

**Report Addendum for the
September 10, 2013 Checkpoint B
Summary Reports**
in Support of the
San Jose to Merced Section and
Merced to Fresno Section: Wye Alternatives
Section 404(b)(1) Analysis and
Draft Subsequent Environmental Impact
Report/Supplemental Environmental Impact
Statement

May 2014

Table of Contents

1.0 Introduction..... 1

2.0 Road 18 Refined 2

3.0 Community Character and Cohesion/Environmental Justice 3

 3.1 Methodology 4

 3.1.1 Laws, Regulations, and Orders 4

 3.1.2 Disruption or Division of Communities 5

 3.1.3 Proximity to Community Facilities 5

 3.1.4 Displacement and Relocation of Local Residences and Businesses 5

 3.1.5 Potentially Affected Environmental Justice Populations 6

 3.2 San Jose to Merced Section 6

 3.2.1 San Jose Station Approach Subsection 7

 3.2.2 Monterey Highway Subsection 11

 3.2.3 Morgan Hill to Gilroy Subsection 13

 3.2.4 Pacheco Pass Subsection 18

 3.3 Merced to Fresno Section: Wye Alternatives 20

 3.3.1 Disruption or Division of Communities 20

 3.3.2 Proximity to Community Facilities 22

 3.3.3 Displacement and Relocation of Local Residences and Businesses 23

 3.3.4 Potentially Affected Environmental Justice Communities 23

 3.3.5 Summary of Community Character and Cohesion/EJ Summary 24

4.0 Response to October 2013 USACE and EPA Comments on Initial Checkpoint B Submittal 24

 4.1 San Jose to Merced Section Response to USACE Comments (10/22/2013) 24

 4.2 Merced to Fresno Section: Wye Alternatives Response to USACE Comments (10/9/2013) 27

 4.3 San Jose to Merced Section and Merced to Fresno Section: Wye Alternatives Response to EPA Comments (10/24/2013) 31

5.0 Summary of Agency and Public Input for the Merced to Fresno Section: Wye Alternatives 32

 5.1 SR 152 Corridor 32

 5.2 North of SR 152 Corridor 33

 5.3 South of SR 152 Corridor 33

 5.4 West of Chowchilla Corridor 34

 5.5 East of Chowchilla Corridor 34

6.0 Summary of Conclusions 36

 6.1 San Jose to Merced Section 36

 6.1.1 San Jose Station Approach Subsection 36

 6.1.2 Monterey Highway Subsection 37

 6.1.3 Morgan Hill to Gilroy Subsection 37

 6.1.4 MOE/MOI Facility Alternatives 38

 6.1.5 Pacheco Pass Subsection 38

 6.2 Merced to Fresno Section: Wye Alternatives 38

Tables

Table 3.2-1 San Jose Station Approach Subsection Division of Communities and Community Facilities 7

Table 3.2-2 Monterey Highway Subsection Division of Communities and Community Facilities 11

Table 3.2-3 Morgan Hill to Gilroy Subsection Division of Communities and Community Facilities 14

Table 3.2-4 Pacheco Pass Subsection Division of Communities and Community Facilities 19

Table 3.3-1 Merced to Fresno Section: Wye Alternatives Division of Communities and Community Facilities 21

Table 6.2-1 Merced to Fresno Section: Wye Alternatives Summary of Aquatic Resource Impacts (Acres) 39

Attachments

1. **Figures**

Appendix

- A. **Laws, Regulations, and Orders**
- B1. **Evaluation Decision Summary for San Jose Station Approach Subsection Alignment Alternatives and Stations**
- B2. **Evaluation Decision Summary for Monterey Highway Subsection Alignment Alternatives**
- B3. **Evaluation Decision Summary for Morgan Hill to Gilroy Subsection Alignment Alternatives and Stations**
- B4. **Evaluation Decision Summary for Maintenance-of-Equipment/Maintenance-of-Infrastructure Facility Alternatives**
- B5. **Evaluation Decision Summary for Pacheco Pass Subsection Alignment Alternatives**
- B6. **Evaluation Decision Summary for Wye Alternatives**
- C. **Agency, Stakeholder, and Public Outreach Meetings to Address Issues in Wye Alternatives Study Area**
- D. **December 11, 2013 Letter from Senator Cannella**

1.0 Introduction

The California High-Speed Rail Authority (Authority) and Federal Railroad Administration (FRA) have prepared this Addendum in response to comments received from the United States Army Corps of Engineers (USACE) and the Environmental Protection Agency (EPA) on two Checkpoint B Summary Reports for the California High Speed Train: the San Jose to Merced Section Checkpoint B package and the Merced to Fresno Section: Wye Alternatives Supplemental Checkpoint B package (see Figure 1.0-1 in Attachment 1). The Checkpoint B packages were prepared in accordance with the *National Environmental Policy Act/Clean Water Act Section 404/Rivers and Harbors Act Section 14 Integration Process for the California High-Speed Train Program Memorandum of Understanding* dated November 2010 (NEPA/404/408 MOU).

Both Checkpoint B packages were submitted to the USACE and EPA on September 10, 2013. Comments from the USACE on the San Jose to Merced Section Checkpoint B package and the Merced to Fresno Section: Wye Alternatives Supplemental Checkpoint B package were received on October 22, 2013 and October 9, 2013, respectively. Comments from the EPA applied to both Checkpoint B packages and were received on October 24, 2013.

This Addendum is organized into five sections: Introduction (Section 1.0), Road 18 Refined (Section 2.0), Community Character and Cohesion/Environmental Justice (EJ) (Section 3.0), Response to October 2013 USACE and EPA Comments (Section 4.0), Summary of Agency and Public Input (Section 5.0), and Summary of Conclusions (Section 6.0). Each section includes discussions of both the San Jose to Merced Section and the Merced to Fresno Section: Wye Alternatives.

Section 2.0: Road 18 Refined. This section describes refinements to two wye alternatives that were included in both the San Jose to Merced Section and the Merced to Fresno Section: Wye Alternatives Checkpoint B submissions on September 10, 2013: the SR 152 (North) to Road 18 Wye and the SR 152 (South) to Road 18 Wye. The Road 18 wye alternatives were refined to further minimize impacts on aquatic resources in the area east of Chowchilla; to minimize impacts on the City of Chowchilla, Greenhill Estates, and Fairmead communities; and to minimize impacts on the Minturn Nut Company.

Section 3.0: Community Character and Cohesion/Environmental Justice. This section was developed in response to EPA comments regarding potential impacts on communities and environmental justice populations. A qualitative analysis has been prepared for each alternative (including alignment and options for ancillary facilities) within the San Jose to Merced Section and Merced to Fresno Section: Wye Alternatives. This analysis was not previously included in either of the September 2013 Checkpoint B packages.

Section 4.0: Response to October 2013 USACE and EPA Comments. This section contains the comments received from the USACE and the EPA on both Checkpoint B packages and the corresponding responses from the Authority and FRA.

Section 5.0: Summary of Agency and Public Input Regarding the Merced to Fresno Section: Wye Alternatives. This section provides an updated summary of agency and public input regarding the wye alternatives.

Section 6.0: Summary of Conclusions. Section 6.0 provides the primary reasons for carrying forward or withdrawing each alignment alternative, station location option, MOE/MOI Facility Alternative, and/or wye alternative within each subsection. Summaries of the primary reasons for carrying forward or recommending withdrawal for each alignment alternative, station location option, MOE/MOI Facility

Alternative, and wye alternative are also provided in the corresponding Appendix B1 through B6 tables attached to this Addendum.

2.0 Road 18 Refined

The Authority continues to conduct agency, stakeholder and public outreach meetings in the Merced to Fresno Section: Wye Alternatives study area (see Appendix C). As a result of agency and community input, refinements to the Road 18 Wye Alternatives have been developed to further minimize impacts on aquatic resources; to minimize impacts on the City of Chowchilla Greenhill Estates and unincorporated Fairmead communities; and to minimize impacts on the Minturn Nut Company, as described below.¹ The proposed Road 18 Refined Wye Alternatives are shown in Figure 2.0-1 in Attachment 1.

➤ *East of Greenhills Estates Community*

The Merced to Fresno leg of the originally proposed Road 18 Wye Alternatives was located on a high embankment and viaduct approximately 190 feet east of the Greenhills Estates community and Golf Drive West between Berenda Slough (south end of the Greenhills Estates community) and Avenue 26 (north end of the Greenhills Estates community). The City of Chowchilla and the Greenhills Estates Homeowners Association have expressed concerns about potential sound and visual impacts on the Greenhills Estates community and requested for the Authority to consider an alignment revision relocating the HST corridor further east of the community.

The HST alignment has been refined to be located approximately 3,300 feet east of the original Road 18 Wye Alternatives between Berenda Slough and Avenue 26. The Refined Road 18 alignment, relocated an additional five-eighths of a mile east of the Greenhills Estates community, would reduce the sound and visual impacts of the HST project. While sound walls atop the embankment and on the viaduct would be required on the original alignment (due to proximity to homes), no walls would be required on the refined alignment.

➤ *HST Alignment at Minturn Nut Company*

As originally designed, the Merced to Fresno leg of the Road 18 Wye Alternatives was located along the south side of Porters Road as the alignment traversed east and west between the Chowchilla River and SR 99. A grade separation was designed at Minturn Road where the roadway would be realigned to the west of its current location as it crossed over the HST corridor. The Minturn Nut Company, located at the southwest corner of the intersection of Porters Road and Minturn Road, would have been affected by the original design as a portion of its property north of its existing facility would be acquired to accommodate the proposed HST alignment. The Minturn Nut Company has future plans to expand operations onto this property and the HST alignment, as originally designed, would limit the Nut Company's options for northward expansion. The Minturn Nut Company requested that an alternative alignment be considered with the HST alignment relocated to avoid future plant expansion to the north of the existing facility on the Nut Company's property. In response to this request, the Authority examined refining the alignment north of Porters Road and outside of the Minturn Nut Company's property. The refined alignment would be relocated to the north side of Porters Road and would have no substantial differences to the current Road 18 wye in terms of cost, travel time, right-of-way acquisition, and community and environmental impacts.

¹ The analysis that was presented in the September 2013 Checkpoint B packages has been updated to reflect these refinements and has been included in this Addendum.

➤ *HST Alignment Through Fairmead*

As originally designed, as the HST Merced to Fresno leg of the SR 152 (North) to Road 18 Wye Alternative approached the crossing of SR 99 and UPRR, the alignment descended below-grade. Where there are potential crossings of future Caltrans facilities, the HST alignment was designed to be at sufficient depths and in a retained cut section with top cover to allow for Caltrans future facilities to cross at grade. After the crossing, the alignment ascended to grade as it continued east through Fairmead. Through Fairmead, the alignment was located north of the most developed portion of the community, where most residences and community facilities are located. The alignment passed approximately 500 feet north of Fairmead Elementary School in a 20' deep open cut.

The HST Merced to Fresno leg of the originally proposed SR 152 (South) to Road 18 Wye Alternative ascended on a sloped embankment as it approached the SR 99 and UPRR crossing, and crossed the corridors on aerial structure. As the alignment proceeded eastward, it descended to grade and bisected the property of Fairmead Elementary School, requiring its acquisition and relocation. In response to agency and public concerns regarding impacts on communities and environmental justice populations (see Appendix C), an alignment revision for the Road 18 Wye Alternatives was developed to minimize potential impacts on the community of Fairmead.

Refinement of the Merced to Fresno leg of the SR 152 (North) to Road 18 Wye Alternative consists of modifying the alignment such that it crosses SR 99 north of the SR 99/SR 152 interchange. By locating the alignment north of the interchange, it allows the track to be on structure crossing SR 99. After crossing the SR 99 and UPRR corridor on aerial structure, the alignment transitions to an embankment and descends to grade. The alignment is at grade as it passes approximately 1,500 feet north of the school. This refinement reduces potential conflict for HST crossing the existing and future Caltrans SR 99/SR152 interchange, and it lessens the noise and visual impacts on the school and the more populated portions of Fairmead.

Refinement of the Merced to Fresno leg of the SR 152 (South) to Road 18 Wye Alternative consists of modifying the alignment such that it crosses SR 99 just south of the SR 99/SR 152 interchange. This refinement allows the alignment to maintain close proximity to the south side of Avenue 23, east of the SR 99 crossing. By doing so, the refined alignment avoids the school in Fairmead and leaves the major part of the affected parcels usable. The separation between the track alignment and the school is approximately 500 feet. The refinement also includes keeping the alignment on an embankment as it parallels Avenue 23 and crosses Road 19 ½ on aerial structure.

3.0 Community Character and Cohesion/Environmental Justice

The FRA and the Authority's analysis of potential effects on community character and cohesion included an evaluation of the:

- a) Potential for disruption or division of communities;
- b) Potential impacts on community facilities;
- c) Potential displacement and relocation of local residences and businesses; and
- d) Potentially affected environmental justice (EJ) populations.

Localized impacts were assessed within the identified resource study area (RSA) within a half-mile radius of the project footprint. The project footprint includes the alignment trackway, stations, traction-power

substations, and other physical project features. The methodology used to evaluate these potential effects is described below.

3.1 Methodology

This analysis examines communities within city boundaries and, for unincorporated areas, the 2010 U.S. Census Designated Places (CDPs) boundaries. Within city boundaries, a community is defined as a population rooted in one place, where the daily life of each member involves contact with and dependence on other members to satisfy the population's economic and social needs. For unincorporated areas, the CDP boundaries are used to define the community. A neighborhood is a subset of the community and is identified based on personal interactions among residents. The boundaries of communities or neighborhoods can often be delineated by physical barriers (highways, waterways, open spaces), activity centers, home values, selected demographic characteristics (ethnic groups), and residents' perceptions.²

3.1.1 Laws, Regulations, and Orders

This analysis of community character and cohesion and environmental justice was guided by the federal and state laws, regulations and orders listed below. Summaries for each of these regulations are provided in Appendix A of this Addendum.

3.1.1.1 Federal Regulations

The following federal regulations are applicable to this analysis:

- Title VI of the Civil Rights Act (42 U.S.C. Section 2000[d] et seq.)
- Executive Order 12898
- U.S. Department of Transportation (DOT) Order 5610.2
- Executive Order 13166
- Executive Order 13045
- Americans with Disabilities Act (42 U.S.C. Sections 12101 to 12213)
- U.S. Environmental Protection Agency School/Siting Guidelines
- Uniform Relocation Assistance and Real Property Acquisition Policies Act (42 U.S.C. Chapter 61)

3.1.1.2 State Regulations

The following state regulations are applicable to this analysis:

- California Government Code Section 65040.12(e)
- California Relocation and Assistance Act (Government Code Section 7260 et seq.)
- California High-Speed Rail Authority Title VI Plan
- California High-Speed Rail Authority Limited English Proficiency (LEP) Policy and Plan

² Caltrans 2011. *Standard Environmental Reference, Environmental Handbook Volume 4, Community Impact Assessment*. Chapter 5 Social Impacts, 5.1 Introduction. October.

3.1.2 Disruption or Division of Communities

This section discusses the methodology for assessing division and disruption impacts to communities located within a half-mile radius of the project footprint. The potential for community division was considered wherever new railroad right-of-way would be constructed through developed areas of communities. For each alternative, the analysis specifies the linear distance of the new right-of-way within the community.

Where the alternative is aligned along an existing roadway or railroad and, therefore, would widen an existing transportation corridor, the adjacent community would not be considered “divided” by the new alignment. To the extent that additional disruption of the community could occur, however, the potential effects of disruption were considered even where alignments would follow an existing roadway or railway.

The narrative describes qualitatively how potential division or disruption of communities could affect established patterns of interactions among community residents, alter the physical shape, character, or function of communities or neighborhoods, isolate one part of a community from another, or disrupt residents’ access to community facilities and services. Outreach by the Authority to local communities, to help determine the degree of disruption or division, is described in Section 5.0, Summary of Agency and Public Input.

The analysis also considers whether the project could generate increases in noise/vibration or affect traffic circulation that could potentially have adverse consequences on community members’ interactions in the project vicinity. Changes in visual quality or aesthetics that could potentially result in a perceived change to community character or the quality of life experienced in affected neighborhoods also is discussed.

3.1.3 Proximity to Community Facilities

For this analysis, a community facility is defined as a publicly- or privately-funded and maintained entity that provides a service or facility important to a community, such as a fire, police or train station; post office; medical facility; church; cemetery; social service organization; school; library; social or cultural facility or other service or facility. Using GIS mapping, the type and number of facilities located within a one-half mile radius of the project footprint are identified. Any community facilities that may be directly impacted are qualitatively described. Those community facilities not directly impacted, but within one-half mile of the alignment alternative, station, or wye alternative, could be exposed to increased noise/vibration, visual, or traffic impacts during project construction and operation. Other indirect impacts could include temporary pedestrian or vehicular access detours to community facilities during construction.

3.1.4 Displacement and Relocation of Local Residences and Businesses

For each alternative (including alignments and options for ancillary stations or maintenance-of-equipment/maintenance-of-infrastructure (MOE/MOI) facilities), the analysis identifies the approximate number, specified as a range, of residences and businesses that have the potential to be displaced by construction of the project. The range indicates the minimum and maximum number of residential/business units likely to be displaced. The criterion for the low-end of the range is the number of residential/business units that are located directly within the project footprint, while the high-end represents the number of residential/business units contained within the project footprint, as well as residences and businesses beyond the project footprint, but within the RSA, that would potentially be displaced by the project.

3.1.5 Potentially Affected Environmental Justice Populations

This analysis considers the potential impacts of the project on minority and low income populations, defined by the U.S. Department of Transportation³ as:

A **minority population** means any readily identifiable group or groups of minority persons who live in geographic proximity and, if circumstances warrant, geographically dispersed or transient persons (such as migrant workers, students, or Native Americans). Minority includes persons who are American Indian and Alaska Native, Asian, Black or African American, Hispanic or Latino, and Native Hawaiian and other Pacific Islander.

Low-income means a person whose median household income is at or below the Department of Health and Human Services (HHS) poverty guidelines. A locally developed threshold or a percentage of median income for the area may also be used, provided that the threshold is at least as inclusive as the HHS 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).

For the EJ analysis, U.S. Census data were compiled to identify minority and low-income populations within the RSA. This preliminary data serves as a basis for identifying environmental justice populations in the RSA at this early stage of project planning and design. Potential impacts of the project on minority and low-income populations will be evaluated in the San Jose to Merced Section and Merced to Fresno Section NEPA documents.

The RSA extends at least one-half mile beyond the project alignment footprint and at least one-half mile beyond the potential station and maintenance site footprints. Data for U.S. Census block groups located fully or partially within one-half mile from the project footprint were collected. Due to the variable size of census block groups, the RSA can extend beyond the one-half mile distance.

3.2 San Jose to Merced Section

The San Jose to Merced Section is approximately 125 to 135 miles in length, depending upon the combination of alignments. As described in the San Jose to Merced Section Checkpoint B Summary Report, the San Jose to Merced Section has been divided into subsections to facilitate the analysis of potential alignment alternatives and design options. The approximate geographic limits for each subsection were chosen at points where the HST alignment alternatives for each subsection meet, such that alignment alternatives for each subsection may be “mixed and matched” with those from each adjacent subsection. The subsections, listed from west to east, are as follows:

- **San Jose Station Approach.** San Jose HST Station to Tamien/West Alma Avenue (San Jose).
- **Monterey Highway.** Tamien/West Alma Avenue (San Jose) to Coyote/South of Bernal Road (San Jose).
- **Morgan Hill to Gilroy.** Coyote/South of Bernal Road (San Jose) to Casa de Fruta (west end of Pacheco Creek Valley).
- **Pacheco Pass.** Casa de Fruta (west end of Pacheco Creek Valley) to I-5 (Santa Nella Village).

³ U.S. Department of Transportation (USDOT) 2012. “Department of Transportation Order 5610.2(a), Final DOT Environmental Justice Order.” May. Available at: http://www.fhwa.dot.gov/environment/environmental_justice/ej_at_dot/order_56102a/.

- **Wye Alternatives** (encompassing the former San Joaquin Valley Crossing Subsection). Romero Creek Valley northeast of the San Luis Reservoir to Merced and Fresno.

For purposes of this Summary Report Addendum, the wye alternatives are discussed below in Section 3.3.

3.2.1 San Jose Station Approach Subsection

The RSA for the San Jose Station Approach Subsection is urban with mixed-use development and has a population of 51,411. The populations of Santa Clara County and the City of San Jose, as a whole, are 1,781,642 and 945,942, respectively. The San Jose community neighborhoods through which the alternatives in this subsection extend include Lakehouse, Park/Lorraine, Auzerais/Josefa, Hannah/Gregory, the Greater Gardner area (comprised of the Drake/Fuller, Gardner, and Atlanta/Bird neighborhoods), Willow Glen and Tamien. Figure 3.2-1 (see Attachment 1) depicts the location of these community neighborhoods in relation to the San Jose Station Approach Subsection alignment alternatives and station location options.

3.2.1.1 Disruption or Division of Communities

The distance that each alternative physically divides a community is shown in Table 3.2-1. The San Jose Station Approach alignment alternatives and station location options have been designed to follow existing transportation (road and/or rail) corridors, primarily SR 87, I-280, and Caltrain/UPRR, thereby minimizing the extent that new trackway extends through existing communities. The exception is the Downtown Aerial Alignment Alternative which would result in division of the San Jose neighborhoods of Lakehouse, Park/Lorraine, and Auzerais/Josefa, and can be seen in Figure 3.2-1 in Attachment 1. Although this alternative would maintain the existing roadway network that crosses beneath the elevated guideway, it could create the perception of a barrier and affect social interactions. No other community would be divided by the San Jose Station Approach alignment alternatives or station location options.

Table 3.2-1
San Jose Station Approach Subsection
 Division of Communities and Community Facilities

San Jose Station Approach Subsection	Physical Division of Communities (miles) ¹	Community Facilities within One-half Mile of Alternative ²
Alignment Alternatives		
Refined Program Alignment	0	55
South of Caltrain Tracks	0	55
Three Track	0	55
Deep Tunnel	0	56
Shallow Tunnel	0	54
Downtown Aerial	0.4	56
SR 87/I-280	0	55
Station Location Options		
San Jose Diridon Station	0	18
Aerial Station (East of Existing Diridon Station)	0	20
Deep Underground Station (East of Existing)	0	20

San Jose Station Approach Subsection	Physical Division of Communities (miles) ¹	Community Facilities within One-half Mile of Alternative ²
Diridon Station)		
Shallow Underground Station (East of Existing Diridon Station)	0	20
Notes: ¹ The distance that an alternative physically divides a community indicates the potential for indirect or direct impacts on that community. ² The number of community facilities within one-half mile of an alternative indicates the potential for indirect or direct impacts on those facilities. Physical division of communities, impacts on community facilities, and displacements will be minimized or avoided with refinements to the design or through appropriate mitigation measures.		

3.2.1.2 Proximity to Community Facilities

The number of community facilities within one-half mile of the alignment alternatives and station location options is shown in Table 3.2-1. Appendix B1 of this Addendum specifies the type of each facility.

Alignment Alternatives

Table 3.2-1 shows that there are 54 to 56 community facilities within one-half mile of the seven alignment alternatives in the San Jose Station Approach Subsection. These facilities are distributed relatively evenly throughout the Central San Jose neighborhoods adjacent to the alignment alternatives.

The San Jose Diridon Station and the Tamien Caltrain Station would be directly affected by all seven alignment alternatives. Impacts on the San Jose Diridon Station would be limited to its associated parking lots, east of the station, under three alignment alternatives – the Deep Tunnel Alignment, Shallow Tunnel Alignment, and the Downtown Aerial Alignment. Both stations would be modified, as appropriate, to accommodate the selected alignment alternative. The stations would continue their current operations and would be linked to the new station, with connections to existing and planned rail services.

The Refined Program, South of Caltrain Tracks, or Three Track alignment alternatives would potentially traverse Fuller Park in the Gardner neighborhood and could require acquisition of approximately 1 acre of the park. Also, one house of worship adjacent to the park could require relocation.

Under the Deep Tunnel Alignment Alternative, one house of worship, located east of the existing San Jose Diridon Station potentially could be displaced and require relocation.

Four alignment alternatives, including the Refined Program, South of Caltrain Tracks, Three Track, and SR 87/I-280 alignment alternatives, could require the relocation or reconfiguration of a San Jose Fire Department training center, located in a commercial area south of the existing San Jose Diridon Station.

