

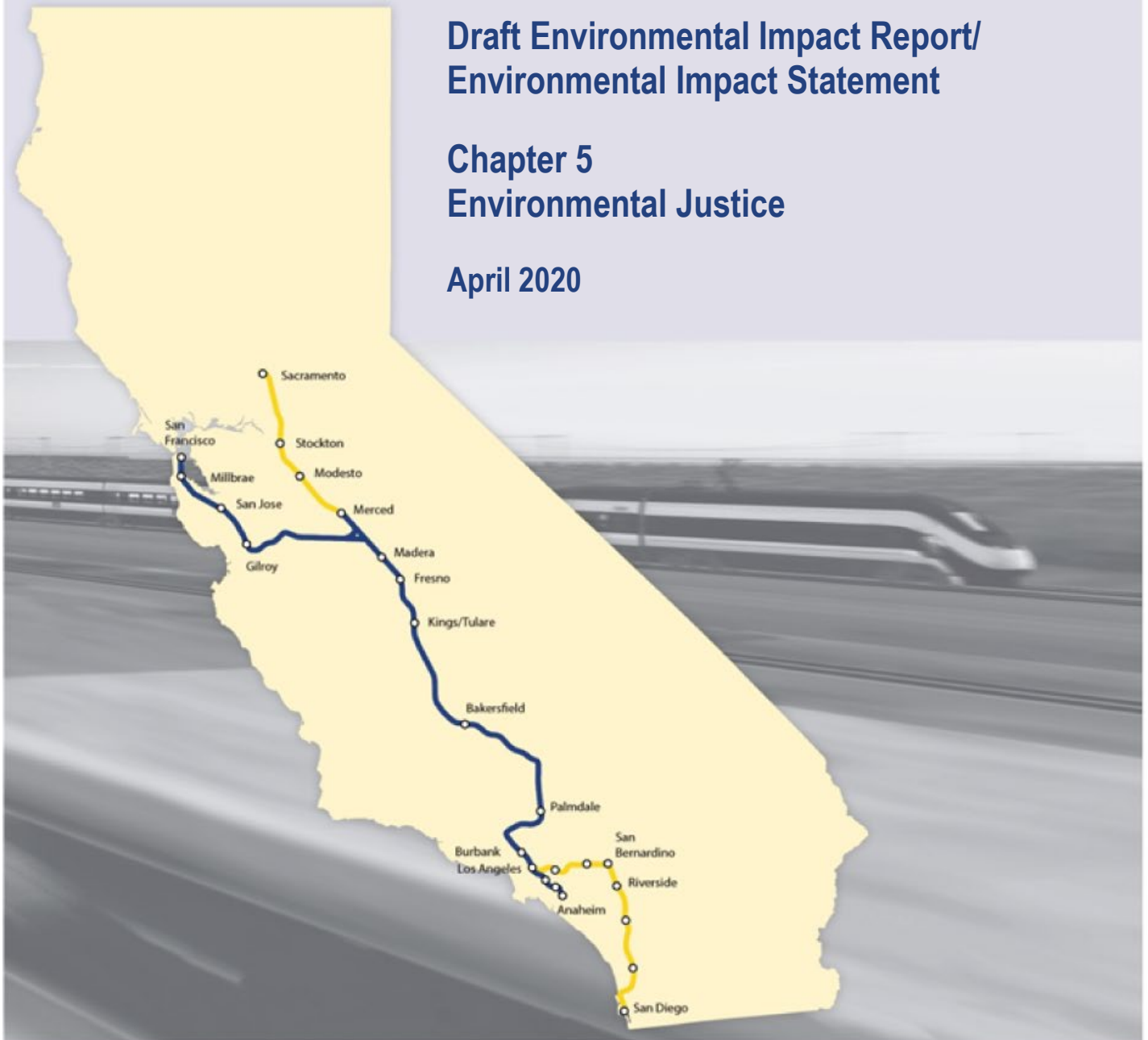
California High-Speed Rail Authority

San Jose to Merced *Project Section*

Draft Environmental Impact Report/
Environmental Impact Statement

Chapter 5
Environmental Justice

April 2020



The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being or have been carried out by the State of California pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated July 23, 2019, and executed by the Federal Railroad Administration and the State of California.

TABLE OF CONTENTS

5	ENVIRONMENTAL JUSTICE	5-1
5.1	Introduction	5-1
5.1.1	Definition of Resources.....	5-2
5.2	Laws, Regulations, and Orders	5-2
5.2.1	Federal	5-2
5.2.2	State.....	5-4
5.2.3	Regional and Local.....	5-5
5.3	Methods for Evaluating Effects.....	5-5
5.3.1	Definition of Reference Community and Resources Study Area.....	5-5
5.3.2	Methods for Effects Analysis.....	5-8
5.4	Affected Environment.....	5-11
5.4.1	Overview	5-11
5.4.2	Low-Income Populations.....	5-16
5.4.3	Minority Populations	5-26
5.4.4	Other Sensitive Populations.....	5-34
5.5	Environmental Justice Engagement and Documentation.....	5-37
5.5.1	Affected Populations and Communities	5-37
5.5.2	Issues and Concerns	5-51
5.6	Assessment of Effects.....	5-54
5.6.1	Overview	5-54
5.6.2	No Project Alternative	5-54
5.6.3	Project Alternatives.....	5-55
5.7	Summary of Disproportionately High and Adverse Effects Prior to Consideration of Measures to Minimize Harm	5-93
5.8	Measures to Minimize Harm.....	5-97
5.9	California High-Speed Rail Authority's Draft Environmental Justice Determination.....	5-97

Tables

Table 5-1	Overview of Reference Community and Resource Study Area Demographic Characteristics (2014 Estimates)	5-12
Table 5-2	Reference Community Demographic Characteristics (2014 Estimates).....	5-12
Table 5-3	Cities/Communities within the Resource Study Area	5-14
Table 5-4	Resource Study Area Demographic Characteristics (2014 Estimates).....	5-14
Table 5-5	Station and Maintenance Facility Resource Study Area Demographic Characteristics (2014 Estimates)	5-16
Table 5-6	Low-Income Populations within the Reference Community (2014 Estimates)	5-17
Table 5-7	Household Incomes and Low-Income Populations within the Resource Study Area (2014 Estimates) ¹	5-17
Table 5-8	Percentage of Households Participating in the Supplemental Nutrition Assistance Program within the Resource Study Area (2014 Estimates).....	5-18

Table 5-9 Minority Group Representation in the Reference Community (2014 Estimates) 5-26

Table 5-10 Minority Group Representation within the Resource Study Area (2014 Estimates)¹ 5-27

Table 5-11 Other Sensitive Populations within the Resource Study Area (2014 Estimates) 5-35

Table 5-12 Outreach to Minority Populations and Low-Income Populations 5-38

Table 5-13 Interviews with Stakeholder Organizations Held in 2016 5-48

Table 5-14 Interviews with Stakeholder Organizations Held in 2018 and 2019 5-49

Table 5-15 Permanent Effects on Visual Quality within the Resource Study Area 5-61

Table 5-16 Displacements by Type 5-66

Table 5-17 Residential and Business Displacements by Subsection and City/Community 5-67

Table 5-18 Temporary Localized Criteria Pollutants Violations by Subsection 5-73

Table 5-19 Adverse Effects on Parks, Recreation, and School District Play Areas 5-78

Table 5-20 Mitigated Operational Noise Impacts with Noise Barriers by Alternative 5-86

Table 5-21 Mitigated Operational Noise Impacts with Quiet Zones and Noise Barriers by Alternative 5-87

Table 5-22 Summary of Disproportionately High and Adverse Effects on Minority Populations and Low-Income Populations 5-96

Figures

Figure 5-1 Environmental Justice Reference Community and Resource Study Area 5-6

Figure 5-2 Population Density within the Environmental Justice Reference Community 5-7

Figure 5-3 Low-Income Populations in the Resource Study Area (Part 1 of 5) 5-20

Figure 5-4 Low-Income Populations in the Resource Study Area (Part 2 of 5) 5-21

Figure 5-5 Low-Income Populations in the Resource Study Area (Part 3 of 5) 5-22

Figure 5-6 Low-Income Populations in the Resource Study Area (Part 4 of 5) 5-23

Figure 5-7 Low-Income Populations in the Resource Study Area (Part 5 of 5) 5-24

Figure 5-8 Minority Population Distribution 5-28

Figure 5-9 Minority Populations in the Resource Study Area (Part 1 of 5) 5-29

Figure 5-10 Minority Populations in the Resource Study Area (Part 2 of 5) 5-30

Figure 5-11 Minority Populations in the Resource Study Area (Part 3 of 5) 5-31

Figure 5-12 Minority Populations in the Resource Study Area (Part 4 of 5) 5-32

Figure 5-13 Minority Populations in the Resource Study Area (Part 5 of 5) 5-33

Figure 5-14 Locations of Environmental Justice Outreach Activities 5-47

Figure 5-15 Adverse Visual Effects 5-65

Figure 5-16 Residential Displacements—Proportional Representation by
Alternative and Community5-68

Figure 5-17 Business Displacements—Proportional Representation by
Alternative and Community5-69

Figure 5-18 Adverse Effects on Parks, Recreation, and School District Play
Areas5-81

Figure 5-19 Mitigated Operational Noise Impacts (Noise Barriers)—Proportional
Representation by Alternative and Community5-88

Figure 5-20 Mitigated Operational Noise Impacts (Noise Barriers and Quiet
Zones)—Proportional Representation by Alternative and Community5-89

ACRONYMS AND ABBREVIATIONS

ACE	Altamont Corridor Express
ACS	American Community Survey
ATC	automatic train control
Authority	California High-Speed Rail Authority
BAAQMD	Bay Area Air Quality Management District
Bay Area	San Francisco Bay Area
BMP	best management practice
CAAQS	California ambient air quality standards
Cal-EPA	California Environmental Protection Agency
CDE	California Department of Education
CEQA	California Environmental Quality Act
CMP	construction management plan
CO	carbon monoxide
CWG	community working group
DPM	diesel particulate matter
EMF	electromagnetic field
EMI	electromagnetic interference
EIR	environmental impact report
EIS	environmental impact statement
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
HSR	high-speed rail
I-	Interstate
IAMF	impact avoidance and minimization features
LOS	level of service
MBARD	Monterey Bay Air Resources District
MOWS	maintenance of way siding
MOWF	maintenance of way facility
MSAT	mobile source air toxics
NAAQS	national ambient air quality standards
NEPA	National Environmental Policy Act of 1969
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
O ₃	ozone
PM	particulate matter

PM _{2.5}	particulate matter smaller than or equal to 2.5 microns in diameter
PM ₁₀	particulate matter smaller than or equal to 10 microns in diameter
PRMMP	Paleontological Resources Monitoring and Mitigation Plan
PTC	positive train control
quad gate	four-quadrant gate
RSA	resource study area
SB	(California) Senate Bill
SCRWA	South County Regional Wastewater Authority
SCVWD	Santa Clara Valley Water District
SIL	significant impact level
SJVAPCD	San Joaquin Valley Air Pollution Control District
SNAP	Supplemental Nutrition Assistance Program
SR	State Route
SWPPP	stormwater pollution prevention plan
TPSS	traction power substation
UPRR	Union Pacific Railroad
Uniform Act	Uniform Relocation Assistance and Real Property Act
US	U.S. Highway
USACE	U.S. Army Corps of Engineers
USEO	U.S. Presidential Executive Order
USDOT	U.S. Department of Transportation
U.S.C.	United States Code
VMT	vehicle miles traveled
VOC	volatile organic compounds
VTA	Santa Clara Valley Transportation Authority

5 ENVIRONMENTAL JUSTICE

5.1 Introduction

This chapter describes the existing conditions related to environmental justice and minority populations and low-income populations within the reference community and the resource study area (RSA). It summarizes the environmental justice engagement with minority populations and low-income populations and key issues and concerns raised by these populations. The chapter analyzes the potential effects of the No Project Alternative and the San Jose to Central Valley Wye Project Extent (project extent or project) alternatives on minority populations and low-income populations and identifies whether the project alternatives would have a disproportionately high and adverse effect on minority populations and low-income populations, and describes potential cumulative effects that could occur in combination with past, present, and reasonably foreseeable future actions. This preliminary environmental justice analysis is being released for comment by the California High-Speed Rail Authority (Authority) pursuant to 23 United States Code (U.S.C.) Section 327 and the terms of the National Environmental Policy Act (NEPA) Assignment Memorandum of Understanding (MOU) (Federal Railroad Administration [FRA] and State of California 2019) assigning the Authority responsibility for complying with NEPA and other federal environmental laws, including U.S. Presidential Executive Order (USEO) 12898 and related U.S. Department of Transportation (USDOT) orders and guidance.

The data used in the analysis are derived from various sources, including the U.S. Census Bureau 2010 Decennial Census and the 2010–2014 U.S. Census Bureau American Community Survey (ACS) 5-Year Estimates. In all cases the most reliable data were used to document the demographic and economic characteristics of the reference community and the RSA.

The *San Jose to Merced Project Section Draft Community Impact Assessment* (Community Impact Assessment) (Authority 2019a) and *San Jose to Merced Project Section Draft Relocation Impact Report* (Authority 2019b) provide additional technical information about communities that supports this environmental justice analysis. The following appendices in Volume 2 of this Draft Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) are also relevant to the environmental justice analysis:

- Appendix 2-D, Applicable Design Standards, provides the list of relevant design standards for the project alternatives.
- Appendix 2-E, Project Impact Avoidance and Minimization Features, provides the list of all impact avoidance and minimization features (IAMF) incorporated into this project.
- Appendix 2-J, Regional and Local Plans and Policies, provides a list by resource of all applicable regional or local plans and policies.
- Appendix 5-A, Environmental Justice Outreach Plan, describes outreach methods to identify and reach minority populations and low-income populations potentially affected by the project alternatives.
- Appendix 5-B, Environmental Justice Engagement Summary Report, documents the Authority's outreach to minority populations and low-income populations, as well as feedback received from these populations.

Environmental justice in terms of transportation projects can be defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, from the early stages of transportation planning and investment decision making through construction, operations, and maintenance. The analysis of environmental justice must address, to the extent practicable and permitted by law, the potential disproportionately high and adverse human health or environmental effects of transportation projects' programs, policies, and activities on minority populations and low-income populations. Environmental justice is an important consideration for transportation projects because of the potential effects on the quality of life of individuals and groups living and working within the RSA.

Issues and concerns that were raised during environmental justice engagement efforts include: (1) property impacts and displacements, (2) impacts on community character and cohesion, (3) project-related noise, (4) traffic congestion and road closures, (5) safety and security, (6) aesthetic effects, (7) availability of affordable housing, (8) project effects on businesses, business employment, and property values, and (9) induced growth and cumulative neighborhood effects.

The resource sections in Chapter 3, Affected Environment, Environmental Consequences, and Mitigation Measures, of this Draft EIR/EIS provide additional information related to assessing the project's effects on resources that could also affect minority populations and low-income populations.

5.1.1 Definition of Resources

The following are definitions for minority populations and low-income populations analyzed in this Draft EIR/EIS:

- **Minorities**—*Minority* includes persons who are American Indian and Alaskan Native, Asian, Black or African American, Hispanic or Latino, and Native Hawaiian and other Pacific Islander. A minority population means any readily identifiable group or groups of minority persons who live in geographic proximity to and, if circumstances warrant, geographically dispersed or transient persons (such as migrant workers, students, or Native Americans) who could be affected by a proposed program, policy, or activity.
- **Low-Income**—*Low-income* means a person whose median household income is at or below the Department of Health and Human Services poverty guidelines, or a locally developed threshold that is at least as inclusive as the poverty guidelines. A low-income population means any readily identifiable group of low-income persons who live in geographic proximity and, if circumstances warrant, geographically transient persons (such as migrant workers, students, or Native Americans) who could be affected by a proposed program, policy, or activity. For the purposes of this analysis, low-income populations in San Benito and Merced Counties are defined using the Department of Health and Human Services poverty guidelines. A locally developed threshold is used for Santa Clara County to account for the substantially higher household incomes in the San Francisco Bay Area (Bay Area) relative to other California counties. Low-income populations within Santa Clara County are defined as persons with household incomes at or below 200 percent of the poverty guidelines.¹

5.2 Laws, Regulations, and Orders

Federal and state laws, regulations, and orders relevant to the analysis of environmental justice in this Draft EIR/EIS are presented in this section. The Authority will implement the California High-Speed Rail (HSR) system, including the project, in compliance with all federal and state regulations. Regional and local plans and policies relevant to environmental justice considered in the preparation of this analysis are provided in the Socioeconomics and Communities section of Appendix 2-J in Volume 2.

5.2.1 Federal

5.2.1.1 Title VI of the Civil Rights Act (42 U.S.C. § 2000(d) et seq.)

Title VI of the Civil Rights Act (42 U.S.C § 2000(d) et seq.) prohibits discrimination on the basis of race, color, national origin, age, sex, or disability in programs and activities receiving federal financial assistance. Under Title VI, each federal agency is required to make sure that no person, on the grounds of race, color, or national origin, is excluded from participation in, denied the benefits of, or subjected to discrimination under any program or activity receiving federal financial assistance.

¹ This is consistent with the approach adopted by the Metropolitan Transportation Commission.

5.2.1.2 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (USEO 12898)

USEO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, outlines the federal government’s environmental justice policy. The USEO requires federal agencies to identify and address to the greatest extent practicable and permitted by law the disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

5.2.1.3 Presidential Memorandum Accompanying USEO 12898

The Presidential Memorandum accompanying USEO 12898 emphasizes the importance of existing laws, such as Title VI of the Civil Rights Act of 1964 and NEPA, that can assist with implementation of the principles of the order. The memorandum provides that, in accordance with Title VI, "each Federal agency shall ensure that all programs or activities receiving Federal assistance that affect human health or the environment do not directly, or through contractual or other arrangements, use criteria, methods, or practices that discriminate on the basis of race, color, or national origin." It calls for specific actions to be directed in NEPA-related activities. They include:

- Analyzing environmental effects, including human health, economic, and social effects on minority populations and low-income populations when such analysis is required by NEPA.
- Ensuring that mitigation measures outlined or analyzed in environmental assessments, environmental impact statements, and Records of Decision, whenever feasible, address disproportionately high and adverse environmental effects of proposed actions on minority populations and low-income populations.
- Providing opportunities for community input in the NEPA process, including identifying potential effects and mitigation measures in consultation with affected communities and improving accessibility to public meetings, official documents, and notices to affected communities.

5.2.1.4 Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (USDOT Order 5610.2(a))

To implement USEO 12898, USDOT relies on USDOT Order 5610.2(a), which applies to actions undertaken by USDOT operating administrations, including the FRA. The USDOT Order affirms the importance of considering environmental justice principles as part of early planning activities in order to avoid disproportionately high and adverse effects. The Order states that USDOT will not carry out any programs, policies, or activities that will have a disproportionately high and adverse effects on minority populations or low-income populations unless “further mitigation measures or alternatives that would avoid or reduce the disproportionately high and adverse effect are not practicable.”

5.2.1.5 Improving Access to Services for Persons with Limited English Proficiency (USEO 13166)

USEO 13166 requires each federal agency to make sure that recipients of federal financial assistance provide meaningful access to their programs and activities by limited English proficiency applicants and beneficiaries. Meaningful access can include availability of vital documents, printed and internet-based information in one or more languages, depending on the location of the project, and translation services during public meetings.

5.2.1.6 Uniform Relocation Assistance and Real Property Acquisition Policies Act (42 U.S.C. § 61)

The Uniform Relocation Assistance and Real Property Act (Uniform Act), passed by Congress in 1970 (42 U.S.C. § 61), stipulates that persons displaced from homes, businesses, and farms as a result of a federal action or by an undertaking involving federal funds must be treated fairly, consistently, and equitably. This protects people so that they will not suffer disproportionate

injuries as a result of projects designed for the benefit of the public as a whole. The objectives of the Uniform Act are to:

- Provide uniform, fair, and equitable treatment of persons whose real property is acquired or who are displaced in connection with federally funded projects.
- Make certain relocation assistance is provided to displaced persons to lessen the emotional and financial effects of displacement.
- Make certain that no individual or family is displaced unless decent, safe, and sanitary housing is available within the displaced person's financial means.
- Help improve the housing conditions of displaced persons living in substandard housing.
- Encourage and expedite acquisition by agreement and without coercion.

5.2.2 State

An environmental justice analysis is required by federal law but is not explicitly required by the State of California. The California Environmental Quality Act (CEQA) focuses on whether a project would have a significant impact on the physical environment and whether the environmental impacts of a project would cause substantial adverse impacts on human beings. Although specific provisions of CEQA require consideration of how the environmental and public health burdens of a project would affect certain communities (e.g., through consideration of the environmental setting and the assessment of cumulative impacts of a project), CEQA does not directly address environmental justice or the fair treatment of individuals and communities, and, as a result, CEQA determinations are not included in this chapter.

5.2.2.1 California Government Code Section 11135(a), 11136

Section 11135(a) of the California Government Code prohibits discrimination or the denial of full and equal access to benefits of any program or activity operated or funded by the state or a state agency on the basis of race, national origin, ethnic group identification, religion, age, sexual orientation, color, or disability. This provision requires public agencies to consider fairness in the distribution of environmental benefits and burdens.

5.2.2.2 California Government Code Section 65040.12(e)

Section 65040.12(e) defines environmental justice as “the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.” It does not, however, require an analysis of impacts on these populations as part of the CEQA process.

5.2.2.3 California Global Warming Solutions Act of 2006: Greenhouse Gas Reduction Fund (SB 535) (De León)

The California Global Warming Solutions Act of 2006: Greenhouse Gas Reduction Fund requires the California Environmental Protection Agency (Cal-EPA) to identify disadvantaged communities for investment opportunities, as specified. The bill requires the California Department of Finance, when developing a specified 3-year investment plan, to allocate 25 percent of the available moneys in the Greenhouse Gas Reduction Fund to projects that provide benefits to disadvantaged communities, as specified, and to allocate a minimum of 10 percent of the available moneys in the Greenhouse Gas Reduction Fund to projects located within disadvantaged communities. The bill requires the California Department of Finance, when developing funding guidelines, to include guidelines for how administering agencies should maximize benefits for disadvantaged communities. Senate Bill 535 also requires that the administering agencies report to the California Department of Finance, which in turn, provides a description of how these agencies have fulfilled specified requirements relating to projects providing benefits to, or located in, disadvantaged communities to the Legislature in a specified report.

5.2.3 Regional and Local

The city and county general plans presented in the Socioeconomic and Communities section of Appendix 2-J in Volume 2 of this Draft EIR/EIS include goals and policies focused on providing fair and equitable housing and public facilities regardless of age, disability, race, culture, or income; preserving community character and minimizing incompatible land use conflicts; encouraging pedestrian and bicycle transportation in community design and improving mobility for urban and rural populations; and protecting agricultural lands and the associated agricultural economy. These plans and policies are applicable to the analysis of environmental justice. Consistency of the project alternatives with these and other policies that affect all communities within the local plan areas are addressed in Section 3.12.3, Consistency with Plans and Laws.

5.3 Methods for Evaluating Effects

The evaluation of effects on minority populations and low-income populations is a federal requirement of USEO 12898. The following sections summarize the RSA and the methods used to analyze effects on minority populations and low-income populations.

5.3.1 Definition of Reference Community and Resources Study Area

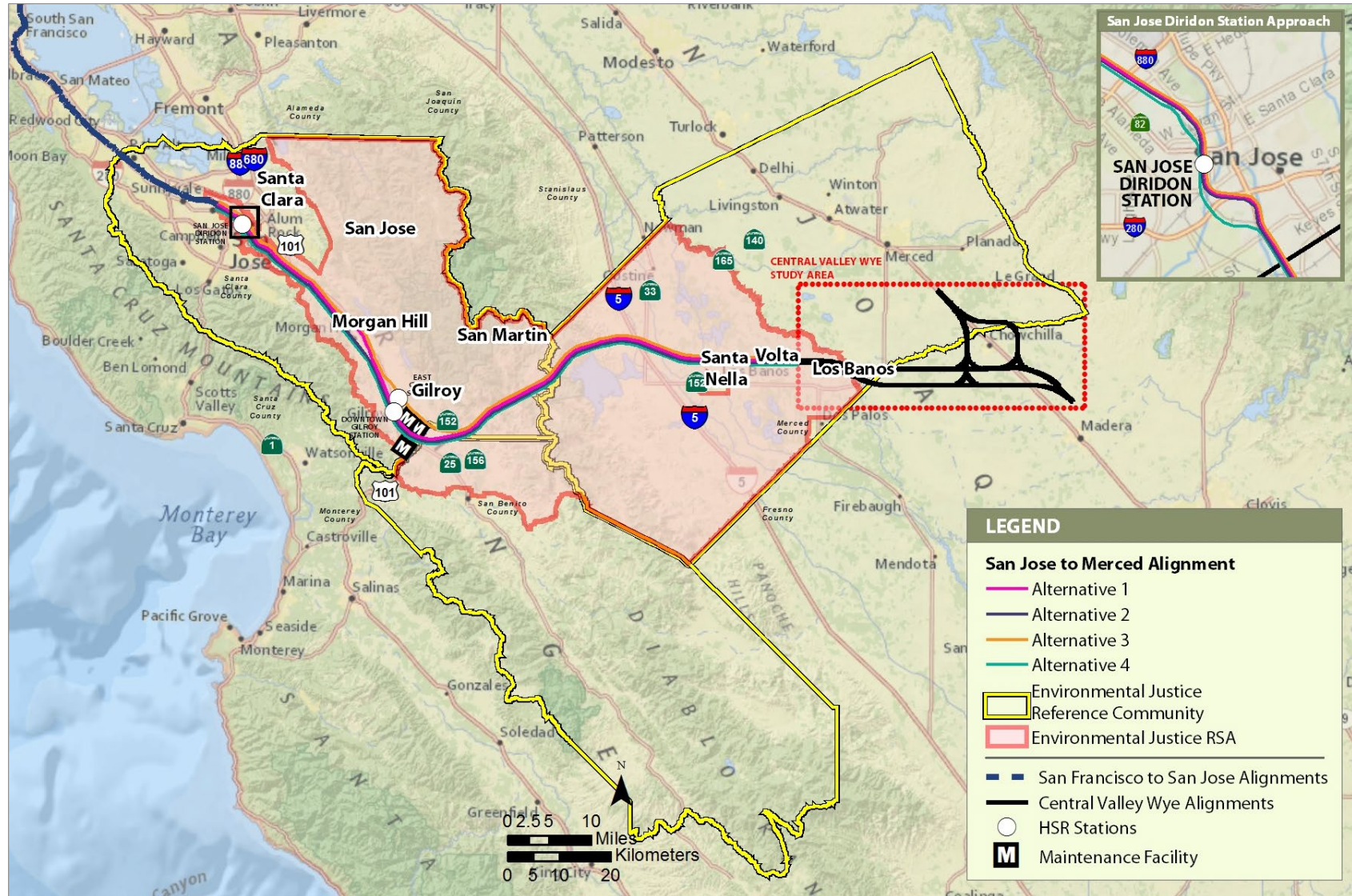
The reference community is the area comprising the general population that could be affected by the project. The RSA encompasses the area where introduction of an HSR system is most likely to result in substantial changes or adverse effects on minority populations and low-income populations.

The reference community for this environmental justice analysis is the three-county region of Santa Clara, San Benito, and Merced Counties (Figure 5-1). This area represents the general population that could be affected adversely or beneficially by the project alternatives. Information for these three counties is presented throughout this analysis to provide context and allow for comparison and contrast among communities within the RSA and the surrounding areas.

The RSA for direct and indirect effects on minority populations and low-income populations is defined as the census tracts partially or fully within the project alternatives' footprints and a 0.5-mile buffer zone from the project footprints (Figure 5-1). This includes the project footprint for each of the project alternatives that might be directly affected and adjoining areas that might be indirectly affected.

Potentially affected communities within the RSA include portions of Santa Clara, San Jose, Morgan Hill, San Martin, Gilroy, Santa Nella, Volta, and Los Banos. The population is largely concentrated in the northern portion of the RSA within the cities of Santa Clara County, whereas the southern and eastern portions of the RSA consist of rural agricultural or open-space lands in Santa Clara, San Benito, and Merced Counties with low population densities (Figure 5-2). Because the RSA is established based on census tracts—the size of which can vary substantially based on the population density²—some census tracts within the RSA are large and extend for miles beyond the project alternatives' footprints. Minority populations and low-income populations within the environmental justice RSA but farther than 0.5 mile from the project footprints would be unlikely to experience adverse environmental or community effects. Consequently, the environmental justice RSA includes a larger area and greater population than would likely be affected by the project alternatives.

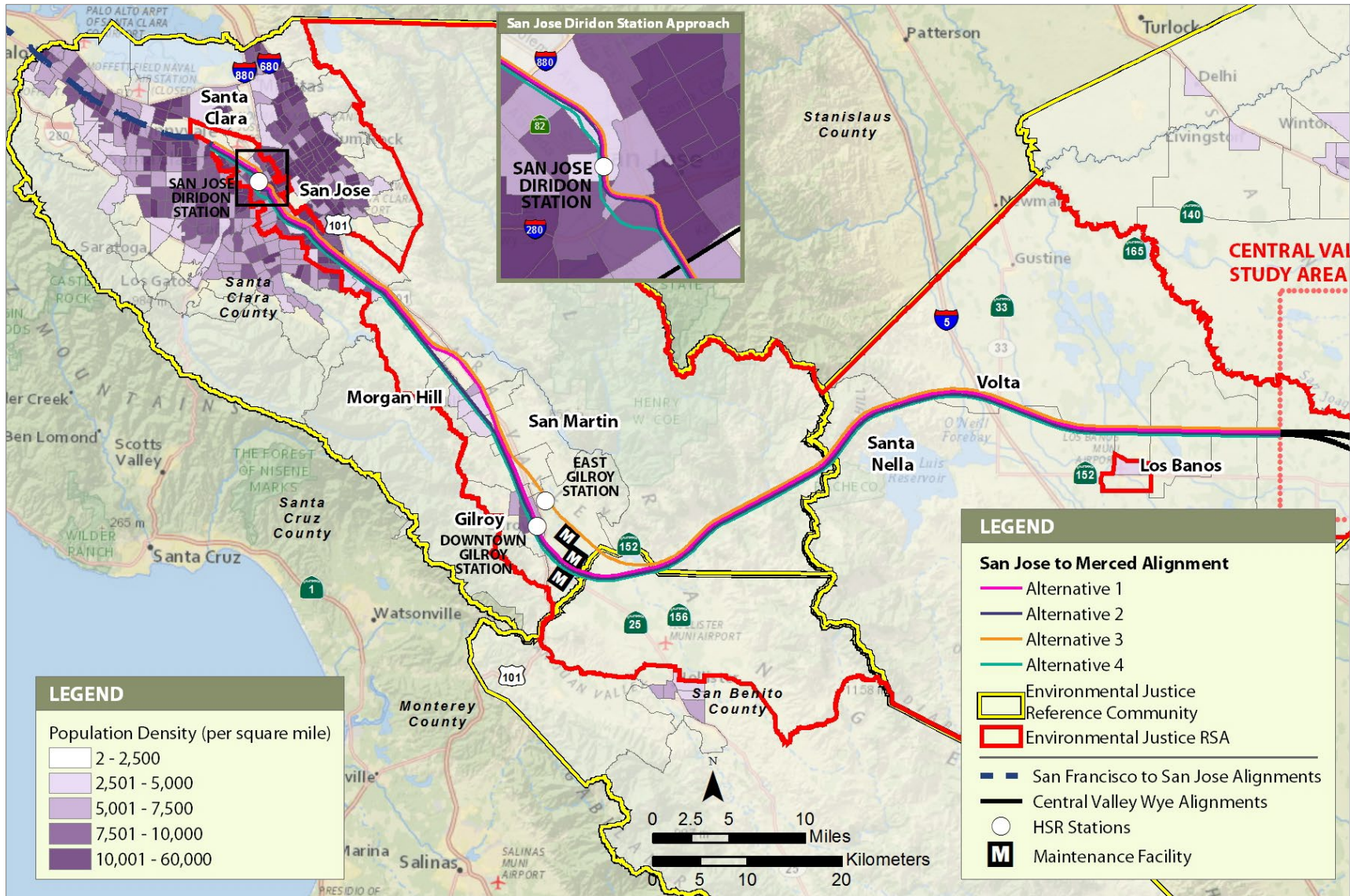
² According to the U.S. Census Bureau, the optimum size for a census tract is approximately 4,000 people. Therefore, the spatial size of the census tract varies based on population density. Census tracts are smaller in dense urban areas and larger in areas with low population densities (U.S. Census Bureau 2012).



Sources: U.S. Census Bureau 2016a, 2016b

MARCH 2019

Figure 5-1 Environmental Justice Reference Community and Resource Study Area



Sources: U.S. Census Bureau 2016a, 2016b

MARCH 2019

Figure 5-2 Population Density within the Environmental Justice Reference Community

The cumulative RSA for environmental justice is defined as the area encompassing portions of Santa Clara, San Jose, Morgan Hill, San Martin, Gilroy, Santa Nella, Volta, and Los Banos, as well as the unincorporated areas of Santa Clara, San Benito, and Merced Counties. The cumulative RSA for environmental justice is the same as the RSAs for direct and indirect effects on minority populations and low-income populations, defined as the census tracts partially or fully within the project alternatives' footprints and a 0.5-mile buffer zone from the project footprints. It captures adverse effects associated with construction and operations of the project alternatives as well as regional effects on minority populations and low-income populations associated with anticipated planned development.

5.3.2 Methods for Effects Analysis

This section describes the sources and methods the Authority used to analyze potential effects of implementing the project alternatives on minority populations and low-income populations. Refer to the Community Impact Assessment (Authority 2019a) for more information regarding the methods and data sources used in this analysis. Laws, regulations, and orders (Section 5.2, Laws, Regulations, and Orders) pertaining to environmental justice were also considered in the evaluation of effects on minority populations and low-income populations.

5.3.2.1 Identification of Minority Populations, Low-Income Populations, and Other Sensitive Populations

Analysts obtained census tract low-income data and minority data from the 2010–2014 ACS 5-Year Estimates for the reference community and the environmental justice RSA.³ Minority populations and low-income populations are defined in Section 5.1, Introduction.

Minority populations and low-income data were mapped using geographic information systems to determine the locations and concentrations of minority populations and low-income populations. Analysts identified census tracts where the percent minority or low-income exceeds that of the reference community. To confirm the accuracy of this data for use in this environmental justice analysis, analysts performed additional quantitative validation methods, including the examination of other proxy data sources that would indicate the current locations of minority populations and low-income populations. The low-income populations in the RSA were validated by ACS data on participation in social service programs, such as the percentage of households receiving coupons through the Supplemental Nutrition Assistance Program (SNAP).

Analysts also identified the presence of sensitive populations, such as elderly, disabled, and linguistically isolated populations within the reference community and RSA. Elderly populations represent individuals who are over the age of 65. Disabled populations include those individuals who have difficulties with hearing, vision, cognition, mobility, self-care, or independent living. Linguistically isolated populations are readily identifiable groups of persons over 14 years of age who do not speak English very well or at all. Data on these populations was obtained from 2010–2014 ACS 5-Year Estimates.

The identification of sensitive populations informed the outreach team of areas needing special outreach consideration (e.g., populations requiring interpreters or different types of media). The Authority used this information to tailor outreach activities for more effective public participation and distribution of information. The identification of minority populations and low-income populations was used to evaluate construction and operations effects on minority populations and low-income populations for the environmental justice analysis.

³ The 2010–2014 ACS 5-Year Estimates (released in January 2016) were the most recently available data at the time of the analysis.

5.3.2.2 Methods for Identifying Adverse Effects on Minority Populations and Low-Income Populations

USEO 12898 requires federal agencies to address the potential for their programs, policies, and activities to have a disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. Analysts reviewed the resource sections in Chapter 3 and identified impacts on environmental or community resources with the potential to affect minority populations and low-income populations. USDOT Order 5610(a) defines *adverse effects* as meaning the totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects, which may include, but are not limited to:

- Bodily impairment, infirmity, illness, or death
- Air, noise, and water pollution and soil contamination
- Destruction or disruption of built or natural resources
- Destruction or diminution of aesthetic values
- Destruction or disruption of community cohesion or a community’s economic vitality
- Destruction or disruption of the availability of public and private facilities and services
- Vibration
- Adverse employment effects
- Displacement of persons, businesses, farms, or nonprofit organizations
- Increased traffic congestion, isolation, exclusion, or separation of minority or low-income individuals within a given community from a broader community
- The denial of, reduction in, or significant delay in the receipt of benefits of programs, policies, or activities

This assessment was accomplished by reviewing the construction and operations effects identified in each resource section, including details regarding the RSA, the magnitude of the effect, whether effects are adverse or beneficial, the duration of effects (temporary or permanent), and the geographic location of the effects under each project alternative relative to the identified minority populations and low-income populations within the environmental justice RSA. Where the project would result in no effect on minority populations and low-income populations or would result in an effect that does not warrant mitigation, the effect was considered to be not adverse and no further analysis was conducted. Analysts evaluated adverse effects in the environmental justice analysis based on the following considerations:

- Effects that were minimized through mitigation were evaluated to determine whether the mitigation measures (1) were equally applied to minority populations and low-income populations and non-minority populations and non-low-income populations and (2) if they addressed the concerns of the minority populations and low-income populations. If the mitigation measures were not successful in addressing (1) and (2) above, effects were considered adverse.
- Effects that were not substantially reduced through mitigation were considered adverse

5.3.2.3 Methods for Determining Disproportionately High and Adverse Effects

Once adverse effects on minority populations and low-income populations were identified, analysts evaluated whether effects that would adversely affect minority populations and low-income populations would have disproportionately high and adverse effects on these populations.

