proposed land use development strategy, and a third set shows job growth in the PDAs.

Major Transportation Projects

The following maps show the general locations of major transportation projects in the proposed Plan, shown by county or pair of counties. These major projects cost $10 million or more and include a direct impact on the physical environment; that is, operational and maintenance projects are not shown, but expansions and new construction projects are shown. The maps also show the locations of the region's PDAs.

Each figure is accompanied by a table listing the project ID number, type of project (committed or new commitment) and a brief description. See Appendix C for a longer description of these projects and the full list of transportation improvements in the proposed Plan.

TABLE 1.2-11: MAJOR TRANSPORTATION INVESTMENTS FOR ALAMEDA COUNTY*

Map ID	*Project ID*	*Type***	*Brief Project Description*
1	22760	NC	Construct Outer Harbor Intermodal Terminal (OHIT) on former Oakland Army Base at 7th Street/Maritime Street
2	230170	NC	Improve 42nd Avenue and High Street
3	21131	C	Build a BART Oakland Airport Connector between Coliseum BART station and Oakland International Airport
4	22100	C	Replace overcrossing structure at I-880/Davis Street interchange and add additional travel lanes on Davis Street
5	22063	C	Improve Route 238 corridor near Foothill Boulevard/I-580
6	240047	NC	Reconstruct I-880/A Street interchange
7	21093	C	Implement Route 92/Clawiter Road/Whitesell Street interchange improvements and local intersection improvements
8	240051	NC	Widen Union City Boulevard from 2-lanes to 3-lanes between Whipple Road and Industrial Parkway
9	21126	NC	Construct Route 84 westbound HOV on-ramp from Newark Boulevard
10	240272	NC	Widen Thornton Avenue from 2-lanes to 4-lanes between Gateway Boulevard and Hickory Street
11	94506	NC	Construct an east-west connector between I-880 and Route 238/Mission Boulevard
12	240263	NC	Modify Route 84/Peralta Boulevard
13	21132	C	Extend BART from Fremont to Warm Springs
14	22062	NC	Construct Irvington BART Station in Fremont
15	230114	NC	Widen Auto Mall Parkway from 4-lanes to 6-lanes between I-680 and I-880
16	240374	C	Extend BART to Berryessa
17	230110	NC	Improve Route 262 Mission Boulevard cross connector
18	22990	C	Widen Route 262 from I-880 to Warm Springs Boulevard and reconstruct Union Pacific Railroad underpasses
19	21484	NC	Widen Kato Road from Warren Avenue to Milmont Drive
20	240062	NC	Construct improvements for the Route 84/I-680 interchange, widen Route 84 from Pigeon Pass to I-680, and construct auxiliary lanes on I-680 between Andrade and Route 84
21	21116	C	Widen I-580 for HOV and auxiliary lanes eastbound from Hacienda Road to Greenville Road and westbound from Greenville Road to Foothill Road
22	230684	C	Widen I-580/I-680 interchange in each direction for express lanes
23	240038	NC	Widen Doughery Road from 4-lanes to 6-lanes between Sierra Lane and North City Limit
24	240261	NC	Extend and widen Scarlett Drive from Dougherty Road to Dublin Boulevard and relocate Iron Horse Trail along Scarlett Drive in Dublin

TABLE 1.2-11: MAJOR TRANSPORTATION INVESTMENTS FOR ALAMEDA COUNTY*

Map ID	*Project ID*	*Type***	*Brief Project Description*
25	21473	C	Construct a 4-lane arterial connecting Dublin Boulevard and North Canyons Parkway
26	240200	C	Extend Stoneridge Drive from Trevor Parkway to El Charro Road and construct six traffic signals
27	22776	NC	Widen Route 84 from 2 lanes to 4 lanes from north of Pigeon Pass to Stanley Boulevard and from 2lanes to 6 lanes from Stanley Boulevard to Jack London Boulevard
28	21100	NC	Modify I-580/Vasco Road interchange
29	240254	NC	Widen Greenville Road from 2-lanes to 4-lanes between I-580 and Patterson Pass Road
30	22013	C	Construct I-580 eastbound truck climbing lane at the Altamont Summit
31	230666	C	Widen I-580 for eastbound and westbound express lanes from Greenville Road to San Joaquin County line

Notes:

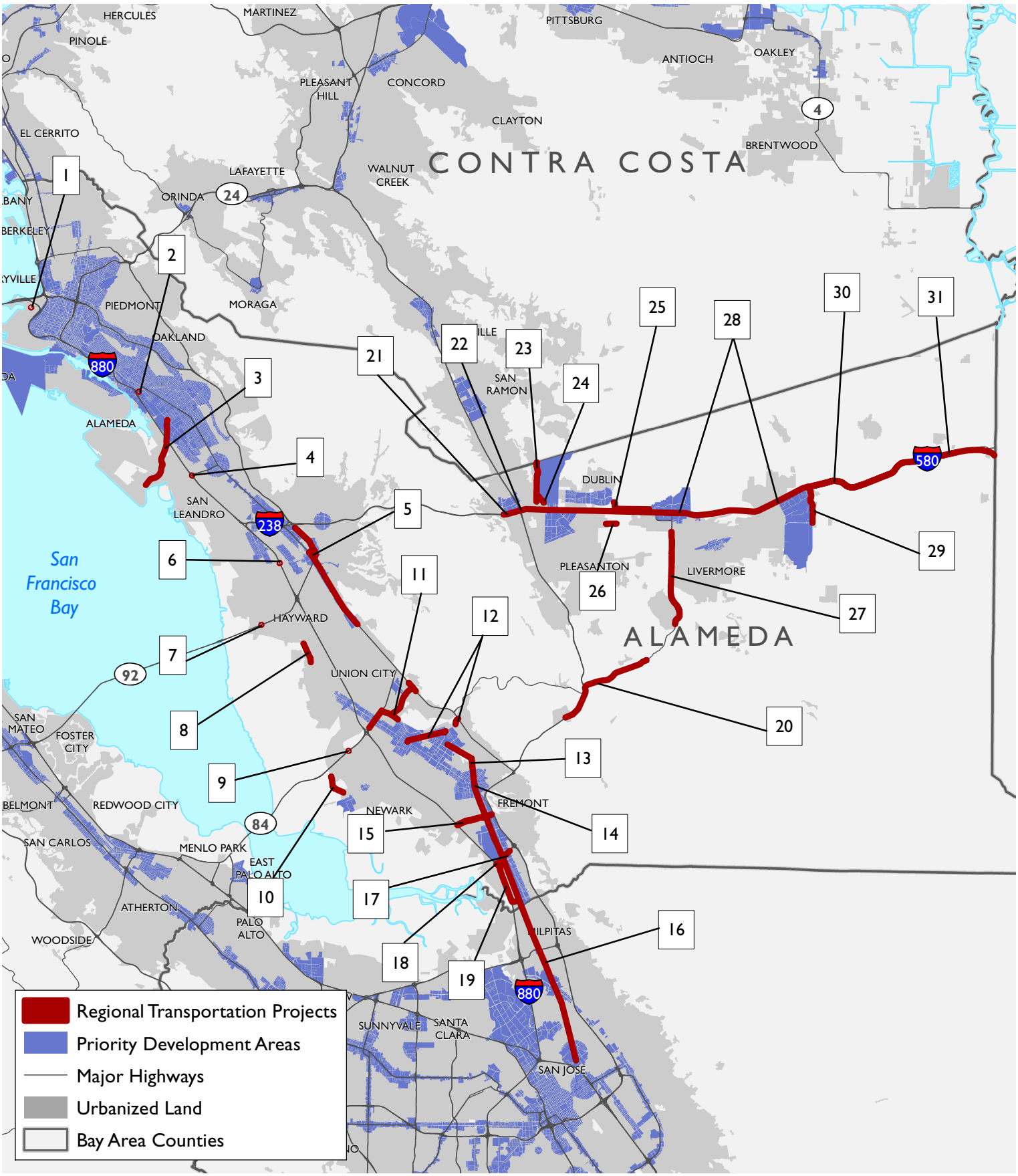
*Major projects defined as costing $10 million or more and with a physical impact on the environment (i.e., construction but not operations).

**C = Committed, NC = New Commitment

This page intentionally left blank.

Figure 1.2-8

Proposed Transportation Projects in Alameda County



Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

0 1.5 3 6 Miles

1 in = 5 miles

This page intentionally left blank.

TABLE 1.2-12: MAJOR TRANSPORTATION INVESTMENTS FOR CONTRA COSTA COUNTY*

Map ID	*Project ID*	*Type***	*Brief Project Description*
1	230318	NC	Extend North Richmond truck route from Market Avenue to Parr Boulevard
2	21210	C	Construct Capitol Corridor train station in Hercules
3	22352	NC	Construct new HOV-only on- and off-ramps at I-680/Norris Canyon Road
4	240629	NC	Widen Bolinger Canyon Road from Alcosta to San Ramon Valley Boulevard
5	98134	C	Widen Dougherty Road to 6 lanes from Red Willow to Contra Costa County line
6	230307	NC	Widen Camino Tassajara Road from 2 lanes to 4 lanes from Windemere Parkway to County line
7	240587	C	Widen I-680 northbound for express lanes from Marina Vista Avenue to North Main Street
8	98133	C	Widen Pacheco Boulevard from 2 lanes to 4 lanes between Blum Road to Arthur Road
9	240588	C	Widen I-680 southbound for express lanes from Marina Vista Avenue to Livorna Road
10	21205	NC	Improve I-680/Route 4 interchange
11	22350	NC	Improve I-680/Route 4 interchange Phases 4 and 5
12	230216	NC	Construct a two-lane bridge over Walnut Creek connecting Waterworld Parkway with Meridan Park Boulevard
13	22388	NC	Construct on- and off-ramp for State Route 242 at Clayton Road
14	230239	C	Widen and improve Buskirk Avenue between Monument Boulevard and Hookston Road to provide 2 through lanes in each direction
15	240355	NC	Add an eastbound mixed-flow lane on Route 4 from the lane drop 1,500 feet west of Port Chicago Highway to east of Willow Pass Road (west) on-ramp
16	240584	NC	Add a westbound mixed-flow lane from east of Willow Pass Road (West) to the lane-add west of Willow Pass Road (West)
17	230237	NC	Extend West Leland Road and construct a new 4-lane arterial road with raised median, bike lanes and sidewalks from San Marco Boulevard to Willow Pass Road
18	98115	C	Widen Ygnacio Valley/Kirker Pass Roads from 4 lanes to 6 lanes from Michigan Boulevard to Cowell Road
19	230291	NC	Construct northbound truck climbing lane from Clearbrook Drive in Concord to crest of Kirker Pass Road
20	230233	NC	Extend James Donlon Boulevard to Kirker Pass Road by constructing a new 2-lane expressway
21	21211	C	Extend BART/East Contra Costa Rail (eBART) eastward from the Pittsburg/Bay Point BART station into eastern Contra Costa County
22	240625	NC	Construct eBART station in the Route 4 median at Railroad Avenue
23	230238	C	Widen California Avenue from 2 lanes to 4 lanes with 2 left-turn lanes