Station Location Options

As shown in Table 3.2-1, there are 18 to 20 community facilities within a one-half mile radius, which is generally considered to be walking distance, of the station location options. These community facilities would be provided improved access to transit as compared to existing conditions. There is the potential for the selected HST station to improve community cohesion by providing a destination for people in the community to come together.

Each of the HST station location options would directly affect the existing San Jose Diridon Caltrain Station. Construction of the San Jose Diridon Station location option would result in temporary impacts to railroad operations at the existing station; the other three station location options could affect parking associated with the existing station. One station location option, the Deep Underground Station, potentially could directly affect one house of worship located east of the existing San Jose Diridon Station. During project construction and operation, community facilities could be indirectly exposed to increased noise/vibration, visual, or traffic impacts, or could temporarily experience pedestrian or vehicular access detours.

3.2.1.3 Displacement and Relocation of Local Residents and Businesses

A summary of potential residential and business displacements by alignment alternative and station location option is provided in Table 3-4 of the San Jose to Merced Section Checkpoint B Summary Report and Appendix B1 of this Addendum. Residential displacement would vary by alignment alternative, with as few as 3 and as many as 56 residences displaced depending on the alternative. Business displacements would range from 14 to 32 businesses depending on the alternative. The Downtown Aerial Alignment Alternative would result in the greatest number of residential and business displacements. Business displacements would also occur under the East of Existing Diridon Station location options.

Alignment Alternatives

As described in the San Jose to Merced Section Summary Report (Section 3.2.4), the SR 87/I-280 Alignment Alternative would primarily extend along existing transportation right-of-way through commercial land uses, thereby avoiding most of San Jose residential neighborhoods. Between 6 and 11 residential displacements under this alternative could occur along the edges of the Auzerais/Josefa and Tamien neighborhoods.

The Downtown Aerial Alignment Alternative would result in the greatest number of potential residential displacements, 43 to 56 properties.

The Refined Program, South of Caltrain Tracks, and Three Track alignment alternatives extend along the existing Caltrain right-of-way through the Greater Gardner neighborhoods. The Refined Program Alignment Alternative and the South of Caltrain Tracks Alignment Alternative would result in 20 to 25 potential residential displacements, while the Three Track Alignment Alternative would potentially result in 17 to 22 residential displacements due to the smaller width of its right-of-way.

The Downtown Aerial, Shallow Tunnel, and SR 87/I-280 alignment alternatives would result in the highest number of business displacements, with each alignment alternative requiring more than 20 business displacements. With a minimum of 12 and a maximum of 14 displacements, the Deep Tunnel Alignment Alternative would result in the fewest business displacements. Business displacements would occur predominately in an area of commercial land uses, south and east of the existing San Jose Diridon Station. As a result, small commercial businesses would be primarily affected by each alignment alternative.

Station Location Options

As shown in Table 3-4 of the San Jose to Merced Section Summary Report, none of the four station location options would result in residential displacements.

The San Jose Diridon Station, located at the site of the existing Diridon San Jose Station, would result in no business displacements. The three East of Existing Diridon Station location options would result in some business displacements in a commercial area east of the Caltrain/UPRR corridor, unassociated with San Jose neighborhoods.

3.2.1.4 Potentially Affected Environmental Justice Communities

As shown on Figure 3.2-2 in Attachment 1, the San Jose Station Approach Subsection RSA consists of all census block groups that are fully or partially located within one-half mile of the centerlines of this subsection's alignment alternatives and station location options. The census block groups consist of portions of the City of San Jose. Following the definitions described in Section 3.1.5, 65% of the individuals within the RSA are of minority status. This is comparable to Santa Clara County, which is 65% minority, and slightly lower than the City of San Jose, which has a population of 71% minority. Approximately 17% of the population of the RSA is low-income, or below the federal poverty level, which is substantially greater than Santa Clara County (9% low-income) and the City of San Jose (11% low-income). There is no other city or community designated as a CDP in the RSA for this subsection.

Minority Populations. As shown on Figure 3.2-2 in Attachment 1, most of the census block groups within the RSA consist of populations that are greater than 50% minority, and the four station location options are entirely within census block groups where the population is greater than 50% minority. As a result, any of the San Jose Station Approach alignment alternatives or station location options would affect minority populations.

Low-Income Populations. As shown on Figure 3.2-3 in Attachment 1, most of the RSA is located in census block groups where less than 25% of the population is low-income, with scattered areas that are 25% to 50% low-income. There is the potential for impacts on a population that is 25% to 50% low-income in the neighborhoods of College Park and Tamien under all alignment alternatives in this subsection, and in portions of the Washington/Guadalupe neighborhood under the SR 87/I-280 Alignment Alternative.

As shown, the four station location options are within census block groups where less than 25% of the population is below the poverty level. As a result, impacts on low-income populations are not anticipated under any of the station location options.

3.2.1.5 Community Character and Cohesion/EJ Summary

The SR 87/I-280 Alignment Alternative was designed to reduce impacts on the Greater Gardner neighborhood. Due to its alignment along the SR 87/I-280 transportation corridor, it also has some of the fewest impacts in terms of disruption of adjacent communities, impacts on community facilities, and displacement of residences.

Under the San Jose Station Approach Subsection alignment alternatives, the Downtown Aerial, Refined Program, South of Caltrain Tracks, and Three Track alignment alternatives have the greatest potential for impacts related to community character and cohesion, specifically division of communities, impacts on community facilities, and displacements. These impacts would primarily affect the Lakehouse, Park/Lorraine, Auzerias/Josefa, and Greater Gardner neighborhoods of Central San Jose, which are comprised of predominately minority populations.

All four San Jose Station Approach Subsection station location options are located within areas of minority populations.

The potential for community impacts, including residential displacements, visual intrusion, noise/vibration, and impacts on community facilities contributed to several of the San Jose Station Approach Subsection alignment alternatives being withdrawn from further analysis, including the Downtown Aerial, Refined Program and South of Caltrain alignment alternatives.⁴ Elected representatives of the Greater

⁴ Refer to the *San Jose to Merced Section Summary Report* (Section 4.2) for a complete summary of the key factors that contributed to the elimination of alternatives within each subsection of the San Jose to Merced Section.

Gardner/North Willow Glen neighborhoods and the City of San Jose viewed the SR 87/I-280 Alignment Alternative as preferable to the Refined Program Alignment Alternative, given that it would not pass directly through the neighborhoods; this contributed to the recommendation that the alignment alternative be carried forward for further consideration. Other key factors that contributed to this subsection's alignment alternatives being withdrawn or carried forward are presented in Section 6.0, Summary of Conclusions.

3.2.2 Monterey Highway Subsection

The RSA for the Monterey Highway Subsection is urban with mixed-use development and has a population of 140,091. The population as a whole for Santa Clara County and the City of San Jose is 1,781,642, and 945,942, respectively. Communities through which both Monterey Highway Subsection alignment alternatives extend include the following neighborhoods in the City of San Jose: Kenwood, Rancho, San Ramon, Danna Rock, Deer Run, Edenvale, Silver Leaf, and California Maison. The location of these San Jose neighborhoods in relation to the Monterey Highway Subsection alignment alternatives is shown in Figure 3.2-4 in Attachment 1.

3.2.2.1 Disruption or Division of Communities

The Monterey Highway Subsection alignment alternatives have been designed to follow existing transportation (road and/or rail) corridors, primarily SR 87, SR 82 (Monterey Highway), and Caltrain/UPRR. As a result, direct impacts on communities are generally minimized or avoided. Neither alignment alternative in the Monterey Highway Subsection would have an impact related to physical division of a community (see Table 3.2-2).

Communities adjacent to both alignment alternatives could experience indirect impacts and disruption due to the effect of the alignment alternatives on a portion of Monterey Highway (reduction from six lanes to four), increased traffic congestion, and potential noise and vibration impacts. The existing visual environment could be disrupted by the removal of mature trees along Monterey Highway or the presence of a new sound wall within or through public or undeveloped space.

Table 3.2-2
Monterey Highway Subsection
 Division of Communities and Community Facilities

Monterey Highway Subsection	Physical Division of Communities (miles) ¹	Community Facilities within One-half Mile of Alternative ²
Alignment Alternatives		
Refined Program Alignment	0	52
East of Caltrain/UPRR	0	52
Notes: ¹ The distance that an alternative physically divides a community indicates the potential for indirect or direct impacts on that community. ² The number of community facilities within one-half mile of an alternative indicates the potential for indirect or direct impacts on those facilities. Physical division of communities, impacts on community facilities, and displacements will be minimized or avoided with refinements to the design or through appropriate mitigation measures.		

3.2.2.2 Proximity to Community Facilities

Table 3.2-2 shows the number of community facilities within one-half mile of the two alignment alternatives in the Monterey Highway Subsection. As shown, 52 community facilities are located along each of the two alignment alternatives – the Refined Program Alignment and East of Caltrain/UPRR Alignment. Appendix B2 specifies the type of community facilities noted in the table.

Only one community facility, a fire station located in the Danna Rock neighborhood of San Jose, could be directly affected by both alignment alternatives. It would potentially be displaced and require relocation, with possible effects to service areas and response times.

3.2.2.3 Displacement and Relocation of Local Residents and Businesses

A summary of potential residential and business displacements by alternative is provided in Table 3-4 of the San Jose to Merced Section Checkpoint B Summary Report and Appendix B2 of this Addendum.

Because the Refined Program Alignment and the East of Caltrain/UPRR Alignment Alternative generally share a common alignment, they would have comparable impacts in terms of residential and business displacements and relocation.

3.2.2.4 Potentially Affected Environmental Justice Communities

The Monterey Highway Subsection RSA consists of census blocks within one-half mile of the centerlines of the alignment alternatives. These census block groups are located almost entirely within the jurisdiction of the City of San Jose. Overall, the RSA is comprised of 76% minority individuals and 13% low-income individuals. These percentages are slightly higher than the City of San Jose, which has a population of 71% minority and 11% low-income.

Minority Populations. Figure 3.2-5 in Attachment 1 shows the minority population distribution in the vicinity of the two alignment alternatives in the Monterey Highway Subsection. Both the alignment alternatives are primarily within census block groups where the populations are greater than 50% minority and these populations might experience impacts from the alignment alternatives..

Low-Income Populations. Figure 3.2-6 in Attachment 1 shows the percentage of low-income populations, by census block group, along the alignment alternatives in the Monterey Highway Subsection. As shown in the figure, most of the two alignments traverse areas where 0 to 25% of the population is low-income. There is the potential for impacts on low-income populations where the alignment traverses or is adjacent to the San Jose neighborhoods of Tamien, Monticello, Evans, Seven Trees, Edenvale, and Deer Run, where more than 25% of the population is low-income. Because of proximity to the alignment alternatives, potential disruption impacts to low-income populations resulting from noise and vibration impacts could also occur in the northern portion of the Seven Trees neighborhood, where more than 50% of the population is low-income.

3.2.2.5 Community Character and Cohesion/EJ Summary

The Monterey Highway Subsection alignment alternatives would have similar impacts related to community character and cohesion and environmental justice. Both alternatives could affect communities adjacent to their alignments, with the greatest impacts occurring in the South San Jose neighborhoods of Danna Rock and Deer Run. Residential displacements under both alignment alternatives will occur within the Deer Run neighborhood, which has a higher concentration of low-income individuals than the surrounding areas, resulting in adverse effects to low-income EJ populations.

3.2.3 Morgan Hill to Gilroy Subsection

The RSA for the Morgan Hill to Gilroy Subsection is urban, suburban, and rural, with a population of 104,795. The populations of Santa Clara and San Benito counties are 1,781,642 and 55,269, respectively. The largest concentrations of population are the City of Gilroy (48,821) in the southern portion of the RSA, the City of Morgan Hill (37,882) in the northern portion of the RSA, and the community of San Martin (4,646) in the approximate middle of the RSA. Figure 3.2-7 in Attachment 1 shows the location of these cities and communities in relation to this subsection's alignment alternatives, station location options, and MOE/MOI facility alternatives.

3.2.3.1 Disruption or Division of Communities

The Morgan Hill to Gilroy alignment alternatives have been designed to follow existing transportation (road and/or rail) corridors, primarily SR 82 (Monterey Highway), US 101, SR 152, Monterey Road, Monterey Street, and Caltrain/UPRR. As a result, the extent to which communities are divided by a new right-of-way is minimized. Partially divided communities within the Morgan Hill to Gilroy Subsection include the cities of Morgan Hill and Gilroy, and the community of San Martin.

As shown in Table 3.2-3, six of the seven alignment alternatives in the Morgan Hill to Gilroy Subsection would result in the division of communities, ranging from 0.6 to 3.2 miles of each alternative. The East of UPRR to Downtown Gilroy Alignment Alternative would not divide any communities in a new right-of-way because it parallels the existing UPRR tracks.

For the remaining alignment alternatives the distance each divides communities is a result of the location and number of times the alternative moves between the UPRR and US 101 corridors. The East of UPRR to East Gilroy Alignment Alternative would divide only the southernmost portion of the San Martin community for approximately 0.6 mile, where the alignment departs from Monterey Road and curves to the east of Gilroy.

Each of the Gilroy Station Loop Alignment Alternative, the US 101 alignment alternatives, and the West of Coyote Creek Parkway alignment alternatives would divide the southern portion of Morgan Hill and northern San Martin for a distance of 1.9 miles, in an area where US 101 curves to the west. The alignment continues east of US 101 along a straighter trajectory (to maintain train speed), resulting in the placement of new trackway through these communities.

Additionally, three of these five alternatives (Gilroy Station Loop Alignment Alternative, US 101 to Downtown Gilroy Alignment Alternative, and West of Coyote Creek Parkway to Downtown Gilroy Alignment Alternative) would travel through downtown Gilroy, dividing portions of the city in a northwest to southeast direction.

The East of UPRR alignment alternatives could disrupt downtown Morgan Hill by introducing a new source of noise/vibration and aerial structures incongruous with existing commercial development. In response to concerns raised by the City of Morgan Hill, the US 101 and West of Coyote Creek Parkway alignment alternatives were proposed to avoid impacts on downtown Morgan Hill. These alignment alternatives could still result in visual impacts on Morgan Hill, as the aerial alignment along US 101 could block some views of the hills to the east. All of the alignment alternatives within the Morgan Hill to Gilroy Subsection could have noise/vibration and visual impacts within the community of San Martin, while four of the alignment alternatives could also have noise/vibration and visual impacts in downtown Gilroy.

The greatest disruption to Gilroy would potentially occur under the Gilroy Station Loop Alignment Alternative. Due to the need for one HST track to pass over the mainline tracks at junctions both north

and south of Gilroy, and an elevated crossing of US 101 north of Gilroy, this alternative would have greater visual impacts than all other alignment alternatives in this subsection.

Table 3.2-3
Morgan Hill to Gilroy Subsection
 Division of Communities and Community Facilities

Morgan Hill to Gilroy Subsection	Physical Division of Communities (miles)¹	Community Facilities within One-half Mile of Alternative²
Alignment Alternatives		
East of UPRR to Downtown Gilroy (Program Alignment)	0	90
US 101 to Downtown Gilroy	3.2	73
West of Coyote Creek Parkway to Downtown Gilroy	3.2	72
Gilroy Station Loop	2.8	74
US 101 to East Gilroy	1.9	30
West of Coyote Creek Parkway to East Gilroy	1.9	30
East of UPRR to East Gilroy	0.6	50
Station Location Options		
Morgan Hill Downtown (Four Track)	0	21
Downtown Gilroy (Four Track)	0	28
Downtown Gilroy (Two Track)	0	28
East Gilroy (Four Track)	0	4
Morgan Hill US 101 at Cochrane (Four Track)	0	3
MOE/MOI Facility Alternatives³		
Coyote Valley: A	0	2
Coyote Valley: B	0	15
South of Gilroy: C	0	1
South of Gilroy: D	0	0
Notes: ¹ The distance that an alternative physically divides a community indicates the potential for indirect or direct impacts on that community. ² The number of community facilities within one-half mile of an alternative indicates the potential for indirect or direct impacts on those facilities. Physical division of communities, impacts on community facilities, and displacements will be minimized or avoided with refinements to the design or through appropriate mitigation measures. ³ Each MOE/MOI facility alternative would be paired with one of the alignment alternatives shown with it.		

3.2.3.2 Proximity to Community Facilities

Table 3.2-3 shows the number of community facilities within one-half mile of the alternatives in the Morgan Hill to Gilroy Subsection. Appendix B3 of this Addendum specifies the type of community facilities noted in the table.

Alignment Alternatives

The number of community facilities within one-half mile of the seven alignment alternatives in the Morgan Hill to Gilroy Subsection ranges from a maximum of 90 to a minimum of 30. The alignment alternatives that could indirectly affect the largest number of community facilities (between 72 and 90 facilities) are the four that travel through downtown Gilroy, as most of the community facilities within one-half mile of the alignment alternatives are located in Gilroy. A large number of community facilities that could be indirectly affected by the alignment alternatives are also located in Morgan Hill, and to a lesser extent in the communities of San Martin and Coyote, and in southeast San Jose.

All alignment alternatives in the Morgan Hill to Gilroy Subsection could result in direct impacts on between one and eight community facilities. Some of these facilities would be displaced and relocated, while others could be reconfigured for continued use. As was the case with community facilities that could be indirectly affected, direct impacts would occur to the most community facilities (between 5 and 8) under the four alignment alternatives that travel through downtown Gilroy. Community facilities that could be directly affected in downtown Gilroy include two schools, a social service organization, a church, and a train station. In Morgan Hill, the two East of UPRR alignment alternatives would pass over the existing Morgan Hill Caltrain Station on aerial structure and could affect the station during construction. The other five alignment alternatives would affect the Morgan Hill Outdoor Sports Center, a recreational facility located east of US 101. The East of UPRR alignment alternatives could directly affect two community facilities in San Martin – a school and a social service organization. The East of UPRR and West of Coyote Creek Parkway alignment alternatives could directly affect a school in the community of Coyote, and the East of UPRR alignment alternatives could additionally impact a post office in the same community. The fewest direct impacts on community facilities would occur under the US 101 to East Gilroy Alignment Alternative, which could directly affect one recreational facility in Morgan Hill.

Station Location Options

The Downtown Gilroy Stations (Two Track and Four Track) and the Downtown Morgan Hill station location options are within one-half mile from 28 and 21 community facilities, respectively. These community facilities would be provided improved access under the station location options as compared to existing conditions. The Morgan Hill US 101 at Cochrane and the East Gilroy station location options would provide improved access to three and four community facilities, respectively.

The Downtown Morgan Hill Station could displace the Morgan Hill Community Garden and could result in impacts to the existing Morgan Hill Caltrain station parking facilities during construction. The Downtown Gilroy Stations (Two Track and Four Track) would affect the Caltrain storage track associated with the existing Gilroy Caltrain station. Either of the existing stations would be modified, as appropriate, to accommodate a new HST station. The Caltrain stations would continue their current operations and would be linked to the new HST station, with connections to existing and planned rail services.

MOE/MOI Facility Alternatives

The most community facilities (15) that exist within one-half mile of the four MOE/MOI facility alternatives are associated with the Coyote Valley: B MOE/MOI facility alternative, and are primarily located in Morgan Hill. Two community facilities are within one-half mile of the Coyote Valley: A MOE/MOI facility alternative and one is within a half-mile of the South of Gilroy: C MOE/MOI facility alternative. The Coyote Valley: A MOE/MOI facility alternative is the only alternative that would have a direct impact on a community facility; it could require the relocation or reconfiguration of the Charter School of Morgan Hill.

3.2.3.3 Displacement and Relocation of Local Residents and Businesses

A summary of potential residential and business displacements by alignment alternative, station location option, and MOE/MOI facility alternative is provided in Table 3-4 of the San Jose to Merced Section Checkpoint B Summary Report and Appendix B4 of this Addendum.

Alignment Alternatives

As described in the San Jose to Merced Section Checkpoint B Summary Report (Section 3.2.4), the number of residential and business displacements that would occur under the Morgan Hill to Gilroy Subsection alignment alternatives vary greatly by alternative. Residential displacements would occur primarily in the community of San Martin and the cities of Morgan Hill and Gilroy, with some additional displacements in southeast San Jose and the community of Coyote. Business displacements would be concentrated in Gilroy (primarily consisting of industrial businesses), and to a lesser extent, Morgan Hill (primarily consisting of commercial businesses).

Station Location Options

Two station location options would result in residential displacements – the Morgan Hill Downtown Station and the East Gilroy Station. Displacements of commercial and industrial businesses would occur in downtown Gilroy under the two Downtown Gilroy station location options.

MOE/MOI Facility Alternatives

Both commercial business and residential displacements could occur with all four MOE/MOI facility alternatives. Coyote Valley: A and B would result in the most residential and business displacements. These displacements would occur in the community of Coyote under both alternatives, and in Morgan Hill under the Coyote Valley: B MOE/MOI facility alternative. The MOE/MOI facility alternatives South of Gilroy: C and D would have the fewest displacements, as they are located in sparsely-populated agricultural areas southeast of Gilroy.

3.2.3.4 Potentially Affected Environmental Justice Communities

The Morgan Hill to Gilroy Subsection RSA consists of all census block groups that are fully or partially within one-half mile of the centerlines of the alignment alternatives, station location options, and MOE/MOI facility alternatives. These census block groups incorporate portions of the cities of San Jose, Morgan Hill, and Gilroy, as well as the communities of Coyote and San Martin. Overall, the RSA population is approximately 61% minority and 11% low-income. This compares to Santa Clara and San Benito counties, which are 65% and 62% minority, and 9% and 11% low-income, respectively. The City of Morgan Hill, community of San Martin, and City of Gilroy have minority populations of 50%, 56%, and 69%, respectively. The City of Morgan Hill, community of San Martin, and City of Gilroy have low-income populations of 11%, 12%, and 11%, respectively.

Alignment Alternatives

Minority Populations. Figure 3.2-8 in Attachment 1 shows the minority population distribution along the alignment alternatives in the Morgan Hill to Gilroy Subsection. All of the alignment alternatives would cross areas with at least 50% minority populations and could result in impacts to these populations.

Low-Income Populations. Figure 3.2-9 in Attachment 1 shows the percentage of low-income populations, by census block group, along the alignment alternatives in the Morgan Hill to Gilroy Subsection. As shown in the figure, the RSA is generally comprised of census block groups where less than 25% of the population is low-income. There are three small, scattered areas where 25% to 50% of the population is below the poverty level. These areas, with larger concentrations of low-income individuals, occur in downtown Morgan Hill, San Martin, and downtown Gilroy. All of the alignment alternatives cross through

or are adjacent to at least one of these areas with 25% to 50% low-income individuals. Therefore, under each alignment alternative, there is the potential for impacts on low-income populations.

Station Location Options

Minority Populations. Figure 3.2-8 in Attachment 1 shows the Morgan Hill to Gilroy Subsection station location options overlaid on a map of the distribution of minority populations per census block group. As shown, all five station location options are within or adjacent to census block groups where the population is greater than 50% minority. As a result, minority populations could be affected by any of the five station location options.

Low-Income Populations. Figure 3.2-9 in Attachment 1 shows the Morgan Hill to Gilroy Subsection station location options overlaid on a map of the percentage of low-income individuals in the surrounding census block groups. As shown, two of the station location options are within census block groups where less than 25% of the population is below the poverty level: Morgan Hill Station US 101 at Cochrane (Four Track) and East Gilroy Station. As a result, there is little potential for impacts on low-income populations at these locations. Three of the station location options are adjacent to census block groups with 25% to 50% low-income population: Morgan Hill Downtown Station and Downtown Gilroy Stations (Four Track and Two Track). As a result, potential impacts under these three station location options would be predominately borne by low-income populations.

MOE/MOI Facility Alternatives

Minority Populations. Figure 3.2-8 in Attachment 1 shows the minority population distribution around the four MOE/MOI facility alternatives in the Morgan Hill to Gilroy Subsection. As shown, the MOE/MOI facility alternatives are all within census block groups where populations are more than 50% minority. As a result, potential impacts on community character and cohesion could be experienced by these minority populations.

Low-Income Populations. Figure 3.2-9 in Attachment 1 shows the percentage of low-income populations, by census block group, around the four Morgan Hill to Gilroy Subsection MOE/MOI facility alternatives. As shown, the MOE/MOI alternatives are all within census block groups where less than 25% of the population is below the poverty level. As a result, impacts on low-income populations are not anticipated under any of the four MOE/MOI facility alternatives.