A disproportionately high and adverse effect on minority populations and low-income populations is generally defined as an effect that:

- Would be predominantly borne by minority populations or low-income populations, or
- Would be suffered by minority populations and low-income populations and would be appreciably more severe or greater in magnitude than the adverse effect suffered by the non-low-income and non-minority populations in the affected area and the reference community.

Determinations of disproportionately high and adverse effects also consider mitigation and enhancement measures that would be implemented, as well as all offsetting benefits to the minority populations and low-income populations. Whether adverse effects would be disproportionately high and adverse includes the consideration of the totality of the circumstances, including:

- The location of an adverse effect in relation to minority populations and low-income populations
- The percentage of the minority populations and low-income populations in the environmental justice RSA as compared to the percentage of the minority populations and low-income populations in the reference community
- The perceptions of the minority populations and low-income populations regarding the severity of the adverse effect and the success of the proposed mitigation measures in reducing the effect
- Whether mitigation measures applied to avoid, minimize, reduce, or compensate for adverse effects would do so equally for both minority populations and low-income populations and non-minority populations and non-low-income populations
- The project benefits that would be received by minority populations and low-income populations
- Any social, religious, or cultural resources and public services such as police, fire, and emergency services particularly important to the minority populations and low-income populations that would be affected

5.3.2.4 Environmental Justice Engagement

USEO 12898 requires that federal agencies employ effective public participation and provide access to information. Consequently, a key component of compliance with USEO 12898 is outreach to potentially affected minority populations and low-income populations. The Authority has conducted and will continue to conduct specific outreach efforts to existing environmental justice outreach programs and established minority organizations throughout the EIR/EIS process. Outreach efforts to date are documented in Appendix 5-B. The environmental justice outreach team has contacted existing environmental justice outreach programs (e.g., Asian Americans for Community Involvement, TransForm) and established community groups (e.g., Gilroy Community & Neighborhood Revitalization Committee, and the Seven Trees, Gardner, Goodyear-Mastic, and Alma neighborhood associations).

Special outreach included translation of open house meeting flyers into Spanish and Vietnamese; placement of meeting notifications in Spanish-, Vietnamese-, and Chinese-language newspapers; provision of meeting handouts in Spanish; and the presence of Spanish-speaking interpreters at public information meetings throughout the project extent and Vietnamese-speaking interpreters at public information meetings in San Jose. The environmental justice outreach team also conferred with local elected officials in each community on needs for interpretation in other languages in addition to Spanish and Vietnamese. Where minority populations or low-income populations could be affected by the project alternatives, outreach activities were conducted to determine the best ways of communicating with the affected populations. The environmental justice outreach team obtained feedback from environmental justice organizations, community leaders, and community members during community events.

The purpose of these outreach efforts was to provide opportunities for meaningful participation and input into the project design, identification of disproportionately high and adverse effects, and development of mitigation. This input informs the following:

- Consideration of adverse effects and mitigation—Affected minority populations and low-income populations were included in discussions of potential adverse effects and benefits to obtain input on the community’s perception of these effects and associated mitigation. The environmental justice outreach team obtained community input on potential design modifications or variations to the project that would avoid or minimize adverse effects.
- Balancing adverse and beneficial effects—The environmental justice outreach team engaged minority populations and low-income populations to provide insight into their perception of adverse and beneficial effects. This input was critical in the determination of disproportionately high and adverse effects, which are the net results after consideration of the totality of the circumstances.
- Identifying disproportionately high adverse effects—The environmental justice outreach team engaged affected minority populations and low-income populations in discussions to help identify whether the project alternatives would result in disproportionately high and adverse effects, identify their priorities and needs, and to obtain insight into the types of mitigation that may reduce the severity of the effect.

A summary of this outreach is provided in Section 5.5, Environmental Justice Engagement.

5.4 Affected Environment

This section provides overall demographic information for the reference community and environmental justice RSA, and a more detailed presentation showing the distribution of minority populations, low-income populations, and other sensitive populations in the reference community and RSA. Although station and maintenance facilities are included in the environmental justice RSA, demographics for the RSA associated with these project components are also summarized separately.

5.4.1 Overview

The reference community consists of Santa Clara, San Benito, and Merced Counties, while the RSA is comprised of a subset of these counties that includes portions of Santa Clara, San Jose, Morgan Hill, San Martin, Gilroy, Santa Nella, Volta, and Los Banos. Table 5-1 provides an overview of the demographic characteristics of the reference community and RSA. The RSA is about 40 percent of the size of the reference community and contains 20 percent of the reference community’s population. A greater percentage of the RSA’s population is low-income, with lower median household incomes and a higher unemployment rate than the reference community (Table 5-1). Both the reference community and the RSA are racially and ethnically diverse. Minority representation and linguistic isolation within the RSA is slightly greater than that of the reference community. The demographics of the reference community and resource study area are discussed in more detail by county and subsection, respectively, in the following sections.

Table 5-1 Overview of Reference Community and Resource Study Area Demographic Characteristics (2014 Estimates)

Characteristic	Reference Community ¹	Resource Study Area ¹
Area (square miles)	4,614	1,850
Total population	2,160,066	415,628
Population density (persons per square mile)	468	225
Total households	708,351	135,432
Percent of population low-income ²	23.3	29.8*
Median household income	\$87,740	\$78,340
Percent of population minority	66.3	66.8*
Percent of population over 65	10.2	9.6
Percent of population with disability status ³	8.7	8.3
Percent linguistic isolated households	11.5	11.4
Percent of population unemployed	9.9	10.7*

Sources: U.S. Census Bureau 2010; U.S. Census Bureau ACS 2010–2014a, 2010–2014b, 2010–2014c, 2010–2014d, 2010–2014e, 2010–2014f, 2010–2014g, 2010–2014h

¹ Reference community and resource study area data were calculated through summation (e.g., area, total population, total households), or a weighted average based on the size, population, or households within each county or subsection (e.g., population density, percent low-income, median household income, percent minority).

² For San Benito and Merced Counties, low-income is defined using the Department of Health and Human Services poverty guidelines. For Santa Clara County, consistent with the Metropolitan Transportation Commission's approach, low-income is defined as persons with household incomes at or below 200 percent of the poverty guidelines.

³ Per U.S. Census Bureau data, this is the percent of population with a disability who are over the age of 5.

Note: Values **bolded with an asterisk (*)** identify demographic characteristics for the resource study area that exceed that of the reference community.

5.4.1.1 Reference Community

Table 5-2 shows demographic information for the reference community, consisting of Santa Clara, San Benito, and Merced Counties; an area of 4,614 square miles (U.S. Census Bureau 2010). By comparison, the table also shows demographic information for each of the three counties. Merced County is the largest county in the reference community, while Santa Clara County is the most populous, with 85 percent of the reference community's population. The population density of Santa Clara County is 10 times greater than that of Merced County and almost 35 times greater than that of San Benito County (U.S. Census Bureau 2010; U.S. Census Bureau ACS 2010–2014a).

Table 5-2 Reference Community Demographic Characteristics (2014 Estimates)

Characteristic	Santa Clara County	San Benito County	Merced County	Reference Community ¹
Area (square miles)	1,290	1,389	1,935	4,614
Total population	1,841,569	56,888	261,609	2,160,066
Population density (persons per square mile)	1,381	40	132	468
Total households	614,714	17,121	76,516	708,351
Percent of population low-income ²	23.3	12.1	25.6	23.3
Median household income	\$93,854	\$67,874	\$43,066	\$87,740

Characteristic	Santa Clara County	San Benito County	Merced County	Reference Community ¹
Percent of population minority	65.9	62.9	69.5	66.3
Percent of population over 65	11.7	10.5	10.0	10.2
Percent of population with disability status ³	7.7	8.8	15.7	8.7
Percent linguistic isolated households	11.3	9.2	13.2	11.5
Percent of population unemployed	8.8	14.0	17.5	9.9

Sources: U.S. Census Bureau 2010; U.S. Census Bureau ACS 2010–2014a, 2010–2014b, 2010–2014c, 2010–2014d, 2010–2014e, 2010–2014f, 2010–2014g, 2010–2014h

¹ Reference community data was calculated through summation (e.g., area, total population, total households), or a weighted average based on the size, population, or households within each county (e.g., population density, percent low-income, median household income, percent minority).

² For San Benito and Merced Counties, low-income is defined using the Department of Health and Human Services poverty guidelines. For Santa Clara County, consistent with the Metropolitan Transportation Commission’s approach, low-income is defined as persons with household incomes at or below 200 percent of the poverty guidelines.

³ Per U.S. Census Bureau data, this is the percent of population with a disability who are over the age of 5.

The reference community comprises a wide range of physical and economic conditions. The percentage of low-income individuals within the reference community is 23.3 percent, and in 2014, median household incomes ranged from a low of \$43,066 in Merced County to a high of \$93,854 in Santa Clara County (U.S. Census Bureau ACS 2010–2014b, 2010–2014c). Santa Clara County, which has the highest median incomes and lowest unemployment rate within the reference community, is home to Silicon Valley technology firms, a highly educated workforce, and substantial venture capital investment in entrepreneurial activities. These activities are largely concentrated in the northern and central areas of the county, as the southern end is more characterized by lower density development—including housing for the Silicon Valley workforce—and agricultural activity. San Benito County has been part of the Silicon Valley commute shed for the past few decades, but the substantial areas of agricultural and open space, as well as limited accessibility from major transportation corridors, has limited the county’s population and economic growth in recent years. Merced County has an agricultural economy, and levels of employment and income have historically lagged behind those in other parts of the state because of the seasonal nature of agricultural employment and slower growth in nonagricultural sectors.

The reference community is racially and ethnically diverse. In 2014, minority individuals made up 66.3 percent of the population, compared to 61 percent for California (U.S. Census Bureau ACS 2010–2014d). The racial and ethnical makeup of the reference community varies by geography—Asians are the largest minority group in Santa Clara County (33 percent), while Hispanics and Latinos are the largest minority group in San Benito and Merced Counties (57 and 56 percent, respectively).

In addition to minority populations and low-income populations, this environmental justice analysis also examines other sensitive populations, such as elderly, disabled, or linguistically isolated populations, who may have special needs. The elderly population (65 years and older) was comparable in the three counties at 10.2 percent in 2014 (Census Bureau 2010–2014a). Approximately 8.7 percent of the reference community population is disabled, with the highest rates of disability in Merced County (15.7 percent) (U.S. Census ACS 2010–2014e). Approximately 11.5 percent of households in the reference community were linguistically isolated (U.S. Census Bureau ACS 2010–2014f). In addition, 9.9 percent of the reference community population was unemployed in 2014, with unemployment rates of 8.8 percent in Santa Clara County, 14.0 percent in San Benito County, and 17.5 percent in Merced County (U.S. Census Bureau ACS 2010–2014g).

5.4.1.2 Resource Study Area

The environmental justice RSA is organized by subsection, and extends through unincorporated Santa Clara, San Benito, and Merced Counties, and portions of Santa Clara, San Jose, Morgan

Hill, San Martin, Gilroy, Santa Nella, Volta, and Los Banos. Table 5-3 shows the cities and communities by subsection. The city of San Jose extends through two subsections.

Table 5-3 Cities/Communities within the Resource Study Area

Subsection	City/Community in the RSA
San Jose Diridon Station Approach	Santa Clara and San Jose
Monterey Corridor	San Jose and Unincorporated Santa Clara County
Morgan Hill and Gilroy	San Jose, Morgan Hill, San Martin, Gilroy, unincorporated Santa Clara and San Benito Counties
Pacheco Pass	Unincorporated Santa Clara and Merced Counties
San Joaquin Valley	Unincorporated Merced County, Santa Nella, Volta, Los Banos

RSA = resource study area

Table 5-4 shows demographic characteristics of the environmental justice RSA based on census data collected between 2010 and 2014. The environmental justice RSA has a total population of 415,628, primarily concentrated in San Jose, Morgan Hill, and Gilroy in the San Jose Diridon Station Approach, Monterey Corridor, and Morgan Hill and Gilroy Subsections (U.S. Census Bureau ACS 2010–2014a).

Table 5-4 Resource Study Area Demographic Characteristics (2014 Estimates)

RSA Characteristics	San Jose Diridon Station Approach	Monterey Corridor	Morgan Hill and Gilroy	Pacheco Pass	San Joaquin Valley	RSA Totals ¹
Area (square miles)	16.9	25.0	887.8	1,406.5	920.6	1,850.3
Total population	104,917	153,836	118,906	12,636	37,969	415,628
Population density (persons per square mile)	6,204*	6,152*	134	9	41	225
Total households	39,671	48,586	36,320	4,189	10,855	135,432
Percent of population low-income ²	35.5*	28.8*	28.2*	25.3*	23.6*	29.8*
Median household income	\$73,609	\$82,944	\$87,640	\$43,887	\$43,906	\$78,340
Percent of population minority	62.9	73.7*	59.0	59.4	73.7*	66.8*
Percent of population over 65 years old	8.7	9.9	10.5*	10.0	8.2	9.6
Percent of population with disability status ³	8.1	8.4	8.2	10.7*	8.9*	8.3
Percent linguistically isolated households	11.8*	13.1*	6.4	20.4*	19.6*	11.4
Percent of population unemployed	9.5	10.2*	10.6*	20.4*	17.3*	10.7*

Sources: U.S. Census Bureau 2010; U.S. Census Bureau ACS 2010–2014a, 2010–2014b, 2010–2014c, 2010–2014d, 2010–2014e, 2010–2014f, 2010–2014g, 2010–2014h

¹ RSA data was calculated through summation (e.g., area, total population, total households), or a weighted average based on the size, population, or households within each subsection (e.g., population density, percent low-income, median household income, percent minority). Census tracts split by a particular subsection were included in the estimate for each subsection.

² For San Benito and Merced Counties, low-income is defined using the Department of Health and Human Services poverty guidelines. For Santa Clara County, consistent with the Metropolitan Transportation Commission's approach, low-income is defined as persons with household incomes at or below 200 percent of the poverty guidelines.

³ Per U.S. Census Bureau data, this is the percent of population with a disability who are over the age of 5.

Note: Values **bolded with an asterisk (*)** identify resource study area demographic characteristics that exceed those of the reference community.

RSA = resource study area

Compared to the reference community, the environmental justice RSA has a higher percentage of low-income individuals (29.8 percent low-income), compared to 23.3 percent of the reference community (U.S. Census Bureau ACS 2010–2014b). Median household incomes within the environmental justice RSA are \$9,400 less than the median household incomes for the reference community (U.S. Census Bureau ACS 2010–2014c). The San Jose Diridon Station Approach Subsection has the highest percentage of low-income individuals (35.5 percent low-income), followed by the Monterey Corridor Subsection (28.8 percent low-income) and the Morgan Hill and Gilroy Subsection (28.2 percent low-income).

The minority populations in the environmental justice RSA (66.8 percent minority), are comparable to the 66.3 percent minority for the reference community as a whole (U.S. Census Bureau ACS 2010–2014d). Within the project extent, the greatest concentration of minority populations occurs in the Monterey Corridor and San Joaquin Valley Subsections, which are 73.7 percent minority.

The percentages of other sensitive populations, including elderly, disabled, or linguistically isolated populations within the environmental justice RSA is comparable to that of the reference community. Notable exceptions are the high rates of linguistic isolation and unemployment in the Pacheco Pass and San Joaquin Valley Subsections, which are almost twice the reference community's 11.5 percent linguistic isolation and 9.9 percent unemployment (U.S. Census Bureau ACS 2010–2014f, 2010–2014g).

Table 5-5 shows an overview of demographic characteristics of the RSA for the station location and maintenance facility options based on census data collected between 2010 and 2014. The San Jose Diridon Station and the Downtown Gilroy Station are located in urban areas, while the East Gilroy Station, South Gilroy and East Gilroy maintenance of way facility (MOWF), and maintenance of way siding (MOWS) are located in predominately rural agricultural areas. With the exception of the MOWS in Merced County, the stations and maintenance facilities are located in areas with higher percentages of low-income individuals than the reference community (23.3 percent low-income). The greatest concentrations of low-income populations occur in east Gilroy—at the location of the East Gilroy Station (58.8 percent low-income) and East Gilroy MOWF (40.2 percent low-income) (U.S. Census Bureau ACS 2010–2014b). The greatest concentrations of minority populations occur within the RSAs for the Downtown Gilroy (73.3 percent minority) and East Gilroy Stations (81.1 percent minority), which exceed the 66.3 percent minority population of the reference community (U.S. Census Bureau ACS 2010–2014d). The MOWS RSA has the highest rates of linguistic isolation (25.3 percent, which is twice that of the reference community) and unemployment (15 percent, which is approximately 5 percent higher than the reference community) (U.S. Census Bureau ACS 2010–2014f, 2010–2014g).

Table 5-5 Station and Maintenance Facility Resource Study Area Demographic Characteristics (2014 Estimates)

RSA Characteristics ¹	San Jose Diridon Station	Gilroy Station Options		MOWF Options			MOWS
		Downtown Gilroy	East Gilroy	South Gilroy Alt 1/2	South Gilroy Alt 4	East Gilroy Alt 3	
Area (square miles)	4.6	42.0	38.4	37.5	190.4	37.5	578.0
Total population	33,012	24,058	7,588	2,651	8,095	2,651	3,589
Population density (persons per square mile)	7,224.4*	573.0*	197.7	70.7	42.5	70.7	6.2
Total households	12,728	6,820	1,966	805	2,385	805	1,260
Percent of population low-income ²	32.7*	47.3*	58.5*	40.2*	31.7*	40.2*	23.2
Median household income	\$82,827	\$62,027	\$47,203	\$64,375	\$73,967	\$64,375	\$40,593
Percent of population minority	60.0	73.3*	81.1*	66.2	53.5	66.2	59.3
Percent of population over 65 years old	7.8	9.7	10.2	10.7*	11.1*	10.7*	6.3
Percent of population with disability status ³	7.2	9.8*	12.4*	13.2*	10.0*	13.2*	7.0
Percent linguistically isolated households	10.7	12.7*	17.0*	15.8*	7.2	15.8*	25.3*
Percent of population unemployed	10.4*	11.7*	13.3*	14.7*	13.8*	14.7*	15.0*

Sources: U.S. Census Bureau 2010; U.S. Census Bureau ACS 2010–2014a, 2010–2014b, 2010–2014c, 2010–2014d, 2010–2014e, 2010–2014f, 2010–2014g, 2010–2014h

¹ RSA data was calculated through summation (e.g., area, total population, total households), or a weighted average based on the size, population, or households within census tract (e.g., population density, percent low-income, median household income, percent minority).

² For San Benito and Merced Counties, low-income is defined using the Department of Health and Human Services poverty guidelines. For Santa Clara County, consistent with the Metropolitan Transportation Commission's approach, low-income is defined as persons with household incomes at or below 200 percent of the poverty guidelines.

³ Per U.S. Census Bureau data, this is the percent of population with a disability who are over the age of 5.

Values **bolded with an asterisk (*)** identify resource study area demographic characteristics that exceed those of the reference community.

Alt = Alternative

MOWF = maintenance of way facility

MOWS = maintenance of way siding

RSA = resource study area

5.4.2 Low-Income Populations

5.4.2.1 Reference Community

Table 5-6 shows the low-income populations within the reference community by county. The median household income for the reference community is \$87,740, which is approximately \$26,250 higher the median household income for California (U.S. Census Bureau ACS 2010–2014c). However, household incomes vary widely by county, from a high of \$93,854 in Santa Clara County to a low of \$43,066 in Merced County. Approximately 23.3 percent of individuals within the reference community were identified as low-income in 2014, which is higher than California as a whole, where low-income individuals made up 16.4 percent of the total population (U.S. Census Bureau ACS 2010–2014b). The percentages of low-income individuals were similar in Merced County (25.6 percent) and Santa Clara County (23.3 percent), and substantially lower in San Benito County (12.1 percent).

Table 5-6 Low-Income Populations within the Reference Community (2014 Estimates)

Geographic Area	Population (2014)	Median Household Income	Estimated Percent Low-Income (2014) ¹
Santa Clara County	1,841,569	\$93,854	23.3
San Benito County	56,888	\$43,066	12.1
Merced County	261,609	\$67,874	25.6
Reference community ²	2,160,066	\$87,740	23.3

Sources: U.S. Census Bureau ACS 2010–2014b, 2010–2014c

¹ For San Benito and Merced Counties, low-income is defined using the Department of Health and Human Services poverty guidelines. For Santa Clara County, consistent with the Metropolitan Transportation Commission's approach, low-income is defined as persons with household incomes at or below 200 percent of the poverty guidelines.

² Reference community population data was calculated through summation, while the median household income and percent low-income were calculated through a weighted average based on the population or households within each county.

5.4.2.2 Resource Study Area

Table 5-7 shows the household incomes and low-income populations within the environmental justice RSA by subsection and by city and community. Approximately 29.8 percent of individuals within the environmental justice RSA in 2014 were low-income (6.5 percent more than the reference community), and the median household income was \$78,340 (\$9,400 less than the reference community) (U.S. Census Bureau ACS 2010–2014b, 2010–2014c). The environmental justice RSA within the cities of Santa Clara, Gilroy, and downtown San Jose (within the San Jose Diridon Approach Subsection) had the highest percentages of low-income populations—40.1, 40.8 and 34.5 percent, respectively (U.S. Census Bureau ACS 2010–2014b). The lowest percentage of low-income populations were within unincorporated San Benito County (10.8 percent), unincorporated Santa Clara County in the Pacheco Pass Subsection (11.7 percent), and within the community of San Martin (16.9 percent). The median household income of \$112,608 in San Martin was the highest of the cities and communities within the environmental justice RSA.

Table 5-7 Household Incomes and Low-Income Populations within the Resource Study Area (2014 Estimates)¹

Subsection and City/Community within RSA	Population	Median Household Income	Estimated Percentage Low-Income ²
San Jose Diridon Station Approach	104,718	\$73,610	35.5*
Santa Clara	20,453	\$65,507	40.1*
San Jose	84,265	\$75,338	34.5*
Monterey Corridor	153,737	\$82,937	28.8*
San Jose	145,491	\$83,378	28.6*
Unincorporated Santa Clara County	8,247	\$74,747	32.7*
Morgan Hill and Gilroy	118,582	\$87,614	28.2*
San Jose	4,676	\$89,071*	19.2
Morgan Hill	26,697	\$87,197	26.0*
San Martin	3,918	\$112,608*	16.9
Gilroy	37,759	\$71,611	40.8*
Unincorporated Santa Clara County	40,088	\$100,095*	22.5

Subsection and City/Community within RSA	Population	Median Household Income	Estimated Percentage Low-Income ²
Unincorporated San Benito County	5,444	\$78,854	10.8
Pacheco Pass	12,616	\$43,804	24.8*
Unincorporated Santa Clara County	934	\$93,958*	11.7
Unincorporated Merced County ³	11,682	\$39,675	25.7*
San Joaquin Valley	37,969	\$43,906	23.6*
Los Banos	7,602	\$47,214	22.8
Unincorporated Merced County ³	30,367	\$43,171	23.8*
RSA Totals	415,628*	\$78,340*	29.8*

Sources: U.S. Census Bureau ACS 2010–2014b, 2010–2014c

¹ Resource study area data were calculated through summation (e.g., population), or a weighted average based on the size, population, or households within each subsection (e.g., percent low-income, median household income). Census tracts split by a particular subsection were included in the estimate for each subsection.

² For San Benito and Merced Counties, low-income is defined using the Department of Health and Human Services poverty guidelines. For Santa Clara County, consistent with the Metropolitan Transportation Commission's approach, low-income is defined as persons with household incomes at or below 200 percent of the poverty guidelines.

³ Unincorporated Merced County includes Santa Nella in the Pacheco Pass Subsection and Volta in the San Joaquin Subsection.

Values **bolded with an asterisk (*)** identify resource study area demographic characteristics that exceed those of the reference community.

RSA = resource study area

Table 5-8 shows 2010–2014 ACS 5-Year Estimates for households that received SNAP assistance during the previous 12 months. SNAP is the major national income support program to which all low-income and low-resource households, regardless of household characteristics, are eligible. Within the environmental justice RSA, approximately 8.1 percent of households received SNAP assistance in 2014, compared to 9 percent of households in California during the same year. Los Banos had the highest percentage of households receiving SNAP assistance (18.4 percent) followed by Gilroy (13.9 percent), while San Martin had the lowest percentage of households receiving SNAP assistance (3.1 percent) (U.S. Census Bureau ACS 2010–2014i).

Table 5-8 Percentage of Households Participating in the Supplemental Nutrition Assistance Program within the Resource Study Area (2014 Estimates)

Subsection and City/Community within RSA	Percent Households Receiving SNAP ¹
San Jose Diridon Station Approach	5.7
Santa Clara	5.4
San Jose	5.8
Monterey Corridor	8.3
San Jose	8.2
Unincorporated Santa Clara County	11.0
Morgan Hill and Gilroy	7.9
San Jose	5.0
Morgan Hill	6.1
San Martin	3.1
Gilroy	13.9

Subsection and City/Community within RSA	Percent Households Receiving SNAP ¹
Unincorporated Santa Clara County	5.3
Unincorporated San Benito County	3.3
Pacheco Pass	11.7
Unincorporated Santa Clara County	9.8
Unincorporated Merced County	11.8
San Joaquin Valley	15.4
Los Banos	18.4
Unincorporated Merced County	14.7
RSA	8.1

Source: U.S. Census Bureau ACS 2010–2014i

¹ The percent households receiving SNAP in the resource study area and the subsections of the resources study area were calculated using a weighted average based on the number of households in each census tract

RSA = resource study area

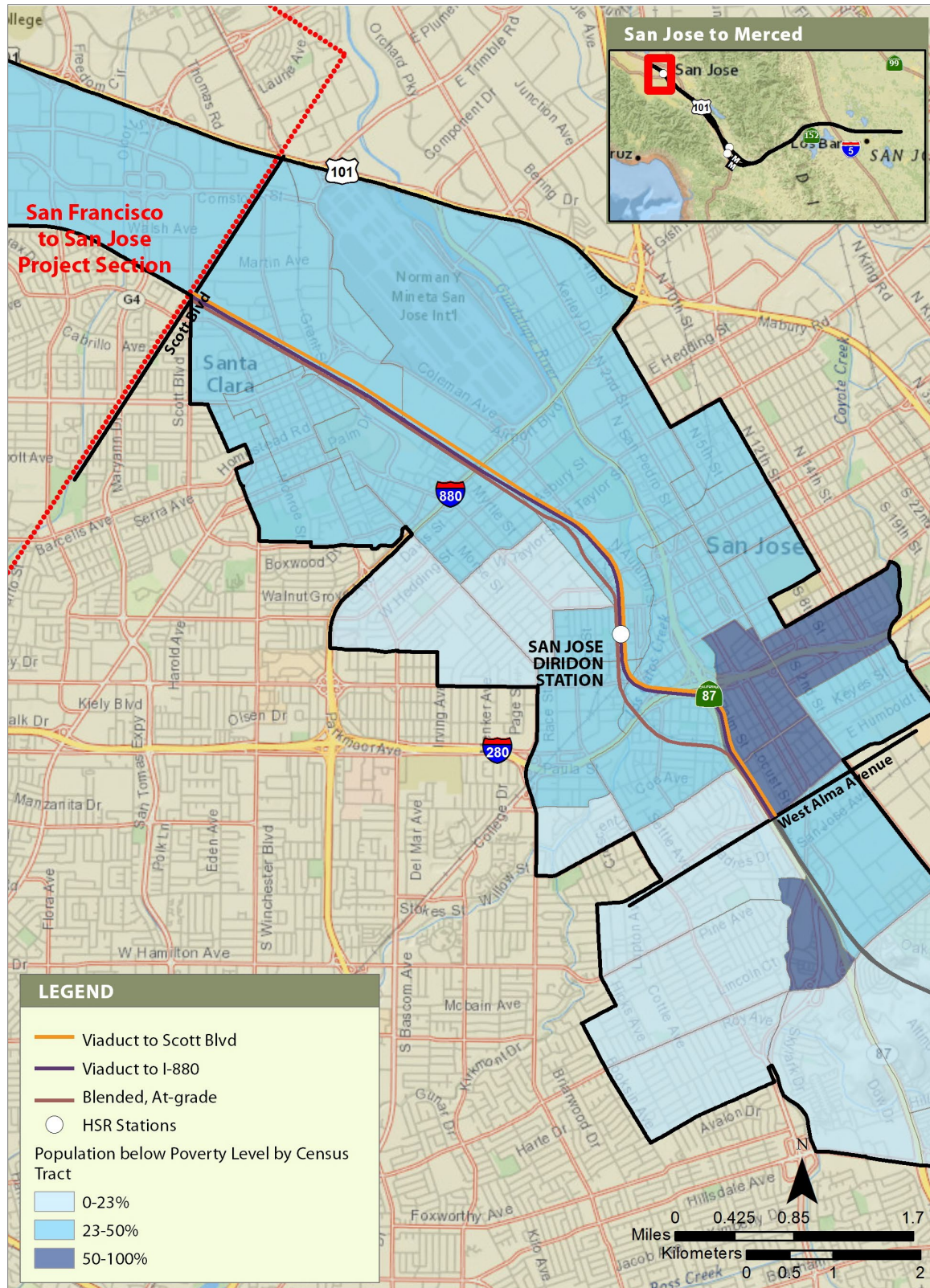
SNAP = Supplemental Nutrition Assistance Program

Figure 5-3 through Figure 5-7 illustrate the concentrations of low-income individuals within the environmental justice RSA. As shown on the figures, the highest percentages of low-income populations are located in Santa Clara County, and in the Santa Clara, San Jose, Morgan Hill and Gilroy communities. The percentages of low-income populations in these communities are greater than in the reference community as a whole. Low-income populations in the Pacheco Pass (25.3 percent) and San Joaquin Valley (23.6 percent) are comparable to the reference community as a whole. Further detail regarding the locations of these populations is described by subsection.

San Jose Diridon Station Approach Subsection

The environmental justice RSA within Santa Clara is 40.1 percent low-income, which is approximately 17 percent higher than that of the reference community. In the industrial land uses north of the existing Caltrain tracks and bounded by U.S. Highway (US) 101 to the north and the Norman Y. Mineta International Airport to the east, the population is 39 percent low-income. Residential areas south of the existing Caltrain tracks have low-income populations ranging from 39.5 to 49.9 percent. In this area, Homesafe Santa Clara, which is managed by Charities Housing, provides 24 units of subsidized, affordable housing and on-site childcare for very low-income survivors of domestic abuse and their children.

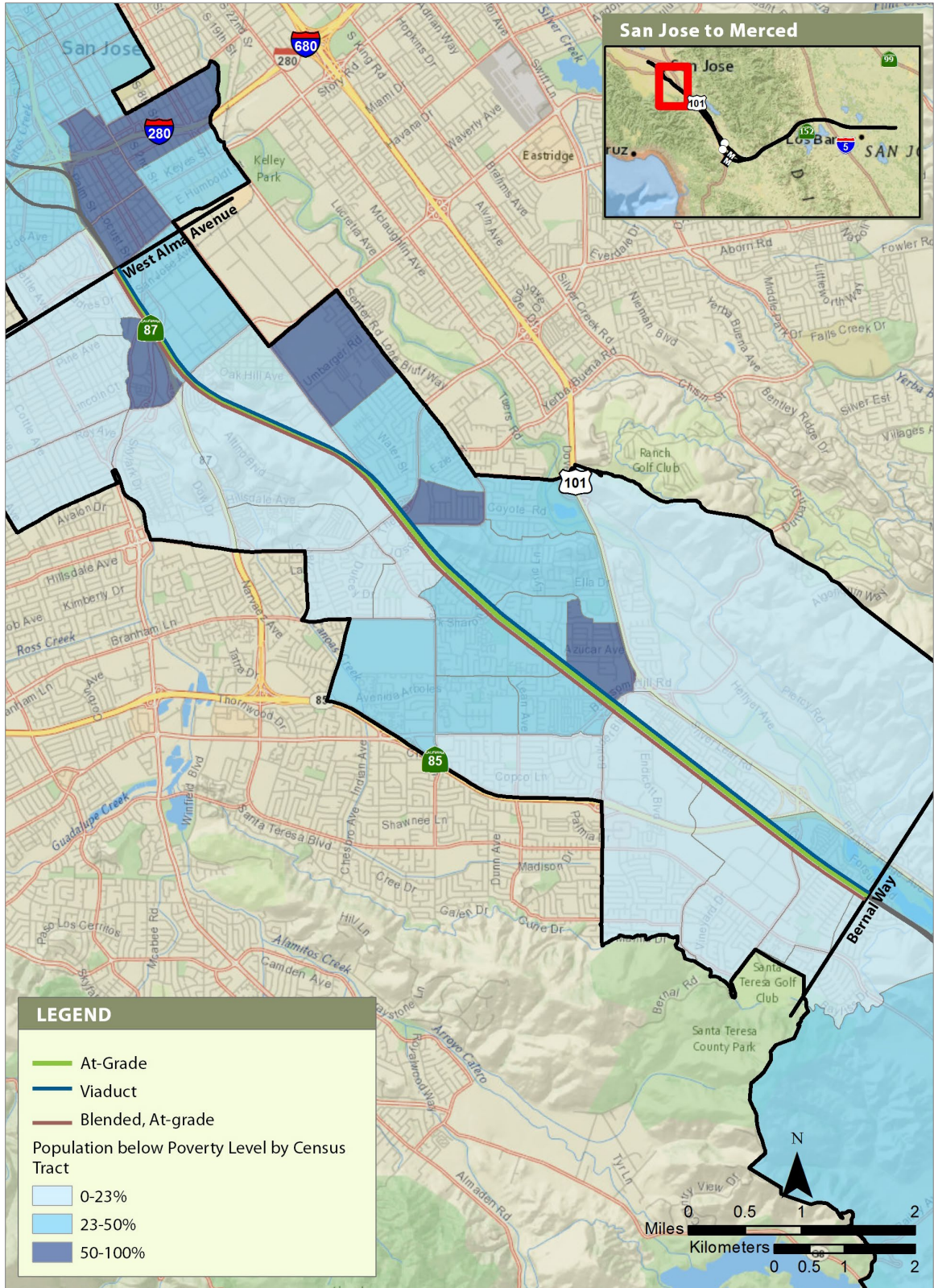
The environmental justice RSA within San Jose is 34.5 percent low-income, which is 11 percent higher than that of the reference community (23.3 percent low-income). The RSA for the San Jose Diridon Station Approach is 35.5 percent low-income. The highest rates of low-income populations in the environmental justice RSA occur east of the intersection of Interstate (I-) 280 and State Route (SR) 87 where the neighborhoods of Market/Almaden, Washington/Guadalupe, and Tamien are located; these neighborhoods are approximately 56 percent low-income. The Gardner and Auzerais/Josefa neighborhoods are approximately 26 percent and 37 percent low-income, respectively.