TABLE 1.2-12: MAJOR TRANSPORTATION INVESTMENTS FOR CONTRA COSTA COUNTY*

Map ID	*Project ID*	*Type***	*Brief Project Description*
24	230236	C	Widen Pittsburg-Antioch Highway from 2 lanes to 4 lanes
25	98999	C	Widen Route 4 from Somersville Road to Route 160 including improvements to interchanges
26	230253	C	Replace the old 2-lane Fitzuren Road with a new 4-lane divided arterial
27	21214	C	Widen Wilbur Avenue over Burlington Northern Santa Fe Railroad from 2 lanes to 4 lanes
28	98222	C	Construct freeway-to-freeway direct connectors between Route 4 Bypass and Route 160
29	230274	C	Widen Main Street to 6 lanes from Route 160 to Big Break Road
30	230289	NC	Create Main Street Downtown Bypass by constructing new roadway between Vintage Parkway and 2nd Street
31	230202	C	Widen Route 4 Bypass from 2 to 4 Lanes from Laurel Road to Sand Creek Road
32	230203	C	Construct Route 4 Bypass interchange at Sand Creek Road
33	230205	C	Widen Route 4 Bypass from 2 to 4 lanes from Sand Creek Road to Balfour Road
34	230206	C	Construct Route 4 Bypass interchange at Balfour Road (Phase 1)
35	230249	NC	Construct grade separation underpass at Lone Tree Way and Union Pacific Railroad
36	230247	NC	Widen Lone Tree Way to 6-lanes from O'Hara Avenue to Brentwood Boulevard
37	240167	NC	Widen Brentwood Boulevard from 2 lanes to 4 lanes from Lone Tree Way and the north city limit
38	230250	C	Widen Brentwood Boulevard from 2 lanes to 4 lanes between Marsh Creek and Delta Road

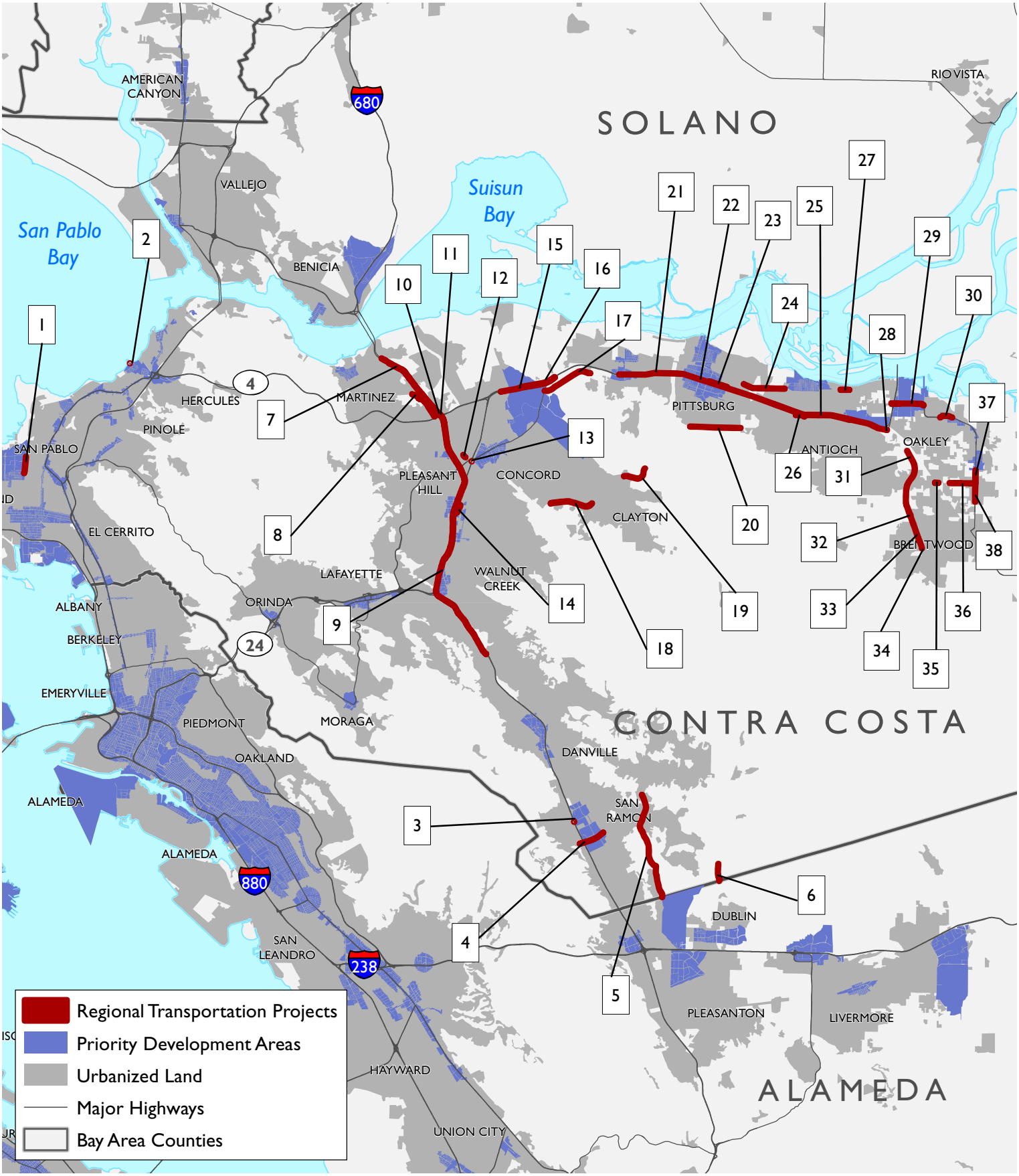
Notes:

*Major projects defined as costing $10 million or more and with a physical impact on the environment (i.e., construction but not operations).

**C = Committed, NC = New Commitment

Figure 1.2-9

Proposed Transportation Projects in Contra Costa County



Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

0 1.5 3 6 Miles

1 in = 5 miles

This page intentionally left blank.

TABLE 1.2-13: MAJOR TRANSPORTATION INVESTMENTS FOR MARIN AND SONOMA COUNTIES*

Map ID	*Project ID*	*Type***	*Brief Project Description*
1	240736	NC	Expand and enhance the SMART commuter rail system (Phase II) by constructing a one-station extension from San Rafael to Larkspur, constructing a one-station extension from North Santa Rosa to Windsor, implementing capacity improvements along the Initial Operating Segment (Sonoma County only), and completing the multi-use pathway from Larkspur to Cloverdale.
2	240668	NC	Widen Airport Boulevard from 2-lanes to 5-lanes between Ordiance Road and Aviation Boulevard
3	22191	C	US 101 North Project - Phase B- Airport Boulevard interchange improvements and Airport Boulevard
4	240524	NC	Construct an interchange with bicycle and pedestrian enhancements at Route 12/Fulton Road
5	22207	NC	Extend Farmers Lane from Bellevue Avenue to Bennett Valley Road as a 3-lane or 4-lane arterial
6	22001	C	Implement Sonoma-Marin Area Rail Transit District (SMART) Commuter Rail and Multi-Use Pathway Project (Initial Operating Segment)
7	22655	C	Widen U.S. 101 for HOV lanes (one in each direction) from Rohnert Park Expressway to Santa Rosa Avenue
8	22195	C	Improve U.S. 101/Old Redwood Highway interchange
9	21902	C	Widen U.S. 101 for HOV lanes from Pepper Road to Rohnert Park Expressway (Central Phase A)
10	98147	NC	Widen U.S. 101 in each direction with 1 HOV lane from Old Redwood Highway to the Marin/Sonoma County line
11	22656	C	Improve U.S. 101/East Washington Street interchange
12	240672	C	Implement Marin Sonoma Narrows Stage 1 (Sonoma County)
13	240039	NC	Widen Novato Boulevard between Diablo Avenue and Grant Avenue

Notes:

*Major projects defined as costing $10 million or more and with a physical impact on the environment (i.e., construction but not operations).

**C = Committed, NC = New Commitment

TABLE 1.2-14: MAJOR TRANSPORTATION INVESTMENTS FOR NAPA AND SOLANO COUNTIES*

Map ID	*Project ID*	*Type***	*Brief Project Description*
1	230392	NC	Extend Devlin Road from Airport Boulevard to Green Island Road
2	240617	NC	Create new road and transit configuration on Route 29 through American Canyon with connectivity to the Vallejo Ferry, including BRT, potential HOV, and other roadway innovations
3	94152	C	Widen Route 12 (Jameson Canyon) from 2 lanes to 4 lanes from I-80 in Solano County to Route 29 in Napa County (Phase 1)
4	230313	NC	Improve interchanges and widen roadways serving Solano County Fairgrounds, including Redwood Parkway
5	230658	C	Widen I-80 in each direction for express lanes from Route 37 to Carquinez Bridge
6	230659	C	Widen I-80 in each direction for express lanes from Red Top Road to Route 37
7	230686	C	Widen I-680 in each direction for express lanes between Martinez Bridge to I-80
8	230326	NC	Improve I-80/I-680/Route 12 Interchange (Phase 1), includes widen I-80 and I-680 and improve direct freeway to freeway connections
9	230687	C	Widen I-680/I-80 interchange in each direction for express lanes
10	230468	NC	Provide auxiliary lanes on I-80 in eastbound and westbound directions from I-680 to Airbase Parkway, add eastbound mixed-flow lane from Route 12 East to Airbase Parkway, and remove I-80/auto Mall hook ramps and C-D slip ramp
11	230322	C	Rebuild and relocate eastbound Cordelia Truck Scales Facility
12	240581	C	Widen I-80 in each direction for express lanes from Air Base Parkway to I-505
13	240213	C	Implement I-80/Lagoon Valley Road interchange improvements
14	240583	C	Widen I-80 in each direction for express lanes from I-505 to Yolo County Line
15	94151	NC	Construct 4-lane Jepson Parkway from Route 12 to Leisure Town Road at I-80
16	21341	C	Construct new Fairfield/Vacaville multimodal train station for Capitol Corridor intercity rail service (Phases 1, 2 and 3)

Notes:

*Major projects defined as costing $10 million or more and with a physical impact on the environment (i.e., construction but not operations).