3.2.3.5 Community Character and Cohesion/EJ Summary

Under the Morgan Hill to Gilroy Subsection, the greatest potential impacts on community character and cohesion would occur under the East of UPRR to Downtown Gilroy Alignment Alternative, and to a slightly lesser extent under the Gilroy Station Loop Alignment Alternative and the other alignment alternatives that travel through downtown Gilroy.

For all of the subsection's alignment alternatives, potential impacts would primarily be concentrated in two or more of the following communities: Morgan Hill, San Martin, and Gilroy. While minority populations occur throughout the Morgan Hill to Gilroy Subsection, low-income populations are concentrated in portions of each of these three communities. As potential impacts on community character and cohesion would occur in areas with higher percentages of low-income individuals than the surrounding area, low-income populations could be more affected by the alignment alternatives than non-low income populations.

Similarly, the three station location options with the greatest impacts on community character and cohesion, the Morgan Hill Downtown (Four-Track) Station and the Downtown Gilroy stations (Two- and Four-Track), could primarily affect low-income populations in the downtowns of Morgan Hill and Gilroy.

The Coyote Valley: A and B MOE/MOI facility alternatives could result in impacts on community character and cohesion in Coyote, and in Morgan Hill under the Coyote Valley: B MOE/MOI facility alternative. Under any of the four MOE/MOI facility alternatives minority populations could be affected.

The potential for community impacts, particularly the disruption of communities as a result of visual impacts, contributed to the Gilroy Station Loop Alignment Alternative being withdrawn from further analysis. This alignment alternative had greater visual impacts than all other alignment alternatives in this subsection, particularly within the City of Gilroy, which was a contributing factor to the recommendation of withdrawal.⁵

As described in San Jose to Merced Section Summary Report (Section 3.2.4.3), residential displacements contributed to the Morgan Hill Downtown Station location option being withdrawn from further analysis.

None of the MOE/MOI Facility Alternatives were withdrawn because of potential community or environmental justice impacts.

Other key factors that contributed to this subsection's alignment alternatives, station location options, and MOE/MOI facility alternatives being withdrawn or carried forward are summarized in Section 6.0, Summary of Conclusions.

3.2.4 Pacheco Pass Subsection

The RSA for the Pacheco Pass Subsection is rural and has a population of 12,049. The populations of Santa Clara and Merced counties are 1,781,642 and 255,793, respectively. The Pacheco Pass Subsection does not extend through any cities or communities, but the subsection passes north of the community of Santa Nella, which has a population of 1,380. Figure 3.2-10 in Attachment 1 shows the Pacheco Pass Subsection alignment alternatives in relation to this community.

3.2.4.1 Disruption or Division of Communities

The Pacheco Pass Subsection alignment alternatives have been designed to follow existing transportation (road and/or rail) corridors, primarily SR 152, thereby minimizing the extent that new trackway extends through existing communities. As shown in Table 3.2-4, neither alignment alternative in the Pacheco Pass Subsection would have an impact related to disruption or physical division of a community. The only community in the vicinity of the alignment alternatives is Santa Nella, located in the eastern portion of the subsection. All of the residences and businesses in Santa Nella are located at a distance more than one-half mile from either alternative; therefore, no community disruption is anticipated.

Both alignment alternatives would have the same visual impacts by placing a new HST line through a rural setting, which would be visible from the San Luis Reservoir and from the Pacheco Creek Valley.

⁵ Refer to the San Jose to Merced Section Summary Report (Sections 3.3.7 and 4.2) for a more detailed discussion of the aesthetic/visual resource impacts that would result from the Gilroy Station Loop Alignment Alternative, and how these impacts contributed towards the elimination of this alternative.

Table 3.2-4
Pacheco Pass Subsection
 Division of Communities and Community Facilities

Pacheco Pass Subsection	Physical Division of Communities (miles) ¹	Community Facilities within One-half Mile of Alternative ²
Alignment Alternatives		
East of UPRR to Downtown Gilroy (Program Alignment)	0	1
US 101 to Downtown Gilroy	0	1
Notes: ¹ The distance that an alternative physically divides a community indicates the potential for indirect or direct impacts on that community. ² The number of community facilities shown indicates the potential for indirect or direct impacts on those facilities. Physical division of communities, impacts on community facilities, and displacements will be minimized or avoided with refinements to the design or through appropriate mitigation measures.		

3.2.4.2 Proximity to Community Facilities

Table 3.2-4 shows that one community facility, a forestry fire station, is located within one-half mile of the two alignment alternatives in the Pacheco Pass Subsection. The fire station is near the western end of the subsection on the north side of SR 152. Neither alignment alternative would result in direct impacts to the forestry fire station.

3.2.4.3 Displacement and Relocation of Local Residents and Businesses

A summary of potential residential displacements by alignment alternative is provided in Table 3-4 of the San Jose to Merced Section Checkpoint B Summary Report and Appendix B5 of this Addendum. Both alignment alternatives in the Pacheco Pass Subsection have the potential to result in the same number of residential displacements (between 2 and 7). These displacements would occur in a rural area; no communities would be affected. Neither of the two alignment alternatives in the Pacheco Pass Subsection would result in any business displacements.

3.2.4.4 Potentially Affected Environmental Justice Communities

The Pacheco Pass Subsection RSA consists of all census blocks fully or partially within one-half mile of the centerlines of the alignment alternatives. Due to the highly rural and mountainous geography of this subsection, the only community within the RSA is Santa Nella, with a population that is 75% minority and 39% low-income. However, as the residences and businesses of this community are located at a distance more than one-half mile from the alignment alternatives, community character and cohesion impacts to Santa Nella are not expected. Overall, the RSA is comprised of 56% minority individuals and 21% low-income individuals. This compares to Santa Clara and Merced counties, which are 65% and 68% minority, and 9% and 23% low-income, respectively.

Alignment Alternatives

Minority Populations. Figure 3.2-11 in Attachment 1 shows the minority population distribution along the alignment alternatives in the Pacheco Pass Subsection, where the RSA is 56% minority. As shown, the alignment alternatives are primarily within several large census block groups. The western portion of both alignments is through an area of 25% to 50% minority, while the eastern portion is in an area of greater than 50% minority. As a result, either Pacheco Pass alignment alternative would potentially affect minority populations.

Low-Income Populations. Figure 3.2-12 in Attachment 1 shows the percentage of low-income populations, by census block group, along the alignment alternatives in the Pacheco Pass Subsection, where the RSA is 21% low-income. As shown in the figure, the RSA is generally comprised of census block groups where less than 25% of the population is below the poverty level. The community of Santa Nella and the easternmost portion of the subsection have higher percentages of low-income populations (25% to 50%). As a result, either Pacheco Pass alignment alternative could have an effect on a low-income population in the eastern portion of the subsection.

3.2.4.5 Community Character and Cohesion/EJ Summary

Neither alignment alternative within the Pacheco Pass Subsection would divide or disrupt a community or directly affect a community facility. Several residential displacements could occur with either alignment alternative, and could affect minority and low-income individuals; however these displacements would not occur within an established community. As a result, the alignment alternatives would have no impacts related to community character and cohesion.

3.3 Merced to Fresno Section: Wye Alternatives

The RSA for the Merced to Fresno Section: Wye Alternatives is rural with an agricultural economic base, as is the surrounding region of Madera and Merced counties. The populations of Madera and Merced counties are 150,865 and 255,793, respectively. The largest concentrations of population are the City of Merced (78,958) in the northern portion of the RSA, the City of Chowchilla (18,720) in the approximate middle of the RSA, the City of Los Banos (35,972) in the western portion of the RSA, and the City of Madera (61,416) and community of Madera Acres (9,163) in the southeast. Other population centers are the communities of Volta in the western portion of the RSA, McSwain in the northern portion of the RSA and Fairmead, in the approximate center of the RSA, with populations of 246, 4,171, and 1,447, respectively. Figure 3.3-1 in Attachment 1 depicts the location of these cities and community in relation to the Merced to Fresno Section: Wye Alternatives.

3.3.1 Disruption or Division of Communities

The wye alternatives have been designed to follow existing transportation (road and/or rail) corridors, including SR 140, SR 152, Avenue 21, Avenue 22, Avenue 24, SR 99, and the BNSF railroad, thereby minimizing the extent that new trackway extends through existing communities. Six alternatives would have no impact related to division of communities (see Table 3.3-1).

All of the wye alternatives shown in Table 3.3-1 that would divide an existing community diverge from existing transportation corridors. The community of Fairmead (approximately 5 miles southeast of Chowchilla) would be divided by 10 alternatives in the east to west and/or the northwest to southeast direction. The community of McSwain (approximately 6 miles east of Merced) would be divided by one alternative. No other community would be divided by the wye alternatives.

The greatest division or disruption of a community could occur in Fairmead, where 10 alternatives would divide the community for distances ranging from 1.8 to 4.8 miles. The large variation in impacts through Fairmead is generally a function of whether the alternatives travel west of Chowchilla (along Road 11 or Road 13) or east of Chowchilla (along Road 18 or Road 19). The alternatives that travel east of Chowchilla would result in greater impacts on Fairmead, as two or more of the legs of the wye could travel through the community.

Of the 10 alternatives that could divide or disrupt Fairmead, the least impact to the community would occur under the SR 152 (North) to Road 11 Wye Alternative and SR 152 (North) to Road 13 Wye Alternative, each with 1.8 miles of alignment that could divide the community in the east-west direction.

This east-west division of Fairmead would separate the primarily residential northern part of the community from the residents and community facilities located to the south; community facilities generally are located south of SR 152.

Table 3.3-1
Merced to Fresno Section: Wye Alternatives
 Division of Communities and Community Facilities

Wye Alternatives	Physical Division of Communities (miles)¹	Community Facilities within One-half Mile of Alternative²
SR 140 Wye Alternative	0.7	43
Avenue 24 to Road 11 Wye Alternative	2.3	4
Avenue 24 to East of Road 12 Wye Alternative	2.3	4
Avenue 24 to Road 13 Wye Alternative	2.3	4
SR 152 (North) to Road 11 Wye Alternative	1.8	9
SR 152 (North) to Road 13 Wye Alternative	1.8	9
SR 152 (North) to Road 18 Refined Wye Alternative	4.7	9
SR 152 (North) to Road 19 Wye Alternative	4.4	9
SR 152 (South) to Road 18 Refined Wye Alternative	4.8	10
SR 152 (South) to Avenue 21 to SR 99 Wye Alternative	0	18
SR 152 (South) to Avenue 21 to Road 19 Wye Alternative	2.5	8
Avenue 22 Wye Alternative	0	9
Avenue 21 to Road 11 Wye Alternative	0	7
Avenue 21 to Road 13 Wye Alternative	0	9
Avenue 21 to SR 99 Wye Alternative	0	18
Avenue 21 to Road 19 Wye Alternative	2.5	8
South of GEA Wye Alternative	0	4
Notes: ¹ The distance that an alternative physically divides a community indicates the potential for indirect or direct impacts on that community. ² The number of community facilities within one-half mile of an alternative indicates the potential for indirect or direct impacts on those facilities. Physical division of communities, impacts on community facilities, and displacements will be minimized or avoided with refinements to the design or through appropriate mitigation measures.		

The greatest division of Fairmead would occur under the SR 152 (North) to Road 18 Refined Wye Alternative and the SR 152 (South) to Road 18 Refined Wye Alternative, which would result in 4.7 and 4.8 miles of division within the northern portion of Fairmead, respectively. Divisions under these alternatives would occur in the east to west, northwest to southeast, and northeast to southwest directions, as each of the three legs of the wye would divide portions of Fairmead with new right-of-way. The SR 152 (North) to Road 18 Refined Wye Alternative and the SR 152 (South) to Road 18 Refined Wye Alternative would generally be aligned north of the most densely populated and developed portion of the community, and were designed to avoid direct impacts on important community facilities and to reduce potential noise/vibration impacts on the residential core of Fairmead. However, the SR 152 (South) to Road 18 Refined Wye Alternative, with its more southerly alignment, would result in both greater divisions and disruptions to Fairmead than the SR 152 (North) to Road 18 Refined Wye Alternative. Noise and vibration impacts as a result of this southern alternative would potentially affect more sensitive receptors, due to the alignment's closer proximity to the residential core of Fairmead, an elementary school, and a day care center potentially resulting in impacts from community disruption.

The SR 140 Wye Alternative would divide the community of McSwain for a distance of 0.7 mile, as the alignment curves north of SR 140 to enter Merced along the UPRR corridor. The SR 140 Wye Alternative could introduce an incongruous new feature into the community with associated noise/vibration and visual impacts.

Disruption of communities could occur in the community of Madera Acres under each of the wye alternatives. Through Madera Acres, the alternatives are aligned along the existing BNSF rail corridor, and therefore are not considered to physically divide that community. Similarly, each of the SR 99 alternatives would cross the City of Chowchilla but were not considered to physically divide the community because they parallel the existing highway. However, the alternatives would expand the existing rail or highway corridor, and could introduce new noise/vibration and visual impacts. Additionally, all but the SR 140 and South of GEA wye alternatives could disrupt the community of Volta, located one-quarter mile south of the alignment alternatives that are situated along Henry Miller Road. The alignment alternatives could introduce new noise/vibration and visual impacts to this community.

3.3.2 Proximity to Community Facilities

The number of community facilities within one-half-mile of each alternative is shown in Table 3.3-1. Appendix B6 of this Addendum specifies the type of community facilities noted in the table. These facilities are located in McSwain, Merced, Volta, Fairmead, Madera Acres, and unincorporated Madera and Merced counties.

In the community of Fairmead, two alignment alternatives could result in direct impacts on a community facility. The SR 152 (South) to Avenue 21 to SR 99 Wye Alternative and the Avenue 21 to SR 99 Wye Alternative could directly affect parking for the Galilee Missionary Baptist Church. No other alternatives are expected to directly affect community facilities in Fairmead. The most notable indirect impact to community facilities in Fairmead would occur under the SR 152 (South) to Road 18 Refined Wye Alternative, which would pass approximately 500 feet north of an elementary school; in comparison, the SR 152 (North) to Road 18 Refined Wye Alternative would be located approximately 1,500 feet north of the school.

All wye alternatives follow the same alignment for the last few miles south to their connection with the high-speed train alignment at Avenue 17 in Madera Acres, previously approved by the Authority as part of the Merced to Fresno High-Speed Train EIR/EIS. As a result, under any wye alternative, two community facilities could be directly affected by the alternatives in Madera Acres – a Madera County fire station and the Madera Amtrak station.

3.3.3 Displacement and Relocation of Local Residences and Businesses

The wye alternatives have been designed to follow existing transportation corridors (road and/or rail), including SR 152, SR 99, Avenue 21, Avenue 22, Avenue 24, and the BNSF railroad. As a result, direct impacts on residences and businesses away from these corridors generally are avoided. A summary of potential residential and business displacements by alternative is provided in Appendix B6 of this Addendum.

3.3.3.1 Residential Displacement and Relocation

The range of residential displacements is from a low of 77 to 86 to a high of 145 to 165. With all 17 alternatives, the greatest number of residential displacements would occur in Madera Acres along the BNSF corridor, with final numbers depending on the selected alternative. In Fairmead, the most residential displacements are anticipated under the two SR 152 alignment alternatives situated along Road 18 and the two alignment alternatives situated along SR 99. Each of these alignment alternatives could displace a maximum of approximately 30 Fairmead residences.

3.3.3.2 Business Displacements

Displacements of businesses range from a minimum of 1 to 3 to a maximum of 18 to 20. The majority of business displacements under each wye alternative would consist of commercial, with some industrial businesses, and would occur in rural, unincorporated areas of Madera and Merced counties, unassociated with established communities. The greatest number of potential business displacements and relocations would occur under the SR 140 Wye Alternative in the City of Merced.

3.3.4 Potentially Affected Environmental Justice Communities

The RSA consists of all census block groups that are fully or partially within one-half mile of the centerlines of the wye alternatives. These census block groups incorporate portions of the City of Merced, the City of Chowchilla, and the communities of McSwain, Volta, Fairmead and Madera Acres. Overall, the RSA is comprised of 74% minority residents and 24% low-income residents.

3.3.4.1 Minority Populations

Figure 3.3-2 in Attachment 1 shows the wye alternatives superimposed on a regional map showing, by census block group, the percentage of minority populations. As shown, most of the census block groups within the RSA consist of residential populations that are greater than 50% minority. Based on U.S. Census data, the RSA as a whole is 74% minority. This compares to Merced County, City of Merced, and communities of Fairmead and Madera Acres, which are 68%, 70%, 77%, and 71% minority, respectively. Compared to the minority population in the RSA, the minority population percentages are lower in Madera County, City of Chowchilla, and the communities of Volta and McSwain, with 62%, 58%, 58%, and 37% minority, respectively. As shown, census block groups with the fewest minorities are in the far northern portions of the RSA, where the populations are 25% to 50% minority.

3.3.4.2 Low-Income Populations

Figure 3.3-3 in Attachment 1 displays the wye alternatives superimposed on a regional map showing low-income populations by census block group, specifically, the percentage of persons below the poverty level. As shown, approximately half of the census blocks within the RSA are low-income, with 25% to 50% of the population below the poverty level. The RSA as a whole is 24% low-income, comparable to Madera and Merced counties, City of Merced, and community of Volta, with 20%, 23%, 27%, and 19% low-income, respectively. The low-income population in the community of Fairmead (41%) is substantially higher than the RSA. Small areas scattered throughout the RSA, such as portions of Dos Palos, Merced and Madera, have populations where greater than 50% of the population is below the poverty level. Due to their distance from the alignments, low-income populations within Dos Palos and

Madera are not anticipated to be affected. There is the potential for impacts on low-income populations in Merced, Fairmead, and portions of Madera Acres.

3.3.5 Summary of Community Character and Cohesion/EJ Summary

Under the Merced to Fresno Section: Wye Alternatives, the greatest impacts on community character and cohesion would occur under the SR 152 (South) to Road 18 Refined Wye Alternative. Substantial community character and cohesion impacts would also occur under the SR 152 (North) to Road 18 Refined Wye Alternative and the other alignment alternatives with wye connections located east of Chowchilla, including the SR 152 (North) to Road 19 Wye Alternative, SR 152 (South) to Avenue 21 to SR 99 Wye Alternative, and Avenue 21 to SR 99 Wye Alternative. Under these wye alternatives, potential impacts would be concentrated in the community of Fairmead, which has the highest percentage of minority and low-income individuals (77% minority and 41% low-income) of the communities within the RSA. Each of the 17 wye alternatives could also result in community character and cohesion impacts on the community of Madera Acres, and one wye alternative would affect the City of Merced, both of which have minority and low-income populations. As a result, potential impacts in Fairmead, Madera Acres, and Merced could affect EJ populations, and potential impacts on low-income populations could be disproportionate to the surrounding areas.

Potential impacts on community facilities within an environmental justice community contributed to the SR 99 wye alternatives being withdrawn from further consideration. The SR 152 (South) Refined Wye Alternative also would potentially result in some of the greatest community character and cohesion/EJ impacts, specifically division of communities, impacts on community facilities, and residential displacements within an environmental justice community; however, this alternative is recommended to be carried forward for further analysis because it would result in the least amount of impacts on aquatic resources of all the wye alternatives. Refer to Section 6.0, Summary of Conclusions for a summary of the key factors that contributed to this subsection's alignment alternatives being withdrawn or carried forward.

4.0 Response to October 2013 USACE and EPA Comments on Initial Checkpoint B Submittal

This section contains responses to comments on the San Jose to Merced Section Checkpoint B Summary Report package and the Merced to Fresno Section: Wye Alternatives Supplemental Checkpoint B Summary Report package received from the USACE in a letter to the Authority dated October 22, 2013 and in an email received on October 9, 2013, respectively.

This section also contains responses to comments on both the San Jose to Merced Section Checkpoint B Summary Report package and the Merced to Fresno Section: Wye Alternatives Supplemental Checkpoint B Summary Report package received from the EPA in a letter to the Authority and FRA dated October 24, 2013.

4.1 San Jose to Merced Section Response to USACE Comments (10/22/2013)

Comment #1: The Caltrain/Morgan Hill/Pacheco Pass Alternative was eliminated in the 2008 Bay Area to Central Valley EIR/EIS for not following existing transportation corridors. Page 37 of the Checkpoint B Summary Report states that "Any alignment alternative through this area would result in considerable property impacts with development of a new HST corridor." Figure 2.5-12 of the 2008 EIR/EIS shows this alignment in a similar location to the three currently proposed East Gilroy Alternatives. Explain the

differences between these alternatives and why these are proposed to be carried forward while the other was eliminated.

Response #1: Figure 4.1-1 (see Attachment 1) distinguishes between the withdrawn program-level Caltrain/Morgan Hill/Pacheco Pass Alignment Alternative, the carried forward program-level Caltrain/Pacheco/ Henry Miller Avenue Alternative, and the project-level alignment alternatives that were evaluated and carried forward in the Morgan Hill to Gilroy Subsection of the San Jose to Merced Section. The project-level alignment alternatives evaluated in the San Jose to Merced Section Checkpoint B Summary Report are all products of the carried forward program alignment alternatives, as illustrated in Table 2-3 of the San Jose to Merced Section Checkpoint B Summary Report.

The program-level Caltrain/Morgan Hill/Pacheco Pass Alignment Alternative was withdrawn because of constructability and right-of-way concerns, as discussed in Section 2.5.1, page 37 of the Summary Report. Prior to development and publication of the San Jose to Merced Section Preliminary Alternatives Analysis in June 2010, the team conducted further analysis to confirm the earlier finding using the Quantm modeling software. The Quantm modeling software allowed for the consideration of numerous alignments through this area, taking into consideration the topography of the Pacheco Pass and specific design criteria for the HST project, such as grade, length of tunnel, and height of aerial structures. This analysis identified safety concerns and feasibility issues with the program-level Caltrain/Morgan Hill/Pacheco Pass Alignment Alternative because it would cross the Calaveras fault on an aerial structure exceeding 300 feet in height, and would also require construction of an extremely high aerial structure exceeding 500 feet over a distance greater than one mile. This withdrawn program-level alignment alternative varied from the carried forward program-level Caltrain/Pacheco/ Henry Miller Avenue Alternative, and from the project-level alignment alternatives evaluated in the San Jose to Merced Section Checkpoint B Summary Report because it entered Pacheco Pass further north. As a result, the withdrawn program-level alignment alternative would have required the placement of the HST across the Calaveras fault on an aerial structure. The Authority's design criteria stipulate that alignments must not be constructed over a fault on structure in order to reduce the risk and duration of downtime associated with repairing the structure after a major seismic event. This withdrawn program-level alignment alternative conflicts with the Authority's design criteria.

In addition to the constructability issues, right-of-way concerns for the withdrawn program-level Caltrain/Morgan Hill/Pacheco Alignment Alternative include additional impacts on agricultural land and floodplains (including to San Felipe Lake) when compared to the carried forward program-level and project-level alignment alternatives evaluated in the San Jose to Merced Section Checkpoint B Summary Report. It should also be noted that this program-level alignment alternative would not have allowed for a Downtown Gilroy Station location option.

Conversely, the program-level Caltrain/Pacheco Pass/Henry Miller Avenue and Caltrain/Pacheco/GEA North/Merced Alignment Alternatives were carried forward for further evaluation at the program-level, and then further developed to be evaluated in the San Jose to Merced Section Checkpoint B Summary Report, because they would avoid the constructability and right-of-way issues related to the program-level Caltrain/Morgan Hill/Pacheco Pass Alignment Alternative.

Comment #2: Section 3.3.3.3 of the Summary Report identifies four alternatives in the Morgan Hill to Gilroy Subsection as inconsistent with local plans or zoning codes (pg 119). No further information or explanation is given regarding why these alternatives were not considered for withdrawal. The same page identifies the incompatibility with the City of San Jose's planned redevelopment of the areas near the Diridon Station as a factor for withdrawing the Downtown Aerial Alignment Alternative. Explain why the consistency with local plans is a factor for withdrawing one alternative while it is not considered for another alternative.