Source: U.S. Census Bureau ACS 2010–2014b

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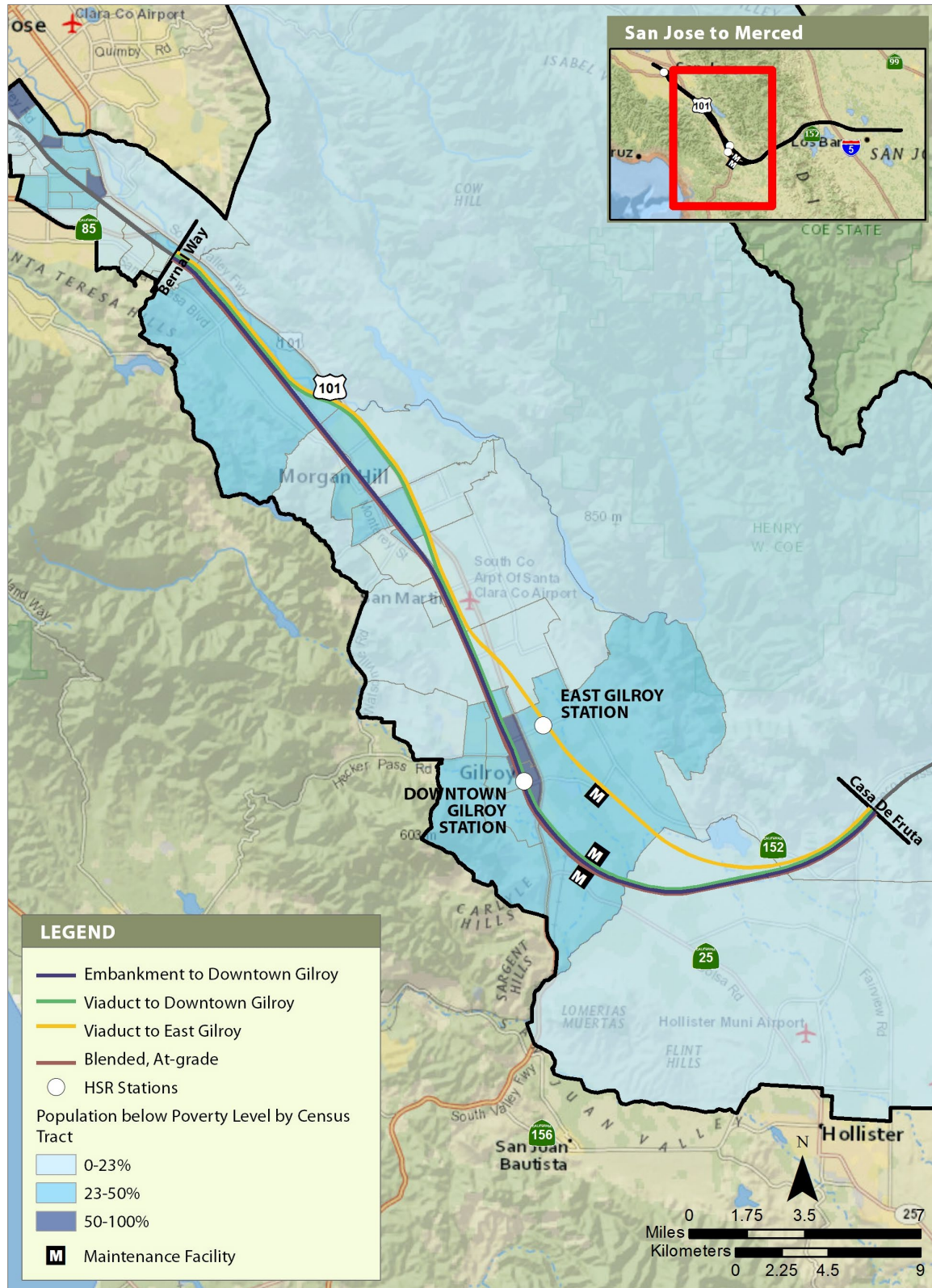
Figure 5-3 Low-Income Populations in the Resource Study Area (Part 1 of 5)



Source: U.S. Census Bureau ACS 2010–2014b

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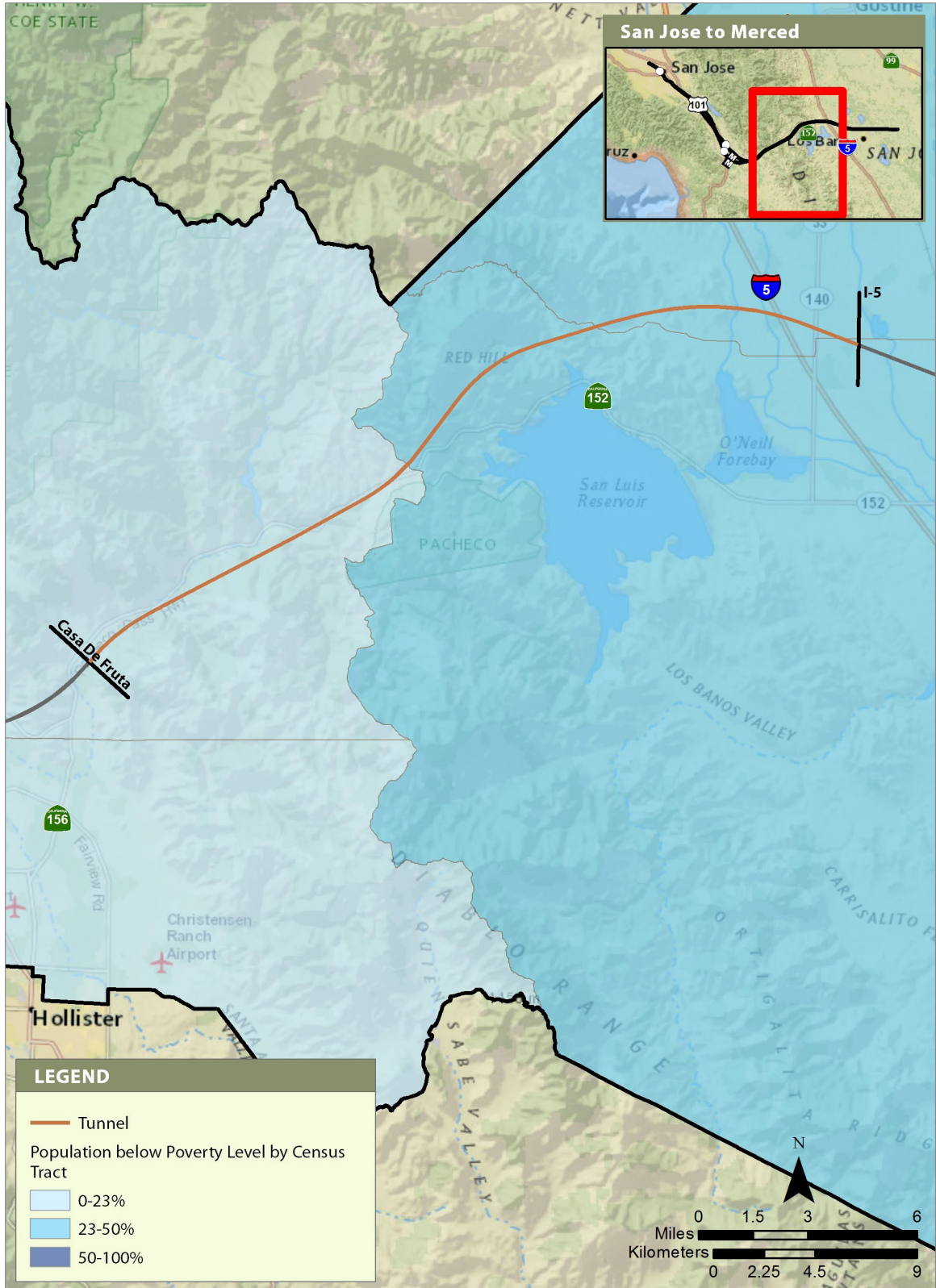
Figure 5-4 Low-Income Populations in the Resource Study Area (Part 2 of 5)



Source: U.S. Census Bureau ACS 2010–2014b

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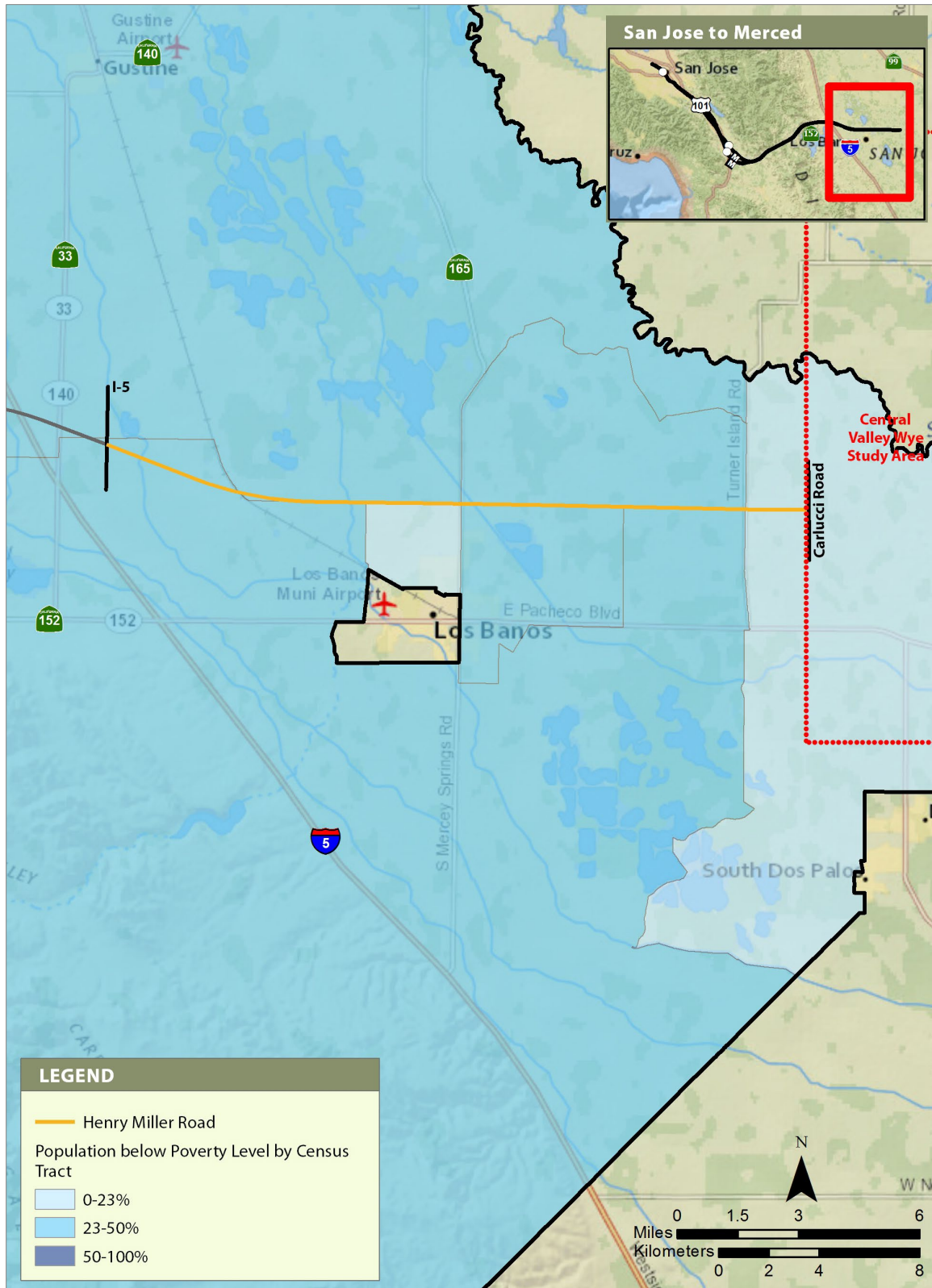
Figure 5-5 Low-Income Populations in the Resource Study Area (Part 3 of 5)



Source: U.S. Census Bureau ACS 2010–2014b

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Figure 5-6 Low-Income Populations in the Resource Study Area (Part 4 of 5)



Source: U.S. Census Bureau ACS 2010–2014b

MARCH 2019

Figure 5-7 Low-Income Populations in the Resource Study Area (Part 5 of 5)

Monterey Corridor Subsection

Within the Monterey Corridor Subsection, the environmental justice RSA is 28.8 percent low-income, 5.5 percent higher than the reference community, and is located within San Jose and unincorporated Santa Clara County. The greatest concentrations of low-income populations occur in the Guadalupe/Almaden, Almaden/Clara Filice, Evans, and Guadalupe Canoas neighborhoods west of SR 87 between Almaden Road and Curtner Avenue (52 percent low-income); the Seven Trees neighborhood northeast of the intersection of Senter Road and Monterey Road (53 percent low-income); and the Edenvale neighborhood northeast of the intersection of Blossom Hill Road and Monterey Road (58 percent low-income).

Morgan Hill and Gilroy Subsection

Within the Morgan Hill and Gilroy Subsection, the greatest concentrations of low-income populations occur in Gilroy, which is 40.8 percent low-income—the highest of any city or community within the environmental justice RSA—and is more than 17 percent higher than the reference community. The low-income populations in downtown Gilroy between US 101 and Monterey Road, range between 61 and 69 percent low-income, while east and west of downtown Gilroy, low-income populations range from 35 to 40 percent low-income. As shown on Figure 5-5, the rural unincorporated lands in Santa Clara County north of Morgan Hill and east of Gilroy also have high concentrations of low-income populations, with approximately 33.9 percent low-income. Morgan Hill, with a low-income population of 26 percent is higher than the reference community, while San Martin's low-income population of 17 percent is less than that of the reference community.

The population within the RSA for the Downtown Gilroy Station is 47.3 percent low-income, while the population within the RSA for the East Gilroy Station is 58.5 percent low-income, which is more than twice that of the reference community (23.3 percent low-income). The greatest concentration of low-income populations within these station RSAs occurs north of the proposed Downtown Gilroy Station and west of the proposed East Gilroy Station between W Las Animas Avenue and Lewis Street, where the population is nearly 69 percent low-income.

The population within the RSA for the East Gilroy MOWF under Alternative 3 is 40.2 percent low-income, while the population within the RSA for the South Gilroy MOWF is 40.2 percent low-income under Alternatives 1 and 2, and 31.7 percent low-income under Alternative 4. All three maintenance facility locations have low-income populations that are greater than the reference community (23.3 percent low-income).

Community resources that provide services to low-income populations within the Morgan Hill and Gilroy Subsection include several large affordable housing and senior housing complexes in downtown Morgan Hill. In San Martin, the Boccardo Family Living Center provides affordable, transitional housing for homeless families with children in South Santa Clara County, an emergency shelter program for families, and seasonal migrant farmworker housing.

Pacheco Pass Subsection

Within the Pacheco Pass Subsection of the environmental justice RSA, low-income populations make up 24.8 percent of the population. This is 1.5 percent greater than of the reference community as a whole. Populations that are 26.8 percent low-income are located in the eastern portion of the Pacheco Pass Subsection in Merced County, north of SR 152 and west of I-5.

San Joaquin Valley Subsection

Similar to the Pacheco Pass Subsection, within the San Joaquin Valley Subsection of the environmental justice RSA low-income populations make up 23.6 percent of the population. This is comparable to the reference community as a whole. The population within the RSA for the MOWS is 23.2 percent low-income. Populations where the percent low-income exceeds the reference community are located east of Mercey Springs Road in Los Banos (23.8 percent low-income) and in unincorporated Merced County north of Volta (26.8 percent low-income).

5.4.3 Minority Populations

5.4.3.1 Reference Community

As shown in Table 5-9, the reference community is racially and ethnically diverse. In 2014, minority individuals made up between approximately 63 and 70 percent of the three counties' populations. As a whole, 66.3 percent of the reference community's population are minority, compared to 61 percent for the state of California (U.S. Census Bureau ACS 2010–2014d). The racial and ethnic makeup of the reference community varied by county. Asians were the largest minority group in Santa Clara County (32.9 percent) in 2014, while Hispanics or Latinos were the largest ethnic group in San Benito and Merced Counties (57.4 and 56.3 percent of the population, respectively).

Table 5-9 Minority Group Representation in the Reference Community (2014 Estimates)

Geographic Area	Percent Population					Total
	Hispanic or Latino	Non-Hispanic or Latino			Other	
		Black	Asian	Native American/ Hawaiian/Pacific Islander		
Santa Clara County	26.7	2.4	32.9	0.5	3.3	65.9
San Benito County	57.4	0.8	1.9	0.6	2.1	62.9
Merced County	56.3	3.3	7.4	0.6	1.9	69.5
Reference community ¹	31.1	2.5	29.0	0.5	3.1	66.3

Source: U.S. Census Bureau ACS 2010–2014d

¹ Reference community percent minority data is a weighted average based on the population within each county.

5.4.3.2 Resource Study Area

Table 5-10 shows the minority group representation within the environmental justice RSA by subsection and by city and community. As a whole, the environmental justice RSA is 66.8 percent minority, with the largest minority groups being Hispanic or Latino (43.6 percent) and Asian (16.6 percent) (U.S. Census Bureau ACS 2010–2014d). Figure 5-8 illustrates the distribution of minority groups within the environmental justice RSA and areas with the greatest concentrations of minority populations.

The greatest concentration of racial and ethnic minorities occurs in the Monterey Corridor and San Joaquin Valley Subsections, both of which are 73.7 percent minority, which is 7.4 percent higher than the reference community. For the cities and communities of the RSA, the highest percentages of minority representation occur in southern San Jose (73.3 percent), Gilroy (72.3 percent), and Los Banos (80.7 percent), which are higher than the reference community. Figure 5-9 through Figure 5-13 illustrate the percentage of minority populations within the environmental justice RSA.

San Jose Diridon Station Approach Subsection

The environmental justice RSA within this subsection is 62.9 percent minority, which is 3.4 percent less than that of the reference community. Minority representation is higher in downtown San Jose (64.2 percent minority) than in Santa Clara (57.6 percent minority), and the greatest concentrations of minority populations are located east of the intersection of I-280 and SR 87. In the Market/Almaden, Washington/Guadalupe, and Tamien neighborhoods, concentrations of minority populations range from 84 to 92 percent. The environmental justice RSA for the San Jose Diridon Station is 60.0 percent minority, comparable to that of the San Jose Diridon Station Approach Subsection RSA and just 2.1 percent less than the reference community.

Table 5-10 Minority Group Representation within the Resource Study Area (2014 Estimates)¹

Subsection and City/Community within RSA	Percent Population					
	Hispanic or Latino	Non-Hispanic or Latino				Total
		Black	Asian	Native American/Hawaiian/Pacific Islander	Other	
San Jose Diridon Station Approach	38.3	4.1	16.5	0.6	3.4	62.9
Santa Clara	29.7	3.4	20.9	0.7	2.9	57.6
San Jose	40.4	4.3	15.4	0.6	3.5	64.2
Monterey Corridor	39.1	3.6	27.4	0.5	3.1	73.7*
San Jose	39.1	3.7	27.0	0.5	3.0	73.3*
Unincorporated Santa Clara County	40.3	1.9	34.7	0.6	3.3	80.8*
Morgan Hill and Gilroy	46.2	2.0	7.5	0.7	2.6	59.1
Morgan Hill	35.1	2.7	9.9	0.3	4.4	52.5
San Martin	36.8	0.8	9.4	3.2	2.6	52.7
Gilroy	63.6	1.9	4.7	0.6	1.4	72.3*
Unincorporated Santa Clara County	39.0	2.1	8.5	0.8	2.7	53.1
Unincorporated San Benito County	45.6	0.3	0.9	0.3	2.0	49.2
Pacheco Pass	55.4	0.7	1.1	0.2	2.1	59.5
Unincorporated Santa Clara County	23.3	1.3	1.7	0.7	4.5	31.4
Unincorporated Merced County	57.9	0.7	1.1	0.2	1.9	61.7
San Joaquin Valley	67.8	2.1	2.0	0.4	1.3	73.7*
Los Banos	73.5	3.0	2.7	0.5	1.0	80.7*
Unincorporated Merced County	66.4	1.9	1.9	0.4	1.4	72.0*
RSA Totals	43.6	3.1	16.6	0.6	2.9	66.8*

Source: U.S. Census Bureau ACS 2010–2014d

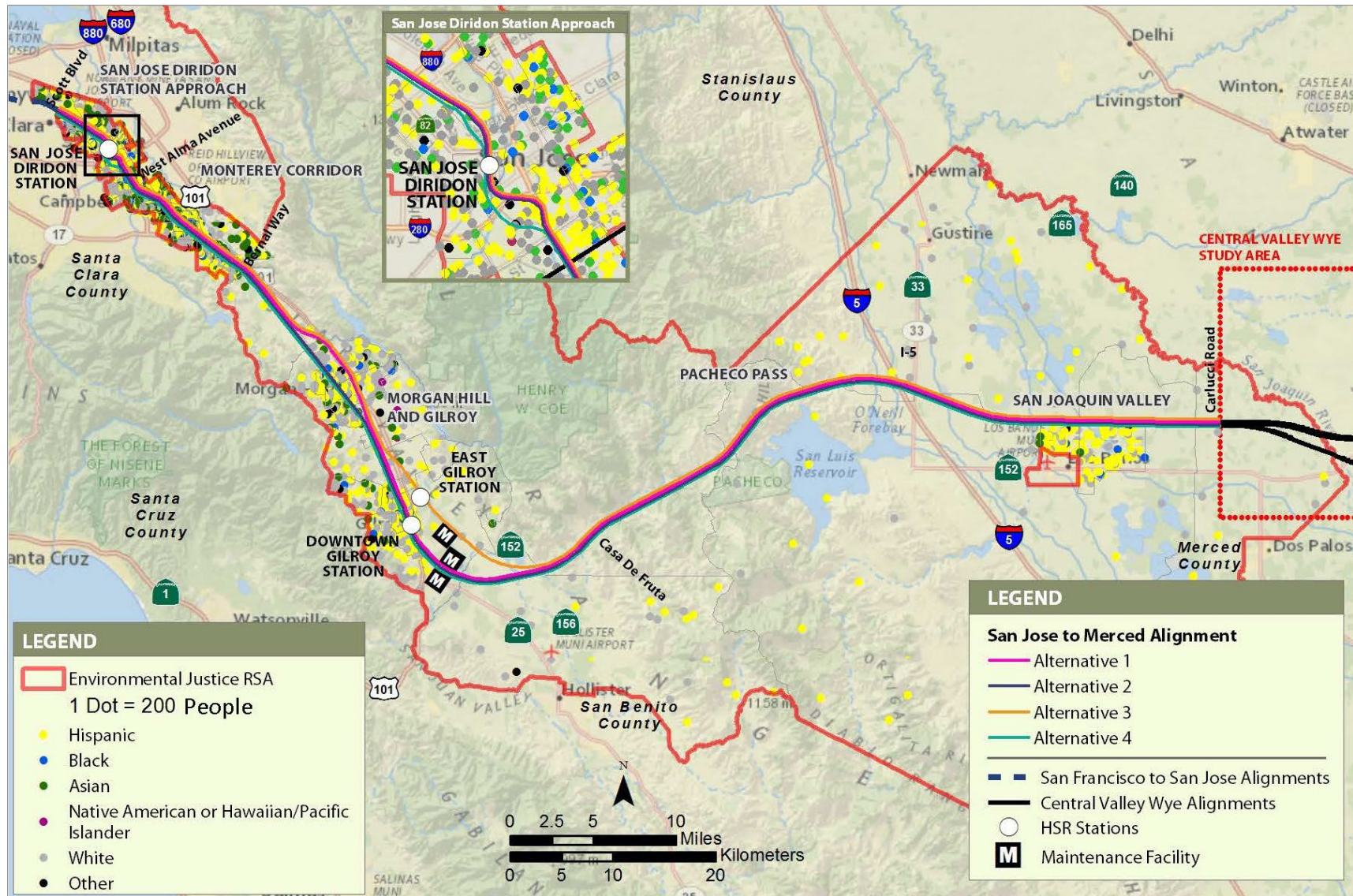
¹ Resource study area data were calculated through a weighted average based on the population within each subsection.

Values **bolded with an asterisk (*)** identify resource study area demographic characteristics that exceed those of the reference community.

RSA = resource study area

Monterey Corridor Subsection

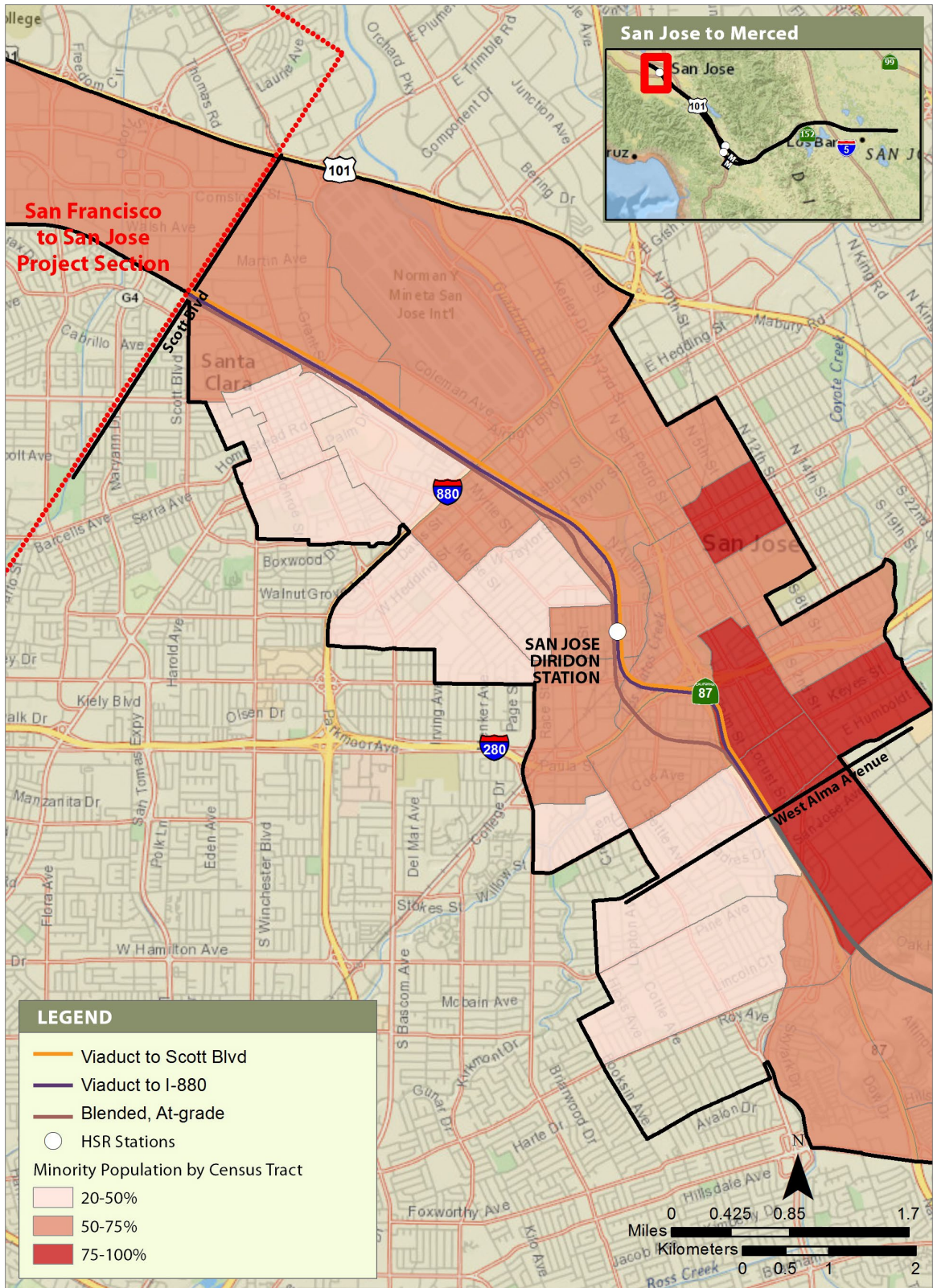
Within this subsection, the environmental justice RSA is 73.7 percent minority, of which 39.1 percent are Hispanic or Latino and 27.4 percent are Asian. The highest concentrations of minority populations (greater than 90 percent minority) within this subsection are located adjacent to Monterey Road between Capitol Expressway and Blossom Hill Road (Figure 5-10). San Jose neighborhoods with minority populations greater than the reference community are Alma-Almaden, Monticello, Almaden/Clara Filice, and Evans adjacent to SR 87; the neighborhoods of Kenwood, Hillsdale, Rancho, Los Arboles, Seven Trees, San Ramon, Riverview, Danna Rock, Davis, Edenvale, Sunspring, and Silver Leaf east of Monterey Road; and the neighborhoods of the Woods, Berry Park, and Deer Run on the west side of Monterey Road. The Seven Trees and Los Arboles neighborhoods, bounded by Capitol Expressway and Senter Road, have between 92 and 97 percent minority populations.



Source: U.S. Census Bureau ACS 2010-2014d

MARCH 2019

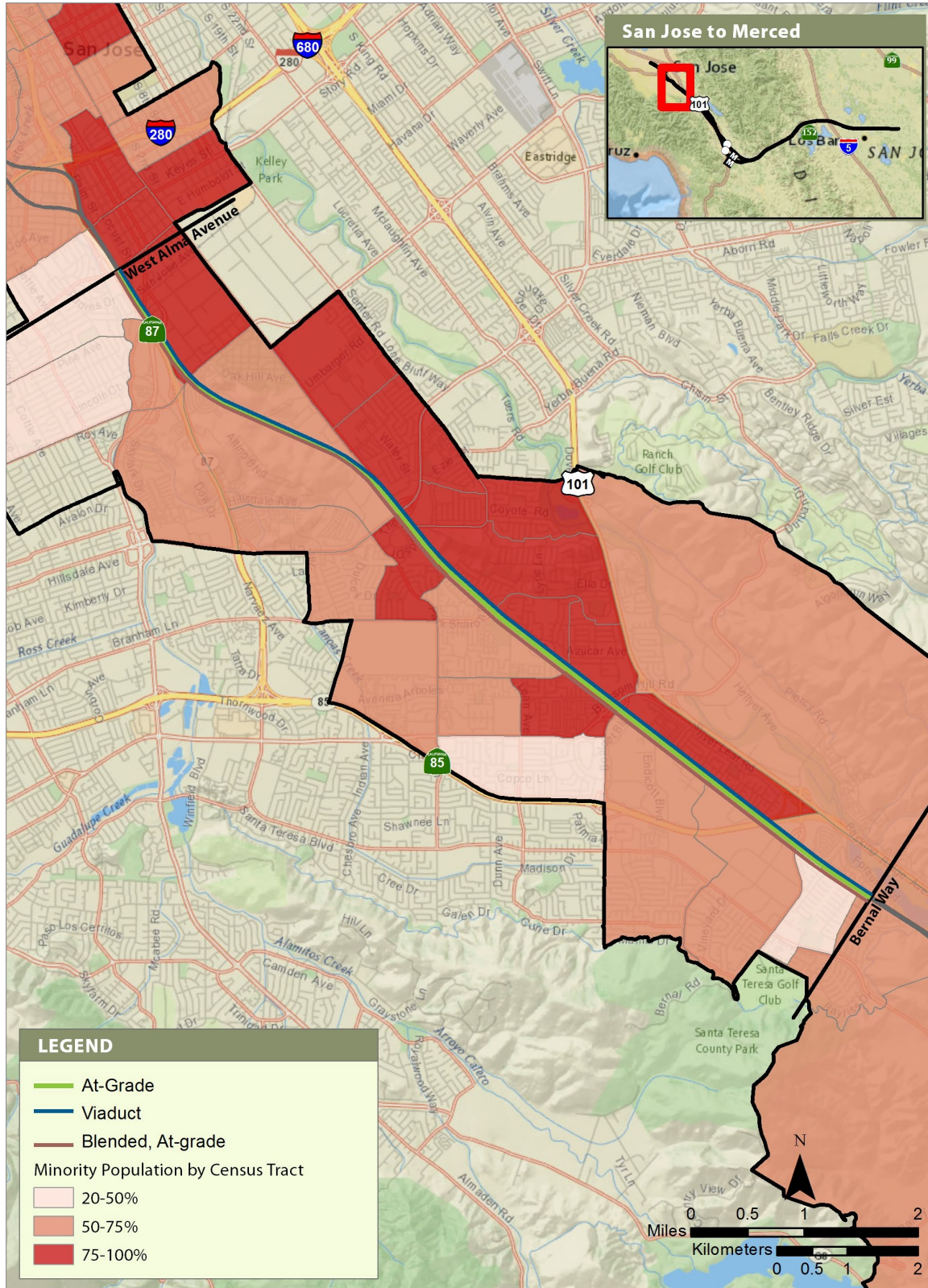
Figure 5-8 Minority Population Distribution



Source: U.S. Census Bureau ACS 2010–2014d

MARCH 2019

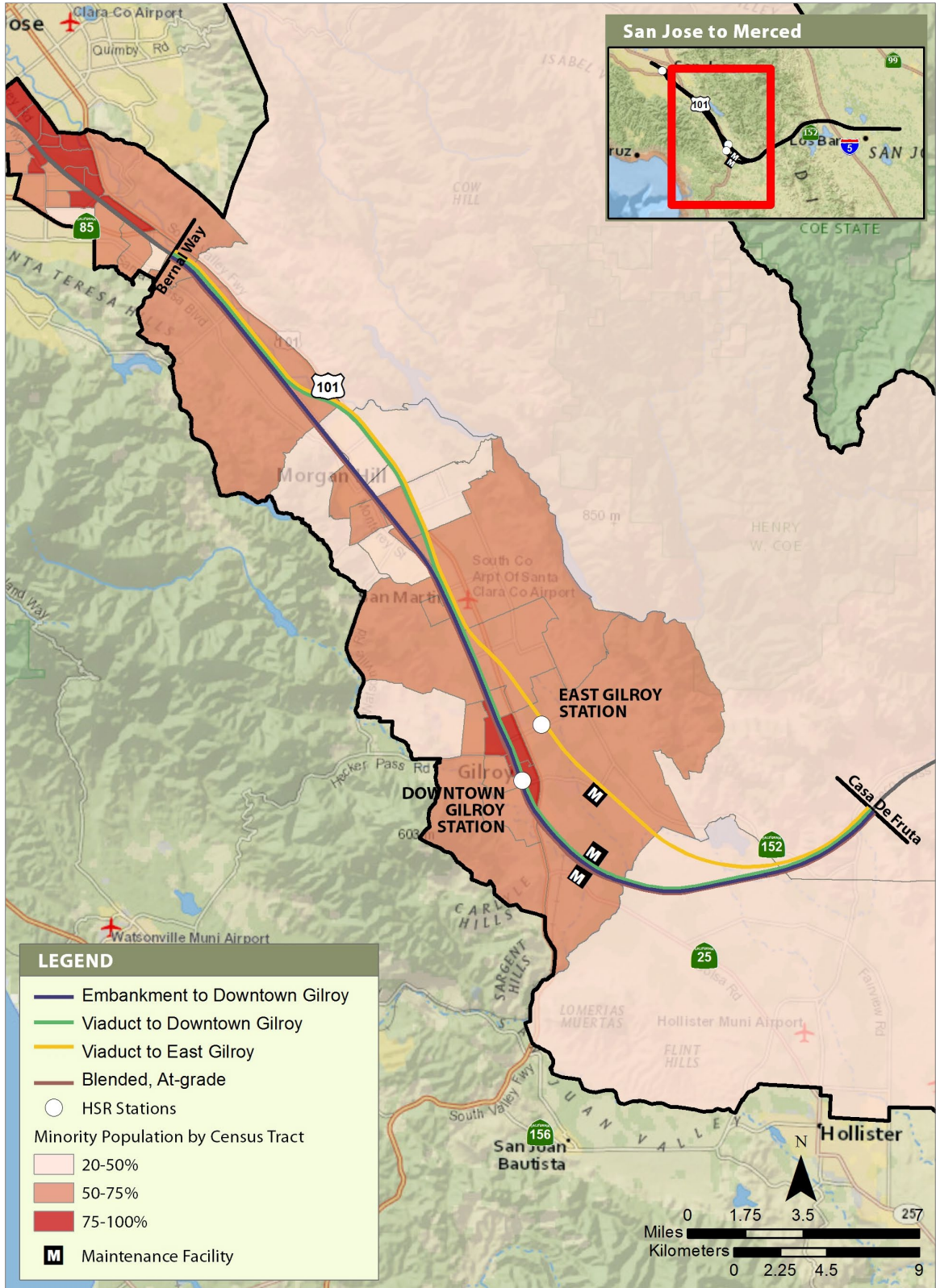
Figure 5-9 Minority Populations in the Resource Study Area (Part 1 of 5)



Source: U.S. Census Bureau ACS 2010–2014d

MARCH 2019

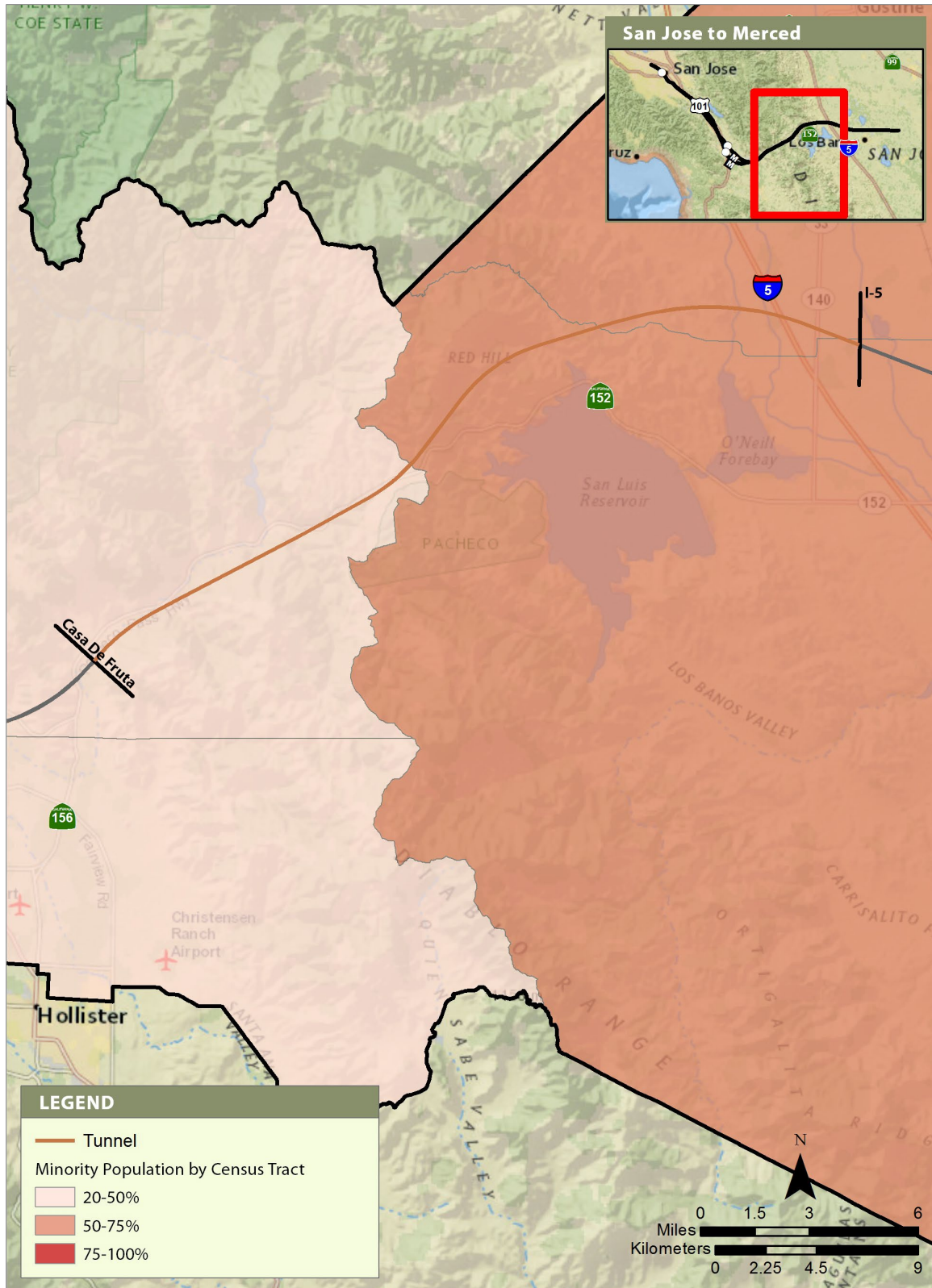
Figure 5-10 Minority Populations in the Resource Study Area (Part 2 of 5)



Source: U.S. Census Bureau ACS 2010–2014d

MARCH 2019

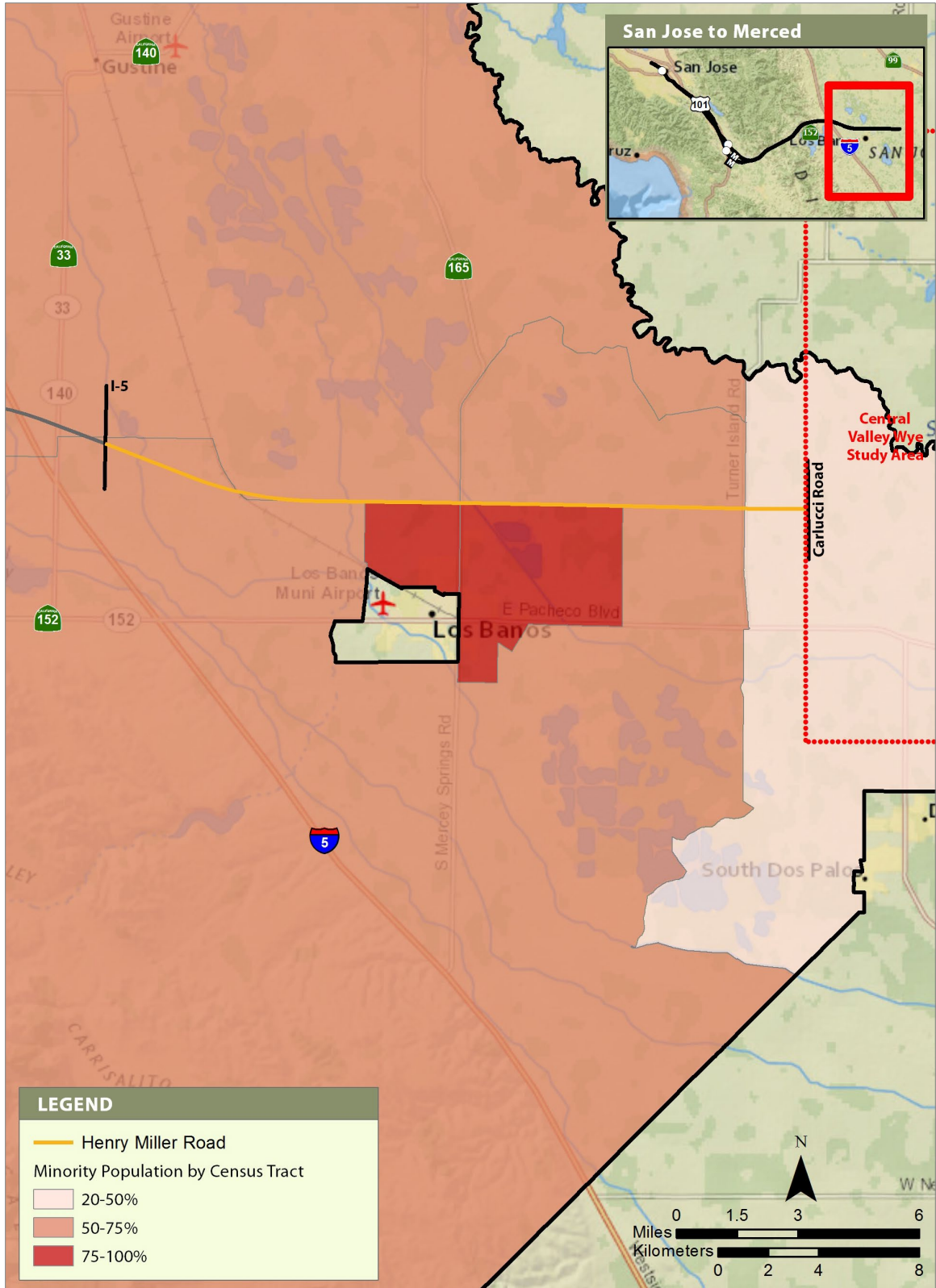
Figure 5-11 Minority Populations in the Resource Study Area (Part 3 of 5)



Source: U.S. Census Bureau ACS 2010–2014d

MARCH 2019

Figure 5-12 Minority Populations in the Resource Study Area (Part 4 of 5)



Source: U.S. Census Bureau ACS 2010–2014d

MARCH 2019

Figure 5-13 Minority Populations in the Resource Study Area (Part 5 of 5)

Morgan Hill and Gilroy Subsection

Within the Morgan Hill and Gilroy Subsection, the environmental justice RSA is 59.1 percent minority, which is 7.2 percent below the reference community as a whole. The cities and communities within the environmental justice RSA vary in minority representation—Morgan Hill has the lowest minority representation (52.5 percent), while Gilroy has the highest minority representation (72.3 percent). Downtown Gilroy, between US 101 and Monterey Road, has the highest percentages of minority representation (largely Hispanic or Latino), with census block groups ranging from 86 to 89 percent minority.