**C = Committed, NC = New Commitment

Figure 1.2-10

Proposed Transportation Projects in Marin & Sonoma Counties

Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

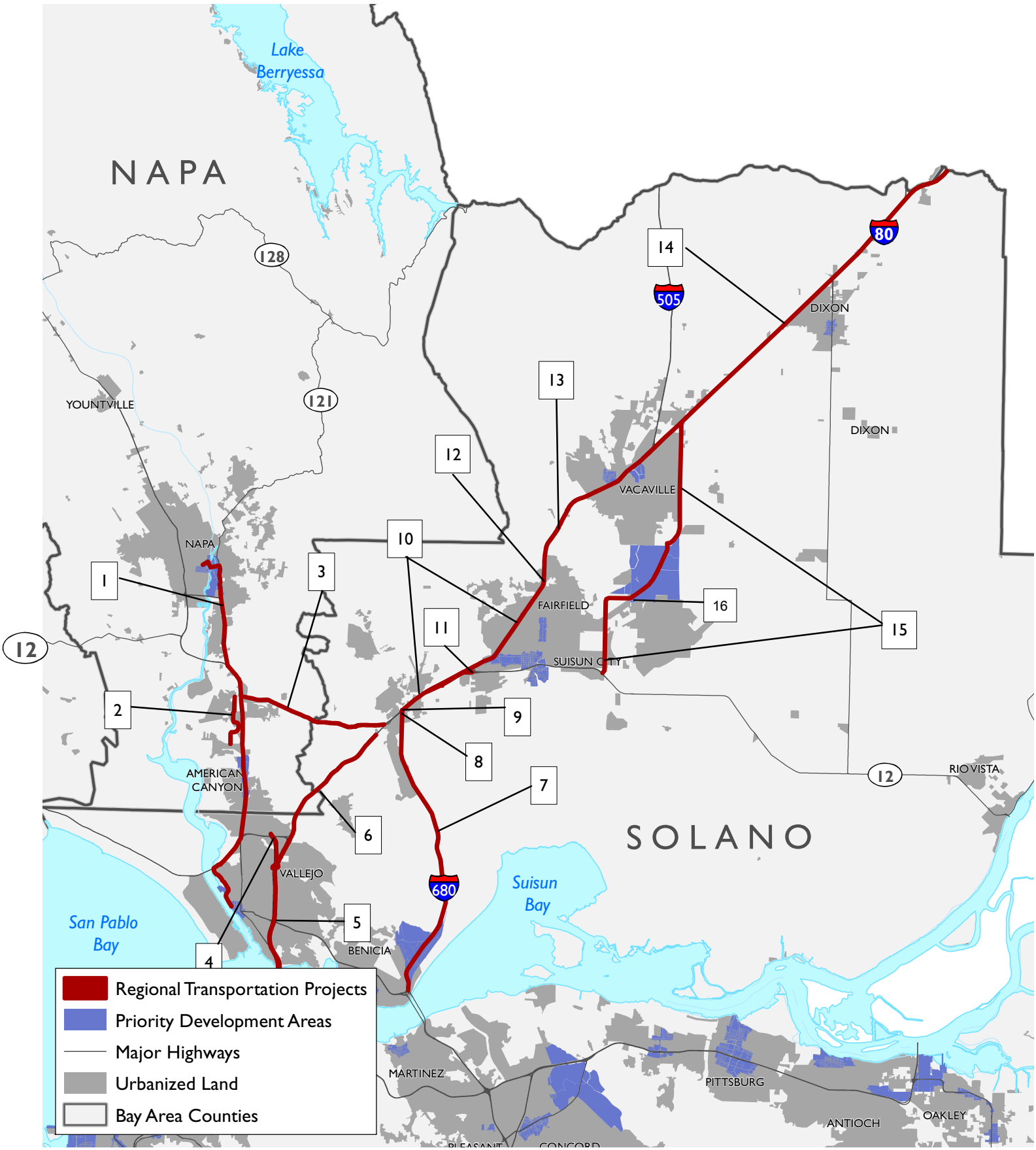
0 2.25 4.5 9 Miles

1 in = 8 miles

This page intentionally left blank.

Figure 1.2-11

Proposed Transportation Projects in Napa & Solano Counties



Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

0 1.5 3 6 Miles

1 in = 5 miles

This page intentionally left blank.

TABLE 1.2-15: MAJOR TRANSPORTATION INVESTMENTS FOR SAN FRANCISCO AND SAN MATEO COUNTIES*

Map ID	*Project ID*	*Type***	*Brief Project Description*
1	240400	C	Implement Treasure Island/Yerba Buena Island Street Network
2	22415	NC	Extend historic streetcar service from Fort Mason along Fisherman's Wharf to Caltrain Station
3	21342	C	Implement Transbay Transit Center/Caltrain Downtown Extension (Phase 1 - Transbay Transit Center)
4	230290	NC	Implement Transbay Transit Center/Caltrain Downtown Extension (Phase 2 - Caltrain Downtown Extension)
5	21510	C	Extend the Third Street light Rail line from north of King Street to Clay Street in Chinatown via a new Central Subway, including the purchase of light-rail vehicles
6	240358	NC	Implement Mission Bay New Roadway Network
7	240415	NC	Establish new ferry terminal at Mission Bay 16th Street
8 / 9	240163	NC	Implement Hunters Point Shipyard and Candlestick Point Local Roads Phase 1
10	230490	NC	Re-build and widen Harney Way to 8-lanes
11	22227	NC	Construct a 6-lane arterial from Geneva Avenue/Bayshore Boulevard intersection to U.S. 101/Candlestick Point interchange
12	240334	NC	Construct Southern Intermodal Terminal and extend MUNI T-Line from Bayshore/Sunnydale to Caltrain Bayshore Station
13	240399	C	Implement Parkmerced Street Network
14	240545	C	Extend light rail corridor into Parkmerced development project, add three new light rail stations and facilities, and add tail track and operator support facilities
15	98204	NC	Construct Route 1 (Calera Parkway) northbound and southbound lanes from Fassler Avenue to Westport Drive in Pacifica
16	21613	NC	Widen Route 92 between San Mateo-Hayward Bridge to I-280, includes uphill passing lane from U.S. 101 to I-280
17	94644	NC	Construct a westbound slow vehicle lane on Route 92 between Route 35 and I-280
18	230417	C	Modify U.S. 101/Holly Street interchange
19	230428	C	Extend Blomquist Street over Redwood Creek to East Bayshore and Bair Island Road

Notes:

*Major projects defined as costing $10 million or more and with a physical impact on the environment (i.e., construction but not operations).

**C = Committed, NC = New Commitment

TABLE 1.2-16: MAJOR TRANSPORTATION INVESTMENTS FOR SANTA CLARA COUNTY*

Map ID	*Project ID*	*Type***	*Brief Project Description*
1	240374	C	Extend BART to Berryessa
2	240404	NC	Widen Calaveras Boulevard overpass from 4-lanes to 6-lanes
3	22944	C	Widen I-880 for HOV lanes in both directions from Route 237 in Milpitas to U.S. 101 in San José
4	230456	C	Widen Zanker Road from 4-lanes to 6-lanes
5	240443	NC	Extend Mary Avenue north across Route 237
6	22156	NC	Improve connector ramp at Route 85 northbound to Route 237 eastbound
7	240468	NC	Improve connector ramp at Route 237 westbound to Route 85 southbound
8	230273	NC	Widen Montague Expressway between Trade Zone and I-680
9	230267	C	Widen Montague Expressway to 8-lanes for HOV lanes between Lick Mill and Trade Zone boulevards and on Guadalupe River Bridge and Penitencia Creek Road
10	230370	NC	Improve interchange at I-680/Montague Expressway
11	230363	C	Construct interchange at I-880 and Montague Expressway
12	230457	NC	Widen Oakland Road from 4-lanes to 6-lanes between U.S. 101 and Montague Expressway
13	230449	C	Extend Charcot Avenue over I-880 as a new 2-lane roadway with bicycle and pedestrian improvements to connect to North San José employment center
14	240498	NC	Widen Brokaw Bridge over Coyote Creek
15	21722	NC	Improve interchange at U.S. 101 southbound Trimble Road/De la Cruz Boulevard/Central Expressway
16	230262	NC	Improve interchange at Montague Expressway/U.S. 101
17	22179	NC	Widen Central Expressway from 4-lanes to 6-lanes between Lawrence Expressway and San Tomas Expressway
18	22186	NC	Widen San Tomas Expressway to 8-lanes between Route 82 to Williams Road
19	21922	NC	Implement Mineta San José International Airport APM connector
20	22979	NC	Improve interchange at U.S. 101/Zanker Road/Skyport Drive/Fourth Street
21	240375	NC	Extend BART from Berryessa to San José/Santa Clara (Phase 2)
22	230201	NC	Widen Coleman Avenue from 4-lanes to 6-lanes between I-880 and Taylor Street
23	230200	NC	Extend Autumn Parkway from Julian Street to San Carlos Street and implement improvements from St. John Street to Park Avenue
24	22965	NC	Improve interchange at U.S. 101/Mabury Road/Taylor Street
25	230492	NC	Improve interchange at U.S. 101/Old Oakland Road
26	22956	NC	Extend Capitol Expressway light rail to Eastridge Transit Center - Phase II

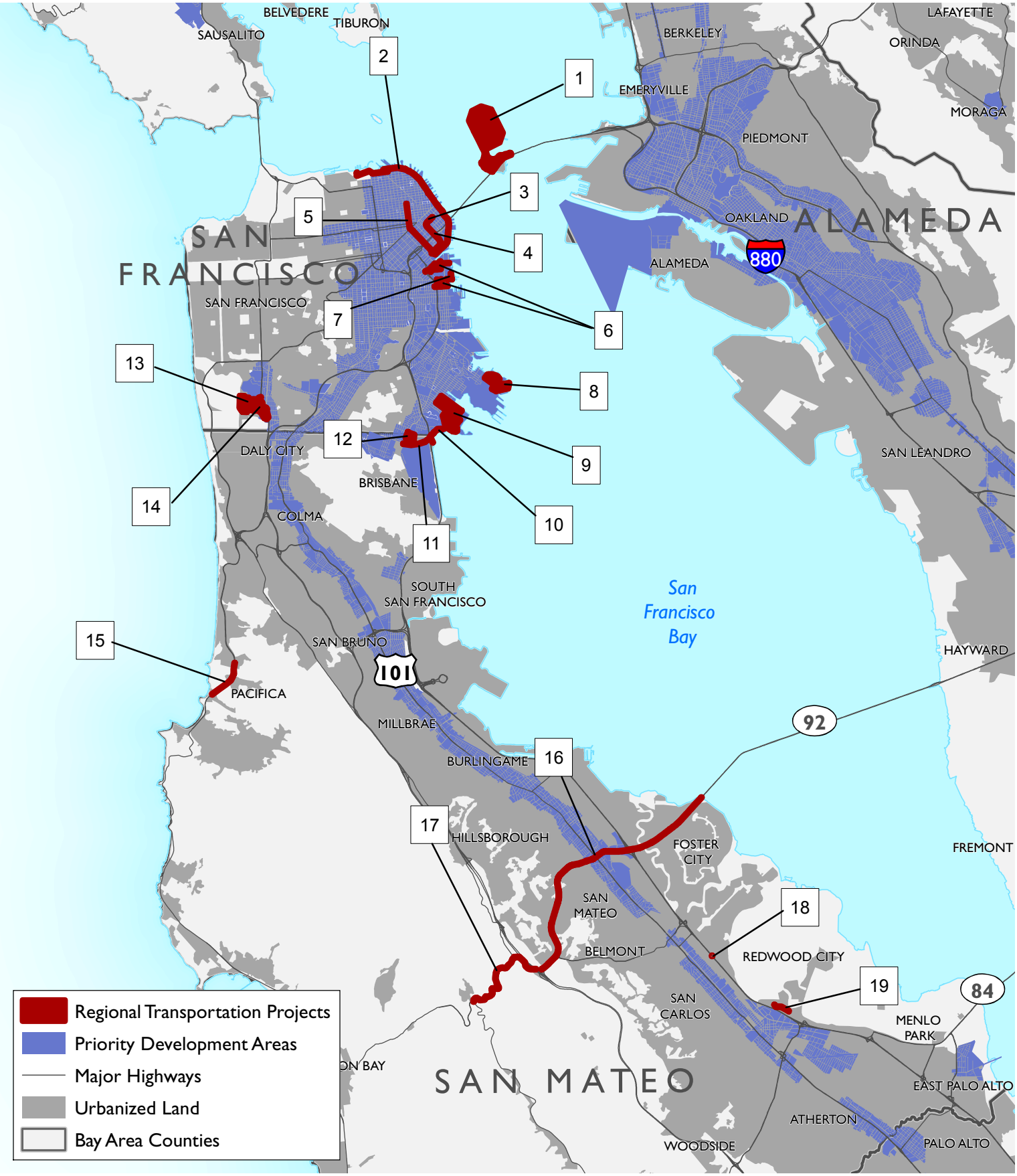
TABLE 1.2-16: MAJOR TRANSPORTATION INVESTMENTS FOR SANTA CLARA COUNTY*

Map ID	*Project ID*	*Type***	*Brief Project Description*
27	22134	C	Construct a lane on southbound U.S. 101 using the existing median from south of Story Road to Yerba Buena Road; modify the U.S. 101/Tully road interchange to a partial cloverleaf
28	240671	NC	Improve interchange at I-280/Senter Road
28	240671	NC	Improve interchange at I-280/Senter Road
29	21786	NC	Widen interchange at U.S. 101/Hellyer Avenue
30	21785	NC	Widen interchange at U.S. 101/Blossom Hill Road
31	240636	NC	Construct 2-lane or 4-lane connection between Almaden Expressway and Winfield Boulevard
32	22175	NC	Widen Almaden Expressway from Coleman Avenue to Blossom Hill Road
33	98119	C	Extend light-rail transit from Winchester Station to Route 85 (Vasona Junction)
34	240412	NC	Extend Butterfield Boulevard South between Tennant Avenue and Watsonville Road
35	240379	NC	Extend Buena Vista Avenue from Santa Teresa Boulevard to Monterey Road
36	21702	NC	Improve interchange at U.S. 101/Buena Vista Avenue
37	240385	NC	Construct 4-lane bridge across Uvas Creek to allow the extension of Tenth Street to Santa Teresa Boulevard (Glen Loma Development)

This page intentionally left blank.