Response #2: The primary reason for withdrawing the Downtown Aerial Alignment Alternative within the San Jose Station Approach Subsection was constructability issues. The constructability issues included high bridge structures over an existing interchange; curved, long span bridges; impacts on SR 87/I-280 with the placement of large foundations beneath travel lanes; and extensive utility relocation requirements. Therefore, while incompatibility with local land use plans and policies was a negative consideration for this alternative, the Downtown Aerial Alignment Alternative was withdrawn primarily on the basis of constructability issues. Please see Section 6.1 of this Addendum for additional discussion on the San Jose Station Approach Subsection alignment alternatives and on why the majority of alignment alternatives within the Morgan Hill to Gilroy Subsection were carried forward.

Comment #3: Impacts on cultural resources are identified as a factor in withdrawing three alternatives within the San Jose Station Approach Subsection (pg 120). These alternatives would result in impacts on an additional 12-14 (40-47%) buildings greater than 50 years old than the SR 87/I-280 Alternative proposed to be carried forward (Appendix B1, pg 6). The Morgan Hill to Gilroy Subsection has a much larger range among alternatives proposed to be carried forward, from 110 to 243 buildings (Appendix B3, pg 7). This is an increase of 121% from the lowest to the highest. The justification given for this range is that all alignment alternatives would impact at least one resource in each category, and as such there is no avoidance alternative. Provide justification why a small increase between alternatives in the San Jose Approach Subsection is ground for withdrawal while an increase of over 120% is not discussed in the Morgan Hill to Gilroy Subsection.

Response #3: For purposes of the Checkpoint B analysis, the San Jose to Merced Section was divided geographically into five subsections. This grouping of alternatives divides the overall HST section into comprehensible sets of alignments with similar functions and locations, aiding in the relative comparison of alternatives within each set. This approach facilitates the development of a reasonable range of alternatives for each subsection. To ensure consideration of a reasonable range of alternatives, the FRA and Authority take into consideration aquatic resource impacts, other environmental impacts (including effects on cultural resources), community impacts (including EJ concerns), constructability, and public and stakeholder input to develop a range of alternatives that meet the project purpose and need while considering all of these concerns. In instances where aquatic resource impacts are minimal or absent and other environmental impacts are minimal or closely comparable between alternatives, the FRA and Authority have considered other factors including whether an alternative will avoid constructability issues or community impacts, or where the alternative addresses public and stakeholder input. In some cases, this results in the identification of a single alignment alternative. In this case, the FRA and Authority have recommended carrying forward a single alignment alternative in both the San Jose Station Approach and Monterey Highway subsections on this basis.

No above-ground aquatic resources would be impacted by alignment alternatives and station location options within the San Jose Station Approach Subsection; therefore, constructability is a key factor in the evaluation of alignment alternatives and station location options in this subsection, in conjunction with impacts to the surrounding communities, and public and stakeholder input. While impact on cultural resources was identified as one reason for withdrawal of the Refined Program Alignment, South of Caltrain Tracks Alignment Alternative, Deep Tunnel Alignment Alternative, and Downtown Aerial Alignment Alternative, the primary factors resulting in withdrawal of these alignment alternatives were constructability, community impacts, and public input.

The primary reason for withdrawal of the Refined Program Alignment and the South of Caltrain Tracks Alignment Alternative was strong opposition from neighboring communities due to concerns over potential impacts related to noise and vibration, aesthetics, traffic congestion and circulation, property

values and construction impacts⁶. The primary reason for withdrawal of the Deep Tunnel Alignment Alternative and Downtown Aerial Alignment Alternative was constructability. The constructability issues associated with the Downtown Aerial Alignment Alternative are the need for large foundations and high, curved bridges. The constructability issues associated with the Deep Tunnel Alignment Alternative include unsafe geologic conditions and great risk involved in constructing the size of tunnel required.

Please see Section 6.1 of this Addendum for additional discussion on why the majority of alignment alternatives within the Morgan Hill to Gilroy Subsection were carried forward.

Comment #4: The analysis of impacts on Section 4(f) resources (pg 122) indicates that an East of Coyote Creek Parkway Alternative has been proposed to avoid severe impacts on the Coyote Creek Parkway. Describe this alternative and explain why it is not present in the Checkpoint B package.

Response #4: This is a typographical error on page 121 of the Checkpoint B Summary Report. The text should reference the *West* of Coyote Creek Parkway Alignment Alternative.

4.2 Merced to Fresno Section: Wye Alternatives Response to USACE Comments (10/9/2013)

This section contains responses to comments received from the USACE in an email to the California High-Speed Rail Authority received on October 9, 2013. The purpose of the letter from the USACE was to provide comments on the Supplemental Checkpoint B package for the Merced to Fresno Section: Wye Alternatives.

Comment #1: Section 2.3 (pgs 11-13) identifies public comments regarding wye alternatives. Although the comments appear to be mixed, this section identifies a general public opinion regarding the minimization of agricultural and community impacts and following existing transportation corridors to minimize these impacts. This section appears to indicate that the public generally prefers alternatives along SR 152 and east of Chowchilla. This preference for alternatives to the east of Chowchilla requires additional information regarding the elimination of alternatives along Road 19 and SR 99.

Response #1: As described in Sections 5.4 and 5.5 below, the Authority has received multiple comments regarding preferences for wye alternatives. Some comments prefer a corridor to the east of the City of Chowchilla, while other comments prefer a corridor to the west. In addition, a route along SR 152 is preferred by numerous stakeholders. Taking these comments into consideration, the FRA and Authority believe it is appropriate to carry forward wye alternatives along SR 152 that are both to the east and to the west of the City of Chowchilla. It is also important to note that the City of Chowchilla and other stakeholders strongly oppose wye alternatives along SR 99, as well as those along Avenue 24.

In order to ensure the evaluation of a reasonable range of alternatives, the Authority focused on identifying the best options within corridors: options east of Chowchilla and west of Chowchilla. The FRA and Authority have recommended carrying forward four wye alternatives on the basis of aquatic impacts, public and stakeholder input, and other environmental impacts. Of the four wye alternatives that are proposed to be carried forward, two wye alternatives are located east of Chowchilla and two are west of Chowchilla.

⁶The discussion of public opposition as a reason for withdrawing the South of Caltrain Tracks Alignment Alternative was unintentionally omitted from the summaries of eliminated alternatives in the Checkpoint B Summary Report.

Three of the wye alternatives recommended to be carried forward for further analysis have the least aquatic resource impacts of all seventeen wye alternatives. The fourth wye alternative, SR 152 (North) to Road 18 Refined Wye, has relatively low aquatic resource impacts compared to the majority of other wye alternatives, and is recommended to be carried forward for further analysis consistent with input from various stakeholders indicating a preference for a wye alternative along SR 152, and which is further away from the City of Chowchilla (along Road 18 instead of SR99). The SR 152 wye alternatives connecting to Road 19 would have greater aquatic resource impacts than the carried forward wye alternatives within the same corridor (refer to Section 6.2 below for further detail). This is the reason for eliminating alternatives along Road 19.

Please refer to Section 5.0 and Appendix C for more information on public input related to the wye alternatives and Section 6.2 for a discussion of the primary reasons for carrying forward and withdrawing alignment alternatives.

Comment #2: The SR 152 (North) to Road 19, SR 152 (South) to Avenue 21 to SR 99, and SR 152 (South) to Avenue 21 to Road 19 alternatives are all identified in Section 4.4.2 (pgs 82-83) as not following transportation corridors. Please explain why these are eliminated for not following transportation corridors while the SR 152 (North) to Road 18, SR 152 (South) to Road 18, Avenue 21 to Road 19, and Avenue 21 to SR 99 alternatives also appear to follow routes off of transportation corridors. The SR 99 alternatives appear to follow major transportation corridors more than any other alternatives proposed.

Response #2: As discussed above, three of the wye alternatives recommended to be carried forward for further analysis have the least aquatic resource impacts of all seventeen wye alternatives. The fourth wye alternative, SR 152 (North) to Road 18 Refined Wye, has relatively low aquatic resource impacts compared to the majority of other wye alternatives, and is recommended to be carried forward for further analysis consistent with input from various stakeholders indicating a preference for a wye alternative along SR 152, and which is further away from the City of Chowchilla (along Road 18 instead of SR 99).

The SR 152 (North) to Road 19 Wye would impact a relatively large amount of aquatic resources, and was recommended to be withdrawn from further analysis on that basis. The SR 152 (South) to Avenue 21 to SR 99 Wye was withdrawn from further analysis on the basis that it would impact more aquatic resources than those recommended to be carried forward and it is strongly opposed by the City of Chowchilla. The SR 152 (South) to Avenue 21 to Road 19 Wye would impact a greater amount of aquatic resources than the wye alternative recommended to be carried forward for further analysis within the same corridor (refer to Section 6.2 below for further detail).

As noted above, aquatic resource impacts, other environmental impacts, and public and stakeholder concerns are the main determinants in whether to carry forward or withdraw the wye alternatives from further analysis. Due to the complexity of the wye alternatives, it is difficult to compare the degree to which each follows existing transportation corridors relative to the others; therefore, the extent to which wye alternatives follow existing transportation corridors is a minor contributing factor in whether to carry forward or withdraw a wye alternative from further consideration. Additionally, while constructability issues were a major factor in eliminating alignment alternatives within the San Jose to Merced Section, each of the wye alternatives would require similar construction methods and encounter similar constructability issues. Therefore, constructability was not determined to be a reason for eliminating any of the wye alternatives.

Comment #3: Three alternatives were identified as being eliminated for resulting in among the highest impacts on agricultural resources (Section 4.4.2, pgs 82-83). The data in Table 3-5 (pgs 64-65) shows that these alternatives result in similar or less impacts than the alternatives proposed to be carried

forward. The SR 152 (South) to Road 18 alternative is proposed to be carried forward while this alternative results in the highest impacts on agricultural resources among all of the wye alternatives.

SR 152 (South) to Avenue 21 to SR 99 was eliminated for resulting in among the highest impacts on agricultural resources. This alternative has fewer impacts than the SR 152 (North) to Road 18, SR 152 (South) to Road 18, and Avenue 21 to Road 13 alternatives, which are proposed to be carried forward.

SR 152 (North) to Road 19 was eliminated for resulting in among the highest impacts on agricultural resources. This alternative has fewer impacts in all but two categories than the SR 152 (North) to Road 18 and Avenue 21 to Road 13 alternatives, which are proposed to be carried forward. This alternative also has fewer impacts in all but one category and fewer total impacts than the SR 152 (South) to Road 18 alternative.

SR 152 (South) to Avenue 21 to Road 19 was eliminated for resulting in among the highest impacts on agricultural resources. This alternative has fewer impacts in all but one category and fewer total impacts than the SR 152 (South) to Road 18 alternative, which is proposed to be carried forward.

Response #3: As discussed above, the wye alternatives to be carried forward provide a reasonable range of alternatives for further evaluation of alternatives to the east and to the west of Chowchilla. While the extent to which wye alternatives impact agricultural resources was taken into consideration when evaluating whether or not to carry forward or withdraw a wye alternative, ultimately impacts to agricultural resources did not result in the ultimate determination to withdraw a wye alternative from further consideration.

Refer to Response #2 above for discussion on the reasoning for eliminating wye alternatives along SR 99 and Road 19 and for carrying forward wye alternatives along Road 18.

Comment #4: The calculation of impacts on agricultural resources does not appear to take into account the remnant parcels which would result from diagonal crossings and offsets from roadways. The previous SR 152 (South) alternative was identified in meetings for elimination or modification because it was offset several hundred feet south of SR 152. The current SR 152 (South) to Road 18 is described in Section 2.6.9 as running 85 to 300 feet south of SR 152. A review of the provided kmz file shows that the distance increases as the route moves east, reaching more than 500 feet south of SR 152. The addition of remnant parcels between SR 152 and the alignment may vastly increase the agricultural impacts resulting from this alignment which currently results in the highest impacts among all alternatives. The analysis of remnant parcels is a consistent concern for all alternatives where they make a wide turn to connect to the north-south alignment.

Response #4: Impacts on remnant agricultural parcels were included in the calculations for the following alternatives along SR 152 (South): SR 152 (South) to Road 18 Refined Wye Alternative, SR 152 (South) to Avenue 21 to SR 99 Wye Alternative, and SR 152 (South) to Avenue 21 to Road 19 Wye Alternative (Section 3.3.2, p64, of the Summary Report). This remnant agricultural parcel analysis takes into consideration the very large area of agriculture land (more than 100' wide and more than 1 mile long) that would be rendered inaccessible due to the parallel transportation corridors (SR 152 and the proposed HST alignment). The width of the remnant agriculture parcel area does exceed 300 feet on the far easterly end of the alignment, and the description of the SR 152 (South) to Road 18 Refined Wye Alternative as being 85 to 300 feet south of SR 152 is a typographical error contained in Section 2.6.9 of the Summary Report. Other wye alternatives would not result in similarly large, inaccessible areas of agricultural land.

Refer to Response #3 above for discussion on how agricultural impacts fit into the determination process for withdrawing or carrying forward wye alternatives. Additional information is also available in Section 6.0.

Comment #5: The travel time between Sacramento and Los Angeles was identified as an area of concern for the SR 152 (North) to Road 19, SR 152 (South) to Ave 21 to SR 99, SR 152 (South) to Ave 21 to Road 19, and Avenue 21 to Road 19 alternatives. The north-south component of these wye alternatives appears to be similar to, or shorter than, that of other alternatives. In order to use this measure to eliminate alternatives, please explain how the travel times are affected and provide actual estimated times for all alternatives.

Response #5: A typographical error was discovered within the summaries for the SR 152 (North) to Road 19 and SR 152 (South) to Avenue 21 to SR 99 Wye Alternatives, which had included an evaluation of the travel times to Merced from San Jose. The connection from San Francisco to Sacramento does not have a mandated travel time requirement under Proposition 1A.

Travel times are affected by the length of the alignment and design speed (which itself is affected by curve radii and topography). Travel time between Sacramento and Los Angeles is a concern for the SR 152 (South) to Avenue 21 to Road 19, and Avenue 21 to Road 19 Wye Alternatives. Refer to Response #2 above for discussion on the reasoning for eliminating wye alternatives along SR 99 and Road 19 and for carrying forward wye alternatives along Road 18. While travel time was considered, the primary reasons for withdrawing or carrying forward the wye alternatives are explained in Response #2.

Comment #6: Both alternatives along SR 99 were eliminated due to capital cost, indicating that they cost at least \$1.4 billion more than similar alternatives. The data in Table 3-2 (pg 55) show that these alternatives are only \$0.35 to \$0.47 billion, and \$0.50 to \$0.62 billion more than the SR 152 (South) to Road 18 and SR 152 (North) to Road 18 alternatives. This difference in cost does not appear to make these alternatives impracticable since these two Road 18 alternatives are \$0.89 to \$1.00 billion more than the Avenue 21 to Road 13 alternative, all of which are proposed to be carried forward.

Response #6: In addition to the higher capital costs, the wye alternatives along SR 99 would impact a greater amount of aquatic resources than all four wye alternatives recommended to be carried forward for further analysis. In addition, the City of Chowchilla and other stakeholders strongly opposed these alternatives (refer to Response #1 above for more information). Based primarily on these factors, both SR 99 alternatives were recommended to be withdrawn from further analysis. However, it is also noteworthy that the construction of these alternatives would result in a significantly higher commitment of public funding. As described in Section 3.2.2 of the Supplemental Checkpoint B Summary Report, because these wye alternatives do not have any other demonstrable and significant environmental benefit (including impacts on aquatic resources) compared to the other wye alternatives under consideration, they are not "financially viable" relative to the other feasible wye alternatives.

Comment #7: All alternatives proposed for elimination were identified as resulting in potentially greater impacts on aquatic resources than those proposed to be carried forward. The use of "landscape-level GIS data", as described in Section 3.1 (pg 48), "likely results in conservative estimates" that "are expected to be proportional to the more detailed analysis that will be provided in the Draft SEIR/SEIS". Data presented in Table 3-1 (pg 53) show that the five alternatives proposed for elimination along Road 19 and SR 99 would result in similar impacts on aquatic resources as the alternatives proposed to be carried forward. Four of these alternatives would result in only 1.5 to 4 acres more impacts than the SR (North) to Road 18 alternative, or an increase of 1.2% to 3.5%. Among the alternatives proposed to be carried forward there is a difference of 2.5 acres from the highest impacting alternative to the next highest impacting alternative, a difference of 2.1%. Due to the landscape-level GIS data being used in this analysis, the same logic can be used to anticipate that the difference in the number of acres of impacts

may decrease and these alternatives will result in very similar impacts on aquatic resources as the alternatives proposed to be carried forward.

Response #7: The Authority has recommended a reasonable range of alternatives to be carried forward, including the three wye alternatives which are shown to have the least amount of impacts on aquatic resources, based on the analysis of landscape-level GIS information that is available at this stage in the design process. It is reasonable to assume that the more refined analysis in the Draft SEIR/SEIS would be proportional to the impacts identified in the Checkpoint B analysis and that one of the four wye alternatives carried forward is likely to contain the LEDPA. Please see Section 6.2 for additional discussion of the reasons for carrying forward or withdrawing each wye alternative.

Comment #8: Based on the above comments, the Corps recommends additional analysis of the following alternatives:

- SR 152 (North) to Road 19;
- SR 152 (South) to Avenue 21 to SR 99;
- SR 152 (South) to Avenue 21 to Road 19;
- Avenue 21 to SR 99; and
- Avenue 21 to Road 19.

Response #8: Please see responses to comments #1-7, Section 6.2 and Attachment C in this Addendum for information detailing the reasons for withdrawing wye alternatives along Road 19 and SR 99.

4.3 San Jose to Merced Section and Merced to Fresno Section: Wye Alternatives Response to EPA Comments (10/24/2013)

Comment #1: Will any of the proposed wye eliminations result in elimination of proposed Heavy Maintenance Facility locations? If so, please discuss which HMF locations will be eliminated in relation to associated wye alignments.

Response #1: None of the proposed wye alternative eliminations would result in elimination of the proposed Heavy Maintenance Facility (HMF) locations. The four wye alternatives recommended to be carried forward would be compatible with each of the three current possible locations in the vicinity of the wye identified as the Kojima, Fagundes, and Gordon Shaw HMF sites.

Comment #2: How do community impacts vary among alternatives? Please provide a qualitative comparison of Environmental Justice and community cohesion impacts for each alternative between San Jose and Merced. Specifically, please address physical division of communities, impacts on key community facilities, and impacts on low income and minority residents. We are particularly concerned with impacts on Fairmead and Chowchilla, which were not included in Checkpoint B packages.

Response #2: Section 3.0, Community Character and Cohesion/Environmental Justice, and Appendices A and B6 in this Addendum provide an assessment of community impacts for the San Jose to Merced Section and Merced to Fresno Section: Wye Alternatives.

5.0 Summary of Agency and Public Input for the Merced to Fresno Section: Wye Alternatives

This section provides an updated summary of agency and public input regarding the Merced to Fresno Section: Wye Alternatives.

As described in the Supplemental Checkpoint B Summary Report, stakeholder input has been solicited regarding the wye alternatives throughout the environmental review process for the Merced to Fresno Section: Wye Alternatives. A variety of stakeholders, including landowners, farm owners, residents, organizations, public agencies and elected officials, have expressed opinions on the selection of a wye alternative. The Supplemental Checkpoint B Summary Report summarized this input according to several key themes (see Section 2.3 of the Supplemental Checkpoint B Summary Report).

Stakeholder input is a critical component of the Authority's process in identifying the reasonable range of alternatives for further evaluation in the CEQA/NEPA environmental process, and the Authority has been closely coordinating with a variety of individuals, local governments, and organizations throughout the project area to obtain input on which wye alternatives are preferred by local agency and public stakeholders. Soliciting stakeholder input is a complicated process, further compounded by the complex nature of the wye alternatives around the City of Chowchilla and surrounding communities. Each of the wye alternatives consists of an east-west (San Jose to Merced leg) and north-south (Merced to Fresno leg) component; for example, the SR 152 (North) to Road 13 Wye Alternative is made up of an east-west alignment following SR 152 to the north, and a north-south alignment along Road 13.

During stakeholder meetings, stakeholders typically provide a comment in favor of or opposition to one or more alignments; however, with intermittent exceptions this preference is not typically ascribed to one east-west or north-south component of that alternative, making it challenging to extrapolate that input to other alternatives with similar characteristics. For example, in the case of the SR 152 (North) to Road 13 Wye Alternative, commenters typically do not state if their preference is specifically related to impacts that would result from the portion of the alignment along SR 152, or that portion along Road 13.

To address this issue, stakeholder input has been summarized according to each of five main corridors that comprise the wye alternatives: the SR 152 Corridor, North of SR 152 Corridor, South of SR 152 Corridor, West of Chowchilla Corridor, and East of Chowchilla Corridor. There is some overlap between the corridors, with most of the wye alternatives falling into multiple corridors.

Appendix C: *Agency, Stakeholder, and Public Outreach Meetings to Address Issues in Wye Alternatives Study Area* from the Supplemental Checkpoint B Summary Report has been modified to reflect this new organization and is attached to this Addendum.

5.1 SR 152 Corridor

The SR 152 Corridor consists of wye alternatives along SR 152, which are: SR 152 (North) to Road 11 Wye, SR 152 (North) to Road 13 Wye, SR 152 (North) to Road 18 Refined Wye, SR 152 (North) to Road 19 Wye, SR 152 (South) to Road 18 Refined Wye, SR 152 (South) to Avenue 21 to SR 99 Wye, and SR 152 (South) to Avenue 21 to Road 19 Wye.

A wye alternative along SR 152 is generally preferred by most stakeholders over Avenue 24 or Avenue 21. Certain communities prefer the SR 152 wye alternatives because they follow an existing transportation corridor. The City of Chowchilla has stated in various public outreach settings that it will not oppose an SR 152 alignment, and believes that revision of the SR 152 Freeway Agreement by the

County of Merced and Caltrans would be key to obtaining widespread acceptance by various stakeholders for a wye alternative along SR 152.

Most of the stakeholder input received on the SR 152 Corridor alternatives was related to the SR 152 to Road 18 Wye Alternatives.

To-date, stakeholder input is mixed on these alternatives (both to the north and south of SR 152). Opposition to this wye alternative was based on the potential for direct property impacts on residential and business properties; potential impacts on the Greenhills Estates residents, including noise and visual impacts; and potential impacts on traffic circulation. Supporters suggest that this wye alternative would be a safer route to and through Madera relative to other wye alternatives, with fewer impacts on the community and home-to-school routes, and safer over-/undercrossings. Other supporters suggest that a SR 152 (North) to Road 18 wye alternative would have the fewest impacts on farms and businesses. The local organization Preserve Our Heritage supports the SR 152 to Road 18 wye alternatives (to the north and south of SR 152). Senator Anthony Cannella of Merced and Madera Counties also wrote a letter to the Authority on December 10, 2013 that identified the SR 152 (North) to Road 18 wye alternatives and SR 152 (South) to Road 18 wye alternative as his district's preferred wye alternatives (see Appendix D of this Addendum).

As described in more detail in Section 2.0, the SR 152 to Road 18 wye alternatives have been refined to address stakeholder input and are included in this Addendum as SR 152 (North) to Road 18 Refined Wye and SR 152 (South) to Road 18 Refined Wye, respectively.

5.2 North of SR 152 Corridor

The North of SR 152 Corridor consists of wye alternatives to the north of SR 152, which are: Avenue 24 to Road 11 Wye, Avenue 24 to East of Road 12 Wye, and Avenue 24 to Road 13 Wye.

Numerous commenters expressed concerns and/or opposition to the Avenue 24 wye alternatives. The farming community expressed strong concerns about the wye alternatives along Avenue 24 that included loss of usable farmland and the impact on farm operations and irrigation infrastructure, especially wells. AJF Dairy expressed concern about impacts on their property along Avenue 24. Madera and Merced County property owners are opposed to the Avenue 24 wye alternatives because they do not follow existing transportation corridors. The City of Chowchilla is strongly opposed to any Avenue 24 alignment based on its impacts to agricultural land and local communities. Some residents of Los Banos, however, expressed support for the Avenue 24 wye alternatives.

5.3 South of SR 152 Corridor

This South of SR 152 Corridor consists of wye alternatives to the south of SR 152, which are: Avenue 22 Wye, Avenue 21 to Road 11 Wye, Avenue 21 to Road 13 Wye, Avenue 21 to SR 99 Wye, and Avenue 21 to Road 19 Wye. All of the stakeholder input was received on the Avenue 21 Wye Alternatives, and is summarized below.