The population within the RSA for the Downtown Gilroy Station is 73.3 percent minority (8.1 percent greater than the reference community), while the population within the RSA for the East Gilroy Station is 81.1 percent minority (14.8 percent greater than the reference community). Compared to the other stations and maintenance facilities, the RSA for the East Gilroy Station has the highest percent minority population. The area with the highest minority representation within the station RSA is between W Las Animas Avenue and Lewis Street, which is 89 percent minority.

The population within the RSA for the East Gilroy MOWF under Alternative 3 and the South Gilroy MOWF under Alternatives 1 and 2 is 66.2 percent minority, while the population within the South Gilroy MOWF under Alternative 4 is 53.5 percent minority. These rates of minority representation are below that of the reference community (66.3 percent minority).

Pacheco Pass Subsection

Within the Pacheco Pass Subsection, the environmental justice RSA is 59.5 percent minority populations, which is 6.8 percent less than the reference community. The eastern portion of the Pacheco Pass Subsection, in unincorporated Merced County, is 61.7 percent minority. The western portion of the subsection in unincorporated Santa Clara County is 31.4 percent minority.

San Joaquin Valley Subsection

Within the San Joaquin Valley Subsection, the environmental justice RSA is 73.7 percent minority, which is 7.4 percent greater than the reference community. The highest concentration of minority populations occurs in residential portions of Los Banos and rural agricultural areas north and east of Los Banos, where the population is between 71 and 77 percent Hispanic or Latino and 80.7 percent minority. The population within the RSA for the MOWS is 59.3 percent minority, below that of the reference community (66.3 percent).

5.4.4 Other Sensitive Populations

5.4.4.1 Reference Community

In addition to minority populations and low-income populations, this environmental justice analysis also examines the distribution of sensitive populations, such as linguistically isolated, disabled, or elderly persons. Linguistically isolated households, elderly populations, and disabled persons may have special relocation needs. As shown in Table 5-1, nearly 12 percent of households in the reference community were linguistically isolated as of the last census (U.S. Census Bureau ACS 2010–2014f). These rates of linguistic isolation are comparable to those of California. Of the three counties, Merced County had the highest concentration of linguistically isolated households at 13 percent.

The elderly population (65 years and older) was approximately 10 percent in the reference community and was comparable among all three counties, ranging from 10 to almost 12 percent of the total population, in 2014 (U.S. Census Bureau ACS 2010–2014a). The percent of the population over the age of 5 with a disability was almost 9 percent of the reference community. Santa Clara and San Benito Counties were comparable at approximately 8 and 9 percent, respectively, while the percent of the population with disability status in Merced County was close to 16 percent (U.S. Census Bureau ACS 2010–2014e).

Demographic data for the reference community likely undercount migrant agricultural workers because some of these workers are undocumented. This is a consideration when identifying minority populations and low-income populations in rural areas like the San Joaquin Valley. Migrant workers are predominantly minority populations and low-income populations and are defined as farm workers whose employment requires travel, preventing them from returning to a permanent residence every day. According to the most recent National Agricultural Workers Survey, from 2007 to 2009, nationwide, 72 percent of farm workers were foreign-born, and 23 percent of all farm workers had family incomes below federal poverty guidelines (Carroll et al. 2011). The National Center for Farmworker Health estimated that in 2012 Merced County had 20,398 crop production workers (National Center for Farmworker Health 2015).⁴

5.4.4.2 Resource Study Area

Table 5-11 shows other sensitive populations within the environmental justice RSA by subsection and by city and community. Within the environmental justice RSA in 2014, approximately 10 percent of individuals were over the age of 65, 8 percent had a disability, and 11 percent of households were linguistically isolated (U.S. Census Bureau ACS 2010–2014a, 2010–2014e, 2010–2014f). The environmental justice RSA within the Pacheco Pass Subsection had the lowest and highest percentages of linguistically isolated households, ranging from 1.5 percent in unincorporated Santa Clara County to over 20 percent in unincorporated Merced County. The Morgan Hill and Gilroy Subsection had the lowest percentage of linguistically isolated households, which was under 7 percent (U.S. Census Bureau ACS 2010–2014f). The percentages of populations over 65 years of age and disabled populations did not substantially differ among the five subsections.

Table 5-11 Other Sensitive Populations within the Resource Study Area (2014 Estimates)

Subsection and City/Community within RSA	Percent of Population Over 65 Years	Percent of Population with Disability Status ¹	Percent of Households Linguistically Isolated
San Jose Diridon Station Approach	8.7	8.1	11.8
Santa Clara	8.0	7.3	11.8
San Jose	8.9	8.3	11.8
Monterey Corridor	9.9	8.4	13.1
San Jose	9.9	8.4	12.7
Unincorporated Santa Clara County	10.0	8.8	20.4
Morgan Hill and Gilroy	10.5	8.2	6.4
San Jose	12.7	7.0	3.9
Morgan Hill	10.3	7.7	5.6
San Martin	14.4	9.9	7.6
Gilroy	8.7	8.5	8.7
Unincorporated Santa Clara County	11.4	8.1	5.5
Unincorporated San Benito County	11.3	8.5	2.8

⁴ Crop production workers include both migrant workers and seasonal farm workers.

Subsection and City/Community within RSA	Percent of Population Over 65 Years	Percent of Population with Disability Status ¹	Percent of Households Linguistically Isolated
Pacheco Pass	10.0	10.7	20.4
Unincorporated Santa Clara County	21.9	14.0	1.5
Unincorporated Merced County	9.0	10.4	22.0
San Joaquin Valley	8.2	8.9	19.6
Los Banos	7.6	8.4	18.1
Unincorporated Merced County	8.3	9.0	19.9
Environmental Justice Resource Study Area Total²	9.6	8.3	11.4

Sources: U.S. Census Bureau ACS 2010–2014a, 2010–2014e, 2010–2014f

¹ Per U.S. Census Bureau data, this is the percent of population with a disability who are over the age of 5.

² Resource study area data were calculated through a weighted average based on the population within each subsection.

San Jose Diridon Station Approach Subsection

The environmental justice RSA for the other sensitive populations within the San Jose Diridon Station Approach Subsection ranged between 8 and 12 percent, all of which were slightly less than the percentages in the reference community as a whole, except for the percent of linguistically isolated households, which was slightly higher. Sensitive populations within the RSA for the San Jose Diridon Station (Table 5-5) were comparable to the environmental justice RSA for the subsection as a whole.

Monterey Corridor Subsection

Within the Monterey Corridor Subsection, the environmental justice RSA had just over 13 percent of households that were linguistically isolated in 2014. This was higher than the percentage of linguistically isolated households in the reference community. The other sensitive populations in San Jose were more comparable to the reference community RSA, at approximately 10 percent for the population over 65 and 8 percent for the population with disability status (U.S. Census Bureau ACS 2010–2014a, 2010–2014e, 2010–2014f). The largest difference within the subsection between San Jose and unincorporated Santa Clara County was the higher rate of households that were linguistically isolated in unincorporated Santa Clara County (20 percent) compared to San Jose (13 percent).

Morgan Hill and Gilroy Subsection

Within the Morgan Hill and Gilroy Subsection, the cities and communities within the environmental justice RSA had a higher percentage of elderly citizens than the reference community, with the exception of Gilroy at approximately 9 percent. San Martin was highest, with more than 14 percent of the population over 65 years old. The disability status percentages in the cities and communities ranged from approximately 7 to 10 percent, compared to 9 percent in the reference community. The difference in linguistically isolated households was more variable, with only 3 percent in unincorporated San Benito County and approaching 9 percent in Gilroy. The percent of the population that was over 65 years old within the RSAs for the Downtown Gilroy Station, East Gilroy Station, South Gilroy MOWF, and East Gilroy MOWF (Table 5-5) was comparable to the reference community. The RSAs for stations and maintenance facilities in the Morgan Hill and Gilroy Subsection tend to have higher rates of linguistic isolation and disability, compared to the reference community.

Pacheco Pass Subsection

The Pacheco Pass Subsection had the greatest variance among communities for all three sensitive populations. The environmental justice RSA in unincorporated Santa Clara County had a high percentage (nearly 22 percent) of the population over 65 years old, which is 13 percent more than that of the environmental justice RSA in unincorporated Merced County. The percentage of the population with a disability was higher as well, by approximately 4 percent. However, the greatest difference between unincorporated Merced County and unincorporated Santa Clara County is the percentage of linguistically isolated households, at approximately 22 percent and 2 percent, respectively.

San Joaquin Valley Subsection

Within the San Joaquin Valley Subsection, Los Banos and the unincorporated Merced County had high percentages of linguistically isolated households (18.1 percent and 19.9 percent, respectively) compared to the reference community as a whole. Los Banos had the lowest elderly population of all the cities and communities in all of the subsections, at approximately 19 and 8 percent, respectively.

5.5 Environmental Justice Engagement and Documentation

5.5.1 Affected Populations and Communities

As documented in Section 5.4, Affected Environment, minority populations and low-income populations are located throughout the environmental justice RSA. Concentrations of minority populations or low-income populations are greater than the reference community in Santa Clara, downtown San Jose, South San Jose, unincorporated Santa Clara County in the Monterey Corridor Subsection, Gilroy, Morgan Hill, unincorporated Merced County, and Los Banos. Concentrations of minority populations or low-income populations are less than the reference community in San Martin and unincorporated San Benito County (U.S. Census Bureau ACS 2010–2014c, 2010–2014d). Input on the locations of minority populations and low-income populations from local stakeholders and community groups, elected officials, and staff members supplemented the demographic analysis in Section 5.4, and included coordination with the following individuals and groups:

- Local experts and consultants
- City staff and elected officials familiar with minority populations and low-income populations in the RSA
- Local neighborhood/homeowner associations (e.g., the neighborhood associations of Gardner, Seven Trees, and Goodyear-Mastic), special interest groups, community centers, faith-based organizations, and local chambers of commerce and other business stakeholders

Analysts reviewed community newspapers, websites, and blogs, and conducted additional online research of organizations that serve minority populations and low-income populations. Analysts also relied on previous work experience in the corridor for the identification of additional stakeholders and organizations.

5.5.1.1 Engagement Methods

Targeted outreach to the minority populations, low-income populations, and other sensitive populations in the environmental justice RSA is a crucial component in developing an all-inclusive participation and information program and would continue throughout the project design and construction phases. These outreach efforts consider all recommendations and factors for outreach included in the Authority's Title VI and environmental justice guidance (Authority 2012a, 2012b, 2012c), including:

- Consideration of the time, location, and accessibility of all meetings. This effort also includes encouraging meaningful participation of sensitive populations by using other means for engagement such as interviews, briefings, and the use of audio devices to record comments.

In addition, all meetings include multiple notification methods, provision of interpreters, venue locations that are accessible (ADA compliant) and formats that provide for different ways to learn about the project alternatives and share feedback.

- Reaching people within their own communities and during existing meetings schedules. This effort includes utilizing existing community groups and their knowledge of the community to reach minority populations, low-income populations, and sensitive populations more effectively. This also includes selection of meeting locations that are culturally sensitive.
- Provision of Spanish-speaking interpreters and translated meeting materials at all public information meetings hosted by the Authority
- Presentations focused to specific interest groups
- Placement of meeting announcements and flyers through different types of media and advertisement of meeting notices in Mandarin, Spanish, Vietnamese, and Tagalog to reach populations of limited English proficiency
- Cultural sensitivity to minority groups
- Identification of barriers to public participation and ways to overcome those barriers

These activities are summarized in the following section.

5.5.1.2 *Environmental Justice Outreach Events*

Extensive public and agency outreach has been conducted for this Draft EIR/EIS. These outreach efforts are documented in Chapter 9, Public and Agency Involvement, of this Draft EIR/EIS. This process would continue through the design and construction phases of the project. Table 5-12 describes the outreach to minority populations and low-income populations conducted by the Authority between August 2016 and December 2019, and meeting locations are shown on Figure 5-14. These outreach activities included presentations at public and stakeholder group meetings, interviews with local stakeholders, and informational tabling at various types of community events.

Table 5-12 Outreach to Minority Populations and Low-Income Populations

Date	Meeting Type	Meeting Location	Description
August 20, 2016	Gardner Flea Market	Gardner Community Center, San Jose	The Authority set up an informational table at the entrance of the Gardner Community Flea Market (a seasonal market open to the public located in an area with low-income populations) with informational handouts and a sign-in sheet. The Authority provided a large-format map of the Gardner neighborhood and those who visited the table were invited to place dots on the map to indicate their residence. Gardner is identified as a low-income population for the environmental justice analysis.

Date	Meeting Type	Meeting Location	Description
September 18, 2016	Viva Calle	Willow Glen Neighborhood, San Jose	Viva CalleSJ is a free program that temporarily closes miles of San Jose streets to bring communities together to walk, bike, skate, play, and explore the city. The Authority set up an information table at the Willow Glen Activity Hub with informational handouts and a sign-in sheet. A large-scale version of the Community Values Exercise (see the Environmental Justice Engagement Summary Report [Appendix 5-B) was completed by three members of the public, and visitors were invited to indicate their residence on a large-format map of San Jose. Thirty people visited the informational table. The Willow Glen neighborhood is located adjacent to minority and low-income populations within the environmental justice RSA and this event was expected to draw residents from nearby areas due to the scale of the event.
October 20, 2016	Gilroy Eliot School Community Meeting	Gilroy	The City of Gilroy hosted a community meeting focused on the planning and design of Gilroy's HSR station. The Eliot School is located within a low-income and minority area within the environmental justice RSA. The meeting included six different information stations focusing on station planning and design, environmental milestones, the relationship between private property and HSR, and proposed HSR alignments. Attendees were organized into breakout groups and had 15 minutes at each station. At each station, a facilitator took notes on a flip chart and reported out to the group at the end of the meeting. The Authority provided handouts, answered attendees' questions, and received two comment cards. Approximately 65 people attended the meeting.
October 27, 2016	Monterey Road Community Presentation	Edenvale Library, San Jose	San Jose District 2 hosted a community meeting focused on the project. Authority staff presented on the project and answered questions from meeting attendees. Approximately 100 people attended the meeting. The Edenvale Library is located adjacent to the project alternatives in an area with both minority populations and low-income populations.
November 14, 2016	Small meeting with community leaders in Eliot Elementary School neighborhood to discuss future outreach	Police Department Community Meeting Room, Gilroy	Authority staff met with local residents to discuss outreach strategies to communities and businesses in the downtown Gilroy area, where the project alternatives are located in areas with minority populations and low-income populations. Among the communities discussed were the Eliot Elementary School neighborhood, which would be affected by two of the proposed project alternatives. The meeting included a brief presentation by Authority staff on the project. The presentation was followed by discussions on community interests and priorities related to HSR and stakeholder input on how best to engage Gilroy residents moving forward. Nine members of the public attended the meeting.

Date	Meeting Type	Meeting Location	Description
November 29, 2016	Information tabling at Edenvale Public Library	Edenvale Public Library, San Jose	The Authority set up an information table at the Edenvale Public Library, which was identified through coordination with San Jose District 2 Councilmember Ash Kalra's office as a minority and low-income community in proximity to the proposed alignments. Handouts were provided and 11 people signed in.
December 7, 2016	Presentation to Edenvale Great Oaks Plan Implementation Coalition	Edenvale Community Center, San Jose	Edenvale Great Oaks Plan Implementation Coalition hosted a community meeting focused on the project. Authority staff presented on the project and answered questions from meeting attendees, which were moderated by Edenvale Great Oaks Plan Implementation Coalition's president. Nineteen members of the public attended the meeting. The Edenvale Community Center is located within the environmental justice RSA in an area with both minority populations and low-income populations.
December 19, 2016	Gilroy Public Library Tabling	Gilroy Library, Gilroy	The Gilroy Public Library, located within a mile of the proposed downtown Gilroy station, was recommended during the November 14, 2016, Gilroy Outreach Planning Meetings, as a location for information tabling that would be frequented by local residents, including minority populations and low-income populations. The Authority set up an informational table at the library with handouts and sign-in sheets. Large-scale maps of the proposed Downtown Gilroy and East Gilroy Stations were also available. Members of the public who visited the information table were invited to sign up for the Authority's mailing list to stay informed of upcoming public meetings. Six members of the public visited the table.
February 1, 2017	Seven Trees Neighborhood Association	Seven Trees Community Center, San Jose	Authority staff made a presentation at a regularly scheduled Seven Trees Neighborhood Association meeting. The presentation was followed by a question-and-answer session that was moderated by Authority staff and the neighborhood association president. The focus of the presentation was to provide information about the project and an opportunity for questions and answers on the proposed alignment alternatives in the Monterey Corridor Subsection. Seventeen members of the public attended the meeting. The Seven Trees Community Center is located within the environmental justice RSA in an area with both minority populations and low-income populations.

Date	Meeting Type	Meeting Location	Description
February 13, 2017	Gardner Neighborhood Association	Gardner Community Center, San Jose	Authority staff made a presentation at a regularly scheduled Gardner Neighborhood Association meeting located in an area with low-income populations. The presentation was followed by a question-and-answer session that was moderated by Authority staff and the neighborhood association president. The focus of the presentation was to provide information about the project and an opportunity for questions and answers on the proposed alignment alternatives for the San Jose Diridon Station Approach Subsection and the Gardner area. Twelve members of the public attended the meeting.
March 8, 2017	Goodyear-Mastic and Alma Neighborhood Association Joint Meeting	Alma Senior Center, San Jose	<p>The Alma Senior Center is located within the environmental justice RSA in an area with both minority populations and low-income populations. Authority staff made a presentation at a regularly scheduled joint meeting of the Goodyear-Mastic and Alma Neighborhood Associations. The Tamien Neighborhood was also invited to attend this meeting.</p> <p>The presentation was followed by a question-and-answer session that was moderated by Authority Staff and the neighborhood association presidents. The focus of the presentation was to provide information about the project and an opportunity for questions and answers on the proposed alignment alternatives for the San Jose Diridon Station Approach Subsection and Monterey Corridor Subsection. Twenty-four members of the public attended the meeting.</p>
April 6, 2017	Gilroy Public Library Tabling	Gilroy Downtown Library	Consultant staff set up information tables at the Gilroy Public Library to provide project information and collect public comments. Both minority populations and low-income populations are located adjacent to the project alternatives in Gilroy.
April 17, 2017	Information tabling at Arteaga's Super Saver Market	Arteaga's Super Saver Market, Gilroy	Consultant staff set up information tables at Arteaga's Super Saver Market in Gilroy to provide project information and collect public comments. Arteaga's Super Saver Market is located adjacent to the project alternatives in an area with both minority populations and low-income populations.
July 19, 2017	Presentation to the Gilroy Community & Neighborhood Revitalization Committee	Gilroy Senior Center, Gilroy	Authority staff made a presentation to the Gilroy Community Neighborhood Revitalization Committee, that included updates on the Statewide Program, environmental process and evaluation criteria, range of alternatives for the Monterey Corridor Subsection, and future meeting dates and topics. Authority staff also responded to questions. Both minority populations and low-income populations are located adjacent to the project alternatives in Gilroy.

Date	Meeting Type	Meeting Location	Description
September 9, 2017	Presentation to United Neighborhoods of Santa Clara County Neighborhood Development Conference	Seven Trees Community Center, San Jose	Authority staff made a presentation at the United Neighborhoods of Santa Clara County Neighborhood Development Conference that included statewide and project section updates. The Seven Trees Community Center is located within the environmental justice RSA in an area with both minority populations and low-income populations.
September 11, 2017	Presentation to Senter Monterey Neighborhood Association	Tully Library Community Room, San Jose	Authority staff made a presentation to the Senter Monterey Neighborhood Association on topics such as noise, commute, housing, and other impacts along Monterey Road. The environmental justice RSA in Monterey Corridor includes both minority populations and low-income populations.
September 18, 2017	Presentation to Gardner Neighborhood Association	Gardner Community Center, San Jose	Authority staff made a presentation to the Gardner Neighborhood Association located in an area with low-income populations. The presentation included project section updates, review of project alternatives in the San Jose Diridon Station Approach Subsection, and a review of community input. Authority staff also responded to questions.
June 8, 2018	Gilroy Right-of-Way Workshop	Old City Hall Restaurant, Gilroy	Authority staff participated in a meeting with the Gilroy Chamber of Commerce, Mayor Roland Velasco, Gilroy City Administrator Gabriel Gonzalez, and local businesses, during which the Authority presented on the 2018 Business Plan and gave an overview of the right-of-way process. Both minority populations and low-income populations are located adjacent to the project alternatives in Gilroy.
July 2, 2018	Oak Grove Neighborhood Association Meeting	Southside Community Center, San Jose	Authority staff made a presentation to the Oak Grove Neighborhood Association primarily regarding the 2018 Business Plan. The Southside Community Center is located near the project alternatives in an area with both minority populations and low-income populations.
August 14, 2018	Morgan Hill Morning Community Meeting	Morgan Hill Chamber of Commerce, Morgan Hill	Authority staff were invited by the Morgan Hill Chamber of Commerce to provide an update to business owners and members of the public on the project section, new UPRR alignment, 2018 Business Plan, and the right-of-way process. The workshop consisted of a presentation by Authority staff, a question-and-answer session, and map review. The Morgan Hill Chamber of Commerce is located near the project alternatives in an area with low-income populations.

Date	Meeting Type	Meeting Location	Description
August 14, 2018	Morgan Hill Evening Community Meeting	Morgan Hill Chamber of Commerce, Morgan Hill	Authority staff were invited by the Morgan Hill Chamber of Commerce to provide an update to business owners and members of the public on the project section, new UPRR alignment, 2018 Business Plan, and the right-of-way process. The workshop consisted of a presentation by Authority staff, a question-and-answer session, and map review. The Morgan Hill Chamber of Commerce is located near the project alternatives in an area with low-income populations.
September 20, 2018	Gilroy Small Business Workshop	Gilroy Veterans Memorial Hall	Authority staff attended and shared information about the project at a workshop for small businesses in Gilroy. Both minority populations and low-income populations are located adjacent to the project alternatives in Gilroy.
September 24, 2018	Gilroy Unified School District and Gilroy City Council Joint Meeting	City Council Chambers, Gilroy	Authority staff provided a project update and an overview of the 2018 Business Plan and the project alternative alignments (including the blended alignment). Both minority populations and low-income populations are located adjacent to the project alternatives in Gilroy.
October 18, 2018	San Martin Neighborhood Alliance Meeting	Lion's Club, San Martin	Authority staff provided a project update, a map review, an overview of the 2018 Business Plan, project alternative alignments (including the blended alignment), and right of way process.
October 23, 2018	Delmas Park Neighborhood Association Meeting	The Learning Center, San Jose	Authority staff were invited by the Delmas Park Neighborhood Association to provide an update on the 2018 Business Plan and the project alternatives under consideration in San Jose. The workshop consisted of a presentation by Authority staff and a question-and-answer session. The Delmas Park neighborhood is located near the project alternatives in an area with low-income populations.
March 6, 2019	Vietnamese Voluntary Organization	San Jose	Authority staff convened a Vietnamese in-language meeting with members of the Vietnamese community in San Jose to provide updates on the project and solicit input on the project alternatives.
March 26, 2019	Community Meeting	Volta Elementary School	Authority staff convened a Spanish in-language meeting to increase awareness about the project in the Volta Elementary School and the Los Banos community as a whole. Over 20 members of the community participated and were actively engaged throughout the meeting. In addition, community members provided comments and asked questions about the train's affordability, right-of-way acquisitions, and impact on roadway access for the school community.

Date	Meeting Type	Meeting Location	Description
May 13, 2019	Gardner Community Meeting with Gardner Neighborhood Association	Gardner Community Center, San Jose	Authority staff convened a Spanish in-language meeting in response to requests from the Gardner Neighborhood Association. Staff provided project information to increase awareness about the project and collected feedback about project-related impacts. Approximately 15 members of the public participated. Gardner is identified as a low-income population for the environmental justice analysis.
May 28, 2019	Gilroy Community Meeting	South Valley Middle School, Gilroy	Following interviews with Gilroy community groups, the Authority convened a Spanish in-language meeting with the Gilroy community. Key discussion topics included safety, impacts on schools along IOOF Avenue and Rebekah Children's Center, preferred alternative selection criteria, and the project timeline. Staff also solicited input from the community about project-related impacts. Both minority populations and low-income populations are located adjacent to the project alternatives in Gilroy.
May 31, 2019	Homeless Walks with HomeFirst	Monterey Corridor, Santa Clara County	Authority staff shadowed two HomeFirst staff members as they conducted outreach along the Monterey Corridor. Through this outreach, the team interacted with members of the homeless community living along the Caltrain tracks and discussed concerns related to safety.
June 13, 2019	St. Joseph's Family Center Homeless Dinner	St. Joseph's Family Center, Gilroy	Authority staff attended a tri-weekly hot dinner service provided by the St. Joseph's Family Center. Staff spoke to approximately 20 attendees regarding the potential effects of the project, including that the project would provide increased transportation options and economic benefits. Both minority populations and low-income populations are located adjacent to the project alternatives in Gilroy.
June 14, 2019	Homeless Walks with PATH	San Jose Diridon Station area	Authority staff shadowed PATH staff as they conducted outreach to the homeless community around Diridon Station and near the Guadalupe River. Through this outreach, the team interacted with members of the homeless community regarding project impacts including fencing and heightened security at the station deterring overnight stays and encampments.
July 5, 2019	Music in the Park	Downtown Amphitheatre, Morgan Hill	Authority staff set up an informational booth at the Morgan Hill Chamber of Commerce's Friday Night Music Series. The Morgan Hill Chamber of Commerce is located near the project alternatives in an area with low-income populations. Approximately 50 members of the public stopped to learn more about the High Speed Rail project and ask questions.

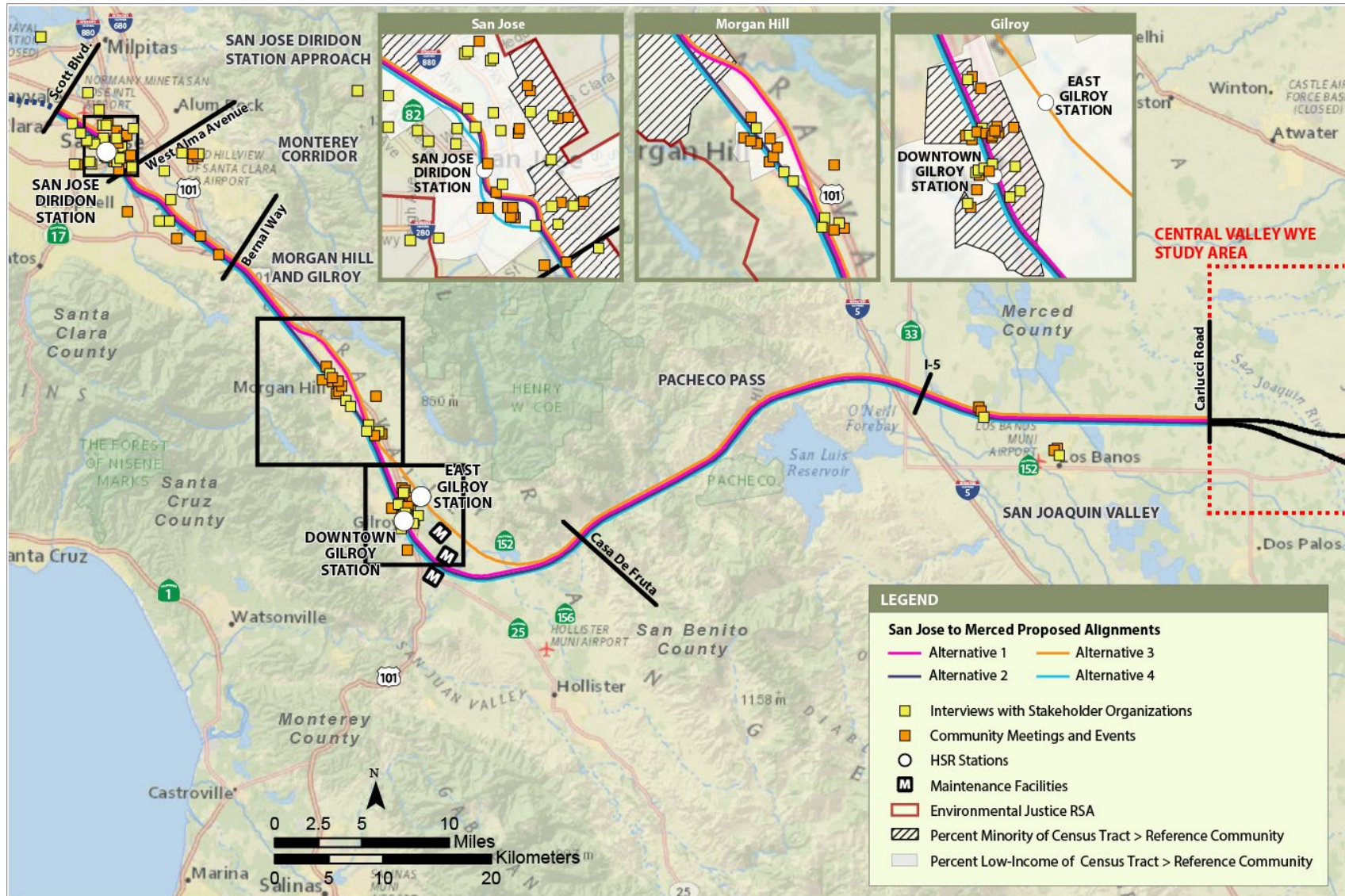
Date	Meeting Type	Meeting Location	Description
August 1, 2019	Morgan Hill Chamber of Commerce Breakfast	Community and Cultural Center, Morgan Hill	Authority staff were invited to give a short project update at the monthly Morgan Hill Chamber of Commerce breakfast meeting. The Morgan Hill Chamber of Commerce is located near the project alternatives in an area with low-income populations. Approximately 75 attendees were provided an update on construction in the Central Valley, Caltrain electrification, and the State's Preferred Alternative selection process. Staff also encouraged attendance at upcoming Open House meetings. Staff also received input from the community members, including concern for project funding and safety issues along the alignment, especially regarding schools.
August 9, 2019	Downtown San Jose Farmers Market	Downtown San Jose	The San Jose Farmers Market is held every Friday during the spring and summer months across several blocks of downtown San Jose in an area with low-income populations. Authority representatives staffed an information table, speaking to approximately 60 people and providing project updates and receiving feedback. Input from the community included concern regarding the impacts to the Diridon neighborhood, including property impacts and eminent domain, coordination with other transit agencies, traffic, safety, and connections between Millbrae Station and SFO.
September 20-21, 2019	Vietnamese Moon Festival	Eastridge Mall, San Jose	Authority representatives set up an informational table at the Vietnamese Moon Festival. This year, the Festival estimated 30,000 majority-Vietnamese community members attended the event. Staff were present on Friday and Saturday, with Vietnamese-speaking staff present on Friday. Staff sought to increase the community's awareness of the project, collect feedback from the community, and connect with Vietnamese community members and service providers.
October 16, 2019	Ground-truthing (observing)	San Jose and Santa Clara	The Authority's outreach team observed communities around the Tamien Caltrain and Santa Clara stations. In San Jose, the outreach team identified a homeless encampment, residences, and businesses that could be affected by the project. In Santa Clara, the team observed that much of the area around the station was occupied by businesses and retail. However, a small residential community located on Main Street, in the vicinity of Sahara Way, was identified as a low-income and minority neighborhood that could be impacted.
November 6, 2019	Community Meeting with Better Tomorrow: San Jose	Oak Grove High School, San Jose	Better Tomorrow: San Jose is a community organization in South San Jose founded in 2016. Authority representatives were invited to participate in their first "Community Sessions" event to present information on HSR. Approximately 20 individuals attended, most in their late teens or early 20's.

Date	Meeting Type	Meeting Location	Description
December 13, 2019	Gardner Academy parents and community	Gardner Academy, San Jose	Authority representatives gave a presentation to approximately 35 parents and other community members. Gardner is identified as a low-income population for the environmental justice analysis.
December 13, 2019	Gardner Neighborhood Walk	Gardner Academy and surrounding neighborhood, San Jose	Authority staff joined representatives of the Gardner Neighborhood Association, the Office of Congresswoman Zoe Lofgren, and San Jose Unified School District to walk around the neighborhood and identify community impacts. Participants expressed concern about further isolation, maintenance of tracks and bridges that children would cross to get to school, impacts on emergency response times, and preservation of Fuller Park. Gardner is identified as a low-income population for the environmental justice analysis.

HSR = high-speed rail

SFO = San Francisco International Airport

UPRR = Union Pacific Railroad



JANUARY 2020

Figure 5-14 Locations of Environmental Justice Outreach Activities

In addition to the meetings listed in Table 5-12, the Authority participated in the following small group meetings and briefings with representatives of minority and low-income communities, to gather information regarding community concerns and to plan future outreach activities:

- June 7, 2016: Meeting with San Jose District 6 neighborhood residents
- September 12, 2016: Presentation to Gilroy City Council
- September 13, 2016: Meeting with San Jose District 2 staff and City of San Jose staff to discuss outreach to residents along Monterey Corridor Subsection

Environmental Justice Organizations

The outreach team conducted a series of interviews in July and August 2016 with stakeholders serving minority populations and low-income populations in the environmental justice RSA to inform the Authority's outreach efforts to these populations. The primary objectives of the interviews were to better understand the interests and concerns of minority populations and low-income populations related to the HSR project; to inform the Authority's strategy for meaningfully engaging minority and low-income stakeholders, including anticipating and responding to potential challenges; and to identify specific environmental justice outreach opportunities (e.g., events, meetings, neighborhood groups) and additional stakeholders with whom to partner moving forward. Table 5-13 identifies the stakeholders that were interviewed.