Figure 1.2-12

Proposed Transportation Projects in San Francisco & San Mateo



Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

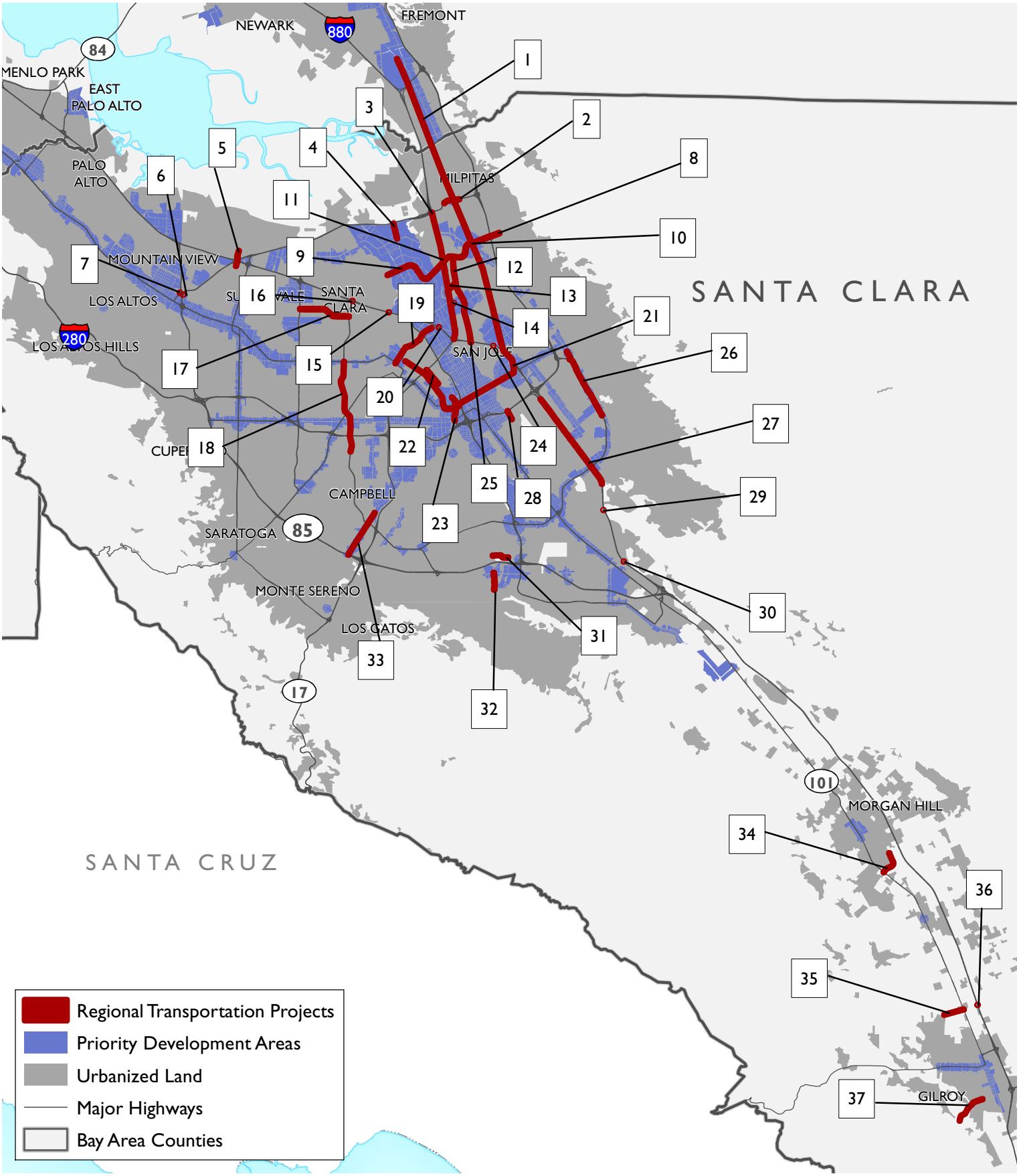
0 1 2 4 Miles

1 in = 3 miles

This page intentionally left blank.

Figure 1.2-13

Proposed Transportation Projects in Santa Clara County



Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

0 1.25 2.5 5 Miles

1 in = 4 miles

This page intentionally left blank.

PDA Growth

The following maps convey the increase of households and jobs within the region's PDAs under the proposed Plan, displayed by county or pair of counties. The majority of household and job growth from existing conditions (2010) through the time horizon of the proposed Plan (2040)—77 and 63 percent, respectively—is expected to be located within PDAs.

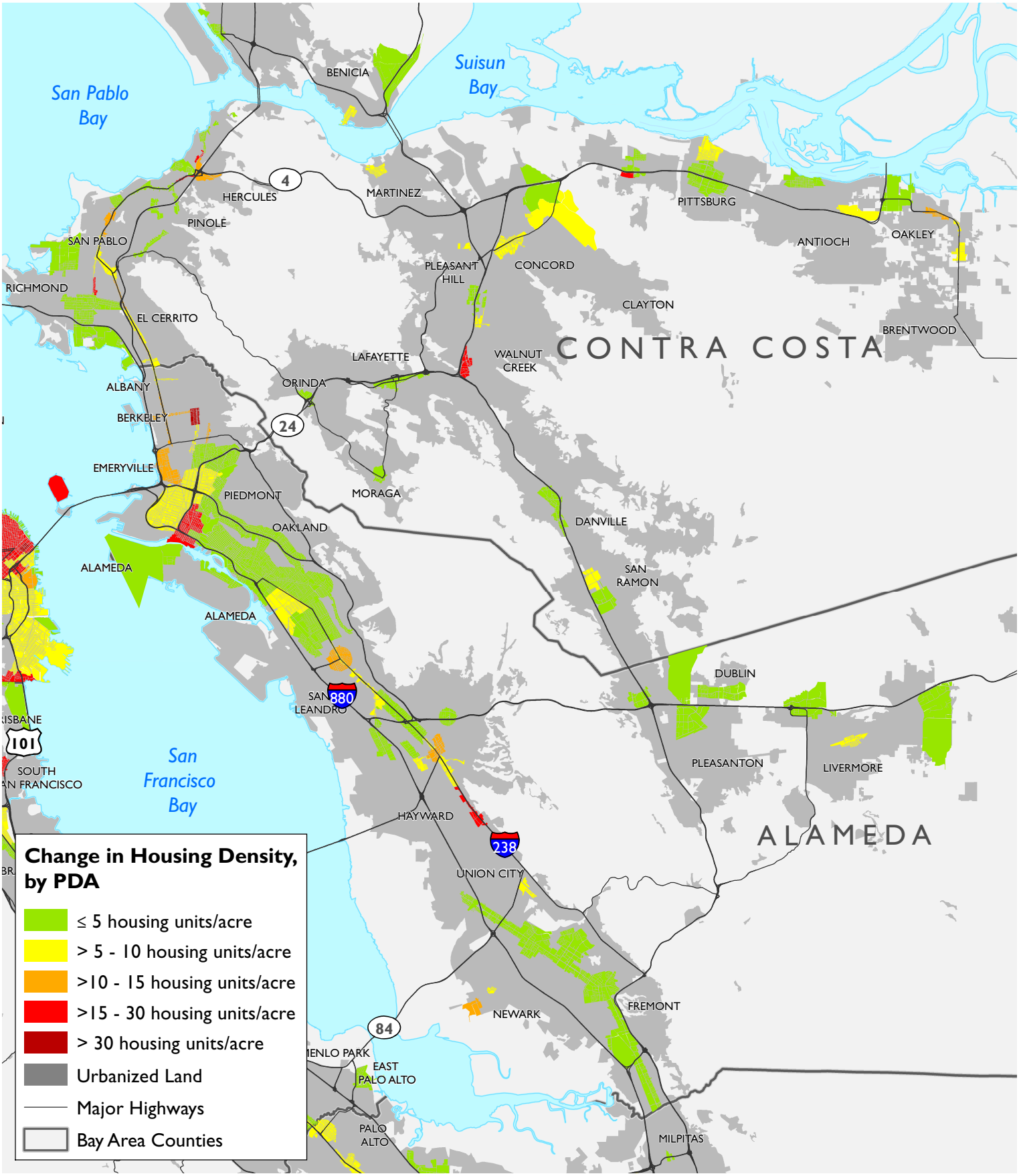
The first set of maps shows the increase in housing density expected for PDAs from 2010 to 2040. Housing density is measured as housing units per acre. Each PDA has its own density number, calculated as total number of housing units divided by total acreage of the PDA. These maps convey where higher density housing is expected to occur—largely existing urban centers such as central San Francisco and downtown Oakland, along with a few other locations—as well as the lesser densification of other areas.

The second set of maps shows the increase in job density expected for PDAs from 2010 to 2040. As with housing density, these maps show the increase in jobs per acre for each PDA. The greatest job intensification is expected in existing urban centers, as well as key suburban employment centers such as Walnut Creek and Palo Alto.

This page intentionally left blank.