Commenters expressed mixed support for the Avenue 21 wye alternatives. The City of Chowchilla suggests that the Avenue 21 wye alternatives provide the best wye options. The Chowchilla Elementary School District supports the Avenue 21 to Road 13 Wye Alternative as it would result in the least impacts on their facilities. The Chowchilla Seventh Day Adventist Church and the Alview-Dairyland Union School District specifically opposed all the Avenue 21 wye alternatives. Preserve Our Heritage is specifically opposed to the Avenue 21 to Road 13 Wye Alternative, as documented by multiple written comments

submitted by Kole Upton & Family and other members at Wye Public Information Meetings held in Fairmead and Chowchilla on 3/20/13 and 3/27/13.

5.4 West of Chowchilla Corridor

The West of Chowchilla Corridor consists of wye alternatives to the west of Chowchilla, which are: Avenue 24 to Road 11 Wye, Avenue 24 to East of Road 12 Wye, Avenue 24 to Road 13 Wye, SR 152 (North) to Road 11 Wye, SR 152 (North) to Road 13 Wye, Avenue 21 to Road 11 Wye, and Avenue 21 to Road 13 Wye.

Numerous commenters opposed any alignments west of Chowchilla, instead indicating a preference for a wye connection south and/or east of Chowchilla and arguing that alignments to the east of Chowchilla would eliminate track through the City, and the alternative would no longer surround Chowchilla on all sides. Amongst the alternatives west of Chowchilla, rural interests generally favor a Road 11 or Road 13 alignment over the East of Road 12 alignment particularly due to potential road closures, noting that road closures would limit the movement of agricultural goods and reduce access to impacted areas. Other commenters expressed a preference for the Avenue 21 to Road 13 Wye Alternative noting that it would have fewer potential impacts on Fairmead school(s), residents, and traffic circulation. Commenters opposed to the Avenue 21 to Road 13 Wye Alternative expressed concerns due to potential impacts on farmland, schools, homes and the water district. Commenters also expressed concern about loss of usable farmland and impacts on farm operations and irrigation infrastructure from parcel severance resulting from Avenue 24 options. Other commenters believe that an alignment running between Roads 12 and 13 may be acceptable if it was moved closer to the Road 12 alignment and tied into SR 152.

The local organization Preserve Our Heritage opposes the Avenue 21 to Road 13 Wye. The Greenhills Master Association supports the Road 13 wye alternatives. The Chowchilla Elementary School District supports the Avenue 21 to Road 13 Wye Alternative as it would be result in the least impacts on their facilities.

5.5 East of Chowchilla Corridor

The East of Chowchilla Corridor consists of wye alternatives to the east of Chowchilla, which are: SR 140 Wye, SR 152 (North) to Road 18 Refined Wye, SR 152 (North) to Road 19 Wye, SR 152 (South) to Road 18 Refined Wye, SR 152 (South) to Avenue 21 to SR 99 Wye, SR 152 (South) to Avenue 21 to Road 19 Wye, Avenue 22 Wye, Avenue 21 to SR 99 Wye, and Avenue 21 to Road 19 Wye.

While numerous commenters indicated a preference for a wye connection to the east of Chowchilla, there is mixed support for the Road 18 wye alternatives. Commenters noted that alternatives on the east side of Chowchilla would eliminate track through Chowchilla, and would no longer surround Chowchilla on all sides.

Road 18 Wye Alternatives. Opposition to the SR 152 to Road 18 wye alternatives is due to the potential for direct property impacts on residential and business properties, potential impacts on the Greenhills Estates residents, and traffic circulation. Supporters suggest that these wye alternatives would provide a safer route to and through Madera than the other wye alternatives, with fewer impacts on the community and home-to-school routes, and safer over-/undercrossings. Other supporters suggest that the SR 152 (North) to Road 18 Refined Wye Alternative would have the fewest impacts on farms and businesses. Preserve Our Heritage supports the SR 152 to Road 18 wye alternatives. The Greenhills Master Association opposes the Road 18 wye alternatives.

Road 19 Wye Alternatives. The City of Chowchilla favors a Road 19 alignment over Road 18 that would tie into Avenue 21 to ensure that the alignments are as far away from housing as possible.

SR 99 Wye Alternatives. The City of Chowchilla is has indicated its opposition to wye alternatives along UPRR (SR 99) through the City.

6.0 Summary of Conclusions

The primary reasons for carrying forward or withdrawing each alignment alternative, station location option, MOE/MOI Facility Alternative, and wye alternative are unique to each subsection and are described below. Complete summaries of reasons for recommending withdrawal or carrying forward each alignment alternative, station location option, MOE/MOI Facility Alternative, and wye alternative are provided in the corresponding Appendix B1 through B6 tables attached to this Addendum.

In considering the appropriate range of reasonable and potentially practicable alternatives to be carried forward for further analysis the Authority must determine the best options within a given geographic subsection. Many of the alternatives may have a relatively small difference in a particular impact category. However, if an alternative does not provide any particular environmental, community, or constructability benefit, or would not provide options in a different geographical area when compared to alternatives with lower impacts, then it may still be withdrawn in favor of the alternative with the lowest impacts. In contrast, where an alternative or alternatives represent an environmental benefit or alternate geographic function, such as serving a different station location, it may be carried forward despite a relatively larger impact to a particular resource. These considerations are unique to the conditions of each subsection and discussed below as appropriate.

6.1 San Jose to Merced Section

6.1.1 San Jose Station Approach Subsection

No above-ground aquatic resources would be impacted by alignment alternatives and station location options within the San Jose Station Approach Subsection. Therefore, the key factors in the evaluation of alignment alternatives and station location options in this subsection are constructability, impacts to the surrounding communities, and public and stakeholder input.

The SR 87/I-280 Alignment Alternative is carried forward for further analysis because it minimizes impacts on local communities and environmental resources by staying predominately within existing transportation corridor rights-of-way. Accordingly, the San Jose Diridon Station is carried forward as it would serve this potential alignment alternative with minimal impacts to the environment.

Of the eight alignment alternatives and four station location options analyzed within the San Jose Station Approach Subsection, four alignment alternatives and two station location options were withdrawn due to constructability issues: the Three Track Alignment Alternative, Deep Tunnel Alignment Alternative, Shallow Tunnel Alignment Alternative, Downtown Aerial Alignment Alternative, Deep Underground Station (East of Existing Diridon Station), and the Shallow Underground Station (East of Existing Diridon Station). The Deep Tunnel and Shallow Tunnel Alignment Alternatives were both eliminated due to safety concerns related to the geologic conditions where the construction of tunnels would be required; these safety/constructability concerns also led to their corresponding station location options being withdrawn from further analysis (Deep Underground Station [East of Existing Diridon Station] and the Shallow Underground Station [East of Existing Diridon Station]). Construction of the Three Track Alignment Alternative would result in unacceptable operating constraints for Caltrain, UPRR, and other passenger and freight rail systems using the Caltrain corridor (described in Section 3.2.3.1 of the San Jose to Merced Section Checkpoint B Summary Report); therefore, this alignment alternative was withdrawn from further analysis.

Within this subsection, the only alignment alternative that would potentially physically divide a community, as described in Section 3.2.1 of this Addendum, is the Downtown Aerial Alignment Alternative. These community impacts contributed to the decision to withdraw this alignment alternative

and its corresponding station location option, the Aerial Station (East of Existing Diridon Station), from further analysis.

Public opposition from nearby residents and local agencies due to potential noise, visual, vibration, traffic congestion and circulation, property value and construction impacts also contributed to the withdrawal of the Refined Program Alignment Alternative and the South of Caltrain Tracks Alignment Alternative from further analysis.

Please see Appendix B1 for a detailed comparison of the alignment alternatives and station location options within this subsection.

6.1.2 Monterey Highway Subsection

Two alignment alternatives were evaluated in the Monterey Highway Subsection; neither alignment alternative would impact aquatic resources. In addition, both alignment alternatives would have similar community impacts due to the close proximity of both alignments to each other; therefore, constructability is the key factor in the comparison of alignment alternatives within this subsection.

The Refined Program Alignment Alternative is carried forward for further analysis because it does not have the constructability issues (described in Section 3.2.3.2 of the San Jose to Merced Section Checkpoint B Summary Report) associated with the East of Caltrain/UPRR Alignment Alternative, including disruption to the Caltrain Tamien station, Caltrain and UPRR operations, and the SR 87 northbound onramp. In contrast, the East of Caltrain/UPRR Alignment Alternative is withdrawn as a result of these constructability issues.

Please see Appendix B2 for a detailed comparison of the alignment alternatives within this subsection.

6.1.3 Morgan Hill to Gilroy Subsection

For the Morgan Hill to Gilroy Subsection, the majority of considered alignment alternatives are being carried forward for further analysis. This broad range of alternatives is needed in this subsection in order to maintain a variety of geographic and locational options, including the use of the US 101 or UPRR corridors, a Downtown Gilroy or East Gilroy Station option and all of the MOE/MOI Facility Alternatives discussed in Section 6.1.4 below.

While impacts to aquatic resource impacts did not result in particular alignment alternatives and station locations being withdrawn, the alignment alternative with the least aquatic resource impacts within this subsection, the East of UPRR to East Gilroy Alignment Alternative, and a station location option with no impacts to aquatic resources, the East Gilroy Station: Four-Track station location option, are being carried forward for further analysis. The remaining alignment alternatives and station location options were evaluated on the basis of public and agency input and constructability.

Of the five station location options considered, the Morgan Hill Downtown Station (Four Track) and Morgan Hill US 101 at Cochrane Station (Four Track) were eliminated because the City of Morgan Hill, and the City of Gilroy determined that the Gilroy station location options better meet the project's purpose and need by providing better connectivity, travel times, closer access and lower costs to the communities of Santa Cruz, Monterey, Carmel, and Salinas to the south (as documented in the joint

resolution adopted by the City Councils of Morgan Hill and Gilroy on December 2, 2009, and December 7, 2009, respectively⁷).

Of the seven alignment alternatives within the Morgan Hill to Gilroy Subsection, only one alignment alternative was withdrawn. The Gilroy Station Loop Alignment Alternative was withdrawn from further analysis due to community and visual impacts as described above in Section 3.2.3.1 of this Addendum and Section 3.3.7.3 of the San Jose to Merced Section Checkpoint B Summary Report. Further, this alignment alternative would have a capital cost of more than \$4.8 billion, the highest of all alignment alternatives in the Morgan Hill to Gilroy Subsection. As a result of eliminating the Gilroy Station Loop Alignment Alternative, the Downtown Gilroy Station (Two Track) Station location option was also withdrawn as this station location option would only service the Gilroy Station Loop Alignment Alternative.

Please see Appendix B3 for a detailed comparison of the alignment alternatives and station location options within this subsection.

6.1.4 MOE/MOI Facility Alternatives

All MOE/MOI Facility Alternatives are being carried forward for further analysis because they are needed to serve at least one of the alignment alternatives that are being carried forward in the Morgan Hill to Gilroy Subsection

Please see Appendix B4 for a detailed comparison of the MOE/MOI facility alternatives.

6.1.5 Pacheco Pass Subsection

Both alignment alternatives within the Pacheco Pass Subsection are being carried forward for further analysis because they have trade-offs in terms of environmental impacts, including impacts to aquatic resources, and issues with constructability, cost and logistics. For instance, while the Close Proximity to SR 152 Alignment Alternative would impact more aquatic resources than the Refined Program Alignment, it would require a shorter tunnel, reduced length of tunnel portal access roads, and reduced land disturbance because the proximity to SR 152 would facilitate construction staging (described in Section 4.3.4 of the San Jose to Merced Section of the Checkpoint B Summary Report). Community impacts are comparable between the two alignment alternatives within this subsection.

Please see Appendix B5 for a detailed comparison of the alignment alternatives within this subsection.

6.2 Merced to Fresno Section: Wye Alternatives

As described in Sections 5.4 and 5.5 above, the Authority has received comments expressing preferences for wye alternatives that utilize a corridor either to the east or to the west of the City of Chowchilla. As described in Sections 5.1, 5.2 and 5.3, comments also expressed preferences for the alignment of the San Jose leg of the wye in relation to a corridor to either the north or to the south of SR 152. In consideration of these comments, the Authority believes it is appropriate to carry forward wye alternatives within each of these corridors for further analysis. Consequently, in analyzing the range of reasonable and practical wye alternatives, the Authority focused on the best options that would reflect each of the four corridor combinations options: to the east or west of Chowchilla and to the north or south of SR 152.

⁷ [http://www.cityofgilroy.org/cityofgilroy_files/city_hall/community_development/high_speed_rail/CC_-_Gilroy_and_Morgan_Hill_Joint_HSR_Resolution_-_staff_report_\(12-7-09\).PDF](http://www.cityofgilroy.org/cityofgilroy_files/city_hall/community_development/high_speed_rail/CC_-_Gilroy_and_Morgan_Hill_Joint_HSR_Resolution_-_staff_report_(12-7-09).PDF)

Of the 17 wye alternatives considered, three were eliminated due to significantly higher aquatic resource impacts than the remaining alternatives. These alternatives, SR 140 Wye, Avenue 22 Wye, and South of GEA Wye, would result in 40 acres or more of additional aquatic resource impacts than any of the other wye alternatives.

Analysis of the remaining 14 wye alternatives consisted of separating them into the following geographical groups: east of Chowchilla, west of Chowchilla, north of SR 152, and south of SR 152. Each group of wye alternatives was then compared to identify the appropriate range of wye alternatives to carry forward. Consistent with the 404(b)(1) portion of the Checkpoint B analysis, impacts to aquatic resources are a primary consideration. Table 6.2-1 provides a comparison of the overall aquatic resource impacts amongst the four groups of wye alternatives.

Table 6.2-1
Merced to Fresno Section: Wye Alternatives
 Summary of Aquatic Resource Impacts (Acres)

Wye Alternative		Road 11 Wye	East of Road 12 Wye	Road 13 Wye	Road 18 Refined Wye	Road 19 Wye	SR 99 Wye
		West of Chowchilla			East of Chowchilla		
Avenue 24	North of SR 152	127.2	138.5	132.9	N/A	N/A	N/A
SR 152 (North)		122.7	N/A	118.1 (C)	123.3 (C)	135.9	N/A
SR 152 (South)	South of SR 152	N/A	N/A	N/A	116.9 (C)	N/A	N/A
SR 152 (South) to Avenue 21		N/A	N/A	N/A	N/A	123	124.8
Avenue 21		128.2	N/A	119 (C)	N/A	123.5	125.8

C = carried forward wye alternative

The wye alternatives with the lowest overall aquatic resources impact for each geographic group are: SR 152 (North) to Road 13 Wye [west of Chowchilla/north of SR 152]; SR 152 (North) to Road 18 Refined Wye [east of Chowchilla/north of SR 152]; SR 152 (South) to Road 18 Refined Wye [east of Chowchilla/south of SR 152]; and Avenue 21 to Road 13 Wye [west of Chowchilla/south of SR 152]. These wye alternatives are the four that are being carried forward for further analysis.

The remaining wye alternatives are withdrawn because each would result in higher aquatic impacts than the wye alternatives within the relevant geographic group. While the differences in aquatic impact between those alternatives carried forward and those withdrawn may be proportionally small given the landscape level GIS data used in the analysis, none of the withdrawn alternatives represents a substantial benefit, lower impacts, or alternative function within their geographic group that would overcome the primary consideration of aquatic impacts. Therefore, the four carried forward wye alternatives represent a reasonable and practicable range of wye alternatives while allowing for the evaluation of a wye alternative in each of the geographic groups.

Please see Appendix B6 for a detailed comparison of the wye alternatives.

ATTACHMENT 1
FIGURES

Attachment 1: Figures

- Figure 1.0-1 San Jose to Merced Section and Merced to Fresno Section: Wye Alternatives
- Figure 2.0-1 Road 18 Refined Wye Alternatives
- Figure 3.2-2 San Jose Station Approach Subsection Minority Population Distribution
- Figure 3.2-3 San Jose Station Approach Subsection Low-Income Population Distribution
- Figure 3.2-4 Monterey Highway Subsection Communities and Neighborhoods
- Figure 3.2-5 Monterey Highway Subsection Minority Population Distribution
- Figure 3.2-6 Monterey Highway Subsection Low-Income Population Distribution
- Figure 3.2-7 Morgan Hill to Gilroy Subsection Communities and Neighborhoods
- Figure 3.2-8 Morgan Hill to Gilroy Subsection Minority Population Distribution
- Figure 3.2-9 Morgan Hill to Gilroy Subsection Low-Income Population Distribution
- Figure 3.2-10 Pacheco Pass Subsection Communities and Neighborhoods
- Figure 3.2-11 Pacheco Pass Subsection Minority Population Distribution
- Figure 3.2-12 Pacheco Pass Subsection Low-Income Population Distribution
- Figure 3.3-1 Merced to Fresno Section: Wye Alternatives Communities and Neighborhoods
- Figure 3.3-2 Merced to Fresno Section: Wye Alternatives Minority Population Distribution
- Figure 3.3-3 Merced to Fresno Section: Wye Alternatives Low-Income Population Distribution
- Figure 4.1-1 Morgan Hill to Gilroy and Pacheco Pass Subsection Program and Project-Level Alignment Alternative Comparison