Table 5-13 Interviews with Stakeholder Organizations Held in 2016

Organization	Interview Date
Asian Americans for Community Involvement	8/4/2016
California Environmental Protection Agency ¹	8/5/2016
City of Gilroy	7/26/2016
City of San Jose District 3	8/4/2016
Delmas Park Neighborhood Association	8/4/2016
Sierra Health Foundation	7/28/2016

¹ The California Environmental Protection Agency has an environmental justice program and provides guidance documents and grants for related work. The agency also provides information about minority populations and low-income populations in coordination with California Office of Environmental Health Assessment in the CalEnviroScreen tool.

Results of 2016 stakeholder interviews informed the Authority's strategy to engage minority populations and low-income populations in the environmental justice RSA in 2018 and 2019. Stakeholders also offered suggestions on how to effectively engage communities along the project. These engagement suggestions included conducting in-language gatherings, neighborhood walks, and door-to-door canvassing in some neighborhoods; using social media and public service announcements on Spanish-language radio stations to engage Spanish-speaking residents; and providing incentives such as food and childcare at evening and weekend meetings.

These recommendations were incorporated into and continued to shape the targeted environmental justice outreach efforts conducted throughout 2018 and 2019. Authority staff made efforts to provide accommodations to address the stakeholders' suggestions and provide enhanced outreach whenever feasible by partnering with local organizations. For example:

- Authority staff joined local community leaders to conduct neighborhood walks and canvass door-to-door in select minority and low-income communities to answer community members' questions and provide information about the project. In San Jose's Gardner neighborhood, for example, the Authority coordinated the planning of an in-language community meeting with the neighborhood association. In advance of the early evening meeting held at the local community center, Authority staff canvassed in the neighborhood and informed members of

the public that children and other family members were welcome. The neighborhood association provided refreshments.

- The Authority opted not to provide public service announcements on Spanish-language radio stations, but Authority staff enlisted local community organizations to translate and share information about events on the community organizations’ social media postings, via emails and newsletters, and on their websites. For example, a large Vietnamese community foundation in San Jose hosted a presentation by Authority staff. They prepared a flyer about the event in Vietnamese and also provided a meal at the event to encourage participation.
- Multilingual flyers, in-language posters and newspaper ads, and community organizations’ social media postings invited members of the public to the summer 2019 open houses regarding the preferred alternative. Based on stakeholder feedback, the outreach consulting team provided family-friendly snacks and a number of children accompanied adult members to these informal events.

Commencing in 2018, direct engagement with community members was coordinated with stakeholders serving minority populations and low-income populations with the intent of increasing awareness and participation in outreach activities conducted for HSR. Service providers served as partners and co-hosts for community outreach meetings and presentations. Several meetings included in-language material and translation services based on community members’ needs as indicated by the service providers. In addition, the Authority focused outreach in communities where interviews with service providers indicated that community members lacked awareness of the project (e.g., in Gardner).

As a result of the addition of Alternative 4 in 2018, and the resulting interest from the relevant communities, a second series of interviews were conducted beginning in October 2018 and continuing through December 2019 with stakeholders serving minority populations, low-income populations, and sensitive populations in the environmental justice RSA to continue the Authority’s outreach efforts to these populations. Table 5-14 identifies the stakeholders that were interviewed in 2018 and 2019.

Table 5-14 Interviews with Stakeholder Organizations Held in 2018 and 2019

Organization	Interview Date
Alexander Station, Gilroy	4/18/2019
Better Tomorrow: San Jose	10/29/2019
Biblioteca Latinoamericana, San Jose	10/29/2018; 11/9/2018
Bill Wilson Center, San Jose	6/25/2019
Centennial Recreation Center, Morgan Hill	11/14/2018
Charities Housing (property manager for HomeSafe Santa Clara), Santa Clara County	12/9/2019; 12/16/2019
City of Los Banos Community Center	12/10/2018
City of Morgan Hill (Office of the City Manager, Planning, and Economic Development)	11/15/2018
City of Morgan Hill, Older Adult Services	11/14/2018
City of San Jose Environmental Services Department	10/18/2019
Community Agency for Resources, Advocacy, and Services (CARAS) South County, Gilroy	2/7/2019
Community Solutions, Santa Clara County	12/18/2018
Compassion Center, Gilroy	2/28/2019
DeBug Community and Advocacy Group, Santa Clara County	6/26/2019

Organization	Interview Date
Family & Children Services of Silicon Valley, Santa Clara County	10/17/2019
Gardner Academy, San Jose	10/29/2019
Gardner Community Center, San Jose	12/3/2018
Gavilan College, Gilroy	11/8/2018
Gilroy Unified School District	11/9/2018
Gilroy Unified School District and Gilroy High School	3/14/2019
Gilroy Unified School District and Gilroy Prep/Navigator School	12/19/2019
Gilroy Unified School District and South Valley Middle School	12/4/2018
Glen View Elementary, Gilroy	2/12/2019
Guadalupe Washington Neighborhood Association, San Jose	10/29/2019
Hope Services, Gilroy	1/29/2019
International Children Assistance Network (ICAN), Santa Clara County	10/24/2019
Kings View, Los Banos	12/20/2018
La Raza Radio, San Jose	12/3/2019; 12/13/2019
Learning and Loving Education Center, Morgan Hill	12/4/2018
Los Banos Community Center	12/20/2019
Maple Leaf Recreational Vehicle Park, Morgan Hill	11/20/2019
Merced Community Action Agency	11/27/2018
Morgan Hill Community Adult School	12/4/2018
Morgan Hill Unified School District	11/20/2019
Navigator Schools, Gilroy	12/14/2018
Next Door Solutions, Santa Clara County	12/17/2019
PARS Equality Center, Santa Clara County	10/30/2019
Pacific Gas & Electric, San Francisco Bay Area and Central Valley	10/2/2019
Rebekah Assembly, Gilroy	12/4/2018
Rebekah Children's Services, Gilroy	12/20/2018
Refugee and Immigrant Forum of Santa Clara County	10/16/2019
Rocca's Market, San Martin	11/20/2019
Sacred Heart Nativity School, San Jose	12/13/2019
Salvation Army Family Services, San Jose	11/20/2018
Salvation Army's Emmanuel House, San Jose	12/4/2018
San Andreas Regional Center, Santa Clara County	12/21/2018
San Jose City College	12/12/2019
San Jose Downtown Residents Association	2/14/2019
San Martin/Gwinn K-8 School, San Martin	11/4/2019

Organization	Interview Date
San Martin Lions Club	2/19/2019
Santa Clara County Department of Family and Children's Services	12/18/2019
Santa Clara County Office of Education, Head Start	1/8/2019
Santa Clara County Office of Immigrant Relations	2/6/2019, 2/28/2019
Santa Clara County Office of Supportive Housing	10/31/2018
Santa Clara County Social Services	11/14/2018
Santa Maria Urban Ministry, San Jose	11/12/2018
St. Joseph's Family Center, Gilroy and San Martin	4/22/2019
St. Mary Parish, Gilroy	11/9/2018
The Cordoba Center: South Valley Islamic Community, San Martin	11/29/2018
Univision, San Francisco Bay Area	12/9/2019; 12/13/2019
UStar Productions, San Jose	9/10/2019; 10/4/2019
Vietnamese Voluntary Organization (VIVO), San Jose	11/15/2018
Volta Elementary School, Volta/Los Banos	12/10/2018; 12/19/2019
West Valley Community Services, San Jose	2/12/2019

Engagement through Coordination with Community Working Groups

The Authority also convened community working groups (CWG) to discuss and gather input on project alternatives with community members representing a broad range of local interests. Each of the CWGs includes representatives of minority communities and low-income communities in the environmental justice RSA.

As the Authority expanded environmental justice outreach efforts in 2018 and 2019, Authority staff coordinated with CWG members on how to best engage with minority populations and low-income populations in their communities. The topic of coordination served as a discussion prompt at some CWG meetings, and CWG members offered advice on coordination partners or advocated for activities and events to be conducted in specific neighborhoods.

As a result of this input, Authority staff worked closely with CWG members representing specific population groups to collaborate on environmental justice outreach activities targeting minority populations and low-income populations. For example, in San Jose, a CWG member facilitated the door-to-door canvassing and scheduling of a community meeting in the Gardner neighborhood. Another CWG member organized a meeting with representatives from the Vietnamese community.

To ensure CWGs reflect the diversity of stakeholders in the region, the Authority continues to add new CWG members by inviting contacts established through the environmental justice outreach process. As Authority staff engage with stakeholder organizations representing minority, low-income, and other marginalized populations, leaders of these organizations are invited to join the CWGs.

5.5.2 Issues and Concerns

The Authority and FRA engaged, and the Authority continues to engage, extensively with stakeholders on the project beginning with scoping in 2009 for the San Jose to Merced Project Section and continuing through preparation of this Draft EIR/EIS. A number of meetings were held throughout the project public engagement process to solicit community input and concerns

regarding the potential effects of the project on minority populations and low-income populations. Authority staff also attended community functions, such as farmers' markets and neighborhood association meetings, to inform the community about the project and learn about their concerns. At these gatherings, a variety of stakeholders provided comments on a wide range of issues and expressed opinions regarding the selection of the project alternatives. The following issues and concerns were recurring during engagement efforts, including in areas with minority populations and low-income populations:

- **HSR alignments**—Participants provided input on how different project alternatives would avoid or adversely affect different neighborhoods and communities. Additional alignment preferences, such as an at-grade alignment through downtown San Jose, an alignment along US 101, or an alignment predominately in trench, tunnel, or along existing rail tracks were suggested to minimize property impacts and community displacements.
- **Vertical profile**—Participants noted preferences for different vertical profiles and structure types for each project alternative. For example, residents noted that retained or elevated viaducts would reduce property acquisitions related to sloped embankments. Some stakeholders expressed preference for the aerial option approaching San Jose Diridon Station as a means of reducing potential noise and traffic effects, while others raised concerns regarding aesthetic changes and loss of privacy caused by aerial structures. Some San Jose participants suggested that the Authority consider “active uses” for underpasses of aerial structures, with the potential to provide community benefits and prevent homeless encampments.
- **Project-related noise**—Participants noted concerns about operation and construction-related noise impacts and asked about the location of noise barriers. Noise was raised as a key concern in most of the communities along the project, and was particularly important to residents in San Jose, who already experience noise effects because of Caltrain operations and the Norman Y. Mineta San Jose International Airport.
- **Traffic and transportation**—Participants noted concerns about traffic congestion resulting from project construction and operations. These concerns were raised most frequently in Santa Clara and San Jose, communities most affected by current commute traffic conditions. In San Jose, the primary traffic concern was associated with the lane reduction of Monterey Road, and resulting delays and diversion of local traffic. In Los Banos, community members reported the project construction and operations impacts were of most concern for the Volta Elementary School community. As there are only two access roads (e.g., Ingomar Grade and Henry Miller Avenue) for families to access the school, any road closures would disrupt school attendance and access to emergency services and any noise or other operations-related effects would interfere with the learning environment.
- **Safety and security**—Universally, participants raised concerns regarding safety associated with train speeds, road crossings, and pollution. In San Jose and Gilroy, particular concern was expressed with regards to the safety of school children crossing the respective sections of Monterey Road; some individuals expressed the need for additional safety precautions. Issues of safety and security were also a concern for communities in the context of increased homeless encampments and illicit activities around the tracks and station areas. In many instances, there was concern for safety of families crossing tracks to access community and health services.
- **Aesthetic effects**—Participants, particularly those in San Jose, noted concern about visually dominant project elements and potential for graffiti on facilities, aerial structures, and noise barriers.
- **Community cohesion and connectivity**—Participants in the Newhall neighborhood of Santa Clara, the Willow Glen, Gardner, Edenvale, and Delmas Park neighborhoods of San Jose, Morgan Hill, San Martin, and Gilroy expressed concern that the project alignment would erode community cohesion and connectivity, as well as the existing community character.

- **Community resources**—San Jose residents voiced concern regarding effects on community resources, such as the segmentation and accessibility of parks and trails, including Fuller Park and Los Gatos Creek Trail, and noise effects at Gardner Elementary School. Residents in Morgan Hill and Gilroy were interested in property effects on schools located in minority and low-income areas within the environmental justice RSA (including the Charter School of Morgan Hill, Gilroy Preparatory School [a public charter school in the Gilroy Unified School District with both minority and low-income student percentages higher than the reference community], and South Valley Middle School). Residents in Gilroy were also concerned about potential effects of project-induced growth on Gilroy schools. Some Gilroy residents were concerned with effects on downtown Gilroy’s historic district (under Alternatives 1 and 2), while others were concerned with effects on historic resources in Old Gilroy (under Alternative 3).
- **Displacements**—Participants voiced concerns related to the number and type of residential displacements, particularly in San Jose, Morgan Hill, and Gilroy. Participants raised concerns regarding the displacement of low-income rental housing, particularly in Gilroy and Morgan Hill, and the ability of low-income or unemployed community members who rent their housing to relocate if affected by HSR. Others expressed concern about whether adequate replacement housing and other zoned properties exist to relocate those affected. The Gilroy community is particularly concerned about the Alternatives 1 and 2 impacts of complete displacement of schools, community and health resources and city facilities on IOOF Avenue, off of Monterey Road. The community has made efforts to find real estate to relocate the schools, resources, and facilities and was unable to find suitable locations.
- **Affordable housing**—Gilroy and San Jose participants raised concerns regarding the effect of HSR on housing prices in the vicinity of stations and encouraged the Authority to adopt policies that protect and advocate for affordable housing in station areas.
- **Gilroy station location options**—Some Gilroy area residents were concerned with potential urban sprawl and induced-growth associated with a station in east Gilroy, which would have the potential to change the community character in the station area.
- **Construction effects on downtown Gilroy businesses**—A key concern raised by community members in downtown Gilroy was that construction effects would result in negative effects on the operation and margins of businesses in downtown Gilroy.
- **Property values**—Participants in all communities expressed concerns regarding project effects on property values and appropriate relocation compensation.
- **Agricultural business and employment effects**—Participants in unincorporated Santa Clara and Merced Counties expressed concern regarding the loss of useable farmland, parcel severance, and effects on farm operations and infrastructure (e.g., wells and irrigation systems). Concern was also expressed for the corresponding loss of agricultural employment opportunities because of the projects’ effects on agriculture.
- **Cumulative neighborhood effects**—Participants expressed concerns over neighborhoods that have been historically affected by other transportation projects (e.g., the Gardner and Auzerais/Josefa neighborhoods and the construction of I-880 and US 101 freeways and subsequent widening; and the Silver Leaf and Sunspring neighborhoods, which are bordered by the Caltrain/Union Pacific Railroad (UPRR) railway and US 101). Morgan Hill participants expressed concern that the safety, noise, access to transportation and services and other impacts on the City’s priority development areas or affordable housing projects built around the existing Caltrain station, greatly outweigh the benefits that the project would offer the community given that there is no station. This is especially the case for the Morgan Hill community as one of the eligibility criteria for residents of Morgan Hill’s priority development areas is that they are a no-vehicle household and are wholly reliant on public transportation for their mobility.

5.6 Assessment of Effects

5.6.1 Overview

This section summarizes potential adverse effects of the No Project Alternative and the project alternatives on human health and environmental resources by alternative and project component. Analysts mapped the locations of adverse effects of the project in relation to concentrations of minority populations and low-income populations and assessed whether the available mitigation measures addressed concerns raised by minority populations and low-income populations during the engagement process. After considering the totality of the adverse effects, beneficial effects, cumulative effects, and the perceptions of the minority populations and low-income populations, analysts determined whether the effects would result in a disproportionately high and adverse effect on minority populations and low-income populations (i.e., whether adverse effects occurred disproportionately in areas with minority populations and low-income populations or if these adverse effects were of a disproportionately high magnitude in areas with minority populations and low-income populations).

5.6.2 No Project Alternative

The population in Santa Clara, San Benito, and Merced Counties and communities is expected to grow substantially by 2040 (see Section 2.6.1.1, Projections Used in Planning). Development to accommodate the population increase would continue under the No Project Alternative and result in associated direct and indirect effects on the resident populations, including minority populations and low-income populations. Such planned projects anticipated to be constructed by 2040 include office, residential, commercial, industrial, recreational, transportation, and agricultural projects. These projects would occur throughout Santa Clara, San Benito, and Merced Counties, which have 23.3, 12.1, and 25.6 percent low-income populations and 65.9, 62.9, and 69.5 percent minority populations, respectively (U.S. Census Bureau ACS 2010–2014b, 2010–2014d). The effects on these populations would depend upon the location of these projects relative to the concentrations of minority populations and low-income populations.

Foreseeable future development projects in the three-county region include implementation of various types of development projects and land use plans, as well as implementation of general and specific plans. Planned projects that would occur under the No Project Alternative would also include transportation projects such as the reconstruction of interchanges, and overcrossing construction, or development projects such as residential, commercial, and industrial developments. Section 3.19, Cumulative Impacts, and the Appendices 3.19-A, Cumulative Nontransportation Plans and Projects, and 3.19-B, Cumulative Transportation Projects, list foreseeable future development and transportation projects that could affect populations within the cities and counties through which the project travels.

Under the No Project Alternative, recent development trends are anticipated to continue, leading to temporary and permanent adverse or beneficial effects on minority populations and low-income populations as well as the population as a whole. Existing land would be converted for residential, commercial, and industrial development, and the transportation infrastructure to support the development. Adopted regional and local plans and policies guide development activities in a manner that encourages compact growth. Consequently, with or without the HSR project, much of the planned growth would be focused within or adjacent to urbanized areas of the RSA, including infill development. Conversion of existing land uses to transit-oriented development would be likely to occur in downtown San Jose and Gilroy with or without the HSR project because the *Diridon Station Area Plan* and the *Downtown Gilroy Specific Plan* encourage transit-oriented development (see Appendix 2-J).

Population growth and associated development pressures could result in disturbances to communities near construction activities, including minority populations and low-income populations, during temporary construction activities. Planned development and transportation projects that would occur as part of the No Project Alternative would likely include the implementation of various forms of mitigation to avoid or minimize potential effects on community and environmental resources that have the potential to affect human health, safety, and welfare.

5.6.3 Project Alternatives

As described in Chapter 3, construction and operation of the project alternatives would result in temporary and permanent adverse effects, as well as beneficial effects on environmental resources and populations, including minority populations and low-income populations. This environmental justice analysis focuses on the potential for adverse effects on health, safety, and the environment to adversely affect minority populations and low-income populations.

No further analysis was conducted for resource topics determined to have no adverse effects, adverse effects that would not affect minority populations and low-income populations, or resource topics for which mitigation measures were applied equally and effectively addressed community concerns. A brief summary of these resource topics is provided below.

No Adverse Effects on Minority Populations and Low-Income Populations

Project effects on the following resource topics were determined to have no adverse effects or adverse effects that would not affect minority populations and low-income populations: electromagnetic fields (EMF)/electromagnetic interference (EMI); geology, soils, seismicity, and paleontological resources; biological and aquatic resources; water quality; floodplains; station planning, land use, and development; agricultural farmland; cultural resources; property and sales tax revenue changes; and effects on school district funding.

Electromagnetic Frequency/Electromagnetic Interference

Construction and operation of the project alternatives would intermittently generate increased levels of EMF and EMI. As the EMF levels generated during construction and operations would be far below applicable health and safety standards, the general public and HSR employees would not be exposed to increased health risks (see Section 3.5, Electromagnetic Fields and Electromagnetic Interference). There would be no adverse effects on human health associated with increased exposure to EMF and EMI as a result of the project alternatives, and populations, including minority populations or low-income populations, would not be adversely affected.

Geology, Soils, Seismicity, and Paleontological Resources

Risks to human health and safety associated with encountering geologic hazards, unstable soil conditions, and seismic hazards during construction or project operation would be avoided through the standard construction practices (GEO-IAMF#1, Geologic Hazards; GEO-IAMF#2, Slope Monitoring; GEO-IAMF#3, Gas Monitoring; GEO-IAMF#4: Historic or Abandoned Mines; GEO-IAMF#5, Hazardous Minerals; GEO-IAMF#6, Ground Rupture Early Warning Systems; GEO-IAMF#7, Evaluate and Design for Large Seismic Ground Shaking; GEO-IAMF#8, Suspension of Operations During an Earthquake; GEO-IAMF#9, Subsidence Monitoring; and GEO-IAMF#10: Geology and Soils) including preparation of a construction management plan; monitoring for slope instability, subsurface gas and subsidence; installing seismic early warning systems; designing for earthquake loads; using motion sensors to shut down operations during or after an earthquake; and compliance with established engineering design guidelines and standards. Adverse effects on paleontological resources during construction would not occur because paleontological resource monitoring and mitigation (GEO-IAMF#11, Engage a Qualified Paleontological Resources Specialist; GEO-IAMF#12, Perform Final Design Review and Triggers Evaluation; GEO-IAMF#13, Prepare and Implement Paleontological Resources Monitoring and Mitigation Plan (PRMMP); GEO-IAMF#14, Provide WEAP Training for Paleontological Resources; and GEO-IAMF#15, Halt Construction, Evaluate, and Treat if Paleontological Resources Are Found) would occur in areas with high paleontological sensitivity and would allow for identification and salvage of fossils prior to and during construction (see Section 3.9, Geology, Soils, Seismicity, and Paleontological Resources). Accordingly, no adverse effects associated with geology, soils, seismicity and paleontological resources would occur, and populations, including minority populations and low-income populations, would not be affected.

Biological and Aquatic Resources

Construction and operation of the project would result in temporary and permanent adverse effects on biological and aquatic resources, including land cover, special-status species, plants

and habitat, non-special-status species wildlife and habitat, jurisdictional aquatic resources, protected trees, wildlife corridors, conservation areas, and habitat conservation plans (see Section 3.7, Biological and Aquatic Resources). While some adverse effects on biological and aquatic resources would occur during project construction and operations, the resources affected are not related to human health and are not relied upon as local subsistence food sources for minority populations and low-income populations. As a result, the project would not result in effects on biological and aquatic resources that would adversely affect the health of populations, including minority populations and low-income populations, or adversely affect critical environmental resources that these populations directly rely upon.

Water Quality

Construction activities such as grading, excavation, and dewatering would be conducted in accordance with a stormwater pollution prevention plan (SWPPP) that includes best management practices (BMP) effective at minimizing discharges of sediment from the construction site and managing construction equipment and materials to prevent leaks, spills, and accidental discharges to surface waterbodies (HYD-IAMF#3, Prepare and Implement a Construction Stormwater Pollution Prevention Plan). HSR stations and maintenance facilities would be designed to reduce the potential for discharging pollutants to surface waterbodies by performing mechanical maintenance indoors and using low-impact development measures to capture and treat potentially contaminated runoff. Operation and maintenance activities would be subject to a SWPPP and an operations and maintenance plan, which would further minimize water quality effects. Neither construction nor operations would not result in the violation a water quality standard or creation of a substantial new source of polluted runoff (see Section 3.8, Hydrology and Water Resources). There would be no adverse effects on water quality, and populations, including minority populations or low-income populations would not be adversely affected.

Floodplains

Operation of the project would adversely affect floodplains associated with Los Gatos Creek under Alternative 4 as well as Canoas Creek/Guadalupe River under all four alternatives. In these areas the railbed has the potential to become flooded during the 100-year flood, which would intermittently expose passengers to potential loss, injury, and death from flooding during operations. The hydrology and water resources-specific mitigation measures (HYD-MM#1, Floodwalls and Equalizer Culverts along the Railbed in the Canoas Creek/Guadalupe River Overflow Floodplain and HYD-MM#2, Operational Restrictions on the Use of the Los Gatos Creek Bridge during Floods) would be implemented to address intermittent adverse operations impacts. These intermittent operations impacts would adversely affect HSR passengers, and the impact would be less than significant after mitigation. Minority populations or low-income populations located within the EJ RSA would not be adversely affected by temporary and permanent changes to floodplains.

Station Planning, Land Use, and Development

Construction of the project alternatives would require the permanent conversion of various amounts and types of land uses to transportation uses along the entire length of the project alternatives. In most locations, land acquisitions would represent small acquisitions along the entire alignment; however, the project alternatives would require the permanent acquisition and conversion of between 45.0 and 102.3 acres of residential property and between 14.8 and 91.6 acres of commercial property in the Morgan Hill and Gilroy Subsection. This conversion of land zoned for residential and commercial use into transportation use would alter land use patterns by substantially expanding transportation uses in the Morgan Hill and Gilroy Subsection. For the purposes of this analysis, alteration of land use patterns is not considered to have a direct adverse effect on populations, including minority populations and low-income populations, because it would not result in adverse effects on human health, safety, or welfare. Alteration of land use patterns, as it affects displacements and community cohesion is discussed below under the socioeconomics and communities discussion in Section 5.6.3.1, Construction Effects.

HSR stations can become a focal point of economic activity as public and private investment seeks to capture the travel benefits of increased intercity accessibility. Beneficial effects are anticipated in the areas surrounding the San Jose Diridon and Downtown Gilroy Stations because HSR service would attract a new market of intercity travelers and increased statewide accessibility to jobs, goods, and services. HSR station improvements would create new passenger throughput capacity, increase capacity for future travel demand, and expand travel capacity for future residential and employment growth.

Agricultural Farmland

Construction of the project would require the temporary and permanent conversion of agricultural land in rural areas along the alignment. For purposes of this analysis, conversion of agricultural land was not considered to have a direct adverse effect on populations, including minority populations and low-income populations, because it would not result in adverse effects on human health, safety, or welfare. However, the conversion of agricultural land would have adverse effects on the agricultural employment, which was a concern raised during environmental justice engagement. The project's effects on agricultural employment are discussed under the employment discussion in Section 5.6.3.1, Construction Impacts.

Cultural Resources

Construction of Alternatives 1 and 2 would require construction activity in proximity to the Gilroy/Grange Japanese School, which has an important historical association as a school and social hall for the prewar Gilroy Japanese community and the wartime loss of the building, which reflects the devastating effects of wartime incarceration on the Japanese-American community. Although alteration of the parcel would occur, the building would be protected by project features that include training construction staff to avoid or protect cultural resources during construction, preparing and implementing protection measures prior to construction, monitoring methods and process, and making sure that these plans are followed and that protection mechanisms are in place prior to the start of construction. As a result, no adverse effect on the Gilroy/Grange Japanese school, which may be culturally and historically significant to minority populations, would occur.

Property and Sales Tax Revenue Changes

Property tax revenues would be reduced between 0.000001 and 0.000005 percent overall due to property acquisition for project construction. This level of change would not be high and adverse and would be realized at the scale of the county or city, so it would not affect minority populations or low-income populations disproportionately. Sales tax revenue increases from expenditures during construction and operations would be beneficial to local economies and would not adversely affect minority populations or low-income populations.

School District Funding

Reductions in property tax revenue from property acquisition and residential displacement that results in student relocations would reduce sources of funding for school districts. Reductions in school district funding are estimated at less than 1 percent (0.2 to 0.5 percent) of total annual school district funding sources and would not represent a source of high and adverse impacts to minority populations or low-income populations.

Adverse Effects on Minority Populations and Low-Income Populations Addressed through Mitigation

Project effects associated with construction noise and vibration, temporary construction-related aesthetics and visual quality, public utilities and energy, and hazardous materials and wastes were determined to have adverse effects on populations, including minority populations and low-income populations, that were addressed through mitigation. For these resource topics, the proposed mitigation for project construction effects would be applied equally to minority populations and low-income populations and the general population as a whole and is responsive to the concerns raised during the environmental justice engagement process.

Construction Noise and Vibration

Noise from construction activities would temporarily exceed the FRA noise standards along the entire project corridor and adversely affect sensitive receptors (e.g., residences, schools, hospitals, and parks). Vibration from construction, including pile driving, would cause adverse effects on sensitive receptors in the area. The increase in noise and vibration would affect all communities near construction activities, including minority populations and low-income populations. These effects would be temporary during construction and will be reduced with implementation of mitigation measures N&V-MM#1, Construction Noise Mitigation Measures, and N&V-MM#2, Construction Vibration Mitigation Measures, as described in Section 3.4 of this Draft EIR/EIS. These mitigation measures would be applied throughout the entire project corridor and would reduce construction noise and vibration below the FRA noise and vibration standards through noise monitoring and the avoidance of pile driving within 50 feet of buildings. These mitigation measures would address concerns raised during environmental justice engagement by reducing annoyance and disruption from construction noise and would establish a toll-free telephone hotline through which community members could raise questions or concerns about construction activities with the Authority. Because mitigation would reduce noise and vibration levels to acceptable levels, be applied equally throughout the project corridor, and would be responsive to the concerns raised during the environmental justice engagement process, construction of the project alternatives would not result in disproportionately high and adverse noise and vibration effects on minority populations and low-income populations.

Aesthetics and Visual Quality (Temporary Construction-Related)

Construction of the project alternatives in residential areas would include heavy equipment and vehicles, dust material, stockpiles, and staging areas, worker parking, and equipment and material storage areas. These activities would be present and visible to nearby viewers in residential areas, and thereby would affect visual quality and could result in temporary degradation of visual quality to residents. These effects on visual quality would be experienced by all communities near construction activities, including minority populations and low-income populations.

The Authority will implement mitigation measures to reduce the effects on residential views. AVR-MM#1, Minimize Visual Disruption from Construction Activities, and AVR-MM#2, Minimize Light Disturbance during Construction, would require that construction contractors employ measures, such as preserving existing vegetation to screen views and locating construction staging sites 500 feet from residential areas, to minimize visual disturbance and shield nighttime construction lighting, thereby maintaining existing visual quality as much as possible. This would reduce the area and scale of, and exposure to, adverse visual effects. These measures would apply equally to minority populations and low-income populations and the reference community as a whole and would address the concerns raised by minority populations and low-income populations during the environmental justice engagement process about construction-related effects on aesthetics and visual quality. As a result, project construction would not result in temporary aesthetics and visual quality effects that would result in disproportionately high and adverse effects on minority populations and low-income populations.

Public Utilities and Energy

Construction of the project alternatives could result in planned or accidental temporary interruption of utility service. These planned interruptions would not result in prolonged disruption of utility services, and construction of the project alternatives would not result in the loss of utility services, or reduced access to public utility lines.

Construction of the project alternatives would result in increased water use, increased waste generation, and increased energy consumption. Construction of the project alternatives would not require construction of new water supply capacity, or construction of new solid waste disposal capacity, or construction of new energy generation facilities or expansion of existing energy generation facilities. As a result, construction of the project alternatives would not result in disproportionately high and adverse on minority populations and low-income populations associated with public utilities and energy.

Hazardous Materials and Wastes

Construction activities would be similar throughout the project corridor and would involve the temporary transport, use, storage, and disposal of hazardous materials and wastes, which have the potential to result in accidental spills or releases at all locations near construction sites. Schools are particularly sensitive locations for the accidental release of hazardous materials due to the potential effects on children’s health and safety. Schools within 0.25 mile of construction activities that could be at risk for hazardous waste spills are located in each adjacent community within the RSA. These schools are distributed among minority populations and low-income populations, as well as among non-minority populations and non-low-income populations. The application of mitigation measure HMW-MM#1, Limit Use of Extremely Hazardous Materials near Schools during Construction, would limit the transport of hazardous materials near any of these schools (see Section 3.10, Hazardous Materials and Wastes). Because mitigation would be applied equally to all schools within 0.25 of construction activities and would substantially reduce the risk of a hazardous materials spill, the project would not adversely affect populations, including minority populations and low-income populations.

5.6.3.1 Construction Impacts

As described in Chapter 3, construction of the project alternatives would result in temporary and permanent adverse effects on populations. This section evaluates the potential for these adverse effects to result in a disproportionately high and adverse effect on minority populations and low-income populations after the application of mitigation and the consideration of project benefits.

Transportation

Traffic

Construction of any of the project alternatives would affect major roadways due to temporary roadway and lane closures during construction and increased traffic associated with construction activities (e.g., heavy truck traffic and construction worker trips to and from the construction site). This would affect local circulation and access to community facilities along the entire length of the alignment, but adverse effects (NEPA effect only) would be experienced to the greatest extent within the Monterey Corridor Subsection in South San Jose, where Alternatives 1, 2, and 3 would narrow Monterey Road from six to four lanes between Capitol Expressway to Blossom Hill during construction and eliminate left turn movements from Monterey Road. During the approximately 18 to 24 months of construction, residents and travelers at peak hours within the Monterey Corridor Subsection would experience increased travel times, out-of-direction travel, intersection delay, and inconvenience due to construction traffic and temporary diversions. Construction of the Alternatives 1, 2 and 3 would also permanently reduce the capacity of Monterey Road, shifting trips from roadways to freeways, and resulting in increased congestion (NEPA effect only) at two freeway segments on US 101 in the Monterey Corridor Subsection, between SR 85 and Bernal Road. Under Alternative 4, Monterey Road would not be narrowed and no spillover effects on US 101 would occur.

A review of trip data indicates the vast majority of traffic along Monterey Road (approximately 90 percent) consists of local trips, rather than pass-throughs by commuters traveling long distances (Burton 2018), although local trips occur throughout the day, not necessarily at peak hours when the effects are felt. Construction-related transportation effects might be chiefly experienced by residents within the Monterey Corridor Subsection. However, there is no evidence that such peak-hour congestion, even if felt by local residents, would have the effect of isolating, excluding, or separating minority or low-income individuals within a given community or from the broader community, so therefore construction-related traffic is not considered a disproportionately high and adverse effect on minority or low-income populations.

Nevertheless, a traffic control plan implemented as part of the project during construction (TR-IAMF#2, Construction Transportation Plan) would assist with maintaining traffic flow during peak travel periods through the use of temporary signage to alert drivers to the construction zone, personnel operating flags or other methods of traffic control, traffic speed limitations, identification of construction traffic routes, and provisions to allow safe access to residences and business.

Substantial delays and level of service (LOS) degradation would occur at two intersections in the Morgan Hill to Gilroy Subsection under Alternatives 1, 2, and 3. However, there is no evidence that such LOS degradation in this subsection would have the effect of isolating, excluding, or separating minority or low-income individuals within a given community or from the broader community, so therefore construction-related traffic is not considered a disproportionately high and adverse effect on minority or low-income populations.

Transit

While demographic information on riders of transit and passenger rail within the project extent was not available for all affected service providers, the data reported by (Santa Clara) Valley Transportation Authority (VTA) indicates that transit ridership largely serves minority populations and low-income populations within Santa Clara County. According to a 2013 VTA On-Board Survey, VTA bus riders are predominately low-income individuals with a median household income of \$42,800, racially and ethnically diverse with 77 percent of riders identifying as minority, and 28 percent have limited English proficiency (VTA 2014). In comparison, the reference community has a median household income of \$87,740, a population that is 66.3 percent minority, and 11.5 percent of the population have limited English proficiency (U.S. Census Bureau ACS 2010–2014c, 2010–2014d, 2010–2014f). While potential effects on transit services was not specifically raised as a community concern during environmental justice engagement, transit and passenger rail provide critical mobility services to low-income populations and other sensitive populations that have mobility limitations (e.g., elderly and disabled).

Construction of the HSR stations, platforms, and track alignment would require temporary closure of some transit stations, passenger rail stations and platforms, parking areas, or roadway lanes, resulting in increased travel time and the use of temporary facilities that may not have the same safety and accessibility features for transit and passenger rail riders. As a result, project construction could degrade performance of the public transit system and passenger rail services within the San Jose Diridon Station, Monterey Corridor, and Morgan Hill and Gilroy Subsections, and at the existing San Jose Diridon Station and the Gilroy Stations under all three alternatives. This could result in disruption to VTA bus routes and light rail services, Caltrain, Altamont Corridor Express (ACE), Amtrak, and Capitol Corridor services, and could result in commuter inconvenience and possible diversion from transit/passenger rail to other commute modes during the 7-year construction period.

A traffic control plan (TR-IAMF#2) and a construction management plan (CMP) for maintenance of transit access (TR-IAMF#11, Maintenance of Transit Access) would minimize disruption to bus transit and passenger rail service during construction by maintaining safe and adequate transit access during construction, providing signage for temporary transit facilities, and minimizing transit schedule disruptions. In addition, the Authority would implement TR-MM#3, Railway Disruption Control Plan, which would reduce construction disruption to a matter of hours or a few days at most and would minimize disruption to passenger rail services. However, even with project features, project-related construction staging and traffic could contribute to material decrease in bus route performance along roadways and at the existing San Jose Diridon and Downtown Gilroy Stations. Construction of the HSR stations, platforms, and track alignment would require temporary construction easements (TCE). The TCEs may require temporary closure of parking areas, bus stops, transit stations, or roadway travel lanes. Changes to bus routes and bus stops would be managed through development and implementation of a CMP and construction transportation plan, but material decreases in certain bus routes could still occur. No mitigation measures are available to avoid this construction impact on bus transit.

During operations, the project would not impede rail transit operations and would enhance transit connections at the San Jose Diridon station. Alternative 4 would enhance Caltrain passenger rail service between San Jose and Gilroy by electrifying that service. Thus, there would be no operational adverse effects on passenger rail service.

The project would result in temporary disproportionately high and adverse effects related to bus transit service during construction. Temporary disruption to bus transit would affect minority populations and low-income populations, as well as non-minority populations and non-low-income

populations. Low-income populations and other sensitive populations generally are highly dependent upon public transit systems for mobility and any remaining effects would be felt at a greater magnitude by those populations than that experienced by other populations with access to other available transportation modes. As a result, construction-related disruption to bus transit systems could disproportionately affect low-income populations and other sensitive populations throughout the San Jose Diridon Station Approach, Monterey Corridor, and Morgan Hill and Gilroy Subsections.