Figure 1.2-14

Change in PDA Housing Density, 2010-2040, Alameda & Contra Costa



Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

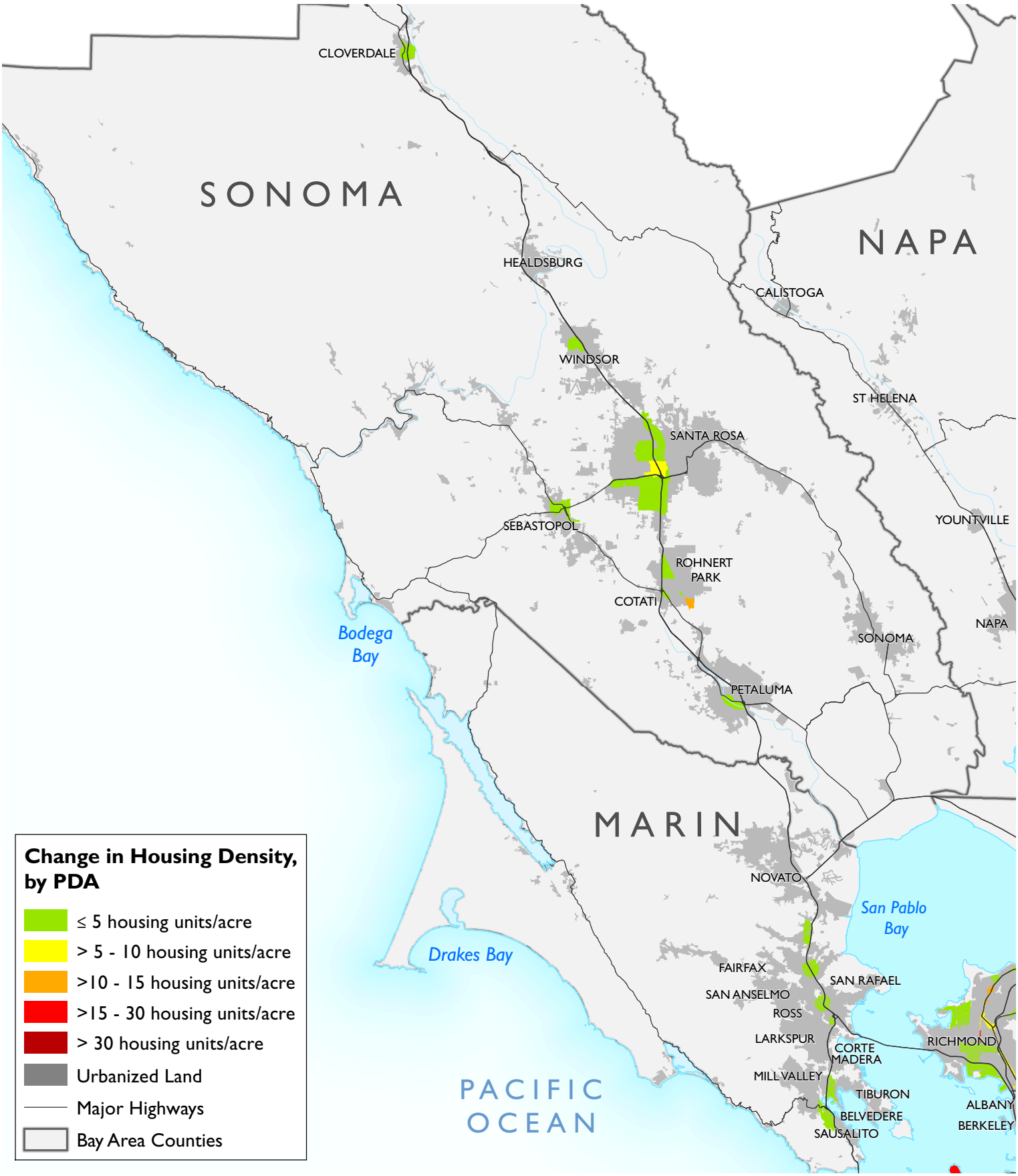
0 1.5 3 6 Miles

1 in = 5 miles

This page intentionally left blank.

Figure 1.2-15

Change in PDA Housing Density, 2010-2040, Marin & Sonoma



Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

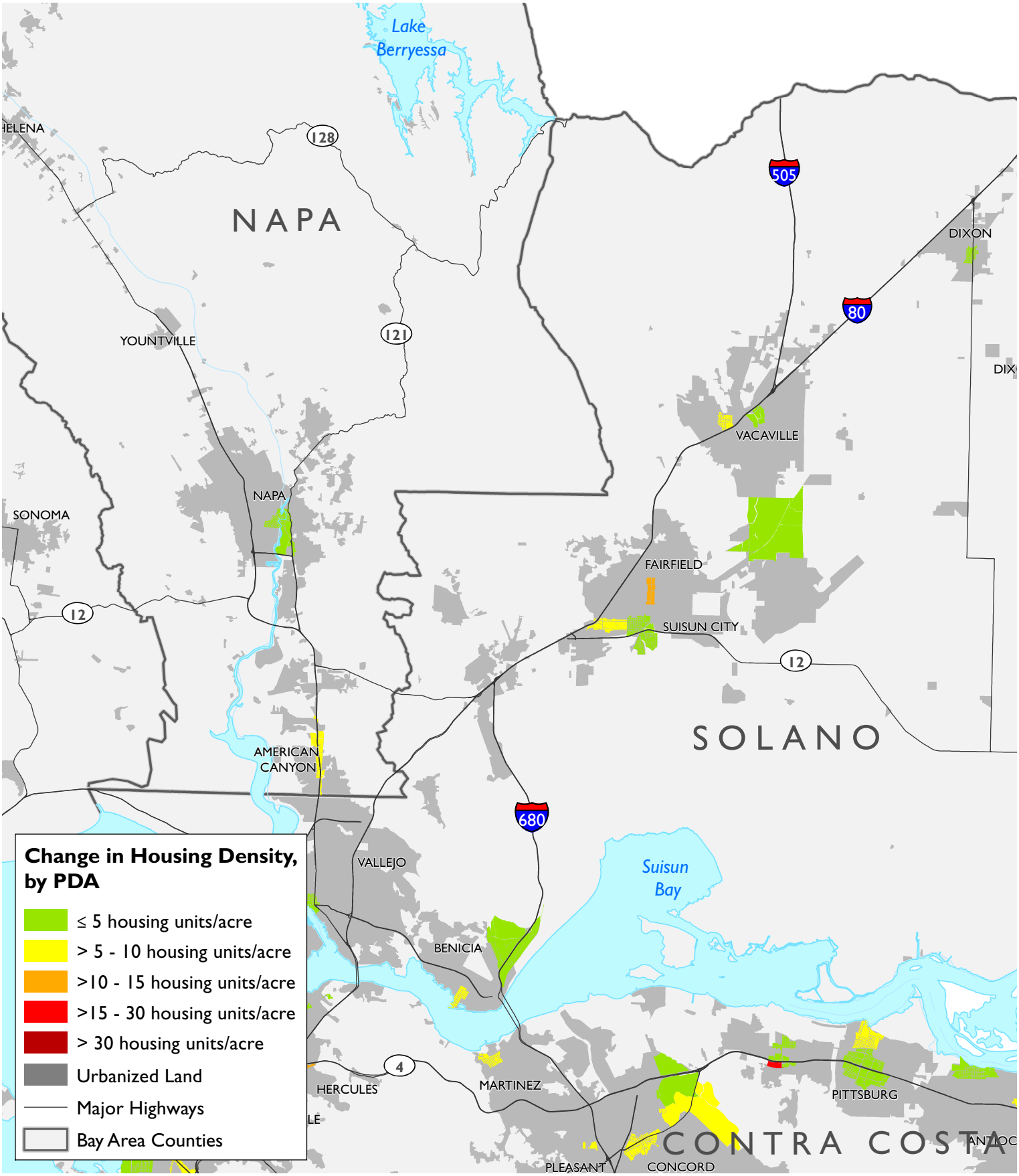
0 2.25 4.5 9 Miles

1 in = 8 miles

This page intentionally left blank.

Figure 1.2-16

Change in PDA Housing Density, 2010-2040, Solano & Napa



Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

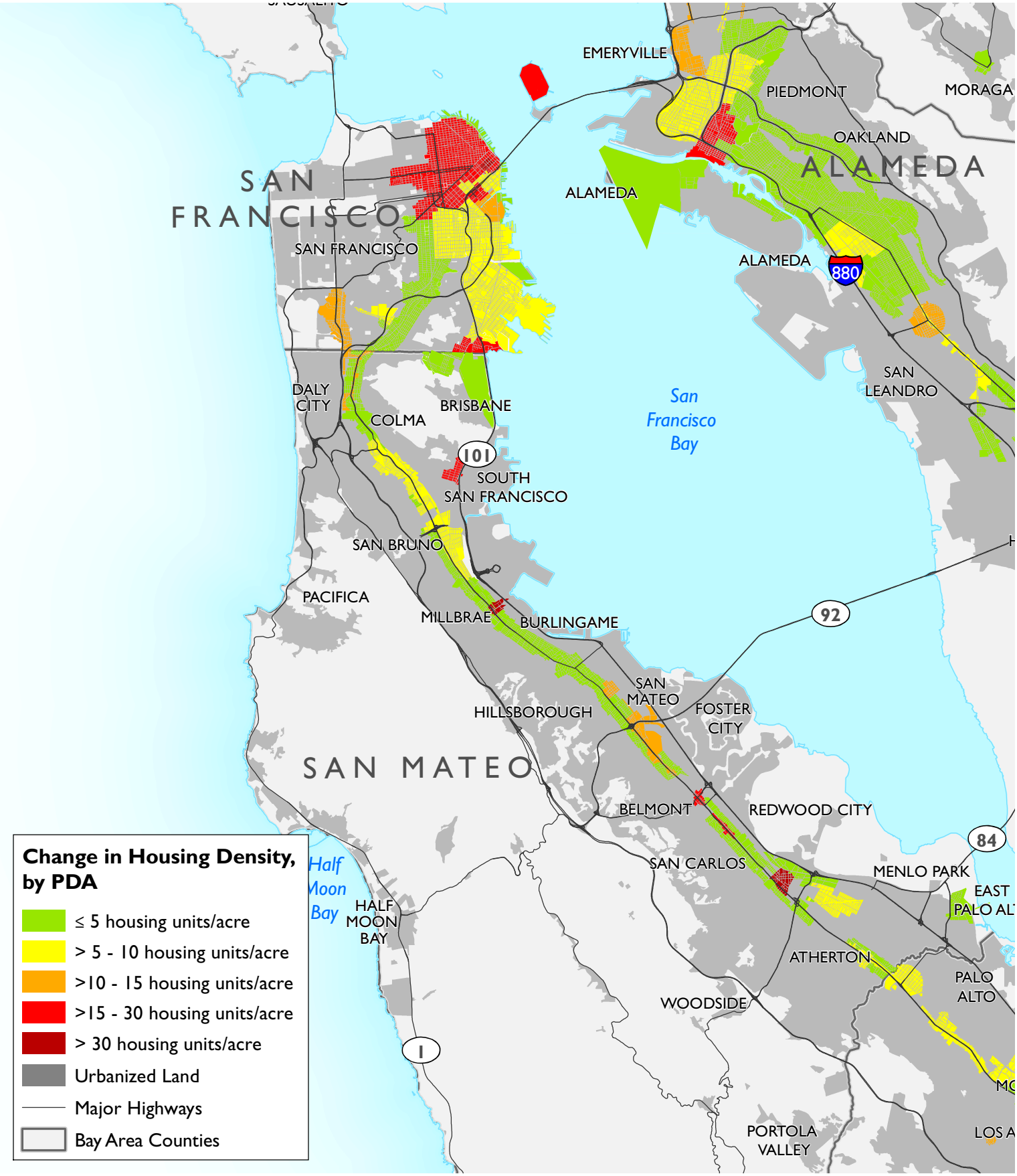
0 1.25 2.5 5 Miles

1 in = 5 miles

This page intentionally left blank.