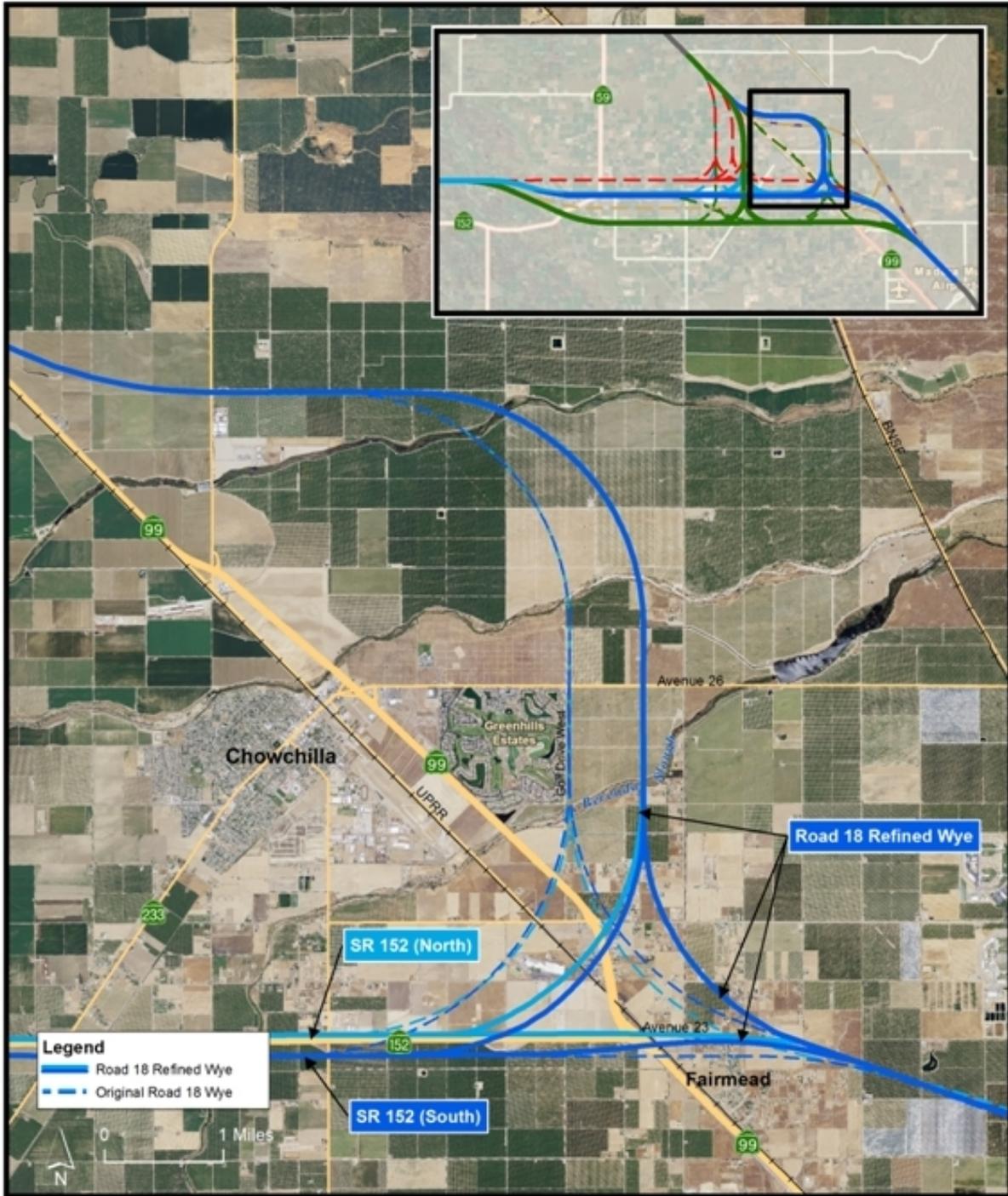


Figure 2.0-1
Road 18 Refined Wye Alternatives

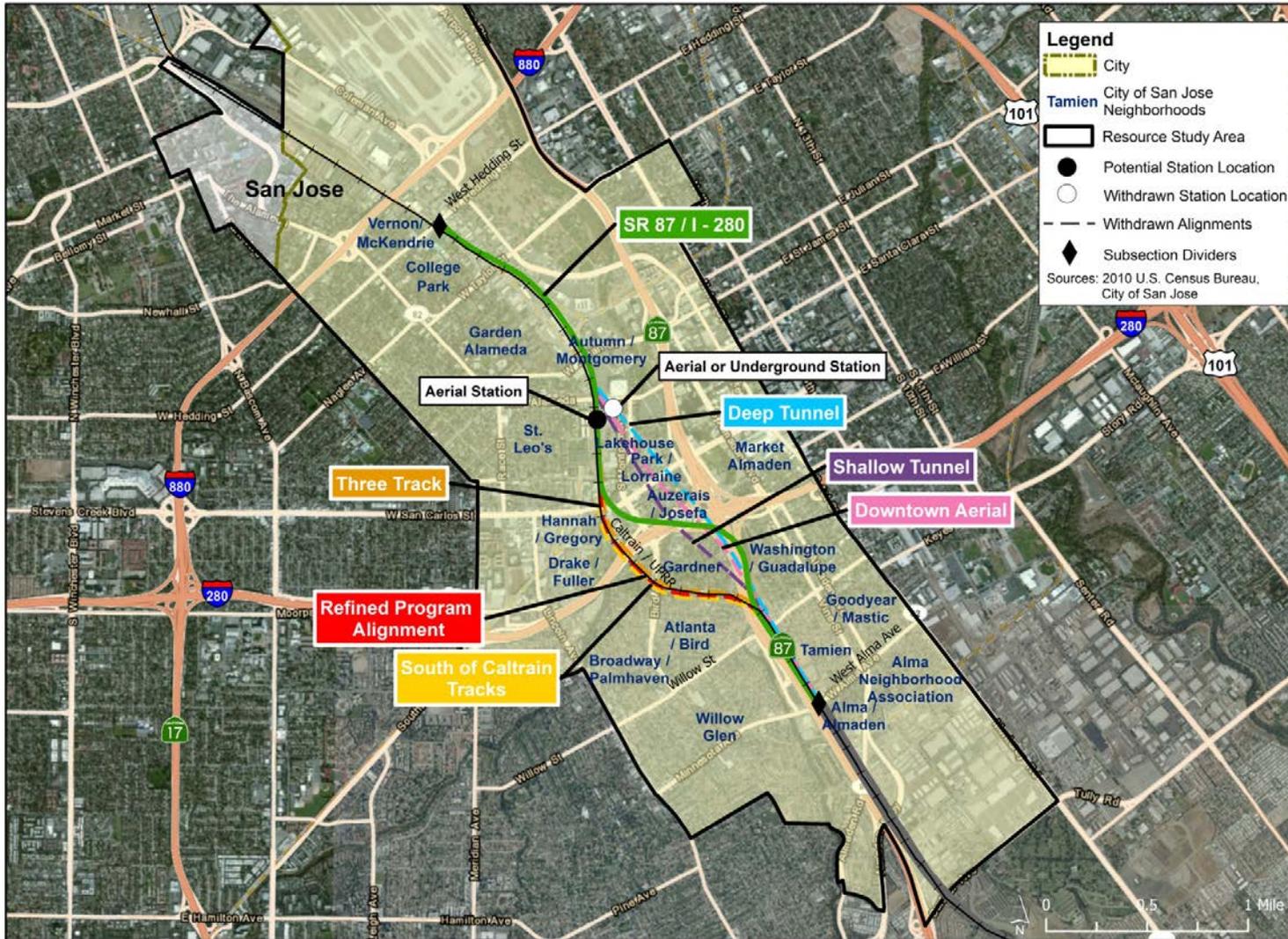


Figure 3.2-1
 San Jose Station Approach Subsection Communities and Neighborhoods

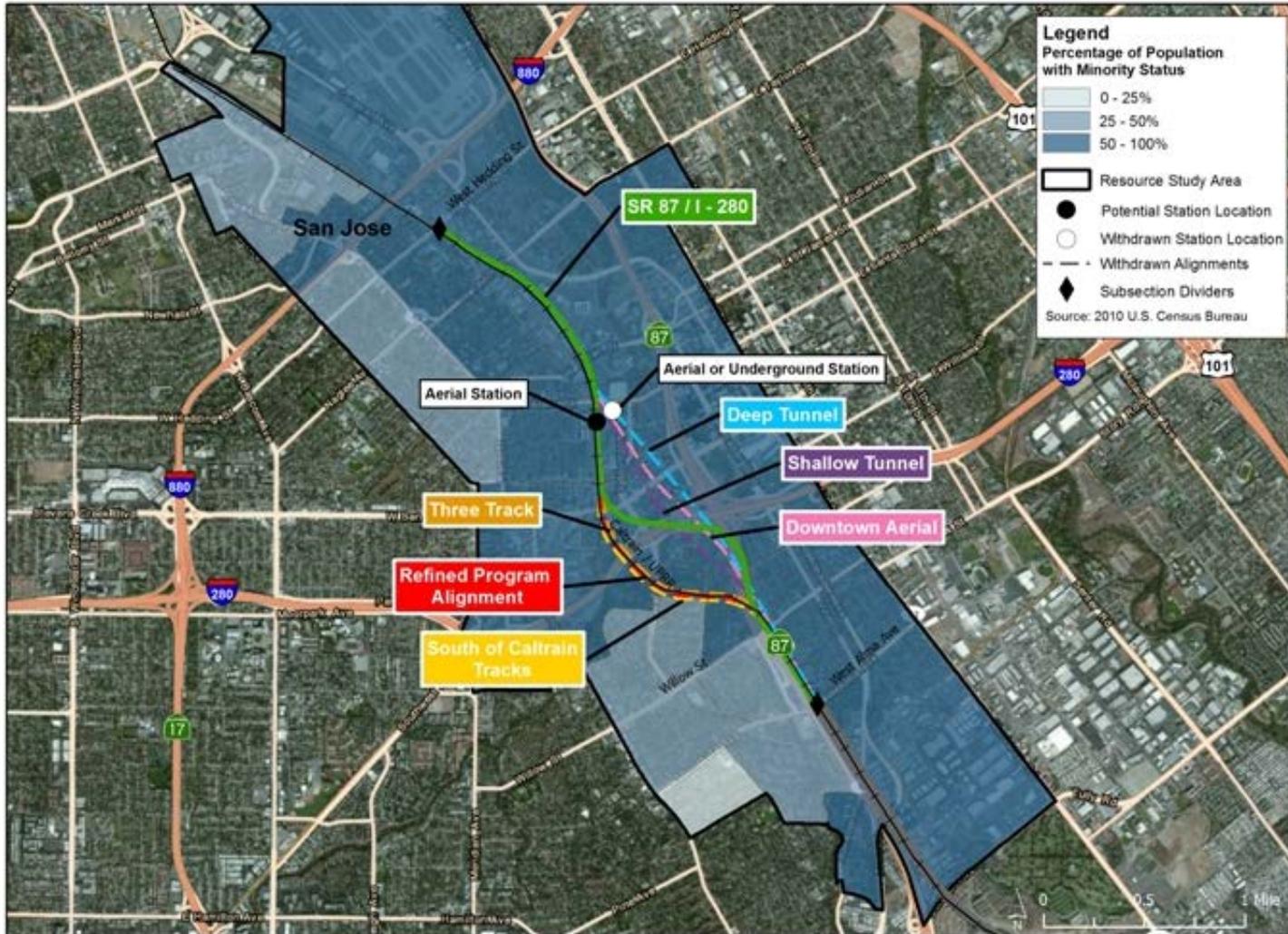


Figure 3.2-2
 San Jose Station Approach Subsection Minority Population Distribution

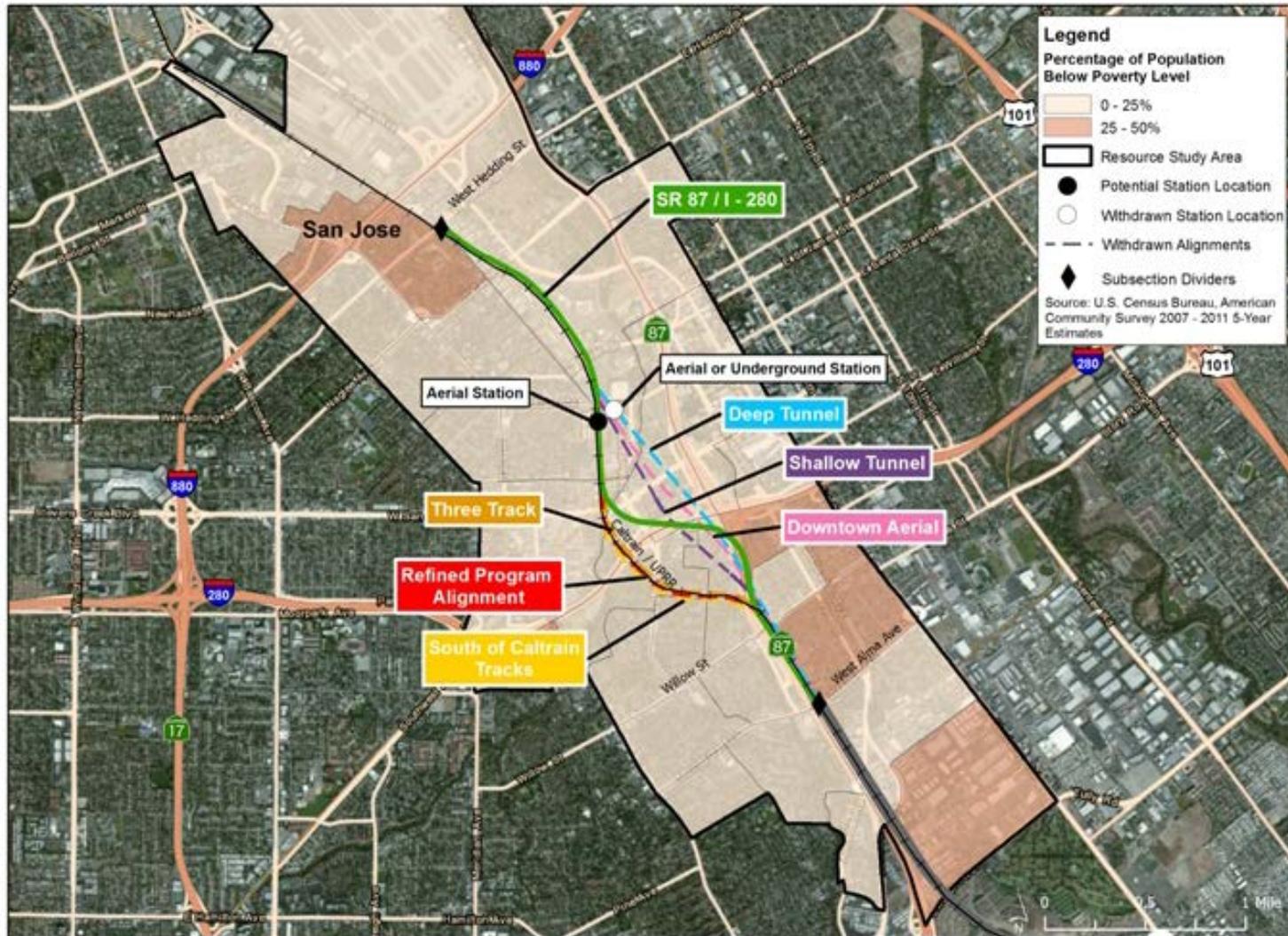


Figure 3.2-3
 San Jose Station Approach Subsection Low-Income Population Distribution



Figure 3.2-4
 Monterey Highway Subsection Communities and Neighborhoods

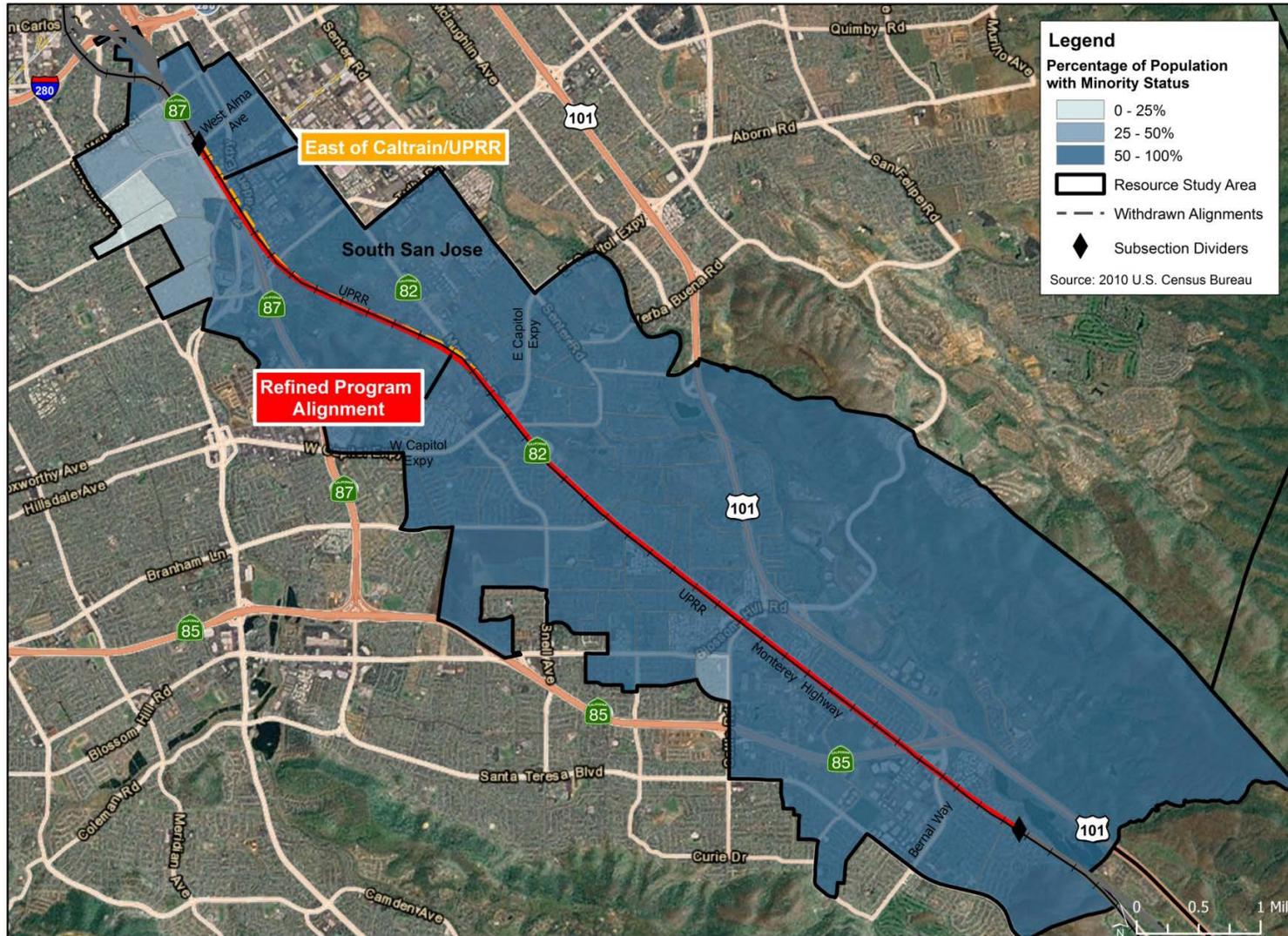


Figure 3.2-5
 Monterey Highway Subsection Minority Population Distribution

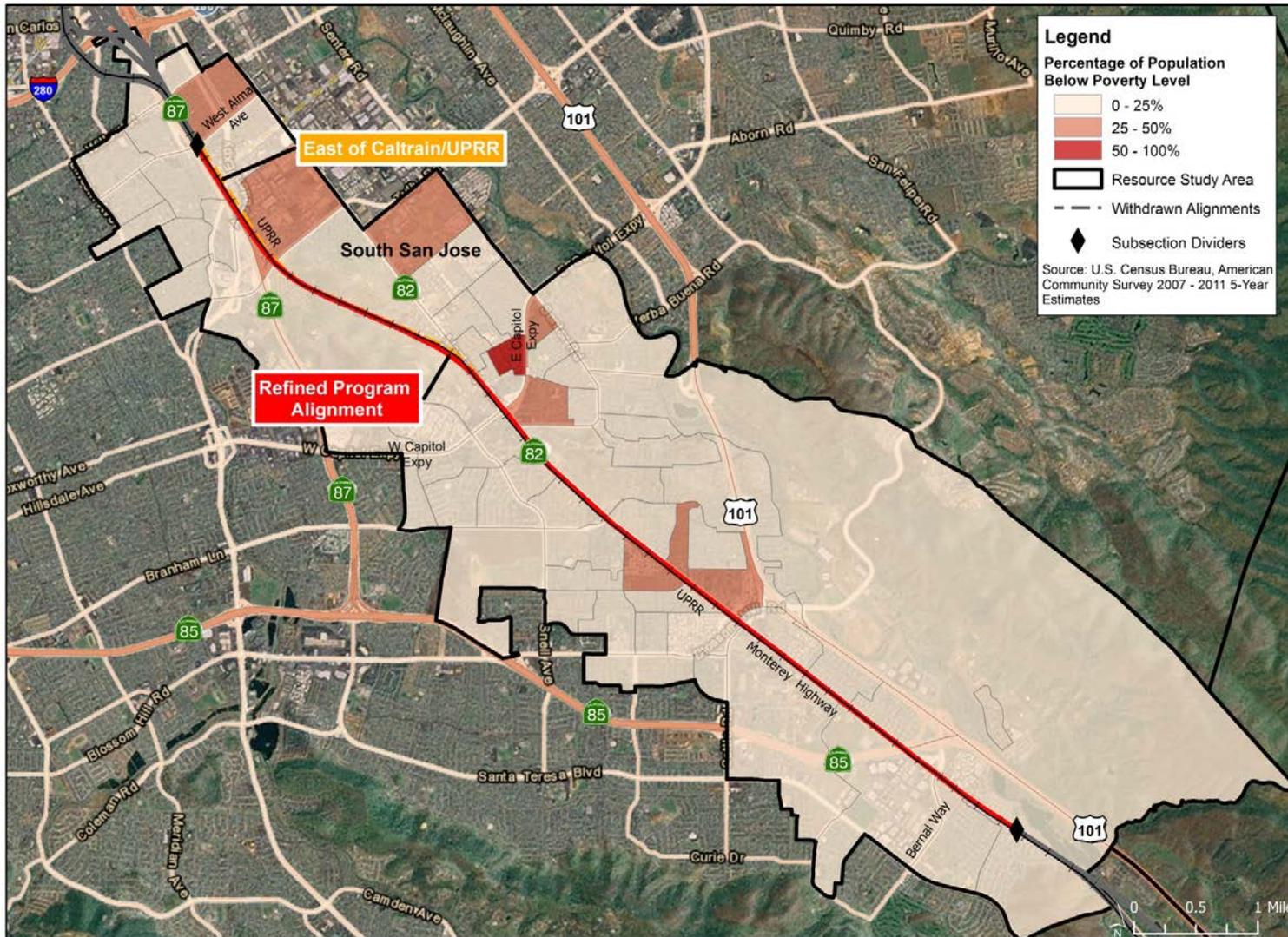


Figure 3.2-6
 Monterey Highway Subsection Low-Income Population Distribution

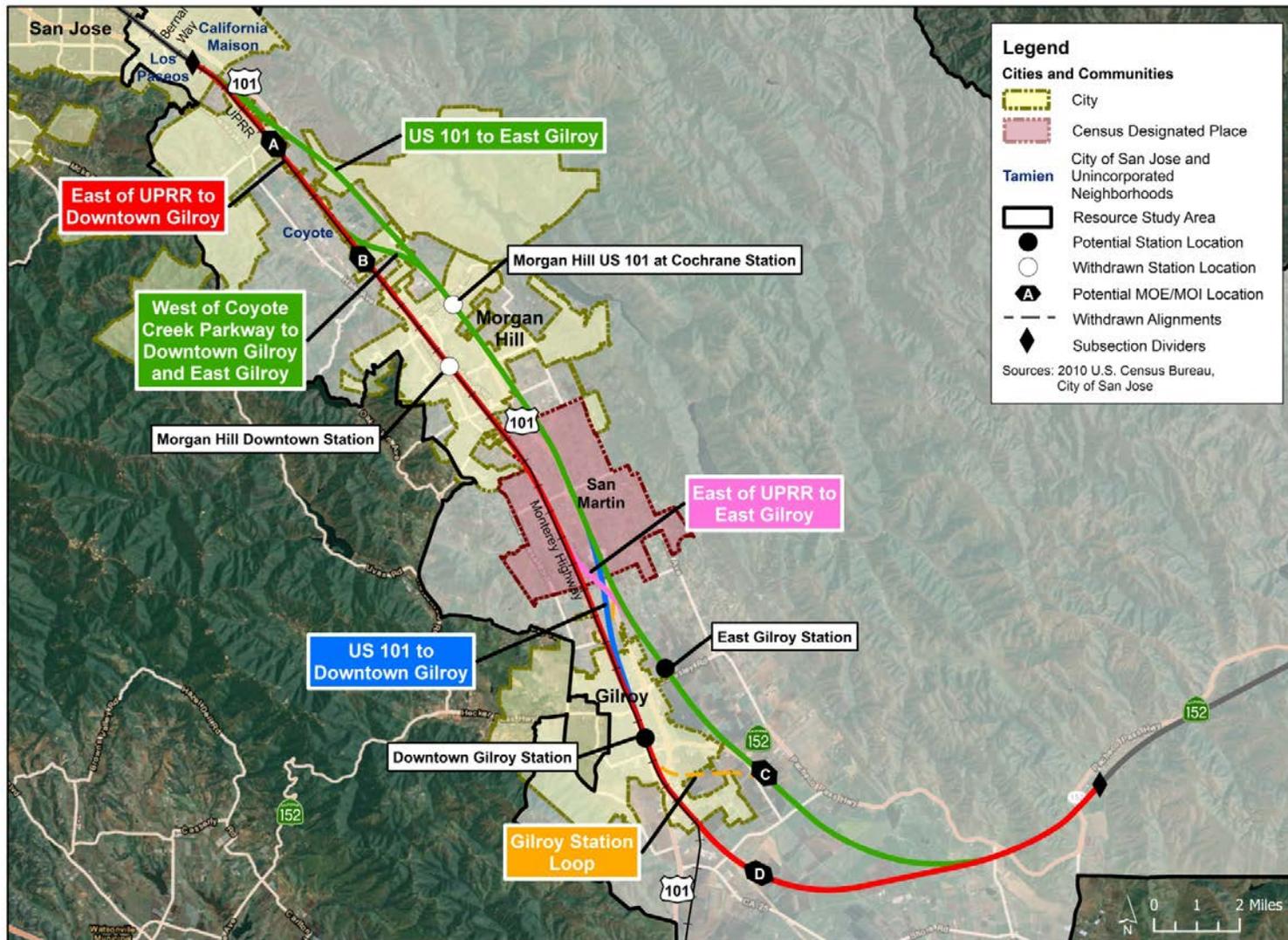


Figure 3.2-7
 Morgan Hill to Gilroy Subsection Communities and Neighborhoods

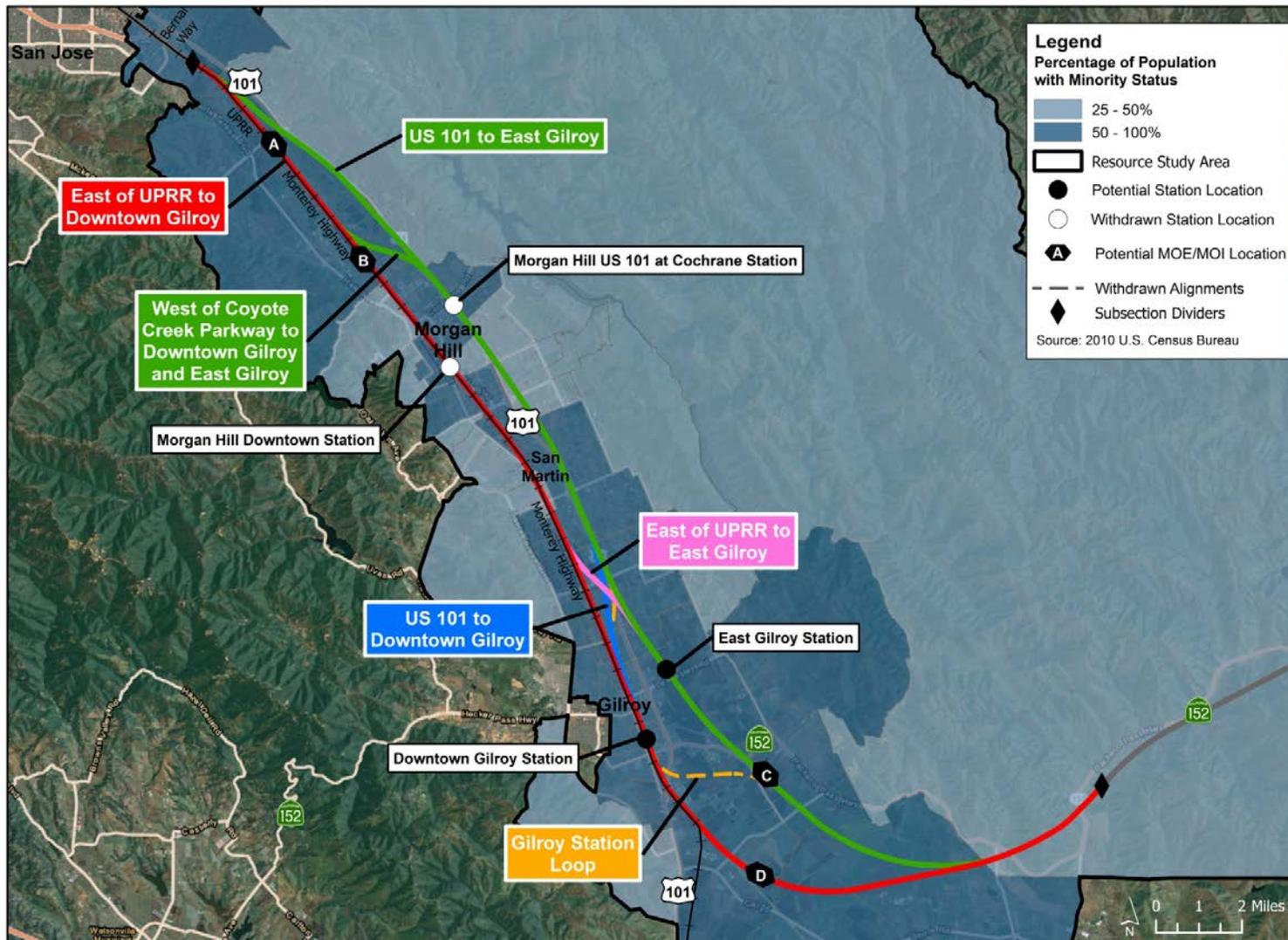


Figure 3.2-8
 Morgan Hill to Gilroy Subsection Minority Population Distribution

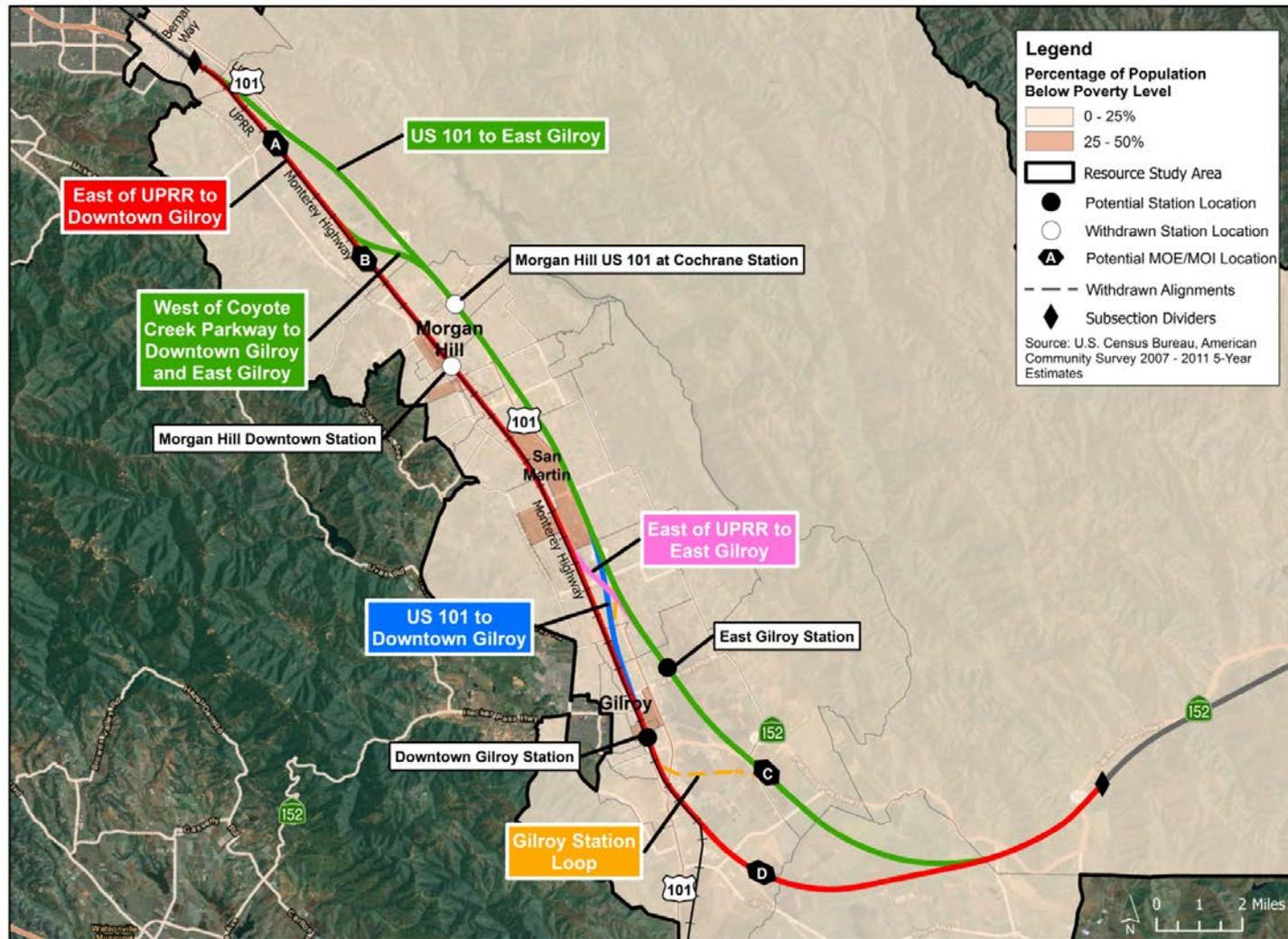


Figure 3.2-9
 Morgan Hill to Gilroy Subsection Low-Income Population Distribution