Aesthetics and Visual Quality

Construction of the project alternatives would introduce permanent structures, including viaducts and grade separations, stations, maintenance facilities, traction power substation (TPSS) facilities, and landscape changes, that would permanently remove or block residential views, distant scenic views, and contrast with scale and materials of nearby residential areas. Adverse visual effects would predominately occur in residential areas where the project alternatives are located on viaduct and could affect the perceived quality of life of residents. Alternatives 1 and 3, which would have approximately 45 and 43 miles of aerial viaduct (40 percent of the total alignment length), would have greater adverse visual effects than Alternative 2, which would have approximately 21 miles of aerial viaduct (20 percent of the total alignment length). Alternative 4 would have 15 miles of aerial viaducts (17 percent of the total alignment length). Table 5-15 shows the permanent effects on visual quality within the environmental justice RSA.

Table 5-15 Permanent Effects on Visual Quality within the Resource Study Area

Subsection and City/Community within RSA	Alternative 1	Alternative 2	Alternative 3	Alternative 4
San Jose Diridon Station Approach				
Santa Clara	No change. The project alternative would utilize existing at-grade tracks, and new infrastructure would be within existing rail facilities.	The aerial structure would partially block some distant views, including the Diablo Range and Mt. Hamilton, from residential viewers.		Same as Alternative 1
San Jose	Near the San Jose Diridon Station, HSR aerial structures would contrast with the residential setting of the Gardner neighborhood and create a visual barrier between Gardner and downtown San Jose. The views toward downtown San Jose would be blocked west of the alignment.			There would be little change to the visual environment. Existing landscaping and barriers would limit most residents' exposure to the at-grade railway.
Monterey Corridor				
San Jose	The viaduct along the median of Monterey Road would require removal of Keesling's Shade Trees, obscure residential views from Monterey Road, and alter the existing visual character of residential neighborhoods.	Beneficial effect. The HSR system would not be visible from adjacent residential neighborhoods, and the Monterey Road roadway reconstruction and associated landscaping	Same as Alternative 1	There would be little change to the visual environment. Existing landscaping and barriers would limit most residents' exposure to the at-grade railway.

Subsection and City/Community within RSA	Alternative 1	Alternative 2	Alternative 3	Alternative 4
		enhancements would increase visual quality.		
Morgan Hill and Gilroy				
Morgan Hill	The viaduct along the median of Monterey Road would be visible far from the existing highway corridor, affecting the views of residents and recreationalists. Views to the surrounding hills would be blocked.	The Monterey Road reconstruction would require the removal of Keesling’s Shade Trees. Roadway grade separations would pass over the HSR and UPRR, blocking some residential views in Morgan Hill.	Same as Alternative 1	There would be little change to the visual environment. Existing landscaping and barriers would limit residents’ exposure to the at-grade railway.
San Martin	The aerial viaduct would contrast in scale and material with agricultural land and Llagas Creek through San Martin and would block views to the surrounding hills.	The retained-fill profile would block views across the tracks but would allow distant views to the Diablo Range. A roadway grade separation at San Martin Avenue would pass over the HSR and UPRR, blocking some residential views.	Same as Alternative 1	There would be little change to the visual environment. Existing landscaping and barriers would limit most residents’ exposure to the at-grade railway.
Gilroy	The aerial structure would be taller than surrounding homes and other buildings, partially blocking the views of the surrounding hills. The aerial structures, including the Gilroy Station platforms, would impart an industrial aesthetic to the landscape and would dominate the scale of adjacent residential, commercial, and historic structures (e.g., Gilroy City Hall, Gilroy Caltrain Station). The aerial structure would be visible from surrounding neighborhoods and	The alignment would be on embankment through Gilroy. It would require the removal of some buildings, creating gaps in the urban fabric of downtown. The embankment would partially block views of the surrounding hills and the city, imparting an industrial aesthetic to the landscape, and dominating the scale of adjacent residential, commercial, and historic structures (e.g., Gilroy City	No effect	There would be change to the visual environment in the vicinity of the Gilroy Station from removal of buildings to widen the railway and new station facilities for Caltrain and HSR but the changes would not reduce visual quality.

Subsection and City/Community within RSA	Alternative 1	Alternative 2	Alternative 3	Alternative 4
	would contrast with existing settings and change commercial and industrial views.	Hall, Gilroy Caltrain Station).		
Unincorporated Santa Clara County	The South Gilroy MOWF would introduce a large industrial use into an agricultural area, disrupting the visual character of the area and blocking views.		The East Gilroy Station would contrast with the rural agricultural setting. The East Gilroy MOWF, located in Old Gilroy, would introduce a large industrial use into an agricultural area, disrupting the visual character and contrasting with the established character of residential areas, schools, and historic buildings in Old Gilroy.	Same as Alternative 1
Pacheco Pass				
Unincorporated Santa Clara and Merced County	Alternatives 1, 2, 3 and 4 would be visible for about 5 miles from SR 152, between the junction with SR 156 and midway between Casa de Fruta and Bell Station. The HSR would introduce permanent changes to the aesthetic and visual quality of existing travelers' views that would contrast with the agricultural and open space setting. Aerial HSR structures, rising up to 60 feet, lines of overhead catenary system, noise barriers, and overcrossings and viaducts for HSR and roadways would impart an industrial aesthetic to the landscape, obscuring views of the rolling hills and riparian landscape by introducing a long and tall concrete structure. The HSR viaduct across Pacheco Creek and twin west portals for Tunnel 2 would be visible to the south of SR 152. The view of the valley would be blocked by the viaduct. The extensive grading for the tunnel portal would be evident by the reduction in tree coverage on the hillsides. Native trees would be established and the hillsides revegetated, but the thick oak woodlands would take years to fill in across the regraded hillsides. The hillsides would also be graded uniformly, removing the natural curves and slopes. The view of the viaduct from the highway would disrupt the natural setting with its industrial aesthetic of concrete and steel and stout columns.			
San Joaquin Valley				
Unincorporated Merced County	The industrial character of a TPSS would contrast with the agricultural and open-space setting seen by visitors at the San Joaquin National Cemetery in Romero Valley. The alignment would rise on viaducts to pass over Los Banos Creek and the Grasslands Ecological Area, blocking recreationist views and contrasting with the flat topography. The industrial aesthetic would clash with the rural setting and simple agricultural structures.			

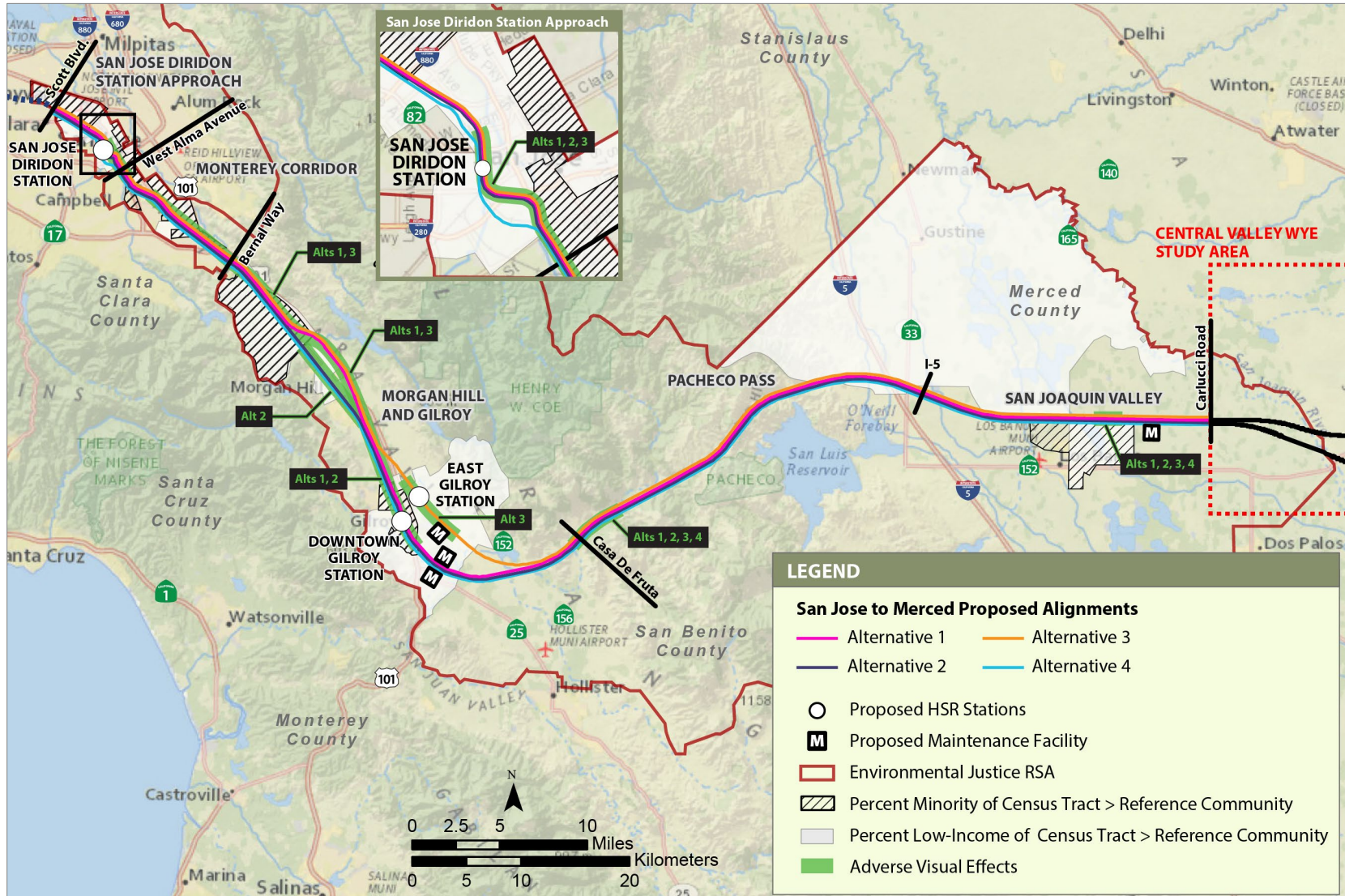
HSR = high-speed rail
MOWF = maintenance of way facility
RSA = resource study area
SR = State Route
TPSS = traction power substation
UPRR = Union Pacific Railroad

The locations of adverse visual effects are illustrated on Figure 5-15. These adverse effects occur in downtown San Jose, South San Jose, Morgan Hill, San Martin, Gilroy, east Gilroy, Pacheco Pass, and the Grasslands Ecological Area. All four project alternatives would have adverse visual effects in San Joaquin Valley in the vicinity of the Grasslands Ecological Area. Alternatives 1, 2, and 3 would have adverse visual effects in downtown San Jose, Morgan Hill, and San Martin. Alternatives 1 and 3 would have adverse visual effects in South San Jose, while Alternative 2 would have beneficial visual effects in South San Jose. Alternatives 1 and 2 would adversely affect the visual quality of downtown Gilroy, while the East Gilroy Station and East Gilroy MOWF under Alternative 3 would have a substantial adverse effect on the visual quality east of Gilroy and in Old Gilroy.

As illustrated on Figure 5-15, some of the adverse visual effects would occur in areas where the percent minority populations or percent low-income populations exceed that of the reference community (66.3 percent minority and 23.3 percent low-income). This occurs in downtown San Jose (34.5 percent low-income), South San Jose (73.3 percent minority and 28.6 percent low-income), Gilroy (74.3 percent minority and 40.8 percent low-income), east Gilroy (33.9 percent low-income), and in the San Joaquin Valley (73.7 percent minority and 23.6 percent low-income). Adverse visual effects under Alternative 4 would only affect minority populations and low-income populations in San Joaquin Valley. During the environmental justice engagement process, community members throughout the project extent expressed concern about visually dominant project elements such as aerial structures and HSR stations resulting in the loss of residential views and reduced privacy for residents adjacent to the passing HSR trains. In San Jose, community members also expressed concern that new HSR infrastructure would attract graffiti.

The Authority would implement mitigation measures (AVR-MM#3, Incorporate Design Aesthetic Preferences into Final Design and Construction of Non-Station Structures; AVR-MM#4, Provide Vegetation Screening along At-Grade and Elevated Guideways Adjacent to Residential Areas; and AVR-MM#5, Replant Unused Portions of Lands Acquired for the HSR) to reduce adverse visual effects. These measures include coordination with local jurisdictions to incorporate Authority-approved aesthetic preferences into final design and construction, landscape screening to obscure HSR infrastructure from residential views, and replanting or replacement of vegetation that will, upon maturity, be similar in size and character to the removed vegetation. These measures will reduce effects on adjacent populations by softening and obscuring the contrasting aesthetic of HSR infrastructure; reducing the resulting area, scale and exposure of community resources experiencing aesthetic and visual effects; and enhancing the visual appeal of areas near HSR infrastructure. As part of these measures, the Authority would also incorporate graffiti abatement and mitigation for temporary construction fencing and permanent HSR infrastructure. These mitigation measures would be applied equally in areas with high rates of minority populations and low-income populations and the reference community as a whole but would only partially address the concerns raised by community members. While the Authority's proposed mitigation would effectively address the concern that new HSR infrastructure would attract graffiti, the mitigation would not restore residential views blocked by HSR infrastructure or reduce the scale of aerial structures that would contrast with existing residential or agricultural settings.

With the implementation of mitigation, adverse visual effects would remain in San Jose (Alternatives 1, 2, and 3), South San Jose (Alternatives 1 and 3), Morgan Hill (Alternatives 1, 2, and 3), San Martin (Alternatives 1, 2, and 3), Gilroy (Alternatives 1 and 2) or east Gilroy (Alternative 3), and in the Pacheco Pass and San Joaquin Valley in the vicinity of the Grasslands Ecological Area under all project alternatives. Under Alternatives 1, 2, and 3 these effects would predominantly occur in areas where the percent minority population and percent low-income population exceed that of the reference community (Figure 5-15). Because permanent adverse visual effects would be predominately borne by minority populations and low-income populations, these effects would disproportionately affect minority populations and low-income populations. Adverse visual effects would not disproportionately affect minority populations and low-income populations under Alternative 4.



Sources: U.S. Census Bureau ACS 2010–2014b, 2010–2014d

MARCH 2019

Figure 5-15 Adverse Visual Effects

Displacements and Relocations

Construction of the project alternatives would require the acquisition of right-of-way and would result in the displacement of residents, commercial and industrial businesses, and agricultural operations. Table 5-16 shows a summary by alternative of the property acquisitions and displacements that would occur by property type. A total of 420, 1,012, 368, and 175 displacements have the potential to occur under Alternatives 1, 2, 3, and 4, respectively. Alternative 2 would result in the greatest number of displacements of all property types and Alternative 4 would have the fewest.

Table 5-16 Displacements by Type

Displacement Type	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Residences	147	603	157	68
Commercial and Industrial Businesses	217	348	157	66
Agricultural Businesses	49	53	49	40
Community and Public Facilities	7	8	5	1
Total Displacements	420	1,012	368	175

Source: Authority 2019b

Displacements would occur within each of the cities and communities within the environmental justice RSA. Table 5-17 shows a breakdown of residential and business displacements within each subsection and city and community. The greatest concentration of displacements would occur in San Jose and Gilroy under Alternative 1; San Jose, Morgan Hill, and Gilroy under Alternative 2; in Santa Clara, San Jose, and unincorporated Santa Clara County east of Gilroy under Alternative 3, and in Gilroy under Alternative 4. Figure 5-16 and Figure 5-17 depict residential and business displacements by city and community using proportional symbols to represent the relative number of displacements.

The project alternatives would result in 25 residential displacements and 36 business displacements in Santa Clara under Alternatives 2 and 3, and 2 business displacements under Alternative 1. Homesafe Santa Clara, which is managed by Charities Housing and provides 24 units of subsidized, affordable housing and on-site childcare for very low-income survivors of domestic abuse and their children would be displaced under Alternatives 2 and 3. These displacements occur in areas with high percentages of minority populations and low-income populations (39 percent low-income and 74 percent minority) relative to the reference community (23 percent low-income and 66 percent minority). Alternatives 1 and 4 would have no residential displacements within Santa Clara.

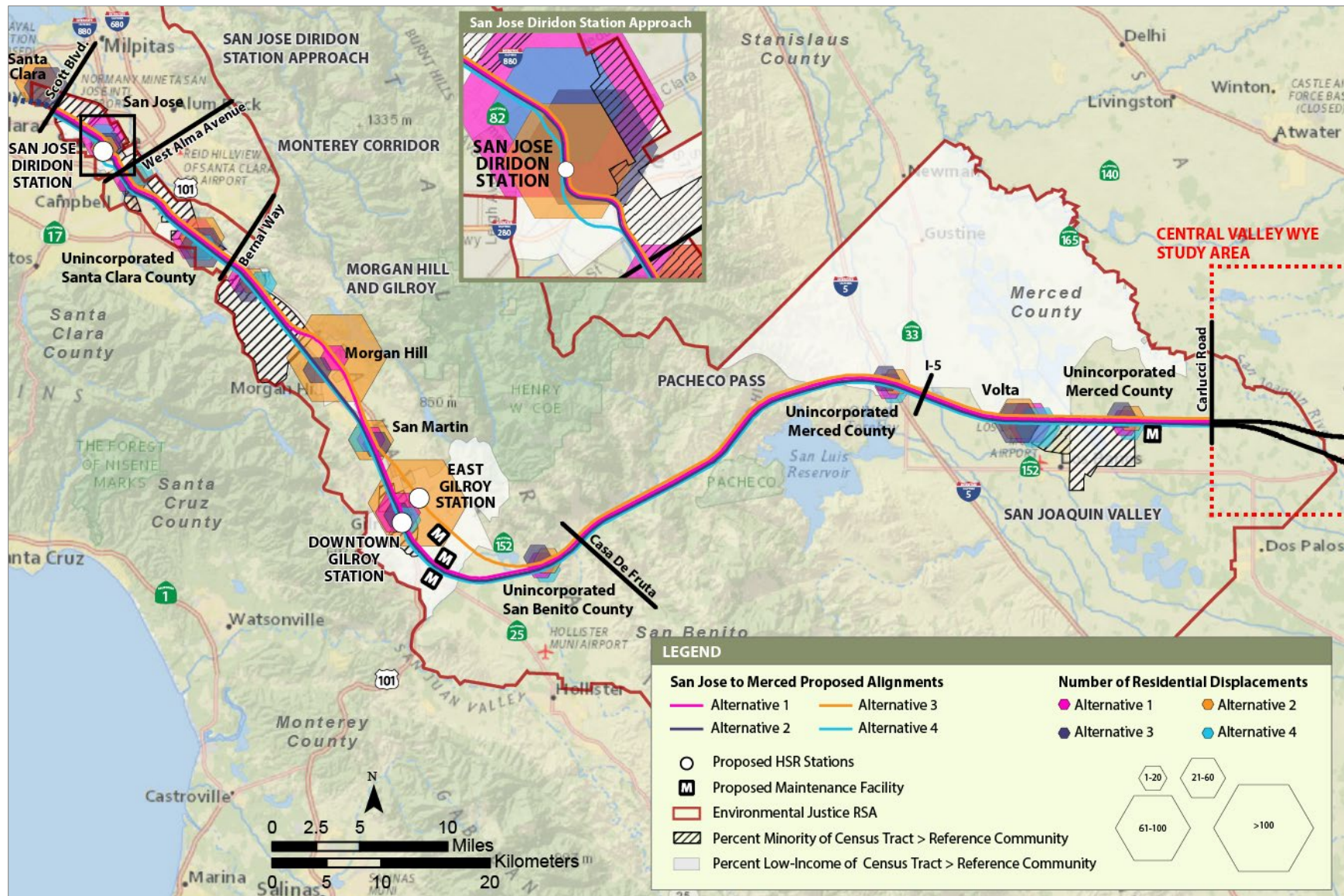
Table 5-17 Residential and Business Displacements by Subsection and City/Community

Subsection and City/Community	Alternative 1		Alternative 2		Alternative 3		Alternative 4	
	Res.	Bus.	Res.	Bus.	Res.	Bus.	Res.	Bus.
San Jose Diridon Station Approach	23	63	43	94	43	94	4	19
Santa Clara	0	2	25	36	25	36	0	0
San Jose	23	61	18	58	18	58	4	19
Monterey Corridor	2	44	19	54	2	44	2	1
San Jose	2	44	19	54	2	44	2	1
Morgan Hill and Gilroy	83	131	502	225	73	40	23	58
San Jose	6	4	16	18	7	2	1	2
Morgan Hill	8	0	182	41	10	0	0	1
San Martin	9	20	55	22	12	19	1	16
Gilroy	24	91	213	123	5	2	1	31
Unincorporated Santa Clara County	32	12	32	17	36	14	16	5
Unincorporated San Benito County	4	4	4	4	3	3	4	3
Pacheco Pass	5	6	5	6	5	6	5	6
Unincorporated Santa Clara County	0	1	0	1	0	1	0	1
Unincorporated Merced County	5	5	5	5	5	5	5	5
San Joaquin Valley	34	22	34	22	34	22	34	22
Volta	6	2	6	2	6	2	6	2
Unincorporated Merced County	28	20	28	20	28	20	28	20
Environmental Justice Resource Study Area Total	147	266	603	401	157	206	68	106

Source: Authority 2019b

Res. = residential

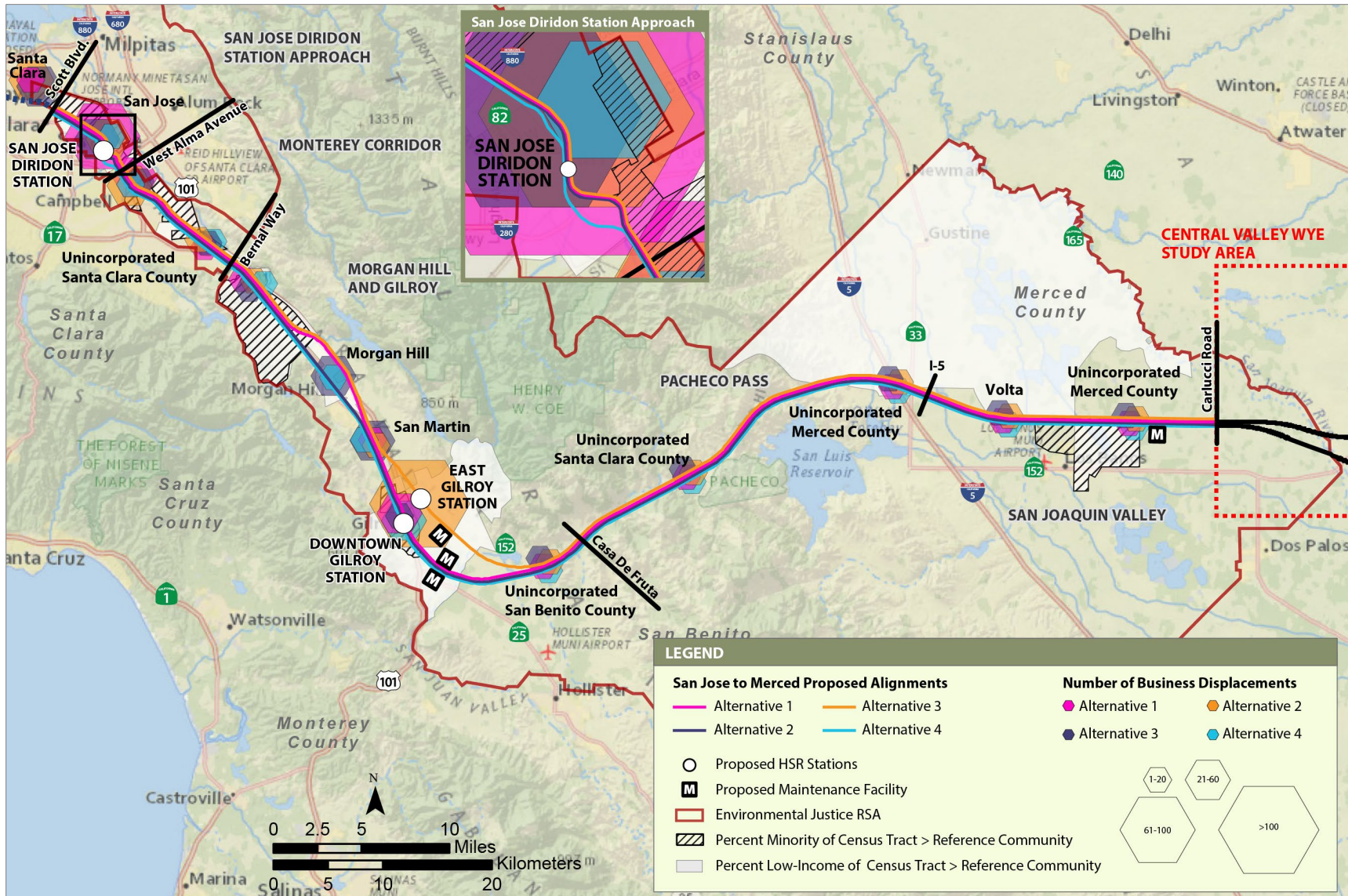
Bus. = business



Sources: U.S. Census Bureau ACS 2010–2014b, 2010–2014d; Authority 2019b

MARCH 2019

Figure 5-16 Residential Displacements—Proportional Representation by Alternative and Community



Sources: U.S. Census Bureau ACS 2010–2014b, 2010–2014d; Authority 2019b

MARCH 2019

Figure 5-17 Business Displacements—Proportional Representation by Alternative and Community

Residential and business displacements in San Jose would occur in areas with high percentages of minority populations and low-income populations. Overall, between 70 percent and 100 percent of residential displacements, and between 85 percent and 95 percent of business displacements in San Jose would be located in areas with minority populations and low-income populations. Alternative 2 would result in the greatest number of residential and business displacements in San Jose, while Alternative 4 would result in the fewest number of residential and business displacements in San Jose. In addition to these residential and business displacements, Alternatives 1, 2, and 3 would result in the displacement of a cultural facility, San Jose Taiko, which provides professional development opportunities and educational programs about Japanese drumming (and whose performers are mostly minority individuals), and all four project alternatives would displace a religious facility, Templo La Hermosa (whose members are primarily Hispanic). Both facilities are located in low-income areas in central San Jose.

Alternatives 1 and 3 would also displace one of the two remaining drive-in movie theaters in the Bay Area, which functions as the Westwind Capitol Public Market by day Wednesday through Friday. The Westwind Capitol Public Market is a flea market and farmers market that regularly features local mariachi entertainment and Mexican wrestling. The displacement of the Westwind Drive-In and Capitol Public Market under Alternatives 1 and 3 would remove a unique community resource that serves as a gathering place for community members.

Residential and business displacements in Morgan Hill would be greatest under Alternative 2, which extends through downtown Morgan Hill on embankment adjacent to the existing Caltrain/UPRR tracks. Compared to Alternatives 1 and 3, which are aligned on aerial structure adjacent to US 101 along the east side of Morgan Hill, Alternative 2 would displace 182 residences and 41 businesses in Morgan Hill, while Alternative 1 would displace 8 residences and Alternative 3 would displace 10 residences. Alternative 4, utilizing the blended, at-grade design option through Morgan Hill, would result in 1 business displacement. Alternative 2 would displace single-family and multifamily residences in downtown Morgan Hill, north and south of the existing Morgan Hill Caltrain Station. Areas of downtown and southern Morgan Hill are approximately 45 percent low-income. Alternative 2 would displace 45 units of affordable housing and a 40-unit residential building that provides affordable senior housing within the community. Residential displacements in Morgan Hill under Alternatives 1 and 3 would consist predominately of single-family residences adjacent to US 101.

In San Martin, one of two multifamily residential buildings associated with the Boccardo Family Living Center would be displaced under Alternative 2. The Boccardo Family Living Center provides affordable, transitional housing for homeless families with children in South Santa Clara County, an emergency shelter program for families, and seasonal migrant farmworker housing.

Residential and business displacements in Gilroy would be greatest under Alternative 2 (213 residential and 123 business displacements), followed by Alternative 1 (24 residential and 91 business displacements). Both alternatives extend through downtown Gilroy, with Alternative 1 on aerial structure and Alternative 2 on embankment. Displacements of single-family and multifamily residences in Gilroy would occur north of the existing Gilroy Caltrain Station, along Railroad Street under Alternatives 1 and 2, and in northern Gilroy, north of Lewis Street, and east of the alignment just south of E 10th Street under Alternative 2. All residential and business displacements in Gilroy would occur in areas with some of the highest percentages of minority populations and low-income populations in the RSA, ranging from 61 to 69 percent low-income, and up to 89 percent minority. Alternatives 1 and 2 would displace Gilroy Preparatory School, a K–5 charter school with an enrollment of 476 students, of which 59 percent were English learners or eligible for free/reduced price meals in 2016–2017 (CDE 2017).

An analysis of available replacement properties indicates that there would likely be a sufficient number of comparable replacement properties available in the relocation RSA as a whole. However, as noted in Section 3.12, at the time of the analysis, there were insufficient residential properties within Morgan Hill, San Martin, and Gilroy to accommodate all the residential displacements under Alternative 2 within the same community. Insufficient commercial business properties would exist in San Martin under all project alternatives, in Morgan Hill under Alternative

2, and in Gilroy under Alternatives 1 and 2 to relocate all displaced businesses within the same community. Insufficient industrial business properties would exist in San Martin under Alternatives 2 and 4, and in Gilroy under Alternatives 1, 2 and 4 to relocate all displaced businesses within the same community.

Overall, residential displacements would be disproportionately borne by minority populations and low-income populations under Alternatives 1 and 2, where 60 percent and 66 percent of residential displacements would be located in minority and low-income areas, respectively. Business displacements would be disproportionately borne by minority populations and low-income populations under all alternatives, with between 82 percent and 92 percent of all business displacements located in minority and low-income areas as follows: Alternative 1 (87 percent), Alternative 2 (92 percent), Alternative 3 (82 percent), and Alternative 4 (83 percent).

Displacements were a primary concern of community members along the project alignment. Participants in Gilroy were particularly concerned about displacement of low-income rental housing, the ability of low-income and unemployed community members who rent their homes to relocate if affected by the project, and the adequacy of replacement housing to relocate those affected.

The Authority would comply with federal and state laws that require that relocation assistance be provided to any person, business, farm, or nonprofit operation displaced because of the acquisition of real property by a public entity for public use. Relocation resources available to displaced residents include relocation assistance and counseling, direct financial assistance, and sufficient government funding to carry out all relocation processes and forms of assistance. The Authority is committed to making sure that all benefits and services would be provided equitably without regard to race, color, religion, age, national origins, and disability as specified under Title VI of the Civil Rights Act of 1964 and the California High Speed Rail Authority Title VI Program (Authority 2012a). USEO 13166 (Improving Access to Services for Persons with Limited English Proficiency) also underscores the Authority's commitment to minimizing community effects by not disproportionately favoring or discriminating against any populations in the process of providing support to residences and businesses.

The relocation assistance provided by the Authority would address some of the concerns of raised by community members, inasmuch that the Authority would assist displaced residences with finding suitable housing within the communities they currently reside in, if desired. However, affordable housing would continue to be a challenge in Morgan Hill and Gilroy. The displacement of 85 units of affordable housing in Morgan Hill under Alternative 2 would reduce the supply of affordable housing in Morgan Hill. Although affordable housing units would not be displaced in Gilroy, the steady rise in cost of living in Gilroy has resulted in an affordability crisis for this city, which relies upon wage-earning households and middle-income professionals to support the many retail businesses, manufacturing operations, food processors, and public sector agencies in Gilroy. The substantial number of business displacements in Gilroy, some of which would be unable to relocate within Gilroy under Alternatives 1, 2, and 4, could undermine economic development and business retention efforts in downtown Gilroy, as businesses may choose to close or relocate to other communities where employees can better afford to live. As a result, the concerns of community members regarding displacements would not be fully addressed, and adverse effects would remain even with the Authority's provision of relocation resources. The effect of residential displacements under Alternatives 1 and 2 and the effect of business displacements under all alternatives would be predominately borne by minority populations and low-income populations and would be greater in magnitude than those experienced in areas that are not identified as minority or low-income areas.

Employment

Construction of the project alternatives has the potential to result in adverse employment effects associated with business displacements. As described under Displacements and Relocations, the project alternatives would require acquisition of additional right-of-way, resulting in the displacement of commercial and industrial businesses. The estimated job loss associated with these business displacements would be 3,512 employees under Alternative 1, 5,412 employees under Alternative 2, 2,444 employees under Alternative 3, and 1,077 employees under Alternative

4 (Authority 2019b). While there are sufficient, available, and comparable properties in the RSA such that most of the affected businesses would be able to relocate within the same communities, displaced businesses in unincorporated Merced County and San Martin under all four project alternatives, in unincorporated Santa Clara County under Alternatives 1, 2, and 3, in Morgan Hill under Alternative 2, and in Gilroy under Alternatives 1, 2, and 4, may be unable to relocate within the same communities. The potential effect on minority populations and low-income populations would be greatest in Gilroy under Alternatives 1 and 2, where between 90 and 122 displaced businesses, respectively, may be unable to relocate within the same community. The Authority would provide these businesses with relocation assistance resources; however, as described previously, some of these businesses may close rather than relocate, resulting in job loss that has the potential to affect minority populations and low-income populations employed by these businesses.

Construction of the project alternatives would also require acquisition of agricultural lands and confined animal agricultural facilities that could affect agricultural operations and employment. The permanent loss of agricultural land could result in a reduction of employment opportunities for farm workers who could be negatively affected if the acquisition results in permanent job losses or if the workers are unable to find work on another farm or industry in the region. The estimated job loss associated with the amount and type of agricultural lands converted for construction of the project alternatives would be 62 jobs under Alternative 1, 65 jobs under Alternative 2, 77 jobs under Alternative 3, and 60 jobs under Alternative 4 (Authority 2019a). The Authority would mitigate the loss of important farmland through the implementation of mitigation measure AG-MM#1, Conserve Important Farmland (Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Unique Farmland), which would preserve important farmland in an amount commensurate with the quantity and quality of converted farmlands. The Authority would provide access modifications to affected farmlands in coordination with property owners, to allow for continued use of the maximum amount of agricultural lands and facilities. These measures would minimize effects on the conversion of agricultural farmland but would not reduce the adverse effect on agricultural employment.

Overall, HSR construction would generate employment growth that would benefit the region during the 7-year construction period. As identified in Chapter 3.18 Regional Growth, the project alternatives would create 28,163 to 44,550 additional direct or indirect jobs within Santa Clara, San Benito, and Merced Counties. Construction of Alternative 3 would generate the greatest number of jobs (44,550), while construction of Alternatives 1 and 2 would generate fewer jobs (43,328 and 37,119 jobs, respectively). Alternative 4 would generate the fewest jobs (28,163 jobs). The Authority is committed to making sure that

no person in the state of California is excluded from participation in, nor denied the benefits of, its programs, activities, and services on the basis of race, color, national origin, age, sex, or disability as afforded by Title VI of the Civil Rights Act of 1964 and related statutes. As described in detail in Section 3.18, Regional Growth, the Authority and others have been implementing a variety of programs to increase the ability of local workers and construction firms to complete and obtain construction jobs associated with the HSR system. To increase the ability of local workers to compete for available project jobs, the Authority has made a commitment through a cooperative partnership with skilled craft unions and contractors to promote and help implement education, apprenticeship training, advanced communication about hiring opportunities, and contractor networking opportunities for local workers. The program, referred to as the Community Benefits Agreement, is intended to help disadvantaged workers, such as those who are lower-income, veterans, single parents, have no high school or General Educational Development diploma, or suffer from chronic unemployment. The commitment includes setting a hiring goal that 30 percent of all work hours be filled by disadvantaged workers. The Authority also has committed to a 30 percent small business participation goal for all of the

Construction-Related Job Creation

- Between 28,000 and 45,000 direct and indirect jobs are expected to be generated during the construction period.
- The Authority participates in training programs designed to increase the ability of local workers to complete for jobs and maintains a hiring goal of 30 percent disadvantaged workers and small businesses.

Authority's construction.⁵ The employment opportunities created by construction of the project alternatives, in combination with the Authority's employment commitments and training programs designed to increase the ability of local workers to compete for these jobs, has the potential to result in economic benefits for the communities affected by the project, including minority populations and low-income populations.

Adverse effects on employment associated with displaced businesses and agricultural land conversion would be offset by the regional employment growth that would be experienced during HSR construction. Accordingly, no disproportionately high and adverse effect on minority populations and low-income populations would result from project construction's effects on employment.

Air Quality

Construction of the project alternatives would require use of heavy construction equipment and trucks that could generate fugitive dust emissions (particulate matter [PM₁₀ and PM_{2.5}]) from disturbed ground surfaces, and combustion pollutants, particularly ozone (O₃) precursors (nitrogen oxides [NO_x] and volatile organic compounds [VOC]). Temporary construction activity for all four project alternatives would not exceed the significant cancer risk thresholds of 10 in 1 million for Bay Area Air Quality Management District (BAAQMD) and Monterey Bay Air Resources District (MBARD), and 20 in 1 million for San Joaquin Valley Air Pollution Control District (SJVAPCD). However, construction of all project alternatives would lead to new violations of the PM₁₀ and PM_{2.5} California ambient air quality standards (CAAQS) and national ambient air quality standards (NAAQS), as well as potentially contribute to existing PM₁₀ and PM_{2.5} violations through exceedances of the significant impact level (SIL). Alternatives 1, 2, and 4 would also violate the 1-hour nitrogen dioxide (NO₂) NAAQS and CAAQS.