Figure 1.2-17

Change in PDA Housing Density, 2010-2040, San Francisco & San Mateo



Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

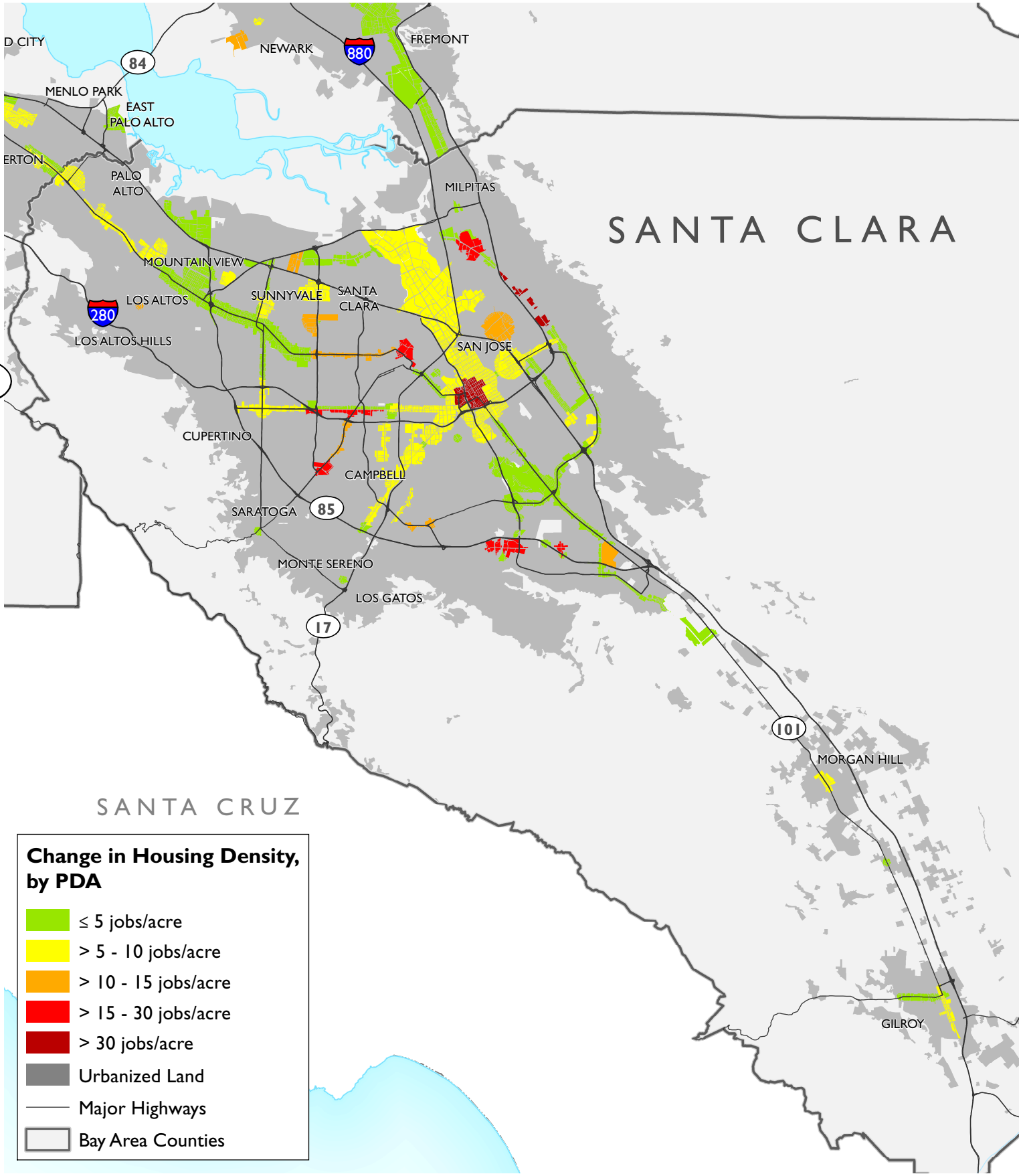
0 1 2 4 Miles

1 in = 4 miles

This page intentionally left blank.

Figure 1.2-18

Change in PDA Housing Density, 2010-2040, Santa Clara County



Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

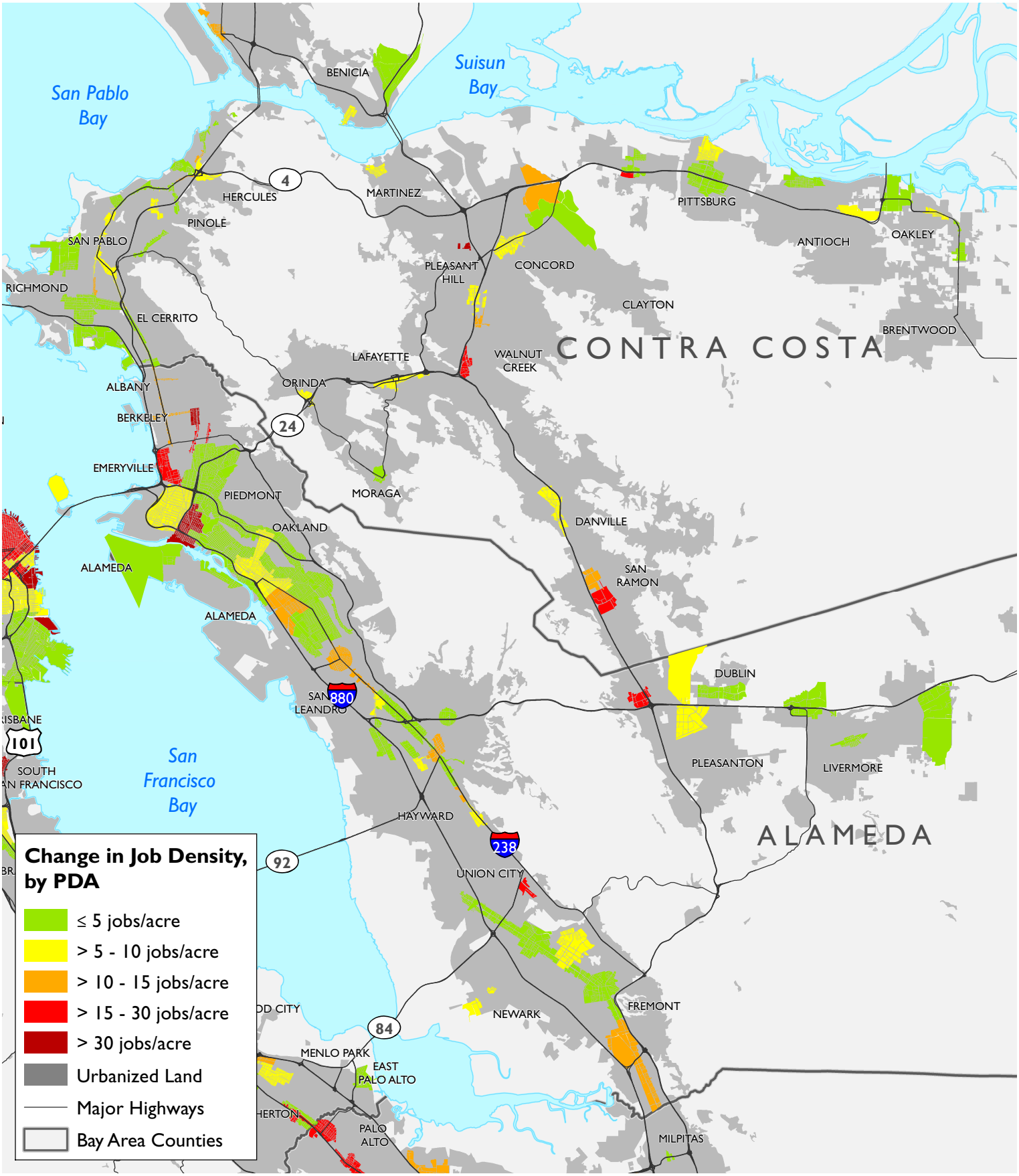
0 1.25 2.5 5 Miles

1 in = 5 miles

This page intentionally left blank.

Figure 1.2-19

Change in PDA Job Density, 2010-2040, Contra Costa & Alameda



Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

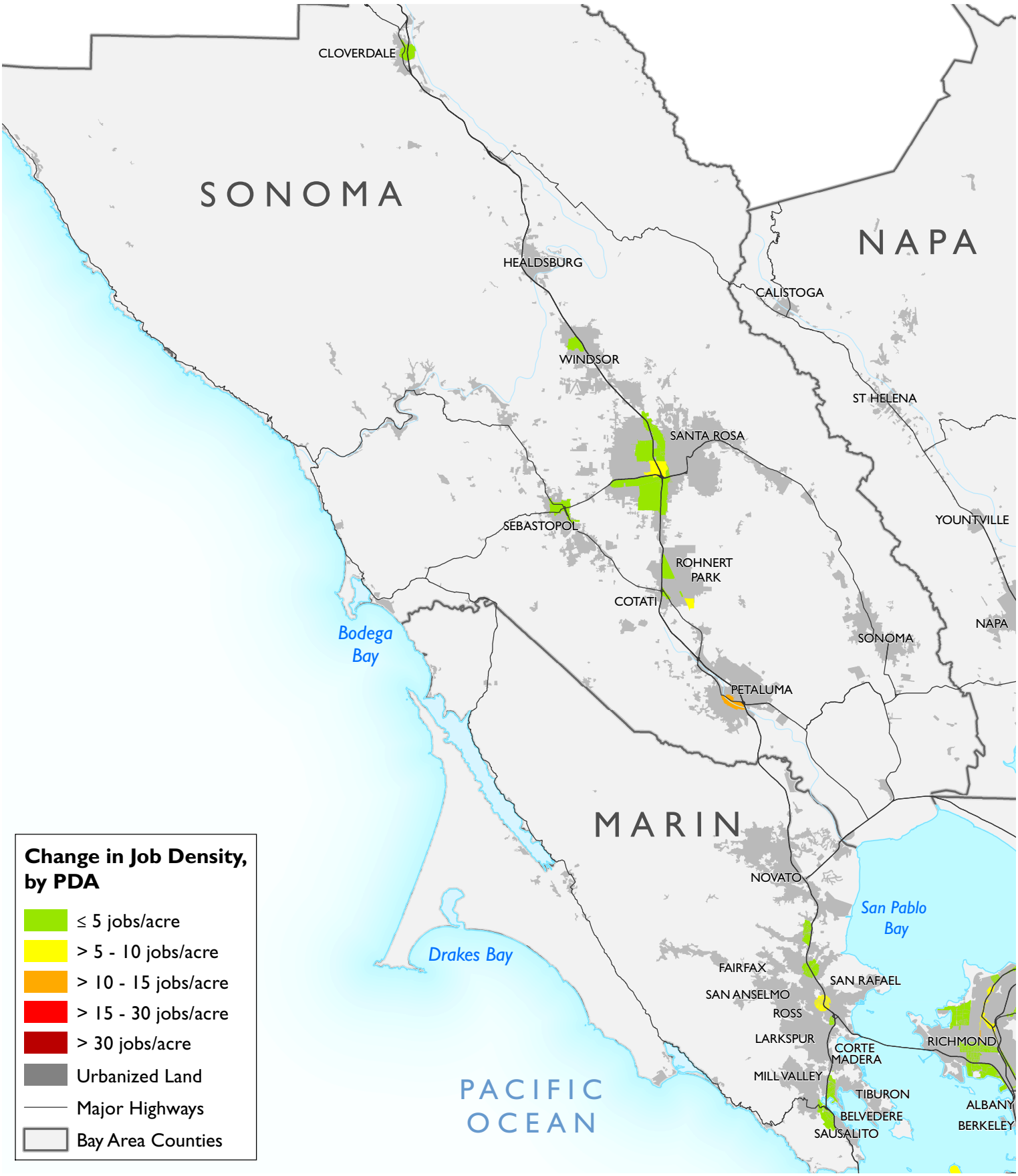
0 1.5 3 6 Miles

1 in = 5 miles

This page intentionally left blank.