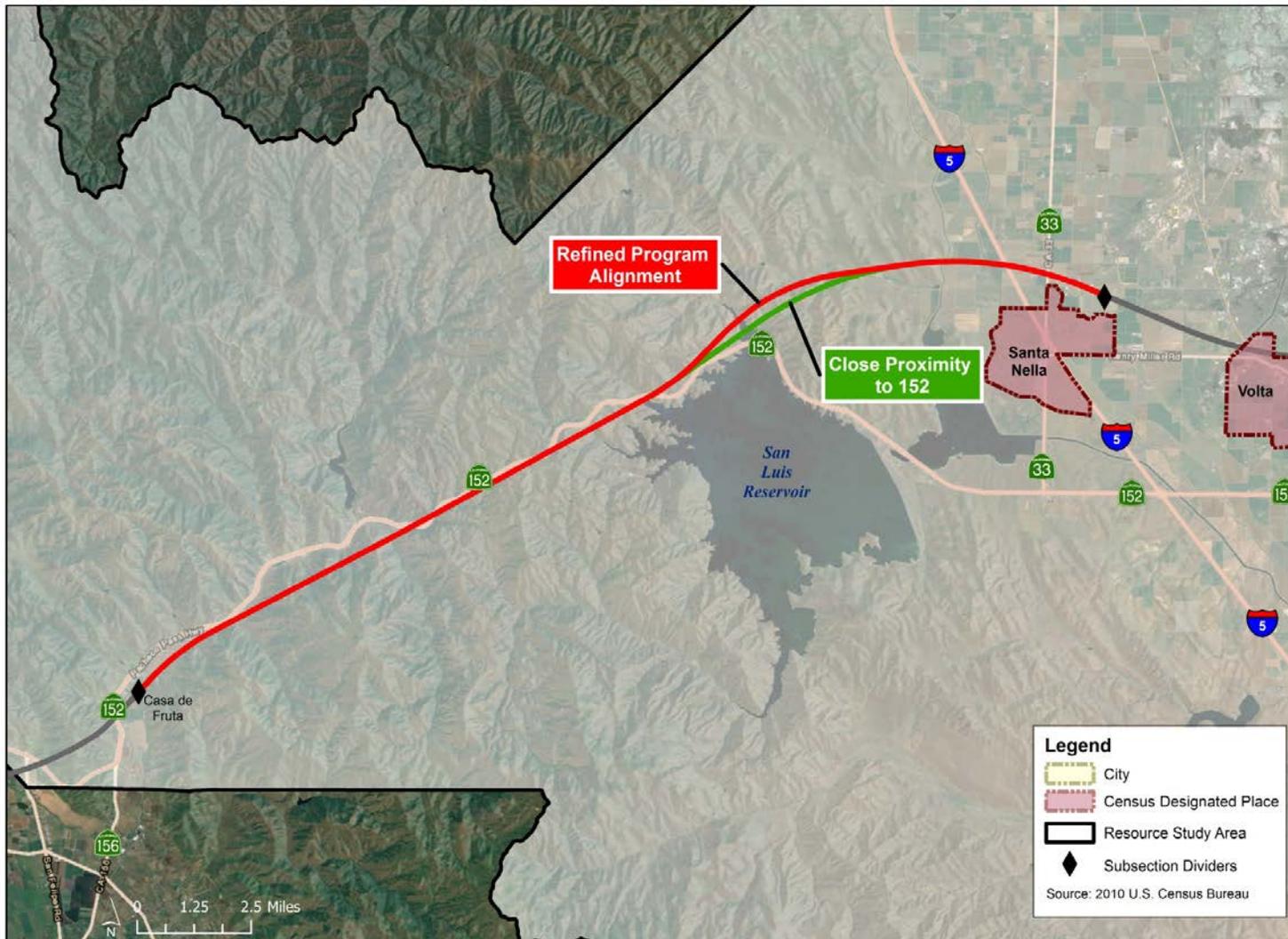


Figure 3.2-10
Pacheco Pass Subsection Communities and Neighborhoods

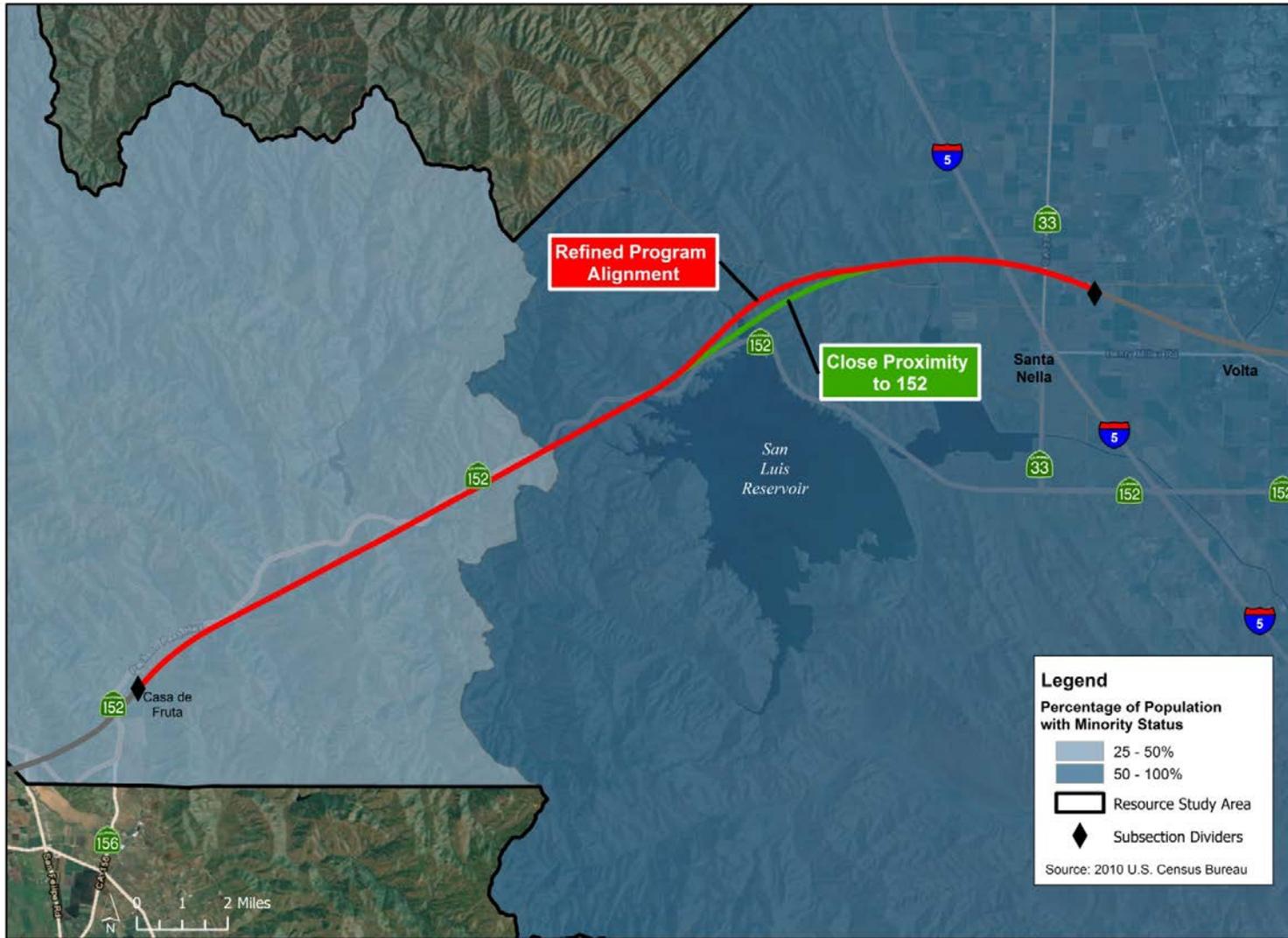


Figure 3.2-11
Pacheco Pass Subsection Minority Population Distribution

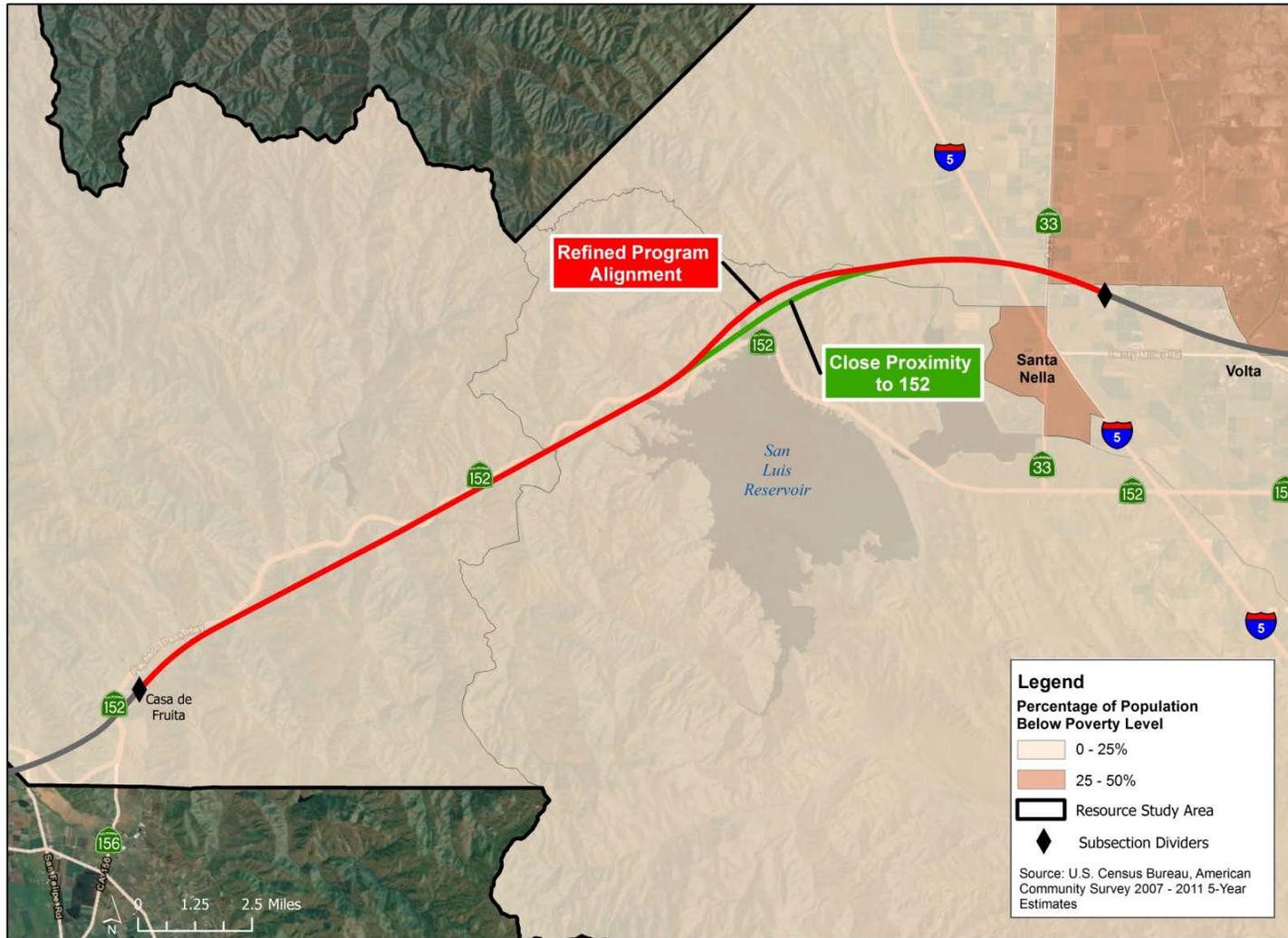


Figure 3.2-12
 Pacheco Pass Subsection Low-Income Population Distribution

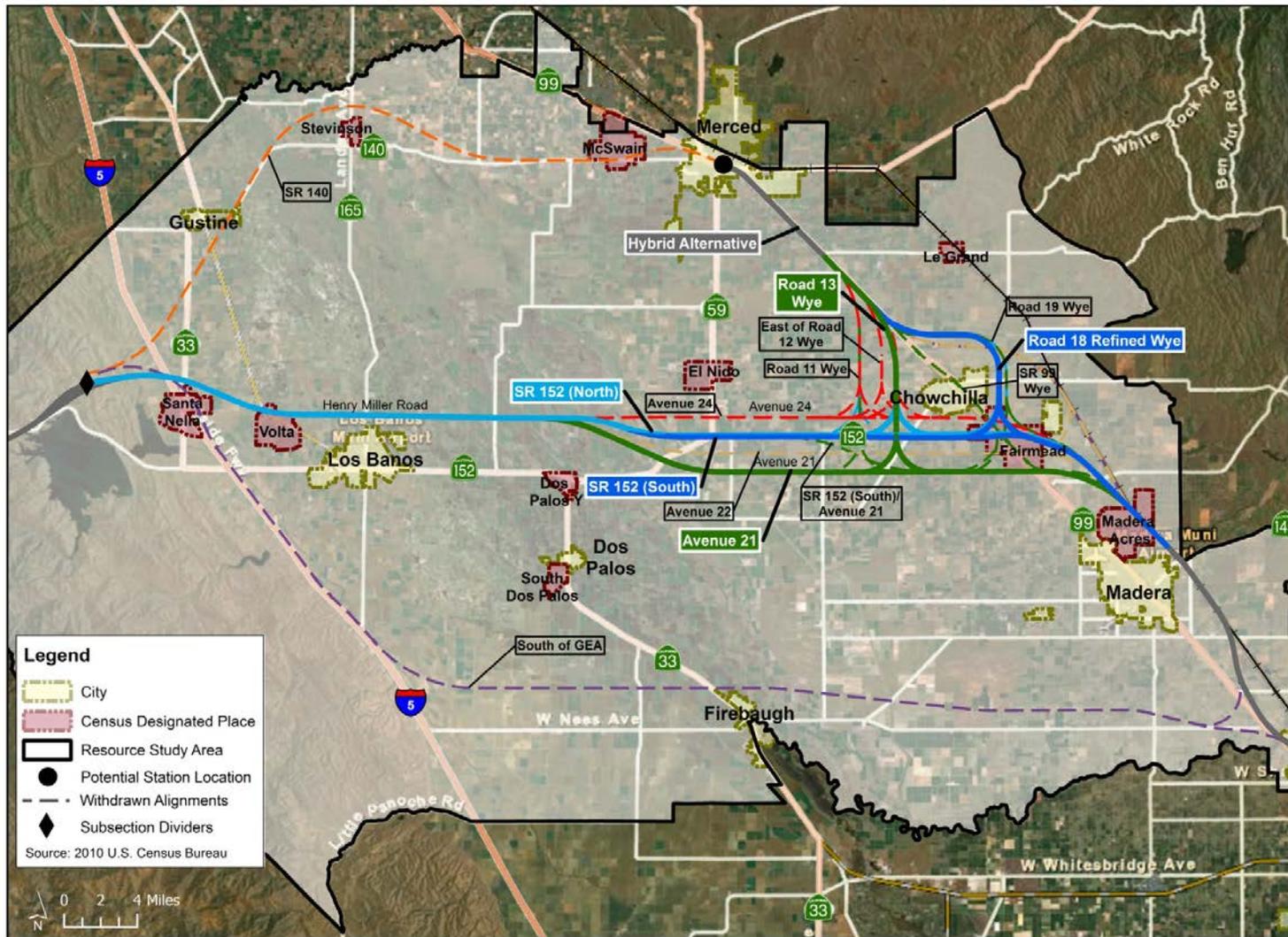


Figure 3.3-1
 Merced to Fresno Section: Wye Alternatives Communities and Neighborhoods

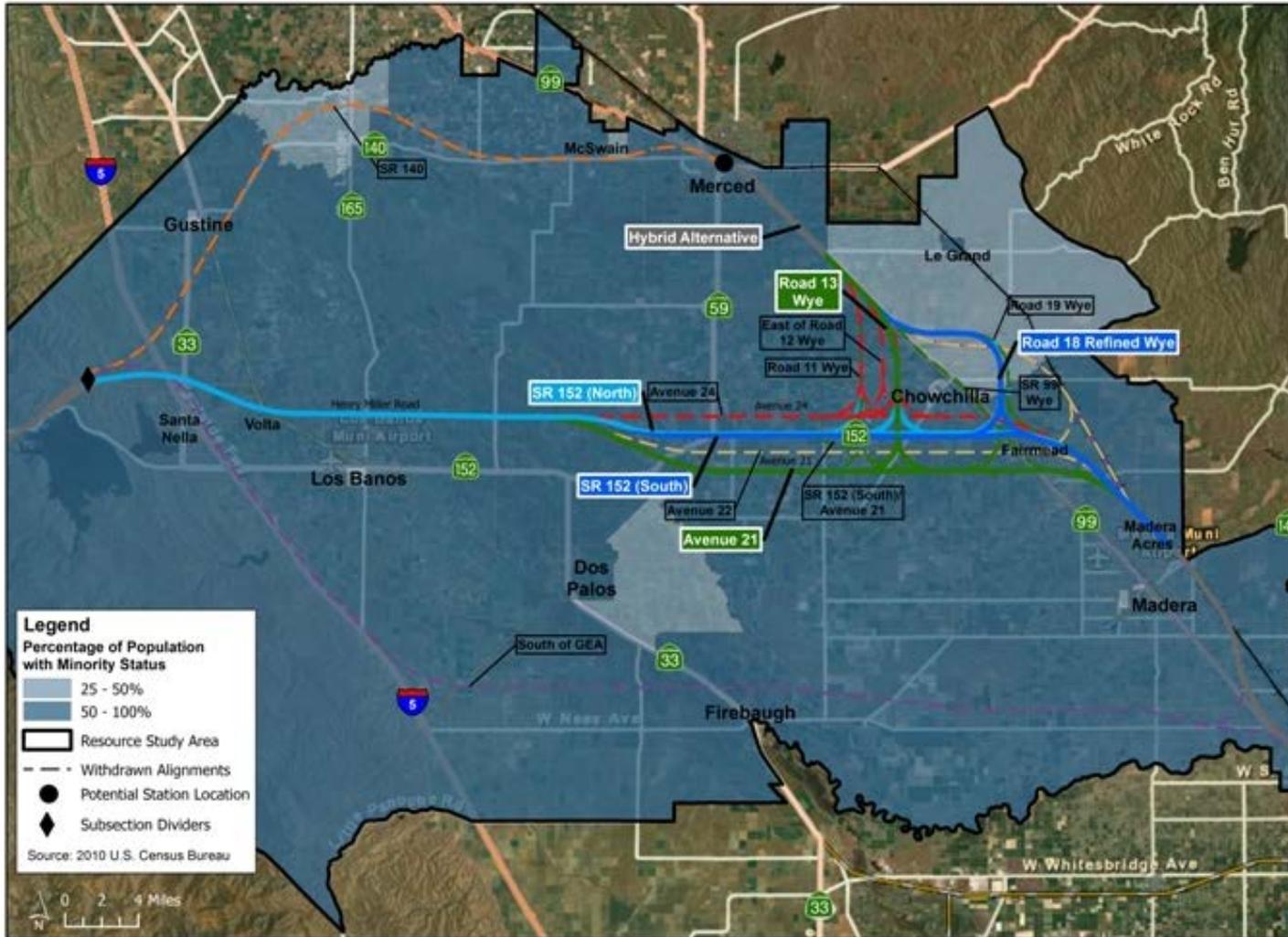


Figure 3.3-2
 Merced to Fresno Section: Wye Alternatives Minority Population Distribution

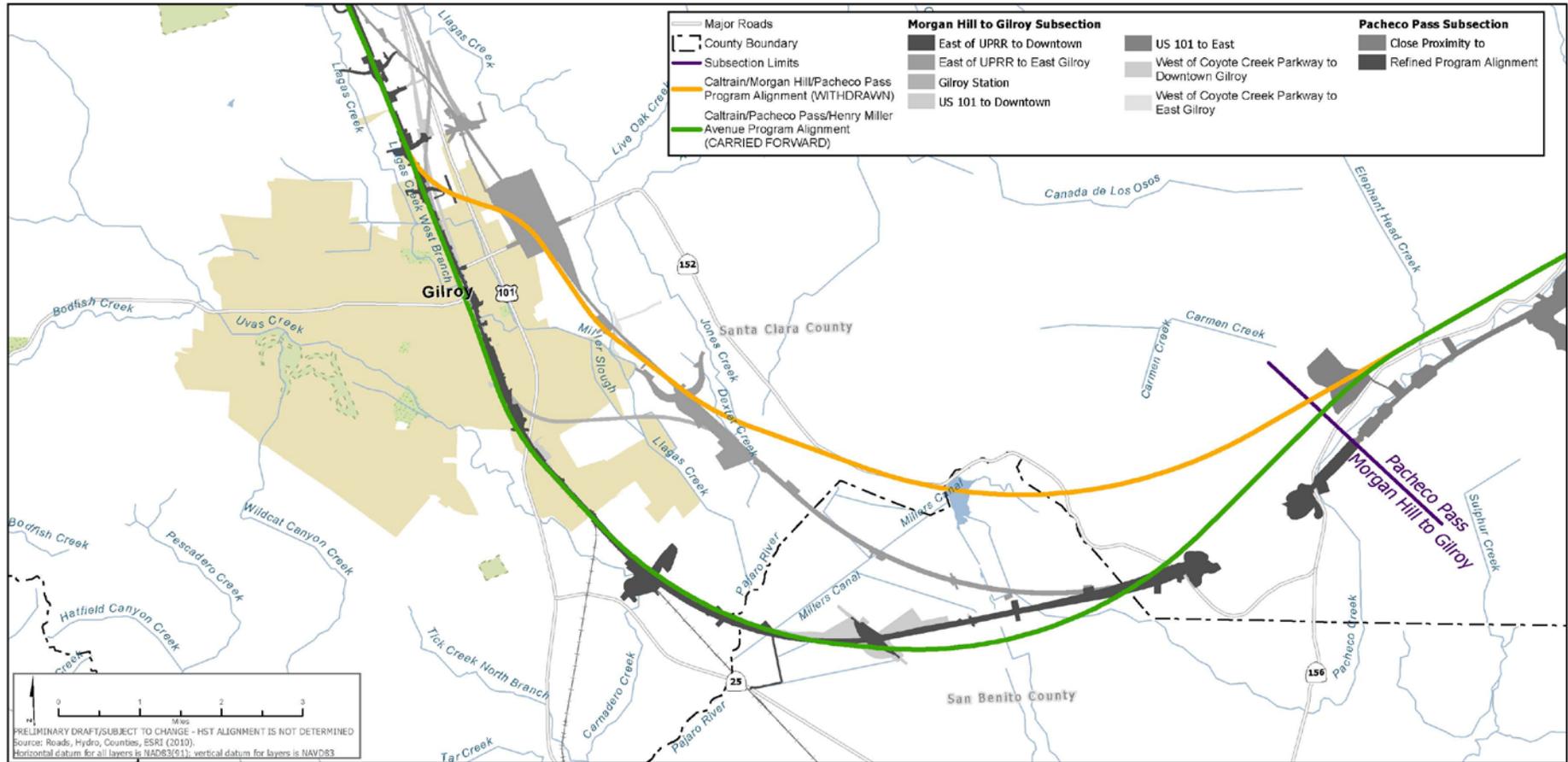


Figure 4.1-1
 Morgan Hill to Gilroy and Pacheco Pass Subsection Program and Project-Level Alignment Alternative Comparison

Appendix A

Laws, Regulations, and Orders

APPENDIX A

Laws, Regulations, and Orders

Federal and state regulations relevant to socioeconomics, communities, and environmental justices are presented below.