Table 5-18 shows the full list of localized criteria pollutants violations by subsection. Because these standards are established to protect the public from adverse health effects that can occur from exposure to air pollutants, violations of these thresholds indicate increased health risks associated with temporary construction-related air quality emissions.

Table 5-18 Temporary Localized Criteria Pollutants Violations by Subsection

Air Quality Standard	Alternative 1	Alternative 2	Alternative 3	Alternative 4
San Jose Diridon Station Approach				
24-hour PM _{2.5} NAAQS	X	X	X	X
Annual PM _{2.5} CAAQS				X
24-hour and annual PM ₁₀ SIL	X	X	X	X
Annual PM _{2.5} SIL	X	X	X	X
Monterey Corridor				
1-hour NO ₂ CAAQS		X		
1-hour NO ₂ NAAQS	X	X		X
Annual PM _{2.5} CAAQS		X		
24-hour PM _{2.5} NAAQS		X		X
24-hour PM ₁₀ NAAQS				X
24-hour PM ₁₀ SIL	X	X	X	X
Annual PM _{2.5} SIL	X	X	X	X

⁵ Additional information about these programs is available at http://hsr.ca.gov/Programs/Small_Business/index.html and <http://www.hsr.ca.gov/Programs/Construction/index.html>.

Air Quality Standard	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Morgan Hill and Gilroy				
1-hour NO ₂ CAAQS	X			X
1-hour NO ₂ NAAQS	X	X		X
Annual PM ₁₀ CAAQS	X	X	X	X
24-hour PM _{2.5} NAAQS	X	X		X
24-hour PM ₁₀ NAAQS				X
24-hour and annual PM ₁₀ SIL	X	X	X	X
Annual PM _{2.5} SIL	X	X	X	X
Pacheco Pass				
24-hour PM _{2.5} NAAQS	X	X	X	X
Annual PM _{2.5} CAAQS and NAAQS	X	X	X	X
24-hour and annual PM ₁₀ SIL	X	X	X	X
Annual PM _{2.5} SIL	X	X	X	X
San Joaquin Valley				
24-hour PM ₁₀ CAAQS SIL	X	X	X	X
24-hour PM _{2.5} NAAQS SIL	X	X	X	X
Number of Standards with Violations	18	20	14	22

CAAQS = California ambient air quality standards

NAAQS = national ambient air quality standards

NO₂ = nitrous dioxide

PM₁₀ = particulate matter smaller than or equal than 10 microns in diameter

PM_{2.5} = particulate matter smaller than or equal than 2.5 microns in diameter

SIL = significant impact levels

Violations of the CAAQS and NAAQS would occur under each project alternative, and along the entire length of the project alignment (i.e., within every subsection), as shown in Table 5-18. The potential for health risks would be greatest adjacent to the construction sites and would dissipate rapidly as a function of distance from construction activities.

Increased health risks associated with criteria pollutant emissions would be greatest under Alternative 4, followed by Alternatives 2, 1 and 3, because of the greater amount of earthwork associated with the berm, embankment, and at-grade construction within the Monterey Corridor and Morgan Hill and Gilroy Subsections. Ambient air quality violations within the Pacheco Pass Subsection are driven by batching and tunneling activities, which would be similar across all project alternatives, but overall health risks within this subsection would be low due to the limited number of people in this area of predominantly open space. Construction activities within the San Joaquin Valley Subsection would be identical among the four project alternatives. Emissions concentrations from berm construction and construction of the MOWS would violate the 24-hour PM_{2.5} and PM₁₀ SILs.

Although construction-related air quality was not specifically raised as a community concern during environmental justice engagement, the increased health risks associated with temporary construction-related air quality emissions warrants consideration. Project features (AQ-IAMF#1, Fugitive Dust Emissions; AQ-IAMF#2, Selection of Coatings; AQ-IAMF#3, Renewable Diesel; AQ-IAMF#4, Reduce Criteria Exhaust Emissions from Construction Equipment; AQ-IAMF#5, Reduce Criteria Exhaust Emissions from On-Road Construction Equipment; and AQ-IAMF#6,

Reduce the Potential Impact of Concrete Batch Plants) would minimize construction emissions through implementation of the best available on-site controls. However, exceedances of the CAAQS and NAAQS would still occur. Beyond the air quality IAMFs, mitigation measures have been identified to address air quality impacts, including AQ-MM#1, Offset Project Construction Emissions in the San Francisco Bay Area Air Basin; AQ-MM#2, Offset Project Construction Emissions in the North Central Coast Air Basin; and AQ-MM#3, Offset Project Construction Emissions in the San Joaquin Valley Air Basin. While mitigation measures AQ-MM#1 through AQ-MM#3 would offset VOC, NO_x, and PM emissions, as required, these offsets could occur regionally throughout the San Francisco Bay Area Air Basin, North Central Coast Air Basin, San Joaquin Valley Air Basin. Accordingly, the emission reductions achieved by these offsets may not directly reduce localized pollutant concentrations. Accordingly, even with these identified actions, no mitigation is available to reduce increased health risks associated with construction-related emissions, therefore adverse effects on public health would result from temporary construction-related emissions. These adverse health risks associated with elevated criterial pollutants would be borne by individuals in all communities adjacent to project construction and would not disproportionately affect minority populations and low-income populations nor would the effect on minority populations and low-income populations be greater in magnitude than the adverse effects on the reference community. Accordingly, no disproportionately high and adverse effect on minority populations and low-income populations would result from construction-related air quality emissions.

Safety and Security

During the environmental justice engagement process, participants raised concerns regarding the safety associated with train speeds and road crossings, particularly the safety of school children crossing Monterey Road and the need for additional safety precautions. The HSR design would include an automatic train control (ATC) system that would include automatic train functions of separation of trains, work zone protection, and overspeed detection and prevention to keep the train at safe speeds and in compliance with the FRA-mandated positive train control (PTC) requirements. Where the HSR would operate at speeds of 125 miles per hour or more and would be adjacent to existing freight railroads, intrusion protection barriers would be required, and where blended operations are necessary, speeds would be limited to less than 110 miles per hour.

The project would transition from a blended system to a fully dedicated track system south of Scott Boulevard in Santa Clara. Alternative 1 would transition to a fully dedicated track system at I-880 (south of Scott Boulevard). Alternatives 2 and 3 would transition to a fully dedicated track system just south of Scott Boulevard, and Alternative 4 would transition to a fully dedicated track system at the Downtown Gilroy Station.

Roads crossing the HSR alignment for Alternative 1 would be fully grade-separated from the right-of-way. Alternative 1 includes a blended track system between Scott Boulevard and I-880 in the San Jose Diridon Station Approach Subsection. Alternative 4 would transition from a blended track system to a fully grade-separated system in Gilroy. Under Alternative 4 there would be 2 at-grade crossings in the San Jose Diridon Station Approach Subsection (at Auzerais Avenue and Virginia Street in San Jose), 5 at-grade crossings in the Monterey Corridor Subsection, and 22 at-grade crossings in the Morgan Hill and Gilroy Subsection. The Pacheco Pass and San Joaquin Valley Subsections for all project alternatives would be fully grade separated.

Under Alternative 4, four-quadrant gates (quad gates) would be installed on all at-grade crossings between Scott Boulevard in Santa Clara and Gilroy in the San Jose Diridon Station Approach, Monterey Corridor, and Morgan Hill and Gilroy Subsections.

The HSR right-of-way would be fully grade separated for Alternatives 2 and 3, which would prevent motor vehicles, bicycles, and pedestrians from crossing the tracks. As a result, there would be safety benefits from the grade-separated system which would be experienced throughout the environmental justice RSA. Installation of quad gates, median barriers, and roadway channelization for the at-grade crossings for Alternative 4 would control pedestrian, bicycle, and vehicle access to the at-grade crossings. Grade separation (Alternatives 2 and 3), as well as the contemporary safety and signaling systems that would be incorporated into the project

design (Alternative 4), would address the safety and security concerns raised by during environmental justice engagement.

Project effects on emergency response times in San Jose were also identified as a key concern of many community members during the environmental justice engagement process. As described under the transportation discussion, temporary and permanent changes to the roadway network implemented as part of the project would increase vehicular travel times in South San Jose along Monterey Road between Bernal Road and Capitol Expressway. The increase in vehicle travel time in this section of Monterey Road would cause delays in emergency vehicle access and response times. Delays would be greatest under Alternative 2, which would result in delays of between 5 and 27 minutes in the northbound direction during peak hours; Alternatives 1 and 3 would result in delays of between 8 and 20 minutes in the northbound direction during peak hours. These delays would adversely affect the public health and welfare of residents in adjacent neighborhoods. The increases in travel time under Alternative 4 are somewhat lower than for the other three project alternatives, particularly during the AM peak hour. Alternative 4 would not narrow Monterey Road to the same extent as the other project alternatives, plus the additional gate down time necessitated by an at-grade alternative could benefit north-south travel under some conditions.

Under Alternatives 1, 2, and 3, the addition of HSR service at the San Jose Diridon Station would generate a total of approximately 1,100 peak hour vehicle trips, causing a significant impact at multiple intersections in the general vicinity of the station. The added station traffic generated by HSR service under these three alternatives would cause significant impacts on fire station emergency vehicle response times resulting in increased delay of up to 30 seconds for fire station emergency response times.

Under Alternatives 1, 2 and 4, the addition of HSR service at Gilroy Station would generate a total of approximately 690 peak hour vehicle trips, causing a significant impact at multiple intersections in the general vicinity of the station. The added station traffic generated by HSR service would cause significant impacts on fire station emergency vehicle response times resulting in increases of more than 30 seconds to fire station emergency response times.

In addition, the potential impacts of additional gate down time on fire station emergency vehicle response times were assessed throughout the corridor for Alternative 4. The analysis indicates a potential for impacts of 30 seconds or more on emergency response times to fire station response areas at 26 at-grade crossings along the project extent. Areas that would experience delays in emergency vehicle response of 30 seconds or more due to increased gate down time include the communities of South San Jose, San Martin, and Gilroy.

Overall, increased traffic in station areas, reconstruction and narrowing of Monterey Road, and increased gate down time at at-grade crossings would result in fire station emergency vehicle response delay of 30 seconds or more near the San Jose Diridon Station under all alternatives; in South San Jose under all alternatives; in San Martin under Alternative 4; and in Gilroy under Alternatives 1, 2, and 4.

Of these, minority populations or low-income populations are identified in San Jose (34.5 percent low-income), South San Jose (73.3 percent minority and 28.6 percent low-income), and Gilroy (72.3 percent low-income and 40.8 percent low-income). The population of San Martin is not identified as a minority population or low-income population.

The Authority would implement mitigation measures (SS-MM#3, Install Emergency Vehicle Detection and SS-MM#4, Install Emergency Vehicle Response Improvements) which would install emergency vehicle priority treatments and install other vehicle response improvements, as necessary to address substantial increases of more than 30 seconds in emergency response time. These measures would be effective in improving emergency vehicle response times by providing funding for emergency vehicle priority treatments. However, these measures would not mitigate certain fire station response time impacts in the affected jurisdictions if these cities choose not to implement and operate emergency vehicle priority treatments using construction funds provided by HSR. As a result, the concerns raised by minority populations and low-income populations during the environmental engagement process about construction-related traffic

effects may not be fully addressed through mitigation, depending on what improvements are actually implemented and operated by local jurisdictions.

Adverse effects on emergency response times would occur near the San Jose Diridon Station under all alternatives; in South San Jose under all alternatives; in San Martin under Alternative 4; and in Gilroy under Alternatives 1, 2, and 4. These adverse effects would be disproportionately borne by minority and low-income populations in San Jose, South San Jose, and Gilroy. As a result, traffic effects on emergency response times would disproportionately affect minority and low-income populations.

Parks, Recreation, and School District Play Areas

During the environmental justice engagement process, community members expressed concern regarding the connectivity and accessibility of parks and trails in San Jose, including Fuller Park, Los Gatos Creek Trail, and Tamien Park. Fuller Park would not be affected by changes in access but would experience temporary construction easements and permanent property acquisition and construction-related noise from Alternative 4. However, Fuller Park is located within an urban/residential setting and is not considered a noise- or vibration-sensitive park because a certain amount of ambient noise and vibration is already present because of its proximity to the existing UPRR right-of-way. Therefore, users of the park are unlikely to be affected by construction noise and vibration. The project would maintain noise and vibration levels within the FRA requirements and minimize fugitive dust emissions, and the park would remain usable during construction. Temporary project construction for Alternatives 1, 2, and 3 could affect access to Los Gatos Creek Trail, but use of the park would not be precluded and effects would not be adverse. However, the use and user experience of other parks, recreation facilities, and school district play areas would be affected by project construction. Tamien Park would not be affected by changes in access from the two main entrances but would experience temporary construction easements under all alternatives and permanent property acquisition from Alternatives 1, 2, and 3. Tamien Park is located within an urban/residential setting and is not considered a noise- or vibration-sensitive park because a certain amount of ambient noise and vibration is already present because of its proximity to the existing Caltrain right-of-way. Therefore, users of the park are unlikely to be affected by construction noise and vibration. The project would maintain noise and vibration levels within the FRA requirements and minimize fugitive dust emissions, and the park would remain usable during construction. Permanent acquisition during construction for Alternatives 1, 2, and 3 would impede use of part of the planned multiuse turf/soccer field, potentially rendering the field unusable for its intended purpose. However, PR-MM#7 would require design refinements at Tamien Park during the design phase to reposition the straddle bent column out of the park and reconfigure the column footing, avoiding aboveground park encroachments that would diminish use of facilities under Alternatives 1, 2, and 3. Alternative 4 would require a utility relocation in Tamien Park, but this would be temporary during construction.

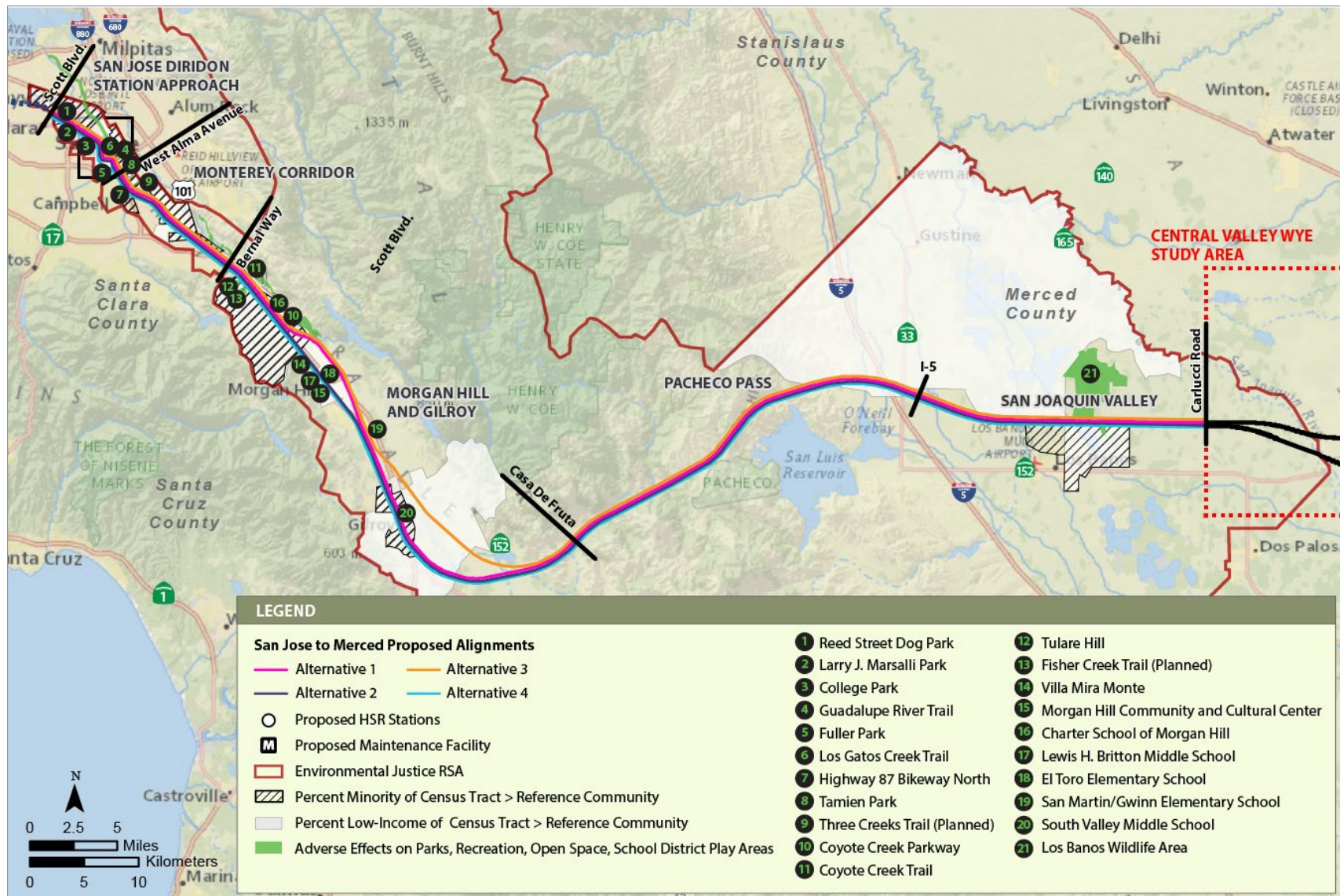
Construction of the project alternatives would result in temporary and permanent adverse effects on the use and user experience of 21 parks, recreational facilities, and school district play areas due to changes to access during construction, noise, and permanent property acquisition which could diminish use of these resources. Table 5-19 shows adverse effects on these resources; their locations are illustrated on Figure 5-18.

Table 5-19 Adverse Effects on Parks, Recreation, and School District Play Areas

Map ID	Facility	City	Description of Effect	Alternative 1	Alternative 2	Alternative 3	Alternative 4
San Jose Diridon Station Approach							
1	Reed Street Dog Park	Santa Clara	Permanent acquisition of 0.2 acre (12 percent of park). Temporarily reduced access.		X	X	
2	Larry J. Marsalli Park	Santa Clara	Temporarily reduced access.		X	X	
3	College Park	Downtown San Jose	Temporarily reduced access.	X	X	X	
4	Guadalupe River Trail	Downtown San Jose	Temporarily reduced access.	X	X	X	
5	Fuller Park	Downtown San Jose	Permanent acquisition of less than 0.1 acre (2.6 percent of park).				X
6	Los Gatos Creek Trail	South San Jose	Alternatives 1, 2, and 3: Temporary realignment or detour would be necessary while the viaduct falsework is built and concrete is poured but can reopen after that is done. No permanent trail realignment would be required. Alternative 4: Construction above the trail on the overhead Caltrain alignment/bridge would be required and would have no temporary or permanent effects.	X	X	X	
7	Highway 87 Bikeway North	South San Jose	Alternatives 1, 2, and 3: Bikeway would need temporary closures and detours for column installation. The trail would be temporarily detoured through adjacent streets during construction. There would also be a minor permanent realignment around 2 columns. Trail would be restored following construction. Alternative 4: Temporary realignment/detour would be needed to modify the abutment under Almaden Expressway, which would result in a short section being temporarily realigned to the east to allow for the new track. The trail would be restored following construction.	X	X	X	X
8	Tamien Park	South San Jose	Alternatives 1, 2, and 3: Permanent acquisition of 0.22 acre (6.3 percent of park) for construction of a straddle bent pole and footing.	X	X	X	

Map ID	Facility	City	Description of Effect	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Monterey Corridor							
9	Three Creeks Trail (Planned)	South San Jose	Project may include minor property acquisition but planned trail would be able to be completed for all project alternatives. Temporarily reduced access under Alternatives 1, 2, and 3.	X	X	X	X
Morgan Hill and Gilroy							
10	Coyote Creek Parkway	South San Jose	Alternatives 1 and 3: Permanent acquisition of 2.4 acres (0.2 percent of parkway). Alternative 2: Permanent acquisition of 3.3 acres (0.2 percent of parkway). Alternative 4: Permanent acquisition of 0.3 acre (less than 0.1 percent of parkway). Temporarily reduced access.	X	X	X	X
11	Coyote Creek Trail	South San Jose	Alternatives 1 and 3: Segments of the bike path would be temporarily realigned to accommodate eastward shift of Monterey Road but the trail should be able to remain open during construction. Alternative 2: A portion of the existing trail would be permanently realigned in portion to accommodate the additional right-of-way for HSR and Monterey Road.	X	X	X	
12	Tulare Hill	South San Jose	Temporarily reduced access.		X		
13	Fisher Creek Trail (Planned)	South San Jose	Temporarily reduced access only if the planned design is implemented before HSR.	X	X	X	X
14	Villa Mira Monte	Morgan Hill	Construction noise and vibration would preclude use of the park and gardens for noise-sensitive special events during two construction phases (concrete pour/aerial structure and track installation) under Alternative 2 and during one construction phase (track installation) under Alternative 4.		X		X

Map ID	Facility	City	Description of Effect	Alternative 1	Alternative 2	Alternative 3	Alternative 4
15	Morgan Hill Community and Cultural Center	Morgan Hill	Permanent acquisition of 1.3 acres (15 percent of park) under Alternative 2 only. Construction noise and vibration would preclude use of the amphitheater during two construction phases (concrete pour/aerial structure and track installation) under Alternative 2 and during one construction phase (track installation) under Alternative 4. Temporarily reduced access under Alternative 2 only.		X		X
16	Charter School of Morgan Hill	Morgan Hill	Temporarily reduced access.	X	X	X	
17	Lewis H. Britton Middle School	Morgan Hill	Temporarily reduced access.		X		
18	El Toro Elementary School	Morgan Hill	Temporarily reduced access.		X		
19	San Martin/Gwinn Elementary School	San Martin	Permanent acquisition of 0.1 acre (1.2 percent of school) under Alternative 2 only. Temporarily reduced access.	X	X	X	
20	South Valley Middle School	Gilroy	Permanent acquisition of 0.8 acre (7.8 percent) under Alternative 1 and 1.3 acres (12.3 percent) under Alternative 2. Temporarily reduced access.	X	X		
21	Los Banos Wildlife Area	Los Banos	Temporarily reduced access.	X	X	X	X



Sources: U.S. Census Bureau ACS 2010–2014b, 2010–2014d

FEBRUARY 2020

Figure 5-18 Adverse Effects on Parks, Recreation, and School District Play Areas

Temporary changes to access or use of parks, recreational facilities, and open-space areas would occur at 11 resources under Alternative 1, 16 resources under Alternative 2, 11 resources under Alternative 3, and 8 resources under Alternative 4, as described in Table 5-19. In addition, temporary changes to access or use of school district play areas would occur at three resources under Alternative 1, five resources under Alternative 2, two resources under Alternative 3, and none under Alternative 4. Access to these resources cannot be guaranteed at all times during construction with project design features. The Authority would implement mitigation measures to reduce impacts on access or use of parks. Mitigation measure PR-MM#1, Temporary Restricted Access to Park Facilities During Construction, will involve alternative access via a temporary detour of the trail using existing roadways or other public rights-of-way. Detour signage and lighting would be provided and alternative routes would meet public safety requirements. Additionally, PR-MM#2, Providing Park Access, will maintain connections to unaffected park portions or nearby roadways during construction. PR-MM#4, Implement Project Design Features will make certain the project design features from the technical memorandums are implemented. These actions would be documented in technical memorandums prepared by the Contractor that would be submitted to the Authority for review and approval. Upon approval by the Authority, the contractor would implement the activities identified in the technical memorandums. The activities would be incorporated into the design specifications and would be a pre-condition requirement.

The temporary adverse construction-related effects on the parks and recreational facilities would be experienced by all park visitors. Many of these adversely affected parks and recreation facilities are located in areas where the minority populations or low-income populations exceed that of the reference community. However, these temporary construction effects would be reduced because the project would comply with the FTA and FRA guidelines for minimizing construction noise and vibration impacts when work is conducted within 1,000 feet of sensitive receptors. Use of the resources would not be precluded by noise and vibration except in the case of the Villa Mira Monte for outdoor events and Morgan Hill Community and Cultural Center's outdoor amphitheater, which hosts cultural events and concerts sponsored by the City of Morgan Hill.

Under Alternatives 2 and 4, use of the Villa Mira Monte for outdoor events and Morgan Hill Community and Cultural Center amphitheater would be temporarily affected by construction-related noise. Night-time disruption of concerts or other amphitheater uses because of noise would be avoided through implementation of nighttime limitations in mitigation measure N&V-MM#1, Construction Noise Mitigation Measures. Daytime use of this facility would be disrupted by construction noise even with application of mitigation measure N&V-MM#1 because of daytime noise disturbance when construction is occurring near the facility. Additionally, PR-MM#6 would minimize construction noise impacts during noise sensitive special events. The contractor would be required to coordinate with representatives from Morgan Hill Community and Cultural Center and Villa Mira Monte to modify construction as necessary (which may include scheduling modifications) to avoid construction noise disruption of noise sensitive outdoor events (such as concerts and weddings). While Villa Mira Monte and the amphitheater are located in a low-income area, they serve the broader community and are not facilities that primarily serve low-income residents. Given that daytime and nighttime use of Villa Mira Monte and the amphitheater would be temporarily disrupted due to noise only when construction is nearby, and would affect all residents equally, this effect would not result in a disproportionately high and adverse effect on minority populations or low-income populations.

While project construction would result in the permanent acquisitions of small portions of existing or planned trail alignment, it would be relatively small and on the exterior edges of the resources, the capacity for use of these resources would not be diminished and all trails would be restored following construction, so they would be able to continue to be used for recreation and access purposes. Consequently, no disproportionate effects would occur relative to trails.

Permanent acquisitions would be required of portions of Fuller Park under Alternative 4 (3 percent), Coyote Creek Parkway under all alternatives (0.2 percent or less), Reed Street Dog Park under Alternatives 2 and 3 (12 percent) and Morgan Hill Community and Cultural Center under Alternative 2 (15 percent). At Fuller Park, Coyote Creek Parkway and Fields Sport Park,

the capacity for use of these resources would not be diminished so they would be able to be used for recreation purposes. The permanent acquisitions would not diminish the capacity for use at Reed Street Dog Park or Morgan Hill Community and Cultural Center because the affected portions of the parkland do not contain any recreational facilities or include any of the open space used by dogs for the dog park facility or spaces actively used by patrons of the community center.

Permanent acquisition of land would also be required from San Martin/Gwinn Elementary School under Alternative 2 and at South Valley Middle School under Alternatives 1 and 2. The impact at San Martin/Gwinn Elementary School under Alternative 2 would not preclude the use of the resource or result in diminished capacity for use. The project would also require identification of design features to maintain safe and attractive access for present travel modes to existing facilities (PK-IAMF#1). Similarly, the impact at South Valley Middle School under Alternative 1 would not preclude the use of the resource or result in diminished capacity for use. However, under Alternative 2, the impact would preclude the use of the resource or result in diminished capacity for use, because acquisition of approximately 12 percent of the total play area would constitute a substantial reduction in the total play area available for use and the track would no longer be functional under this alternative.

The Authority would implement SO-MM#3, Implement Measures to Reduce Impacts Associated with the Relocation of Important Facilities, to reduce effects from permanent acquisition through consultation with the appropriate parties before land acquisition to assess potential opportunities to reconfigure land use or to relocate affected facilities, as necessary, to minimize the disruption of facility activities and services, and also to provide for relocation that allows the community currently being served to continue to use these services.

The concerns raised by minority populations and low-income populations during the environmental justice engagement process would be addressed through project features and identified mitigation to minimize temporary disruption during construction and to allow restored functioning of parks, trails, recreational facilities, and play areas after construction so that substantial permanent diminishment of these resources would not occur, with one exception. Under Alternative 2, permanent acquisition at the South Valley Middle School would preclude the use of the resource or result in diminished capacity for use because acquisition of approximately 12 percent of the total play area would constitute a substantial reduction in the total play area available for use and the track would no longer be functional under this alternative.

As a result, the temporary and permanent adverse effects on parks, recreational facilities, and school district play areas would not disproportionately affect minority populations and low-income populations with the exception of the acquisition at the South Valley Middle School under Alternative 2.

5.6.3.2 Operations Impacts

Project operation would result in permanent adverse effects on populations, including minority populations and low-income populations, associated with traffic congestion, aesthetics and visual quality, and noise and vibration. This section evaluates the potential for these adverse effects to result in a disproportionately high and adverse effect on minority populations and low-income populations after the application of mitigation and the consideration of project benefits. Project operations would result in net benefits associated with regional employment growth and long-term air quality improvements.

Transportation

The population within the Monterey Corridor Subsection has a higher percentage of minority populations (73.7 percent) compared to the reference community (66.3 percent) and a higher percentage of low-income populations (28.8 percent) than the reference community (23.3 percent). The San Jose Diridon Station RSA has a higher percentage of low-income populations (32.7 percent) than the reference community, and the Downtown Gilroy Station RSA has a higher percentage of both minority populations (73.3 percent) and low-income populations (47.3 percent) compared to the reference community.

Project operation would generate additional trips associated with HSR passengers and workers traveling to station areas and maintenance facilities (MOWFs/MOWS). This added traffic, combined with permanent road closures and realignments, and the Monterey Road lane reductions under Alternatives 1, 2, and 3, would result in increased volume, congestion, and delays during the peak hour within the Monterey Corridor Subsection (under all project alternatives), and in the vicinity of the San Jose Diridon Station under all alternatives and in the vicinity of the Downtown Gilroy Station under Alternatives 1, 2 and 4. Alternative 4 would also affect traffic delays at peak hours in these and other areas due to increased gate-down time.

As cited above in Section 5.3.2.2, Methods for Identifying Adverse Effects on Minority Populations and Low-Income Populations, transportation effects on minority populations and low-income populations are only considered adverse disproportionate effects on those populations if the transportation effects results in the isolation, exclusion, or separation of minority or low-income individuals within a given community from a broader community. The traffic delay effects described in Section 5.6.3.1 and in Section 3.2, Transportation, would occur during the peak hours because that is the period when roads are congested. Outside of peak hours, the project may have minor effects on traffic delay, but is not expected to substantially lengthen travel times. As a result, peak-hour traffic delays would not isolate, exclude, or separate minority or low-income individuals from the broader community, so therefore the effect is not a disproportionate adverse effect on minority or low-income populations.

During operations, permanent road closures and reduction in roadway capacity on Monterey Road would shift vehicle trips and reduce capacity along high-frequency VTA bus routes (routes with service every 15 minutes or less), contributing to bus performance delay. The project-related roadway modifications would affect bus on-time performance and operating speeds. The Authority would implement mitigation measure TR-MM#2, Install Transit Signal Priority, which would provide bus transit signal priority at all traffic signals in the following locations:

- San Jose Diridon Station Area
 - Cahill Street between West Santa Clara Street and Park Avenue
 - Montgomery Street between West Santa Clara Street and Park Avenue
 - Autumn Street between West Santa Clara Street and Park Avenue
- Monterey Road between Capitol Expressway and Blossom Hill Road
- Gilroy Station Area
- Monterey Road between Seventh Street and 10th Street
- Alexander Street between Seventh Street and 10th Street

This mitigation measure would be effective in improving the speed and reliability of bus routes affected by project-related delays by identifying targeted improvements to enhance operations. This mitigation measure would substantially reduce adverse effects on bus transit operations during HSR operations so that disproportionately high and adverse effects on minority populations and low-income populations would not occur relative to bus transit.

Project operations would enhance passenger rail transit by increasing passenger rail connections at the San Jose Diridon and Gilroy Stations. Alternative 4 would enhance Caltrain by electrifying rail service between San Jose and Gilroy.

Operation of the project would also change regional and statewide travel patterns through the addition of new trips to San Jose Diridon and Gilroy Stations from passengers and HSR workers traveling to the station areas and the shift of vehicle trips from airports and other intercity travel hubs to train trips. Shifts and changes in travel patterns would result in a benefit through a reduction in vehicle miles traveled (VMT) on roadways, freeways, and intersections and less overall congestion within the project extent through decreases in long-range vehicle trips and increases to ridership of the HSR. Under all four project alternatives, the project would reduce annual VMT within Santa Clara County by 230 million miles in 2040. These transportation benefits would benefit the region as a whole, rather than specific communities.

Aesthetics and Visual Quality

The operation of HSR trains on aerial structure adjacent to residential areas would increase nighttime light levels as a result of the spillover of light from passing trains and maintenance equipment. This would result in a new source of light that would adversely affect nighttime views. The project as designed would direct lighting downward to minimize lighting spillover, but the presence of nighttime light where light did not previously exist would not be eliminated. Alternatives 1 and 3, running on viaduct from San Jose to Gilroy, would have more light spillover into residential areas, resulting in more impacts from increased light levels than Alternative 2 or 4, which would run at grade and train light spillover would be contained by existing vegetation and noise barriers. Alternative 4 would operate in blended service with Caltrain in urbanized areas, with lights from HSR similar to lights from existing passenger and freight service, resulting in the least impact of the four alternatives.

The Authority would implement AVR-MM#4 to provide landscape screening to obscure HSR infrastructure from residential viewers. In addition, where N&V-MM#3 would place opaque sound barriers, light spillover would be blocked by the barriers. These measures would help block light during operations and reduce impacts on adjacent populations, including minority populations and low-income populations, but not below the level anticipated to cause visual impacts. Adverse visual impacts would remain after mitigation and would be distributed along the length of the project alignments. Minority populations and low-income populations and non-minority populations and non-low-income populations would be affected by increased nighttime light levels due to project operations. As a result, no disproportionately high and adverse effect on minority populations and low-income populations associated with train operations would occur.

Noise and Vibration

During the environmental justice engagement process, noise was raised as a key concern in most of the communities, and was particularly important to residents in San Jose, who experience noise associated with existing Caltrain operations and the Norman Y. Mineta San Jose International Airport. Operation of the project would generate noise levels above existing ambient levels as a result of train operations and increased traffic near the San Jose Diridon Station and in South San Jose along the Monterey Corridor and at the Gilroy MOWF.

Table 5-20 shows the number of severe and moderate noise impacts as a result of train operations under each of the project alternatives by subsection and by city and community after the application of mitigation. Noise mitigation would include the application of noise barriers, sound insulation, or acquisition of easements on properties severely affected by noise in accordance with the criteria established in the Authority's noise and vibration mitigation guidelines (N&V-MM#3, Implement Proposed California High-Speed Rail Project Noise Mitigation Guidelines). Mitigation also establishes requirements for additional noise analysis during final design, should any changes to final design or vehicle specifications change assumptions underlying the noise analysis (N&V-MM#4, Vehicle Noise Specification; N&V-MM#5, Special Track Work at Crossovers and Turnouts; and N&V-MM#6, Additional Noise Analysis Following Final Design).

The proposed noise mitigation, which is described in detail in Section 3.4, was analyzed in two ways: (1) noise mitigation with noise barriers, and (2) noise mitigation with a combination of Quiet Zones and noise barriers. Implementation of Quiet Zones would eliminate the requirement for trains to sound warning horns as they approach at-grade crossings. The implementation of noise mitigation with noise barriers only would reduce the total number of severe and moderate noise impacts by 41 percent for Alternative 1, 62 percent for Alternative 2, 18 percent for Alternative 3, and 48 percent for Alternative 4. With the application of mitigation with noise barriers, Alternative 4 would have residual severe and moderate noise impacts on the greatest number of sensitive receptors (1,468), followed by Alternative 2 (987), Alternative 1 (907), and Alternative 3 (866). Moderate and severe noise impacts would occur at sensitive receptors along the length of the entire alignment but would be concentrated in the Morgan Hill and Gilroy Subsection, which would contain approximately 59 to 73 percent of all severe and moderate noise impacts, respectively, under all project alternatives. The greatest number of residual severe and moderate

noise impacts with noise barriers as mitigation would occur in unincorporated Santa Clara County and Gilroy under Alternative 1, in unincorporated Santa Clara County and San Jose under Alternative 2, in unincorporated Santa Clara County and unincorporated Merced County under Alternative 3, and in Gilroy and San Jose under Alternative 4. Figure 5-19 illustrates the operational noise impacts by city and community using proportional symbols to represent the relative number of impacts mitigated with noise barriers.

Table 5-20 Mitigated Operational Noise Impacts with Noise Barriers by Alternative

Subsection and City/Community	Alternative 1		Alternative 2		Alternative 3		Alternative 4	
	Mod.	Sev.	Mod.	Sev.	Mod.	Sev.	Mod.	Sev.
San Jose Diridon Station Approach	13	3	73	0	73	0	222	24
Santa Clara	12	0	73	0	73	0	6	1
San Jose	1	3	0	0	0	0	216	23
Monterey Corridor	85	0	186	0	85	0	129	16
South San Jose	85	0	186	0	85	0	129	16
Morgan Hill and Gilroy	541	120	497	86	498	65	805	127
San Jose	109	0	25	7	109	0	179	1
Morgan Hill	61	0	182	0	61	0	137	33
San Martin	0	0	0	0	0	0	0	0
Gilroy	147	7	70	10	0	0	289	48
Unincorporated Santa Clara County	215	98	211	54	318	52	192	29
Unincorporated San Benito County	9	15	9	15	10	13	8	16
Pacheco Pass	4	9	4	9	4	9	4	9
Unincorporated Santa Clara County	4	4	4	4	4	4	4	4
Unincorporated Merced County	0	5	0	5	0	5	0	5
San Joaquin Valley	33	99	33	99	33	99	33	99
Los Banos	0	0	0	0	0	0	0	0
Unincorporated Merced County	33	99	33	99	33	99	33	99
Environmental Justice RSA Total	676	231	793	194	693	173	1193	275

Mod. = moderate

Sev. = severe

RSA = resource study area

The implementation of noise mitigation with Quiet Zones and noise barriers would reduce the total number of severe and moderate noise impacts by 45 percent for Alternative 1, 62 percent for Alternative 2, 23 percent for Alternative 3, and 61 percent for Alternative 4, as shown in Table 5-21. With the application of mitigation with Quiet Zones and noise barriers, Alternative 4 would have residual severe and moderate noise impacts on the greatest number of sensitive receptors (1,105), followed by Alternative 2 (987), Alternative 1 (843), and Alternative 3 (809). Moderate and severe noise impacts would occur at sensitive receptors along the length of the entire project alignment, but under all alternatives would be concentrated in the Morgan Hill and Gilroy Subsection, which would contain approximately 58 to 71 percent of all severe and moderate noise impacts, respectively, under all project alternatives. The greatest number of residual severe noise impacts with Quiet Zones and noise barriers as mitigation would occur in unincorporated Santa Clara County under Alternatives 1, 2, and 3, and in San Jose under Alternative 4. Figure 5-20 illustrates the operational noise impacts by city and community using proportional symbols to represent the relative number of impacts mitigated with Quiet Zones and noise barriers.