Figure 1.2-20

Change in PDA Job Density, 2010-2040, Marin & Sonoma



Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

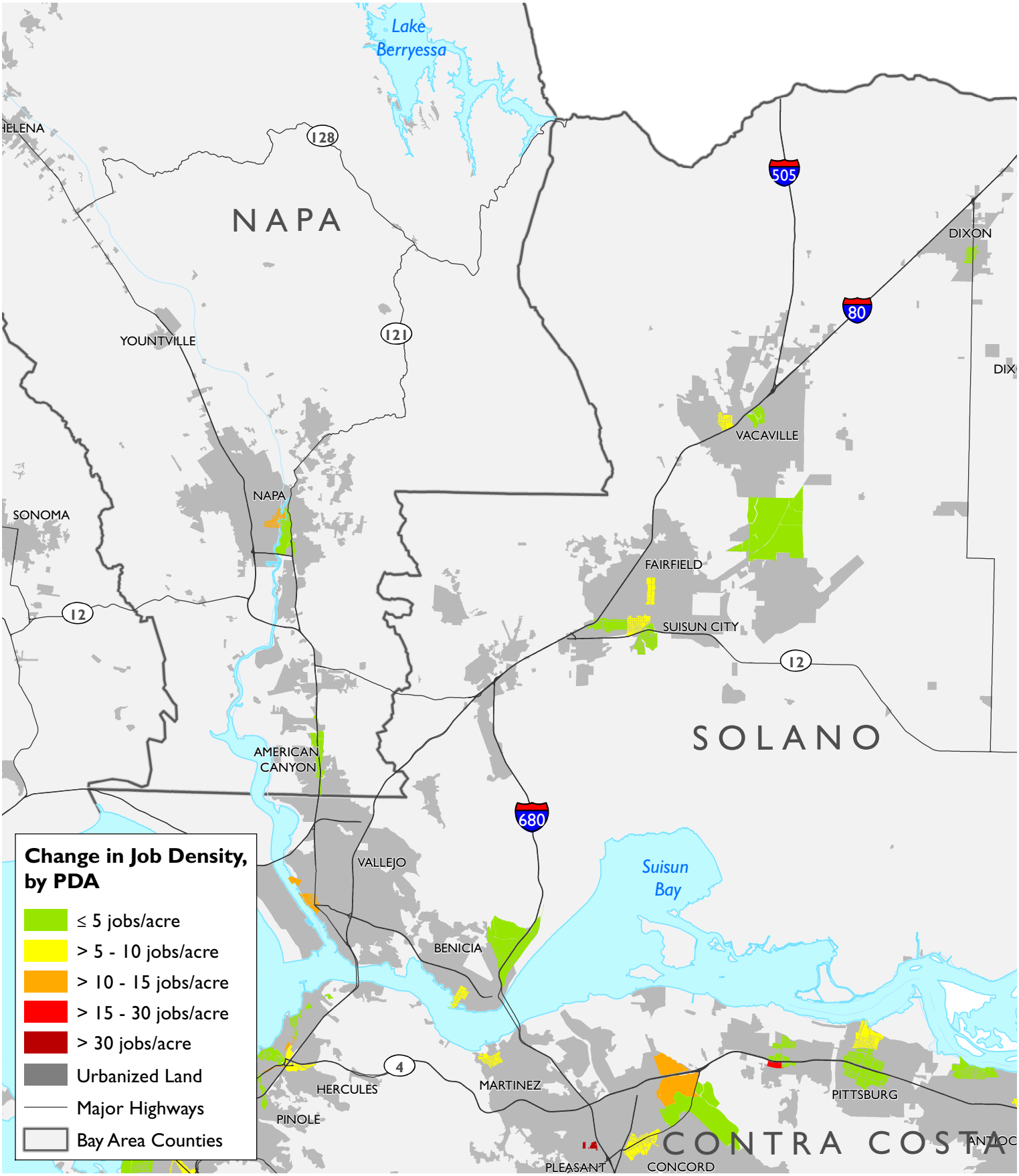
0 2.25 4.5 9 Miles

1 in = 8 miles

This page intentionally left blank.

Figure 1.2-21

Change in PDA Job Density, 2010-2040, Solano & Napa



Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

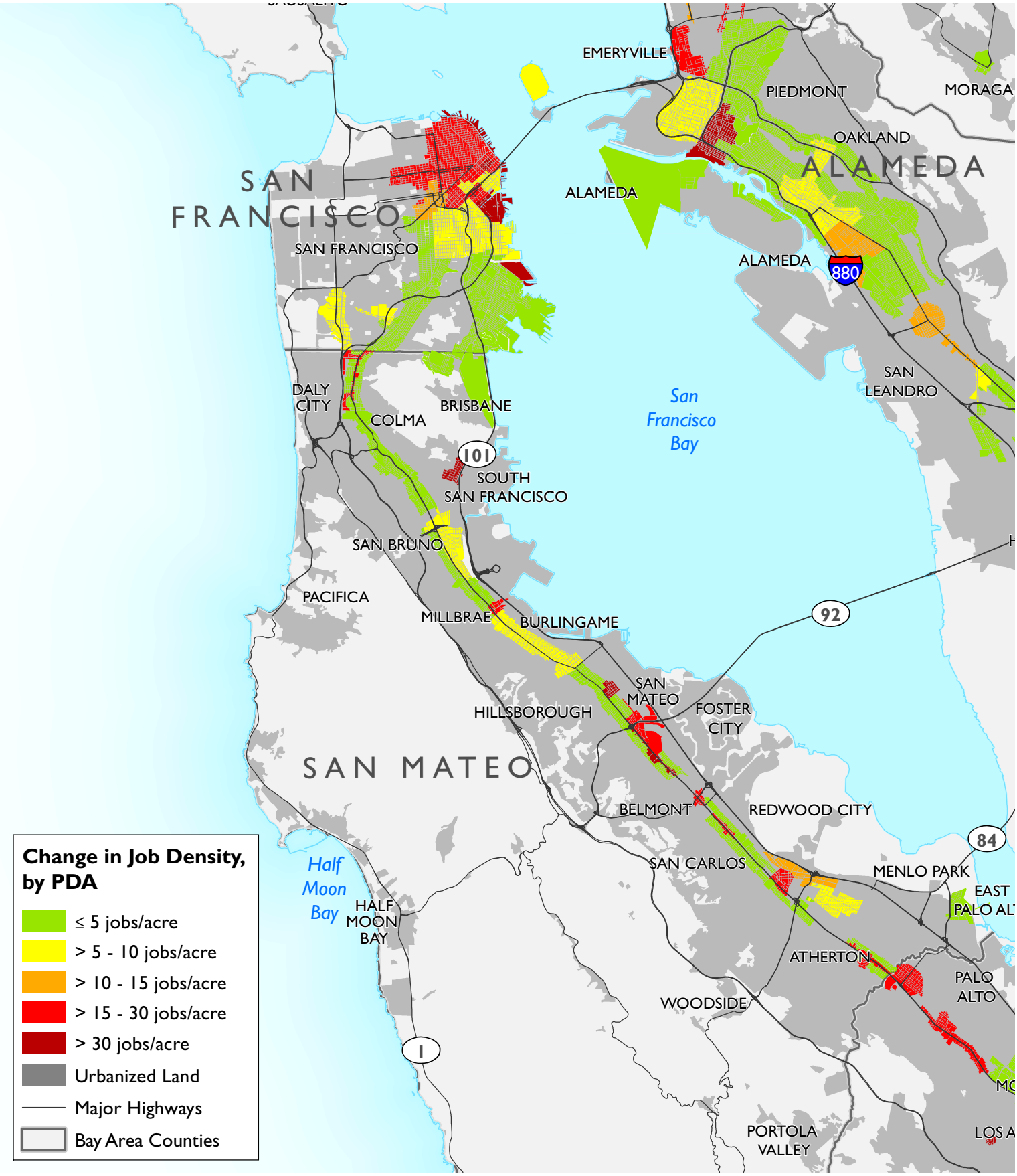
0 1.25 2.5 5 Miles

1 in = 5 miles

This page intentionally left blank.

Figure 1.2-22

Change in PDA Job Density, 2010-2040, San Francisco & San Mateo



Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

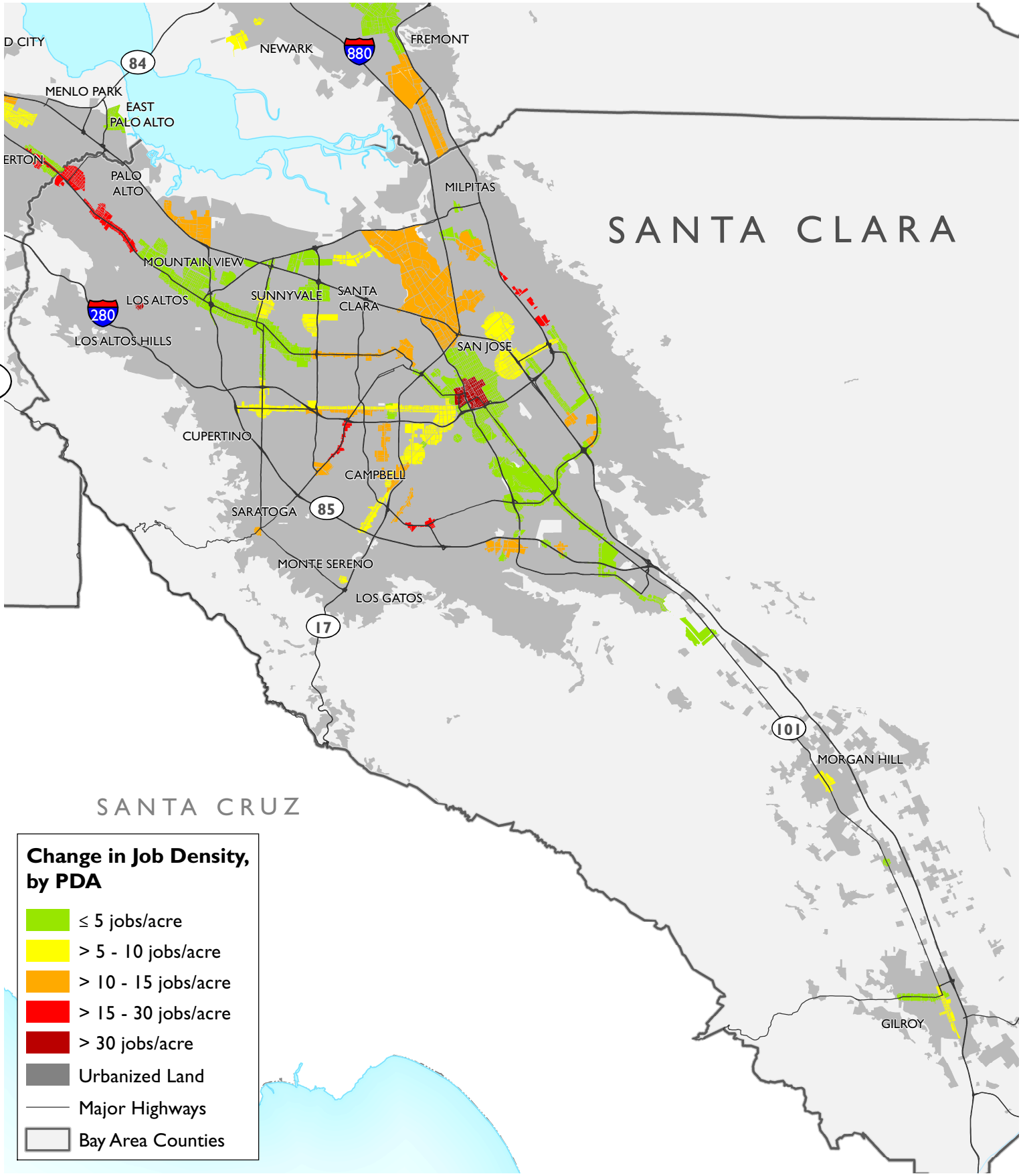
0 1 2 4 Miles

1 in = 4 miles

This page intentionally left blank.

Figure 1.2-23

Change in PDA Job Density, 2010-2040, Santa Clara County



Data Source: Metropolitan Transportation Commission, 2013; Farmland Mapping & Monitoring Program (FMMP), Department of Conservation, State of California, 2008-2010; Cal-Atlas Geospatial Clearinghouse, 2012; Tom Tom North America, 2011; Dyett & Bhatia, 2012.

0 1.25 2.5 5 Miles

1 in = 5 miles

This page intentionally left blank.