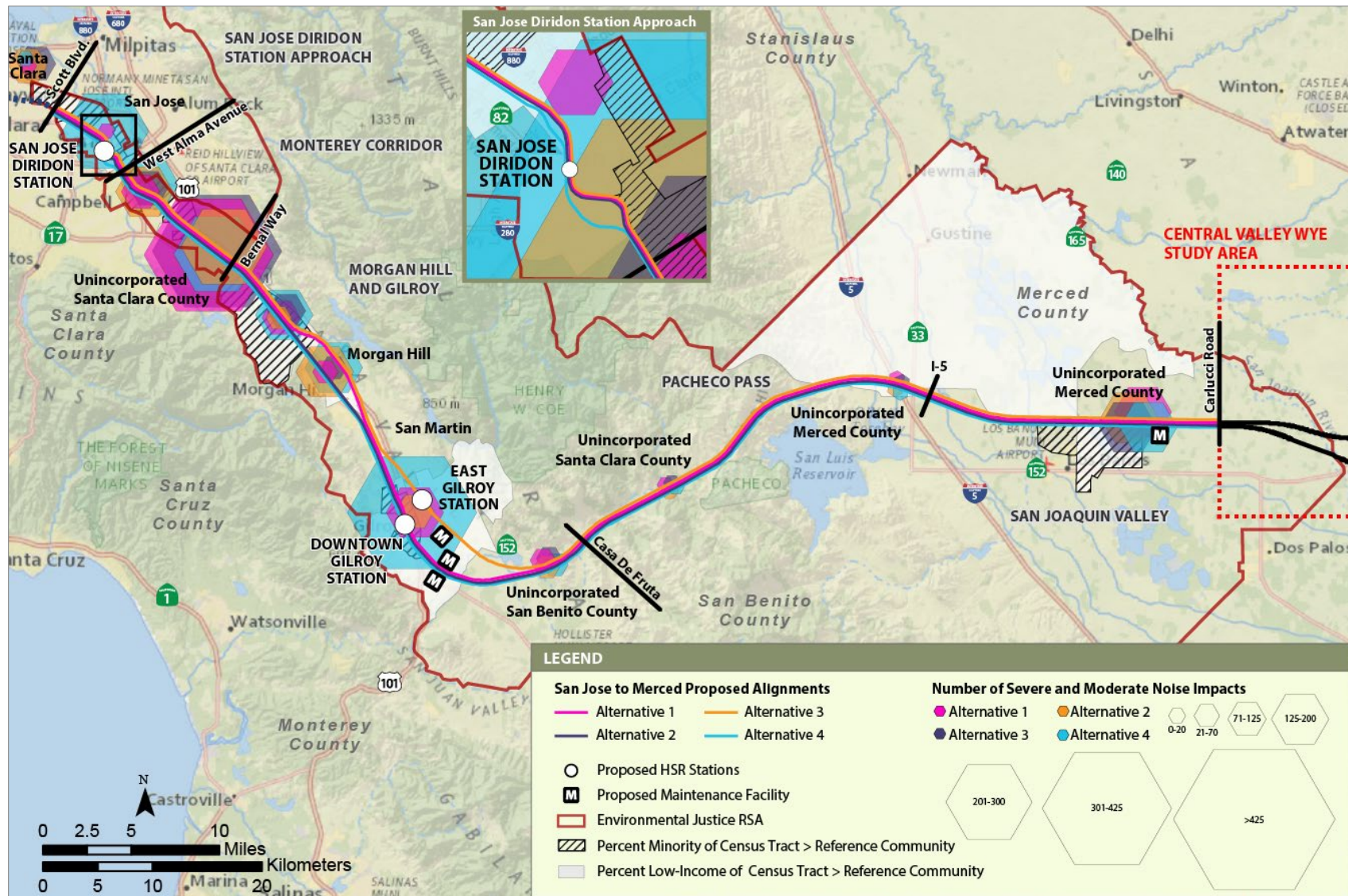
Table 5-21 Mitigated Operational Noise Impacts with Quiet Zones and Noise Barriers by Alternative

Subsection and City/Community	Alternative 1		Alternative 2		Alternative 3		Alternative 4	
	Mod.	Sev.	Mod.	Sev.	Mod.	Sev.	Mod.	Sev.
San Jose Diridon Station Approach	13	3	73	0	73	0	216	14
Santa Clara	12	0	73	0	73	0	6	1
San Jose	1	3	0	0	0	0	210	13
Monterey Corridor	84	0	186	0	65	0	86	4
South San Jose	84	0	186	0	65	0	86	4
Morgan Hill and Gilroy	486	112	497	86	461	65	587	53
San Jose	108	0	25	7	85	0	172	0
Morgan Hill	61	0	182	0	61	0	199	0
San Martin	0	0	0	0	0	0	0	0
Gilroy	94	7	70	10	0	0	162	18
Unincorporated Santa Clara County	214	90	211	54	305	52	46	19
Unincorporated San Benito County	9	15	9	15	10	13	8	16
Pacheco Pass	4	9	4	9	4	9	4	9
Unincorporated Santa Clara County	4	4	4	4	4	4	4	4
Unincorporated Merced County	0	5	0	5	0	5	0	5
San Joaquin Valley	33	99	33	99	33	99	33	99
Los Banos	0	0	0	0	0	0	0	0
Unincorporated Merced County	33	99	33	99	33	99	33	99
Environmental Justice RSA Total	620	223	793	194	636	173	926	179

Mod. = moderate

Sev. = severe

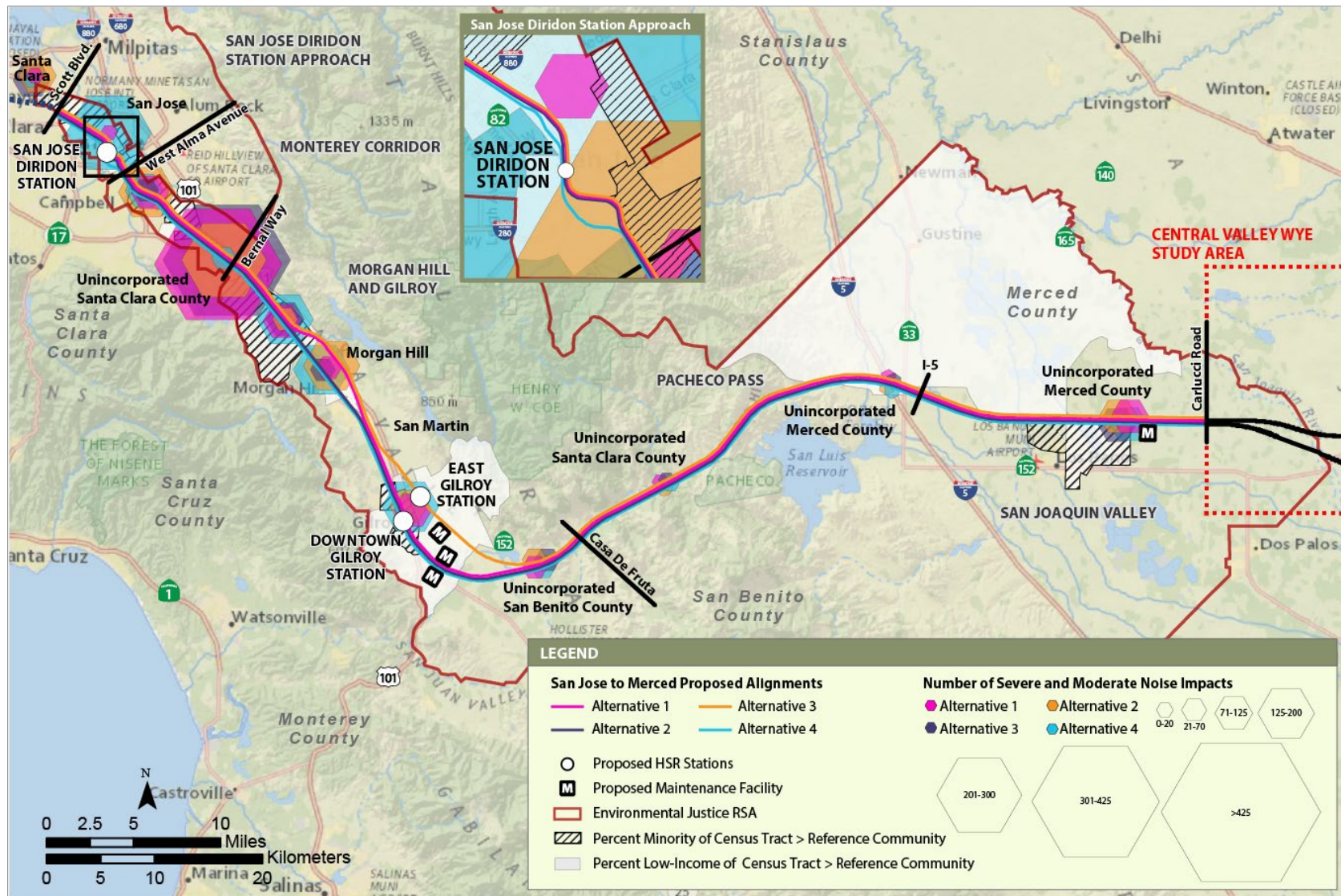
RSA = resource study area



Sources: U.S. Census Bureau ACS 2010–2014b, 2010–2014d; Authority 2019c

MAY 2019

Figure 5-19 Mitigated Operational Noise Impacts (Noise Barriers)—Proportional Representation by Alternative and Community



Sources: U.S. Census Bureau ACS 2010–2014b, 2010–2014d; Authority 2019c

MAY 2019

Figure 5-20 Mitigated Operational Noise Impacts (Noise Barriers and Quiet Zones)—Proportional Representation by Alternative and Community

Additionally, operation of the project would generate additional traffic and traffic-related noise that would be similar for all four project alternatives. Traffic noise level increases greater than or equal to 3 decibels above existing levels would occur at 12 roadway segments in 2040 (5 roadway segments near the San Jose Diridon Station under Alternatives 1 through 3 and 4 roadway segments under Alternative 4; 6 roadway segments along Monterey Road in South San Jose under each project alternative; 1 roadway segment near the South Gilroy MOWF under Alternatives 1, 2, and 4 and 1 roadway segment near the East Gilroy MOWF under Alternative 3; and 1 roadway segment near the Downtown Gilroy Station under Alternative 4).

Operation of the project would also generate excessive ground-borne vibration impacts at sensitive receptors in the San Jose Diridon Station Approach, Monterey Corridor, and Morgan Hill and Gilroy Subsections. Alternative 1 would result in 81 vibration impacts, Alternative 2 would result in 143 vibration impacts, Alternative 3 would result in 140 vibration impacts, and Alternative 4 would result in 1,203 vibration impacts. The majority of these vibration impacts would occur within the Monterey Corridor Subsection, with the remaining vibration impacts occurring in the San Jose Diridon Station Approach and Morgan Hill and Gilroy Subsections. Along the proposed alignment, there are many residences between Santa Clara and Gilroy where existing vibration levels exceed the residential criterion of 72 vibration decibels due to Caltrain operations. Because the project alternatives would more than double the number of train passby events per day, additional vibration impacts would occur. No vibration mitigation is available at this stage of design to reduce these impacts.

Minority populations and low-income populations have been identified within the environmental justice RSA in Santa Clara (40.1 percent low-income), San Jose Diridon Station RSA (32.7 percent low-income), South San Jose within the Monterey Corridor Subsection (73.3 percent minority and 28.6 percent low-income), Morgan Hill (26.0 percent low-income), and Gilroy (74.3 percent minority and 40.8 percent low-income). Overall, less than 50 percent of moderate and severe noise impacts occur in minority and low-income areas under Alternatives 1 and 3; however, between 65 and 76 percent of moderate and severe noise impacts occur in minority and low-income areas under Alternatives 2 and 4, respectively. Under Alternative 4, 74 percent of vibration impacts occur in minority and low-income areas, compared to 56 percent under Alternatives 2 and 3, and 25 percent under Alternative 1. Overall, Alternative 4 has the greatest impact on minority populations and low-income populations in that Alternative 4 affects the greatest number of receptors and the greatest proportion of the effects would occur in minority and low-income areas.

Mitigation with noise barriers would not fully address the concerns raised during the environmental justice engagement process regarding noise and vibration, and noise and vibration impacts would predominately be borne by communities with minority populations and low-income populations higher than those of the reference community. As a result, operational noise impacts would result in disproportionately high and adverse effects on minority populations and low-income populations under Alternatives 2 and 4. Operational vibration impacts would result in disproportionately high and adverse effects on minority populations and low-income populations under Alternative 4.

Employment

The HSR project would improve connectivity while facilitating new access to employment and educational opportunities and creating job opportunities across many sectors of the economy in the three-county region. Overall, it is expected that employment growth would be a net benefit for the region as a whole. The Authority estimates operations associated with the HSR system would create approximately 1,110 jobs in the three-county reference community, an estimate that would be the same for all project alternatives. Operations-related employment would be based in San Jose and Gilroy at station locations and the MOWF near Gilroy. The Authority is committed to making sure that no person in the state of California is excluded from participation in, nor denied the benefits of, its programs, activities, and services on the basis of race, color, national origin, age, sex, or disability as afforded by Title VI of the Civil Rights Act of 1964 and related statutes. With the Authority's implementation of employment training programs consistent with the

Community Benefits Agreement described previously, these jobs would provide opportunities for minority populations and low-income populations within the region.

Air Quality

Operation of the project would not result in regional increases in mobile source air toxics (MSAT) or criteria pollutants. In fact, operation of the project as part of the statewide HSR system would result in an overall benefit to air quality. This benefit would result from a shift in modes of travel from vehicles and aircrafts to HSR, which has fewer emissions relative to existing modes of transportation. The emissions reductions would be equal for all four project alternatives. There would be a benefit of reduction of greenhouse gas emissions as well, and the project alternatives would result in a net reduction of greenhouse gas emissions statewide. Long-term air quality improvements would be experienced equally by minority populations and low-income populations and the general population within the region.

While reductions in regional emissions are expected because of decreased VMT, localized increases in MSATs, diesel particulate matter (DPM), carbon monoxide (CO), and particulate matter (PM) could occur near the stations and maintenance facilities because of additional passenger and employee commute trips. These localized increases in air emissions would occur in locations where minority populations and low-income populations reside within the station and maintenance facility RSAs. The project alternatives would reposition existing tracks used by UPRR freight trains. Redistributing or moving existing freight traffic would result in increased DPM concentrations at certain receptor locations and in corresponding decreases at other locations.

The additional station traffic would not be considered to have “higher potential MSAT effects” per the Federal Highway Administration (FHWA) guidance since the anticipated change in local average daily traffic would not exceed the FHWA’s MSAT trigger of 140,000 average daily traffic. Similarly, the project would not result in CO or PM concentrations in excess of the NAAQS or CAAQS (see Table 3.3-24 and Impact AQ#13 in Section 3.3, Air Quality and Greenhouse Gases, of this Draft EIR/EIS). Similarly, as shown in Tables 3.3-25 and 3.3-26 in Section 3.3, health risks and PM_{2.5} concentrations at the maximally exposed receptor locations near the relocated freight service, stations, and maintenance facilities would be less than BAAQMD’s health risk thresholds of significance.

5.6.3.3 Cumulative Impacts

NEPA requires examination of a project’s cumulative effects (i.e., a project’s effects considered in conjunction with the effects of other past, present, and reasonably foreseeable projects causing related effects). Section 3.19 of this Draft EIR/EIS discusses the project alternatives’ contribution to any cumulative effect for each resource area discussed in Chapter 3. The following discussion provides additional information on the potential for cumulative effects that could affect minority populations and low-income populations.

Under the cumulative condition, ongoing urban development is expected to continue within the cumulative RSA. Such planned projects that are anticipated to be constructed by 2040 include residential, commercial, industrial, recreational, and transportation projects. These projects would occur throughout the cumulative RSA, which is the same as the environmental justice RSA and includes census tracts within 0.5 mile of the project footprint. This area includes portions of Santa Clara, San Jose, Morgan Hill, San Martin, Gilroy, Santa Nella, Volta, and Los Banos, as well as the unincorporated areas of Santa Clara, San Benito, and Merced Counties. The cumulative RSA has a population of approximately 67 percent minority and 30 percent low-income.

Past development in the cumulative RSA has affected the communities within the RSA. In recent decades, the Bay Area has experienced record employment levels and population growth due to expansion of the technology sector. This strong economic growth has placed extreme pressure on the region’s housing and transportation infrastructure. Limited residential development especially near job centers has resulted in rising housing costs, insufficient housing supply to meet current and future needs, and a spatial mismatch between the location of jobs and housing. This has resulted in increased distances between jobs and housing and transit, as residents unable to afford to live near transit and job centers commute farther from less urbanized areas.

This has also resulted in increased urban sprawl and development, resulting in the conversion of natural and agricultural land, particularly in southern Santa Clara County. Recent development trends are anticipated to continue in the cumulative RSA. Together, the project alternatives, planned development, and cumulative conditions discussed under the general plans of Santa Clara, San Jose, Morgan Hill, San Martin, Gilroy, Santa Nella, Volta, and Los Banos, as well as the unincorporated areas of Santa Clara, San Benito, and Merced Counties, adjacent HSR sections and relevant additional future development and transportation projects identified in Appendix 3.19-A and Appendix 3.19-B of Volume 2 constitute the cumulative condition relevant to environmental justice.

Areas with the highest percentage of low-income populations within the cumulative RSA include Santa Clara, San Jose, Gilroy, and unincorporated Santa Clara County. Planned nontransportation projects within these areas include development of residential areas, mixed use areas that include residential, commercial and retail space, and parks, open spaces, and recreation resources, and construction of hotels. Transportation projects in these areas include multiple road widening and realignment projects, intersection improvements, including the construction of a new intersection on US 101 in San Jose, roadway extensions, and roadway reconfigurations, such as the SR 152/Frazier Lake Road Intersection. In Morgan Hill, multiple affordable housing complexes would be developed. Areas with the highest percent of minority populations within the cumulative RSA include southern San Jose, Gilroy, and Los Banos. Planned projects within these areas include nontransportation projects, such as the development of residential areas and mixed-use areas that would contain residential and commercial space, and construction of a hotel, and transportation projects, including the reconfiguration of the SR 152/Frazier Lake Road Intersection roadway and construction of the SR 152 Los Banos Bypass. In Gilroy, multiple affordable housing complexes would be developed.

Construction of planned projects in the cumulative RSA could result in temporary and permanent disruptions to minority populations and low-income populations during construction. For instance, the Communications Hill Specific Plan provides for development of 2,200 residential units, up to 67,500 square feet of commercial/retail uses, 55 acres of industrial park uses, public parks, open space, trails, streets, stormwater facilities, and associated infrastructure on approximately 332 acres within the Communications Hill Specific Plan Area in an area bounded by Monterey Road in southern San Jose. If constructed concurrently with the project, the incremental effects of multiple projects could combine to create disproportionate and adverse effects on minority populations and low-income populations in specific communities, which would be considered a cumulative effect under NEPA. However, nontransportation and transportation projects as a whole are distributed throughout the cumulative RSA and extend beyond the neighborhoods where there are high percentages of minority populations and low-income populations. In addition, a number of these projects would create additional, permanent jobs in the area and would set aside land for future industrial and commercial development, which could increase the economic opportunities available to minority populations and low-income populations.

Development of planned projects would likely include the implementation of various forms of mitigation to avoid or minimize the potential for temporary and permanent cumulative effects on the population as a whole in the cumulative RSA. Adverse effects would be distributed throughout the region and would occur based on the construction timelines of the planned projects under the cumulative condition. Many of the planned projects occur through the broader areas of the cumulative RSA, rather than in specific neighborhoods where there are high rates of minority populations and low-income populations. As a result, there would not be a cumulative effect under NEPA.

The project alternatives would result in local and regional benefits to the cities and communities within the cumulative RSA. These benefits would include increased statewide accessibility to jobs, goods, and services; reduced vehicle miles traveled; long-term air quality improvements; reduction in greenhouse gas emissions; public safety benefits realized through the incorporation of new safety and signaling systems into project design; and new employment opportunities during construction and operations. Public safety benefits would be realized throughout the project section while benefits related to increased accessibility, emission reductions, long-term air quality improvements, and job

creation would be realized across the three-county region. These beneficial effects would extend to minority populations and low-income populations located within the cumulative RSA.

HSR stations can become a focal point of economic activity as public and private investment seeks to capture the travel benefits of increased intercity accessibility. Localized beneficial effects are anticipated in the area surrounding the San Jose Diridon and Downtown Gilroy Stations where low-income populations and minority populations are present.

5.7 Summary of Disproportionately High and Adverse Effects Prior to Consideration of Measures to Minimize Harm

A summary of disproportionately high and adverse impacts to environmental justice populations (i.e., minority populations and low-income populations) by resource and alternative are summarized in this section and in Table 5-22 at the end of this section. This summary includes the consideration of the ameliorating effects of project features and identified mitigation, but it does not consider the potential ameliorating effects of additional measures to minimize harm, which are discussed in Section 5.8, Measures to Minimize Harm. A determination of whether the project will have a disproportionate effect on minority populations and low-income populations after consideration of measures to minimize harm and after consideration of project benefits will be provided in Section 5.9, Environmental Justice Determination, in the Final EIR/EIS.

Aesthetics and Visual Quality. Construction of the project alternatives would introduce permanent structures, including viaducts and grade separations, stations, maintenance facilities, TPSS facilities, and landscape changes that would permanently remove or block residential views and distant scenic views and contrast with scale and materials of nearby residential areas. Adverse visual effects would predominately occur in residential areas where the project alternatives are located on viaduct and could affect the perceived quality of life of residents. The embankment through Gilroy under Alternative 2 would also partially block views of the surrounding hills and the city, imparting an industrial aesthetic to the landscape, and dominating the scale of adjacent residential, commercial, and historic structures (e.g., Gilroy City Hall, Gilroy Caltrain Station). Adverse visual effects would occur in areas where the percentage of minority populations and percentage of low-income populations exceed the percentages of the reference community (66.3 percent minority and 23.3 percent low-income).

Table 5-22 summarizes the project alternatives with disproportionate effects on areas with minority populations and low-income populations. Alternatives 1 and 3 have the highest length of aerial viaduct (45.4 and 43.2 miles respectively) and also the greatest proportion of aerial viaduct in minority and low-income areas (62 percent). Alternative 2 has 20.9 miles of aerial viaduct with 50 percent of the mileage occurring in minority and low-income areas, and 3.4 miles of embankment through low-income and minority areas in Gilroy. Alternative 4 has both the lowest length of aerial viaduct (15.2 miles) and the smallest proportion that occurs within minority and low-income areas (36 percent).

During the environmental justice engagement process, community members throughout the project extent expressed concern about visually dominant project elements such as aerial structures and HSR stations resulting in the loss of residential views and reduced privacy for residents adjacent to the passing HSR trains. Mitigation measures would be applied equally in areas with high rates of minority populations and low-income populations and the reference community as a whole but would only partially address the concerns raised by community members. After the implementation of mitigation, adverse visual effects would remain under all project alternatives and would disproportionately occur in minority and low-income areas under Alternatives 1 and 3 (Table 5-22). Because permanent adverse visual effects would be predominately borne by minority populations and low-income populations, these effects would disproportionately affect minority populations and low-income populations under Alternatives 1 and 3. Permanent adverse visual effects would not disproportionately affect minority populations and low-income populations under Alternative 4.

Displacements. Construction of the project alternatives would require the acquisition of right-of-way and would result in the displacement of residences and businesses. Table 5-22 shows a summary of where residential and business displacements would disproportionately occur by alternative, and the percent that would be located in minority and low-income areas within the environmental justice RSA. The majority of residential displacements would occur in minority and low-income areas under Alternative 1 (60 percent) and Alternative 2 (66 percent). Under both Alternatives 3 and 4, 50 percent of residential displacements would occur in minority and low-income areas, and 50 percent would not occur in minority and low-income areas. Between 82 and 92 percent of business displacements would occur in minority and low-income areas under all alternatives.

Displacements were a primary concern of community members along the project alignment. Participants in Gilroy were particularly concerned about displacement of low-income rental housing, the ability of low-income and unemployed community members who rent their homes to relocate if affected by the project, and the adequacy of replacement housing to relocate those affected. The Authority would comply with federal and state laws that require that relocation assistance be provided to any person, business, farm, or nonprofit operation displaced because of the acquisition of real property by a public entity for public use. The provision of relocation assistance would assist displaced persons with the relocation process but would not fully address the concerns raised by community members. Adverse effects from residential displacements would remain under all alternatives and would disproportionately occur in minority and low-income areas under Alternatives 1 and 2 (Table 5-22). Under Alternatives 1 and 2, permanent adverse effects of residential displacement would be predominately borne by minority populations and low-income populations, and residential displacement would disproportionately affect minority populations and low-income populations. Business displacements would disproportionately affect minority populations and low-income populations under all alternatives.

Safety and Security. Construction-related road relocations and reconstructions and operation-related traffic effects would permanently increase vehicular travel times in South San Jose along Monterey Road, causing delays in emergency vehicle response times. These delays would adversely affect the public health and welfare of residents in adjacent neighborhoods under all four project alternatives, with the delay being the greatest under Alternative 2 and lowest under Alternative 4.

Under all alternatives, the addition of HSR service at the San Jose Diridon Station would generate a total of approximately 1,100 peak hour vehicle trips, causing a significant impact at multiple intersections in the general vicinity of the station. The added station traffic generated by HSR service under these three alternatives would cause significant impacts on fire station emergency vehicle response times resulting in increased delay of up to 30 seconds for fire station emergency response times.

Under Alternatives 1, 2 and 4, the addition of HSR service at Gilroy Station would generate a total of approximately 690 peak hour vehicle trips, causing a significant impact at multiple intersections in the general vicinity of the station. The added station traffic generated by HSR service would cause significant impacts on fire station emergency vehicle response times resulting in increases of more than 30 seconds to fire station emergency response times.

In addition, the potential impacts of additional gate down time on fire station emergency vehicle response times were assessed throughout the corridor for Alternative 4. The analysis indicates a potential for impacts of 30 seconds or more on emergency response times to fire station response areas at 26 at-grade crossings along the project extent. Areas that would experience delays in emergency vehicle response of 30 seconds or more due to increased gate down time include South San Jose, San Martin, and Gilroy.

Overall, increased traffic in station areas, reconstruction and narrowing of Monterey Road, and increased gate down time at at-grade crossings would result in fire station emergency vehicle response delay near the San Jose Diridon Station under all alternatives; in South San Jose under all alternatives; in San Martin under Alternative 4; and in Gilroy under Alternatives 1, 2, and 4. Of these, minority populations or low-income populations are identified in San Jose (34.5 percent

low-income), South San Jose (73.3 percent minority and 28.6 percent low-income), and Gilroy (72.3 percent low-income and 40.8 percent low-income).

Mitigation measures would reduce emergency response time increases but if local jurisdictions choose not to implement and operate emergency response improvements funded by the Authority, adverse effects on emergency response times would remain. In that scenario, the concerns raised by minority populations and low-income populations during the environmental engagement process about construction-related traffic effects would not be fully addressed through mitigation.

Adverse effects on emergency response times would occur near the San Jose Diridon Station under all alternatives; in South San Jose under all alternatives; in San Martin under Alternative 4; and in Gilroy under Alternatives 1, 2, and 4. These adverse effects would be disproportionately borne by minority and low-income populations in San Jose, South San Jose, and Gilroy. As a result, construction-related traffic effects on emergency response times would disproportionately affect minority populations and low-income populations in the scenario that emergency response improvements (see above) are not implemented.

Parks, Recreation, and School District Play Areas. Under Alternative 2, permanent acquisition at the South Valley Middle School would preclude the use of the resource or result in diminished capacity for use, because acquisition of approximately 12 percent of the total play area would constitute a substantial reduction in the total play area available for use and the track would no longer be functional under this alternative. Since the South Valley Middle School is in a minority and low-income area, the diminishment of play function would be a disproportionately high and adverse effect.

Noise and Vibration. With the application of mitigation with Quiet Zones and noise barriers, Alternative 4 would have residual severe and moderate noise impacts on the greatest number of sensitive receptors, followed by Alternative 2, Alternative 1, and Alternative 3, respectively. Operation of the project would also generate excessive ground-borne vibration impacts at sensitive receptors in the San Jose Diridon Station Approach, Monterey Corridor, and Morgan Hill and Gilroy Subsections, with Alternative 4 resulting in the greatest number of vibration impacts.

Fewer than 50 percent of moderate and severe noise impacts would occur in minority and low-income areas under Alternatives 1 and 3; however, between 65 and 76 percent of moderate and severe noise impacts occur in minority and low-income areas under Alternatives 2 and 4, respectively. Under Alternative 4, 74 percent of vibration impacts occur in minority and low-income areas, compared to 56 percent under Alternatives 2 and 3, and 25 percent under Alternative 1.

Mitigation with noise barriers would not fully address the concerns raised during the environmental justice engagement process regarding noise and vibration, and noise and vibration impacts would predominately be borne by communities with minority populations and low-income populations higher than those of the reference community. As a result, operational noise impacts would result in disproportionately high and adverse effects on minority populations and low-income populations under Alternatives 2 and 4. Operational vibration impacts would also result in disproportionately high and adverse effects on minority populations and low-income populations under Alternatives 2, 3 and 4.

Table 5-22 Summary of Disproportionately High and Adverse Effects on Minority Populations and Low-Income Populations

City/Community and Effect Type	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Transportation	<ul style="list-style-type: none"> Bus transit delays would occur for all project alternatives at times during project construction. 			
Aesthetics and Visual Quality	<ul style="list-style-type: none"> 45.4 miles of viaduct (62 percent in minority and low-income areas). 	<ul style="list-style-type: none"> 20.9 miles of viaduct (50 percent in minority and low-income areas). 3.4 miles of embankment through Gilroy causes adverse visual effects in minority and low-income areas. 	<ul style="list-style-type: none"> 43.2 miles of viaduct (62 percent in minority and low-income areas). 	<ul style="list-style-type: none"> Adverse effects are not disproportionate.
Residential Displacements	<ul style="list-style-type: none"> 147 residences (60 percent in minority and low-income areas). 	<ul style="list-style-type: none"> 603 residences (66 percent in minority and low-income areas). 	<ul style="list-style-type: none"> Adverse effects are not disproportionate. 	<ul style="list-style-type: none"> Adverse effects are not disproportionate.
Business Displacements	<ul style="list-style-type: none"> 217 commercial and industrial businesses (87 percent in minority and low-income areas). 	<ul style="list-style-type: none"> 348 commercial and industrial businesses (92 percent in minority and low-income areas). 	<ul style="list-style-type: none"> 157 commercial and industrial businesses (82 percent in minority and low-income areas). 	<ul style="list-style-type: none"> 66 commercial and industrial businesses (83 percent in minority and low-income areas).
Safety and Security	<ul style="list-style-type: none"> Emergency response delay in minority and low-income areas in San Jose, South San Jose, and Gilroy.¹ 	<ul style="list-style-type: none"> Emergency response delay in minority and low-income areas in San Jose, South San Jose, and Gilroy.¹ 	<ul style="list-style-type: none"> Emergency response delay in minority and low-income areas in San Jose and South San Jose.¹ 	<ul style="list-style-type: none"> Emergency response delay in minority and low-income areas in South San Jose and Gilroy.¹
Parks	<ul style="list-style-type: none"> Adverse effects are not disproportionate. 	<ul style="list-style-type: none"> Permanent acquisition of 12 percent of the South Valley Middle School play area that is located in a minority and low-income area. 	<ul style="list-style-type: none"> Adverse effects are not disproportionate. 	<ul style="list-style-type: none"> Adverse effects are not disproportionate.
Noise Impacts ³	<ul style="list-style-type: none"> Adverse effects are not disproportionate. 	<ul style="list-style-type: none"> 793 moderate 194 severe (65 percent in minority and low-income areas). 	<ul style="list-style-type: none"> Adverse effects are not disproportionate. 	<ul style="list-style-type: none"> 1,193 moderate 275 severe (76 percent in minority and low-income areas).

City/Community and Effect Type	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Vibration	<ul style="list-style-type: none"> Adverse effects are not disproportionate. 	<ul style="list-style-type: none"> 143 vibration impacts (56 percent in minority and low-income areas). 	<ul style="list-style-type: none"> 140 vibration impacts (56 percent in minority and low-income areas). 	<ul style="list-style-type: none"> 1,203 vibration impacts (74 percent in minority and low-income areas).

¹ Proposed mitigation could avoid substantial increases in emergency response times. However, if local jurisdictions choose not to implement and operate emergency response improvements funded by the Authority as part of the mitigation, then adverse effects on response time may remain.

² Compared to the Resource Study Area that is 29.8 percent low-income and 66.8 percent minority.

³ After mitigation with noise barriers.

HSR = high-speed rail

quad gate = four-quadrant gate

5.8 Measures to Minimize Harm

The evaluation of impacts in this section is based largely on impacts identified in other sections of this EIR/EIS. Mitigation measures from other sections of the EIR/EIS were applied to the impact analysis in Section 5.6 to minimize or avoid impacts on minority populations and low-income populations. As described in Section 5.6 and summarized in Section 5.7, after application of mitigation from other sections of the EIR/EIS, there still remain some disproportionately high and adverse effects from project alternatives.

The Authority has been engaging and is continuing to engage with minority populations and low-income populations as well as services that serve these populations to identify the concerns of individuals about the effects of the project. The Authority will continue to engage with these communities between the release of this Draft EIR/EIS and the release of the Final EIR/EIS to identify potential specific measures to reduce harm associated with the remaining effects summarized in Section 5.7 that the Authority can implement or support to improve conditions for minority populations and low-income populations so as to reduce those otherwise disproportionately high and adverse effects resulting from the project.

Such measures or actions would be measures, beyond the mitigation identified in other chapters of this EIR/EIS, that would further reduce or offset the adverse effects (see Section 5.7) in the affected community. For example, actions to offset or compensate for disproportionately high and adverse effects could include measures to address existing sources of noise that affect a specific community affected by the project noise (Table 5-22) as opposed to mitigation identified in other chapters of this EIR/EIS to address only project-related noise effects. As another example, actions to ease the potential effects of bus transit disruptions during construction, targeted specifically to vulnerable minority and low-income populations, will be explored, including with agencies and organizations that serve those populations. These are only examples of potential additional measures, and the Authority’s evaluation of additional measures will not be limited to these examples.

5.9 California High-Speed Rail Authority’s Draft Environmental Justice Determination

Prior to consideration of measures to minimize harm and project benefits, the project would result in disproportionately high and adverse effects on minority populations and low-income populations within the environmental justice RSA (see Section 5.7). These effects are associated with bus transit during construction; aesthetics and visual quality; displacements; safety and security (emergency vehicle response); parks and recreation (school district play area), and operational noise and vibration after the application of mitigation. Prior to consideration of measures to minimize harm to low-income populations and minority populations (Section 5.8) and project benefits, disproportionately high and adverse effects are identified for each alternative. However, the resources that are causing the disproportionate effect, and the magnitude of the effect, vary by alternative, as noted in Section 5.7.

As described in Section 5.8, the Authority is continuing engagement with minority populations and low-income populations to develop and consider additional measures that could ameliorate the identified disproportionate effects. The final selected additional measures to minimize harm will be identified in the Final EIR/EIS. The effectiveness of these measures to offset the identified disproportionately high and adverse effects will be identified in the Final EIR/EIS.

The project alternatives would result in regional benefits associated with increased statewide accessibility to jobs, goods, and services; reduced vehicle miles traveled; long-term air quality improvements; reduction in greenhouse gas emissions; public safety benefits realized through new safety and signaling systems; and new employment opportunities during construction and operations. Public safety benefits would be realized throughout the project section while benefits related to increased accessibility, emission reductions, long-term air quality improvements, and job creation would be realized across the three-county region. Regional beneficial effects for minority populations and low-income populations within the environmental justice RSA would be similar to the beneficial effects for the general public.

HSR stations can also become a focal point of economic activity as public and private investment seeks to capture the travel benefits of increased intercity accessibility. Localized beneficial effects are anticipated in the area surrounding the San Jose Diridon and Downtown Gilroy Stations where minority populations and low-income populations are present. These offsetting benefits would reduce the overall effect on minority populations and low-income populations in the vicinity of HSR stations.

The Authority's environmental justice determination in this Draft EIR/EIS is preliminary and is subject to change based on comments received during the public comment period on this document. In accordance with USDOT Order 5610.2(a), if disproportionately high and adverse effects are identified, the action will only be carried out if the Authority determines that "further mitigation measures or alternatives that would avoid or reduce the disproportionately high and adverse effect are not practicable." In the Final EIR/EIS, the Authority will make its final determination concerning whether the project alternatives will or won't have a disproportionately high and adverse effect on minority populations and low-income populations considering the project effects on these populations, measures to minimize harm, and project benefits. The Authority will take into account the input of minority populations and low-income populations during the ongoing and continuing engagement, including regarding measures to minimize harm as well as comments from minority populations and low-income populations on the Draft EIR/EIS.