2.0 Introduction and Study Approach

Introduction

Part Two of the EIR contains the settings and analyses of environmental impacts of the proposed Plan, organized by issue area. Within each issue area, the environmental setting (both physical and regulatory) is established, significance criteria are presented, analysis methodology is described, and impact analysis is conducted and summarized. For each potentially significant impact, mitigation measures are identified. Impacts of project alternatives are presented and compared in Chapter 3.1.

General Methodology and Assumptions

In order to assess the effects of the proposed Plan, it is necessary to make assumptions about future environmental conditions at the time it is fully implemented. The horizon year of the proposed Plan is 2040.

Key assumptions in the impact analysis include the following:

- The base year for existing conditions for the analysis is 2010. For comparisons where 2010 data are not available, the closest available year is used. An exception to this appears in *Chapter 2.5: Climate Change and Greenhouse Gases,* which includes a 2005 baseline to satisfy statutory requirements of Senate Bill 375.
- This analysis does not consider phasing of improvements or interim stages of the proposed Plan between 2010 and 2040, as the purpose of the analysis is to evaluate the Plan as a whole. The one exception to this approach appears in *Chapter 2.5: Climate Change and Greenhouse Gases,* which includes an examination of impacts in 2020 and 2035 as compared to a 2005 baseline to satisfy statutory requirements of Senate Bill 375.
- As a program-level EIR, individual project impacts are not addressed in detail; the focus of this analysis is to address the impacts which, individually or in the aggregate, may be regionally significant.

Types of Impacts

In compliance with CEQA Guidelines, the following general types of environmental impacts are considered:

- **Direct or primary impacts**, which are caused by the proposed Plan and occur at the same time and place as the proposed Plan.
- **Indirect or secondary impacts**, which are caused by the proposed Plan and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary impacts may include growth-inducing impacts and other impacts related to induced changes in the pattern of land use, population density, or growth rate, and related impacts on air and water and other natural systems, including ecosystems. Indirect or secondary impacts may also include cumulative impacts.
- **Short-term impacts**, which are those of a limited duration, such as the impacts that would occur during the construction phase of a project.
- **Long-term impacts**, which are those of greater duration, including those that would endure for the life of the proposed Plan and beyond.
- **Significant unavoidable impacts**, which cannot be mitigated to a level that is less than significant.
- **Irreversible environmental changes**, which may include current or future irretrievable commitments to using non-renewable resources, or growth-inducing impacts that commit future generations to similar irretrievable commitments of resources. Irreversible change can also result from risks of accidents and injury associated with the proposed Plan.
- **Cumulative impacts that include two or more individual impacts which,** when considered together, are considerable or which compound or increase other environmental impacts. The individual impacts may be changes resulting from a single project or a number of separate projects. The cumulative effect from several projects is the change in the environment that results from the incremental effect of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor, but collectively significant, projects taking place over a period of time. The analysis of the proposed Plan is essentially a cumulative analysis throughout the EIR.

As a program-level EIR, individual transportation and development project impacts are not addressed in detail; rather the focus of this EIR is to address the impacts of a program of projects, which, individually or in the aggregate, may be regionally significant. For example, the physical impacts of major regional transportation expansion projects are addressed, while potential impacts on specific wetlands or a specific species habitat by an individual interchange reconstruction project would not be discussed, unless it can be surmised that the effect would be regionally significant. This approach does not relieve local jurisdictions of the responsibility for evaluating project-specific, locally significant impacts. All impacts of individual projects will be evaluated in future environmental review, as relevant, by the appropriate implementing agency as required under CEQA and/or NEPA prior to each project being considered for approval, as applicable.

Impact Significance

For each issue area, criteria of significance are established, based on normally accepted standards for environmental review and State CEQA Guidelines. Impacts are individually numbered within each issue area. For each impact, impacts are identified as being no adverse impact (NI), less than significant (LS), or potentially significant (PS). If potentially significant impacts are identified, mitigation measures to address the impacts are identified. The effectiveness of the recommended mitigation measures is then assessed and the residual impact after mitigation is identified. It is this residual impact that is reported in the *Executive Summary*. The impacts after mitigation are classified as follows:

- **Significant and Unavoidable (SU):** cannot be mitigated to a level that is less than significant;
- **Less than Significant with Mitigation (LS-M):** can be mitigated to a level that is less than significant;
- **Less than Significant (LS):** does not exceed the significance criteria or threshold; or
- **No Adverse Impact (NI):** no environmentally adverse impact is identified.

Mitigation

For some impacts, mitigation measures are commitments by MTC and ABAG. For other impacts, MTC and ABAG do not have regulatory or approval authority over the project. In those cases, MTC and ABAG suggest specific mitigation measures for consideration by project sponsors. Project sponsors shall commit to mitigation measures at the time of certification of their project environmental review document. These commitments obligate project sponsors to implement measures that would minimize or eliminate significant impacts pursuant to CEQA. The project sponsor or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures prior to and during construction of the project. In accordance with "Environmental Guidelines of the Metropolitan Transportation Commission," Resolution 1481 revised July 2008 pursuant to CA Public Resources Code Section 21081.7, MTC shall be provided with status reports of compliance with mitigation measures.

Throughout Part 2, it is noted where projects taking advantage of CEQA Streamlining provisions of SB 375 (Public Resources Code sections 21155.1, 21155.2, and 21159.28) must apply the mitigation measures, as feasible, to address site-specific conditions. MTC/ABAG cannot require local implementing agencies to adopt mitigation measures, and it is ultimately the responsibility of a lead agency to determine and adopt mitigation. Therefore if this EIR finds that it cannot be ensured that a mitigation measure would be implemented in all cases, impacts would remain significant. Where existing regulatory requirements (i.e., for hazards or water resources) or permitting requirements exist (i.e., for biological resources), it is assumed that since these regulations are law and binding on responsible agencies and project sponsors, it is reasonable to determine that they would be implemented, thereby reducing impacts to less than significant where relevant.

This page intentionally left blank.

2.0 Introduction and Study Approach

Introduction

Part Two of the EIR contains the settings and analyses of environmental impacts of the proposed Plan, organized by issue area. Within each issue area, the environmental setting (both physical and regulatory) is established, significance criteria are presented, analysis methodology is described, and impact analysis is conducted and summarized. For each potentially significant impact, mitigation measures are identified. Impacts of project alternatives are presented and compared in Chapter 3.1.

General Methodology and Assumptions

In order to assess the effects of the proposed Plan, it is necessary to make assumptions about future environmental conditions at the time it is fully implemented. The horizon year of the proposed Plan is 2040.

Key assumptions in the impact analysis include the following:

- The base year for existing conditions for the analysis is 2010. For comparisons where 2010 data are not available, the closest available year is used. An exception to this appears in *Chapter 2.5: Climate Change and Greenhouse Gases,* which includes a 2005 baseline to satisfy statutory requirements of Senate Bill 375.
- This analysis does not consider phasing of improvements or interim stages of the proposed Plan between 2010 and 2040, as the purpose of the analysis is to evaluate the Plan as a whole. The one exception to this approach appears in *Chapter 2.5: Climate Change and Greenhouse Gases,* which includes an examination of impacts in 2020 and 2035 as compared to a 2005 baseline to satisfy statutory requirements of Senate Bill 375.
- As a program-level EIR, individual project impacts are not addressed in detail; the focus of this analysis is to address the impacts which, individually or in the aggregate, may be regionally significant.

Types of Impacts

In compliance with CEQA Guidelines, the following general types of environmental impacts are considered:

- **Direct or primary impacts**, which are caused by the proposed Plan and occur at the same time and place as the proposed Plan.
- **Indirect or secondary impacts**, which are caused by the proposed Plan and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary impacts may include growth-inducing impacts and other impacts related to induced changes in the pattern of land use, population density, or growth rate, and related impacts on air and water and other natural systems, including ecosystems. Indirect or secondary impacts may also include cumulative impacts.
- **Short-term impacts**, which are those of a limited duration, such as the impacts that would occur during the construction phase of a project.
- **Long-term impacts**, which are those of greater duration, including those that would endure for the life of the proposed Plan and beyond.
- **Significant unavoidable impacts**, which cannot be mitigated to a level that is less than significant.
- **Irreversible environmental changes**, which may include current or future irretrievable commitments to using non-renewable resources, or growth-inducing impacts that commit future generations to similar irretrievable commitments of resources. Irreversible change can also result from risks of accidents and injury associated with the proposed Plan.
- **Cumulative impacts that include two or more individual impacts which,** when considered together, are considerable or which compound or increase other environmental impacts. The individual impacts may be changes resulting from a single project or a number of separate projects. The cumulative effect from several projects is the change in the environment that results from the incremental effect of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor, but collectively significant, projects taking place over a period of time. The analysis of the proposed Plan is essentially a cumulative analysis throughout the EIR.

As a program-level EIR, individual transportation and development project impacts are not addressed in detail; rather the focus of this EIR is to address the impacts of a program of projects, which, individually or in the aggregate, may be regionally significant. For example, the physical impacts of major regional transportation expansion projects are addressed, while potential impacts on specific wetlands or a specific species habitat by an individual interchange reconstruction project would not be discussed, unless it can be surmised that the effect would be regionally significant. This approach does not relieve local jurisdictions of the responsibility for evaluating project-specific, locally significant impacts. All impacts of individual projects will be evaluated in future environmental review, as relevant, by the appropriate implementing agency as required under CEQA and/or NEPA prior to each project being considered for approval, as applicable.

Impact Significance

For each issue area, criteria of significance are established, based on normally accepted standards for environmental review and State CEQA Guidelines. Impacts are individually numbered within each issue area. For each impact, impacts are identified as being no adverse impact (NI), less than significant (LS), or potentially significant (PS). If potentially significant impacts are identified, mitigation measures to address the impacts are identified. The effectiveness of the recommended mitigation measures is then assessed and the residual impact after mitigation is identified. It is this residual impact that is reported in the *Executive Summary*. The impacts after mitigation are classified as follows:

- **Significant and Unavoidable (SU):** cannot be mitigated to a level that is less than significant;
- **Less than Significant with Mitigation (LS-M):** can be mitigated to a level that is less than significant;
- **Less than Significant (LS):** does not exceed the significance criteria or threshold; or
- **No Adverse Impact (NI):** no environmentally adverse impact is identified.

Mitigation

For some impacts, mitigation measures are commitments by MTC and ABAG. For other impacts, MTC and ABAG do not have regulatory or approval authority over the project. In those cases, MTC and ABAG suggest specific mitigation measures for consideration by project sponsors. Project sponsors shall commit to mitigation measures at the time of certification of their project environmental review document. These commitments obligate project sponsors to implement measures that would minimize or eliminate significant impacts pursuant to CEQA. The project sponsor or local jurisdiction shall be responsible for ensuring adherence to the mitigation measures prior to and during construction of the project. In accordance with "Environmental Guidelines of the Metropolitan Transportation Commission," Resolution 1481 revised July 2008 pursuant to CA Public Resources Code Section 21081.7, MTC shall be provided with status reports of compliance with mitigation measures.

Throughout Part 2, it is noted where projects taking advantage of CEQA Streamlining provisions of SB 375 (Public Resources Code sections 21155.1, 21155.2, and 21159.28) must apply the mitigation measures, as feasible, to address site-specific conditions. MTC/ABAG cannot require local implementing agencies to adopt mitigation measures, and it is ultimately the responsibility of a lead agency to determine and adopt mitigation. Therefore if this EIR finds that it cannot be ensured that a mitigation measure would be implemented in all cases, impacts would remain significant. Where existing regulatory requirements (i.e., for hazards or water resources) or permitting requirements exist (i.e., for biological resources), it is assumed that since these regulations are law and binding on responsible agencies and project sponsors, it is reasonable to determine that they would be implemented, thereby reducing impacts to less than significant where relevant.

This page intentionally left blank.