1.1 Federal Regulations

Title VI of the Civil Rights Act (42 U.S.C. Section 2000[d] et seq.)

Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color, national origin, age, sex, or disability in programs and activities receiving federal financial assistance.

Executive Order 12898

EO 12898 requires federal agencies to address to the greatest extent practicable and permitted by law the potential disproportionately high, adverse human health and environmental impacts of their programs, policies, and activities on minority and low-income populations. This includes Native American programs.

U.S. Department of Transportation (DOT) Order 5610.2

Order 5610.2 was issued in 1997 to comply with EO 12898 and to promote the principles of environmental justice in all DOT programs, which includes the FRA. The Order defines environmental justice to mean an adverse impact that is predominantly borne by a minority population and/or a low-income population, or that would be suffered by the minority population and/or low-income population, and that is appreciably more severe or greater in magnitude than would be suffered by the non-minority population and/or non-low-income population.

Executive Order 13166

EO 13166 requires each federal agency to ensure that recipients of federal financial assistance are provided meaningful access to its programs and activities, including applicants and beneficiaries with Limited English Proficiency (LEP).

Executive Order 13045

EO 13045 requires federal agencies to minimize environmental health and safety risks to children, and to prioritize the identification and assessment of environmental health and safety risks that may have a disproportionate impact on children.

Americans with Disabilities Act (42 U.S.C. Sections 12101 to 12213)

The Americans with Disabilities Act prohibits discrimination based on disability.

U.S. Environmental Protection Agency School/Siting Guidelines

Under the Energy Independence and Security Act of 2007 (Public Law 110-140), the U.S. EPA has developed guidelines for siting school facilities, in consultation with the Departments of Education and Health and Human Services. The voluntary School Siting Guidelines encourage, inform and improve consideration of environmental factors in local school siting and decision-making processes without infringing on local authority. The goal is to support states, tribes, communities, local officials and the public in understanding and considering environmental and public health factors when making school siting decisions. These factors include the special vulnerabilities of children to hazardous substances, transportation, energy use, and potential to use the school as an emergency shelter.

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

This act ensures that persons displaced as a result of a federal action or by an undertaking involving federal funds are treated fairly, consistently, and equitably. This helps to ensure persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole.

1.2 State Regulations

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.

California Relocation and Assistance Act (Government Code Section 7260 et seq.)

Parallel to federal law, this act requires state and local governments to provide relocation assistance and benefits to displaced persons as a result of projects undertaken by state and local agencies that do not involve federal funds. Because the HST project will receive federal funding, the Uniform Act takes precedence.

California High-Speed Rail Authority Title VI Plan

In March 2012, the Authority adopted a policy and plan to ensure that the California HST System complies with Title VI. The policy states:

- The Authority is committed to ensuring 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.
- The Authority, as a federal grant recipient, is required by the FRA to conform to Title VI of the Civil Rights Act of 1964 and related statutes. The Authority’s sub-recipients and contractors must meet the same requirements.
- As permitted and authorized by Title VI, the Authority will administer a Title VI Program in accordance with the spirit and intent of the non-discrimination laws and regulations. This includes a commitment to inclusive public involvement of all persons affected by the HST project.

California High-Speed Rail Authority Limited English Proficiency (LEP) Policy and Plan

In May 2012, the Authority adopted a policy and plan to ensure the California HST Program complies with the requirements of EO 13166. The policy states:

- It is the policy of the Authority to communicate effectively and provide meaningful access to LEP individuals to all the Authority’s programs, services, and activities. The Authority will provide free language assistance services to LEP individuals encountered or whenever an LEP individual requests language assistance services.
- The Authority will treat LEP individuals with dignity and respect. Language assistance will be provided through a variety of methods, including staff interpreters, translation and interpreter service contracts, and formal arrangements with local organizations providing interpretation or translation services or telephonic interpreter services. The LEP policy and plan supplements the Title VI Plan.

Appendix B

Evaluation Matrix Tables

Appendix B1: Evaluation Decision Summary for San Jose Station Approach Subsection Alignment Alternatives and Stations

Alignment Alternative	Carried Forward or Withdrawn	Decision Explanation
Refined Alignment Alternative	Withdrawn	The Refined Program Alignment Alternative is withdrawn from further analysis due to significant public opposition related to potential noise, visual, vibration, traffic congestion and circulation, property value and construction impacts.
South of Caltrain Tracks	Withdrawn	The South of Caltrain Tracks Alignment Alternative is withdrawn from further analysis due to significant public opposition related to the potential for noise, visual, vibration, traffic congestion and circulation, property value and construction impacts.
Three Track	Withdrawn	The Three Track Alignment Alternative is withdrawn from further analysis because it would result in unacceptable operating constraints for Caltrain, UPRR, and other passenger and freight rail systems using the Caltrain corridor.
Deep Tunnel	Withdrawn	The Deep Tunnel Alignment Alternative is withdrawn from further analysis due to safety concerns related to the geologic conditions where the construction of tunnels would be required.
Shallow Tunnel	Withdrawn	The Shallow Tunnel Alignment Alternative is withdrawn from further analysis due to safety concerns related to the geologic conditions where the construction of tunnels would be required.
Downtown Aerial	Withdrawn	The Downtown Aerial Alignment Alternative is withdrawn from further analysis because it would potentially divide a community and because of constructability issues due to the need for large foundations and high, curved bridges.
SR 87/ I-280	Carried Forward	The SR 87/I-280 Alignment Alternative is potentially practicable and is carried forward for further analysis because it minimizes impacts on local communities and environmental resources by staying predominately within existing transportation corridor rights-of-way.
Stations		
San Jose Diridon Station	Carried Forward	The San Jose Diridon Station is potentially practicable and is carried forward for further analysis because it serves the alignment alternative being carried forward.
Aerial Station East of Existing Diridon Station	Withdrawn	The Aerial Station (East of Existing Diridon Station) is withdrawn from further analysis because the Downtown Aerial Alignment Alternative, for which this station location option was developed, was withdrawn from further analysis.
Deep Underground Station East of Existing Diridon Station	Withdrawn	The Deep Underground Station (East of Existing Diridon Station) is withdrawn from further analysis because the alignment alternative for which this station location option was developed (Deep Tunnel Alignment Alternative) was withdrawn from further analysis.
Shallow Underground Station East of Existing Diridon Station	Withdrawn	The Shallow Underground Station (East of Existing Diridon Station) is withdrawn from further analysis because the alignment alternative for which this station location option was developed (Shallow Tunnel Alignment Alternative) was withdrawn from further analysis.

Appendix B1: San Jose Station Approach Subsection Alignment Alternatives and Stations

Measurement	Alignment Alternatives							Station Location Options			
	Refined Program Alignment (W)	South of Caltrain Tracks (W)	Three Track (W)	Deep Tunnel (W)	Shallow Tunnel (W)	Downtown Aerial (W)	SR 87/I-280 (C)	San Jose Diridon Station (C)	Aerial Station East of Existing Diridon Station (W)	Deep Underground Station East of Existing Diridon Station (W)	Shallow Underground Station East of Existing Diridon Station (W)
Design Objectives											
Journey Time (minutes)	2.09	2.09	2.09	0.88	2.22	1.17	2.22	N/A	N/A	N/A	N/A
Rail Distance (miles)	1.92	1.92	1.92	1.76	2.41	1.76	2.41	N/A	N/A	N/A	N/A
Cost											
Operating & Maintenance Costs (cost factor)	1.09	1.09	1.09	1.00	1.37	1.00	1.37	N/A	N/A	N/A	N/A
Capital Costs (cost in millions)	\$520	\$611	\$611	\$2,456	\$1,724	\$679	\$673	N/A	N/A	N/A	N/A
Aquatic Resources											
<i>Subtotal of Aquatic Resource Impacts (acres)</i>	0	0	0	0	0	0	0	0	0	0	0
Wetland Habitat (acres)	0	0	0	0	0	0	0	0	0	0	0
Vernal Pool Complex (acres)	0	0	0	0	0	0	0	0	0	0	0
Streams, Creeks or Canals (miles)	0.1	0.1	0.2	0.01	0.1	0.1	0.1	0	0	0.01	0
Lakes/Ponds/Rivers (acres)	0	0	0	0	0	0	0	0	0	0	0
Reservoir/Constructed Basin/Constructed Watercourse (acres)	0	0	0	0	0	0	0	0	0	0	0
Swamps/Marshes (acres)	0	0	0	0	0	0	0	0	0	0	0

Measurement	Alignment Alternatives							Station Location Options			
	Refined Program Alignment (W)	South of Caltrain Tracks (W)	Three Track (W)	Deep Tunnel (W)	Shallow Tunnel (W)	Downtown Aerial (W)	SR 87/I-280 (C)	San Jose Diridon Station (C)	Aerial Station East of Existing Diridon Station (W)	Deep Underground Station East of Existing Diridon Station (W)	Shallow Underground Station East of Existing Diridon Station (W)
Constructability											
Constructability Issues Summarized	<ul style="list-style-type: none"> Tight clearances Local traffic impacts Several grade separations Caltrain operational impacts Utility relocations (especially fiber optic cables from San Francisco to Gilroy) 	<ul style="list-style-type: none"> Tight clearances Local traffic impacts Several grade separations Caltrain operational impacts Utility relocations (especially fiber optic cables from San Francisco to Gilroy) 	<ul style="list-style-type: none"> Tight clearances Local traffic impacts Several grade separations Severe operational impacts to Caltrain/UPRR, resulting in a reduction from two tracks to one Utility relocations (especially fiber optic cables from San Francisco to Gilroy) 	<ul style="list-style-type: none"> Potential settlement Ground stabilization required Unsafe mining conditions due to poor ground and high water table Utilization of exceptional mining method Settlement potential of foundations of SR 87/I-280 interchange Reconstruction of Tamien Station Relocation and reconstruction of northbound SR 87 on-ramp Lengthy construction schedule 	<ul style="list-style-type: none"> Extensive additional right-of-way required Ground stabilization required Utility support relocation Substantial impact to Los Gatos Creek Requires support of VTA LRT Disruption to PCJPB operations Reconstruction of Tamien Station Lengthy construction schedule 	<ul style="list-style-type: none"> Impacts to SR 87/I-280 with the placement of large foundations beneath travel lanes High bridges over existing interchange and curved long span bridges. Construct curved long span bridges with Straddle Bents Significant utility relocation 	<ul style="list-style-type: none"> Impacts to traffic flow on SR 87/I-280 High bridges over existing interchange and curved long span bridges. Construct curved long span bridges with Straddle Bents Significant utility relocation 	N/A, included within alignment data	N/A, included within alignment data	N/A, included within alignment data	N/A, included within alignment data
Disruption to Existing Railroads	<ul style="list-style-type: none"> Caltrain/UPRR tracks permanently shifted to accommodate HST tracks Temporary construction impacts during construction of viaduct over Caltrain/UPRR tracks 	<ul style="list-style-type: none"> Temporary construction impacts during construction of viaduct over Caltrain/UPRR tracks 	<ul style="list-style-type: none"> Reduction from two Caltrain /UPRR tracks to one; not consistent with Caltrain/UPRR operations 	<ul style="list-style-type: none"> Risk of disruption due to possible settlement from tunnel construction where tunnels cross under Caltrain/UPRR tracks 	<ul style="list-style-type: none"> Risk of disruption due to possible settlement from tunnel construction where tunnels cross under Caltrain/UPRR tracks. Disruption to Caltrain, Amtrak, PACE, UPRR Freight, 	<ul style="list-style-type: none"> Temporary construction impacts during construction of viaduct over Caltrain/UPRR tracks 	<ul style="list-style-type: none"> Temporary construction impacts during construction of viaduct over Caltrain/UPRR tracks 	<ul style="list-style-type: none"> Major construction impacts to existing railroad operations 	<ul style="list-style-type: none"> Minimal construction impacts to existing railroad operations 	<ul style="list-style-type: none"> Minimal construction impacts to existing railroad operations 	<ul style="list-style-type: none"> Minimal construction impacts to existing railroad operations

Measurement	Alignment Alternatives							Station Location Options				
	Refined Program Alignment (W)	South of Caltrain Tracks (W)	Three Track (W)	Deep Tunnel (W)	Shallow Tunnel (W)	Downtown Aerial (W)	SR 87/I-280 (C)	San Jose Diridon Station (C)	Aerial Station East of Existing Diridon Station (W)	Deep Underground Station East of Existing Diridon Station (W)	Shallow Underground Station East of Existing Diridon Station (W)	
					VTA –Vasona Line during construction							
Disruption to and Relocation of Utilities	<ul style="list-style-type: none"> 1 electrical utility 1 fiber optic line Potential Santa Clara Valley Water District (SCVWD) facilities conflict 	<ul style="list-style-type: none"> 1 electrical utility 1 fiber optic line Potential SCVWD facilities conflict 	<ul style="list-style-type: none"> 1 electrical utility Potential SCVWD facilities conflict 	<ul style="list-style-type: none"> 1 electrical utility Potential SCVWD facilities conflict 	<ul style="list-style-type: none"> 1 electrical utility City and SCVWD underground utilities Underground communication utilities 	<ul style="list-style-type: none"> 1 electrical utility Potential SCVWD facilities conflict 	<ul style="list-style-type: none"> 1 electrical utility Potential SCVWD facilities conflict 	N/A, included within alignment data	N/A, included within alignment data	N/A, included within alignment data	N/A, included within alignment data	
Environmental Resources												
Biological Resources (acres per species/habitat)	CHWR Range Data	• 92 ac – California Tiger Salamander (CTS)	• 92 ac – CTS	• 89 ac - CTS	• 64 ac – CTS	• 72 ac – CTS	• 67 ac – CTS	• 95 ac – CTS	• 7.0 ac – CTS	• 4.2 ac – CTS	• 9.3 ac – CTS	• 9.3 ac – CTS
	Critical Habitat	None	None	None	None							
	CNDDDB	<ul style="list-style-type: none"> 92 ac – CTS 52 ac – hoary bat 43 ac – pallid bat 92 ac – American peregrine falcon 92 ac – Congdon's tarplant 44 ac – saline clover 92 ac – robust spineflower 	<ul style="list-style-type: none"> 92 ac – CTS 52 ac – hoary bat 44 ac – pallid bat 92 ac – American peregrine falcon 92 ac – Congdon's tarplant 44 ac – saline clover 92 ac – robust spineflower 	<ul style="list-style-type: none"> 89 ac – CTS 49 ac – hoary bat 44 ac – pallid bat 89 ac – American peregrine falcon 89 ac – Congdon's tarplant 44 ac – saline clover 89 ac – robust spineflower 	<ul style="list-style-type: none"> 64 ac – CTS 24 ac – hoary bat 41 ac – pallid bat 64 ac – American peregrine falcon 64 ac – Congdon's tarplant 41 ac – saline clover 64 ac – robust spineflower 	<ul style="list-style-type: none"> 72 ac – CTS 32 ac – hoary bat 44 ac – pallid bat 72 ac – American peregrine falcon 72 ac – Congdon's tarplant 44 ac – saline clover 72 ac – robust spineflower 	<ul style="list-style-type: none"> 67 ac – CTS 28 ac – hoary bat 41 ac – pallid bat 67 ac – American peregrine falcon 67 ac – Congdon's tarplant 41 ac – saline clover 67 ac – robust spineflower 	<ul style="list-style-type: none"> 95 ac – CTS 55 ac – hoary bat 46 ac – pallid bat 95 ac – American peregrine falcon 95 ac – Congdon's tarplant 46 ac – saline clover 95 ac – robust spineflower 	<ul style="list-style-type: none"> 7.0 ac – CTS 7.0 ac – hoary bat 7.0 ac – pallid bat 7.0 ac – American peregrine falcon 7.0 ac – Congdon's tarplant 7.0 ac – saline clover 7.0 ac – robust spineflower 	<ul style="list-style-type: none"> 4.2 ac – CTS 4.2 ac – hoary bat 4.2 ac – pallid bat 4.2 ac – American peregrine falcon 4.2 ac – Congdon's tarplant 4.2 ac – saline clover 4.2 ac – robust spineflower 	<ul style="list-style-type: none"> 9.3 ac – CTS 9.3 ac – hoary bat 9.3 ac – pallid bat 9.3 ac – American peregrine falcon 9.3 ac – Congdon's tarplant 9.3 ac – saline clover 9.3 ac – robust spineflower 	<ul style="list-style-type: none"> 9.3 ac – CTS 9.3 ac – hoary bat 9.3 ac – pallid bat 9.3 ac – American peregrine falcon 9.3 ac – Congdon's tarplant 9.3 ac – saline clover 9.3 ac – robust spineflower
	Wildlife Refuges/ Conservation Areas	None	None	None	None							

Measurement	Alignment Alternatives							Station Location Options			
	Refined Program Alignment (W)	South of Caltrain Tracks (W)	Three Track (W)	Deep Tunnel (W)	Shallow Tunnel (W)	Downtown Aerial (W)	SR 87/I-280 (C)	San Jose Diridon Station (C)	Aerial Station East of Existing Diridon Station (W)	Deep Underground Station East of Existing Diridon Station (W)	Shallow Underground Station East of Existing Diridon Station (W)
Cultural Resources (potential historical properties, known archaeological sites, archaeological sensitivity)	<ul style="list-style-type: none"> 42 properties w/ buildings over 50 years old; 4 NRHP eligible or listed properties; 1 CEQA eligible or listed property; 1 known archaeological site. 	<ul style="list-style-type: none"> 42 properties w/ buildings over 50 years old; 4 NRHP eligible or listed properties; 1 CEQA eligible or listed property; 1 known archaeological site. 	<ul style="list-style-type: none"> 34 properties w/ buildings over 50 years old; 4 NRHP eligible or listed properties; 1 CEQA eligible or listed property; 1 known archaeological site. 	<ul style="list-style-type: none"> 24 properties w/ buildings over 50 years old; 4 NRHP eligible or listed properties; No CEQA eligible or listed properties; 2 known archaeological sites. 	<ul style="list-style-type: none"> 37 properties w/ buildings over 50 years old; 4 NRHP eligible or listed properties; No CEQA eligible or listed properties; 3 known archaeological sites. 	<ul style="list-style-type: none"> 44 properties w/ buildings over 50 years old; 4 NRHP eligible or listed properties; No CEQA eligible or listed properties; 3 known archaeological sites. 	<ul style="list-style-type: none"> 30 properties w/ buildings over 50 years old; 4 NRHP eligible or listed properties; 1 CEQA eligible or listed property; 1 known archaeological site. 	<ul style="list-style-type: none"> 1 property w/ buildings over 50 years old; 4 NRHP eligible or listed properties; No CEQA eligible or listed properties; No known archaeological sites. 	<ul style="list-style-type: none"> 1 property w/ buildings over 50 years old; 4 NRHP eligible or listed properties; No CEQA eligible or listed properties; No known archaeological sites. 	<ul style="list-style-type: none"> 6 properties w/ buildings over 50 years old; 4 NRHP eligible or listed properties; No CEQA eligible or listed properties; No known archaeological sites. 	<ul style="list-style-type: none"> No properties w/ buildings over 50 years old; 4 NRHP eligible or listed properties; No CEQA eligible or listed properties; No known archaeological sites.
Parklands	<ul style="list-style-type: none"> 0.9 ac of Lower Guadalupe River Trail Approximately 1 ac of Fuller Park 	<ul style="list-style-type: none"> 0.9 ac of Lower Guadalupe River Trail Approximately 1 ac of Fuller Park 	<ul style="list-style-type: none"> 0.9 ac of Lower Guadalupe River Trail Approximately 1 ac of Fuller Park 	<ul style="list-style-type: none"> 0.1 ac of Lower Guadalupe River Trail 	<ul style="list-style-type: none"> 0.6 ac of Lower Guadalupe River Trail 	<ul style="list-style-type: none"> 1.1 ac of Lower Guadalupe River Trail 	<ul style="list-style-type: none"> 1.9 ac of Lower Guadalupe River Trail 	None	None	<ul style="list-style-type: none"> 0.1 ac of Lower Guadalupe River Trail 	None
Agricultural Land (acres)	None	None	None	None	None	None	None	None	None	None	None
Williamson Act Farmland (acres)	None	None	None	None	None	None	None	None	None	None	None
Natural Environment											
Noise/Vibration (potential sensitive receptors/ number of parcels)	2391/180	2391/236	2255/236	0/99	0/175	1946/250	2708/106	N/A	N/A	N/A	N/A
Visual/Scenic Resources	Retaining and sound walls	HST tracks through Fuller Park	Opportunity for landscaping within additional space in right-of-way	None	Demolition of structures	Aerial structures through developed neighborhoods	Complex configuration of columns and bents above freeways.	Aerial platforms overshadow historic depot	Aerial station blocks views of historic depot from east	None	None
Geotechnical Constraints (known fault crossings or seismic zones, liquefaction zones)	<ul style="list-style-type: none"> No crossings of seismic faults or fault rupture hazard zones; and 92 ac – liquefaction zones 	<ul style="list-style-type: none"> No crossings of seismic faults or fault rupture hazard zones; and 92 ac – liquefaction zones 	<ul style="list-style-type: none"> No crossings of seismic faults or fault rupture hazard zones; and 89 ac – liquefaction zones 	<ul style="list-style-type: none"> No crossings of seismic faults or fault rupture hazard zones; and 64 ac – liquefaction zones 	<ul style="list-style-type: none"> No crossings of seismic faults or fault rupture hazard zones; and 72 ac – liquefaction zones 	<ul style="list-style-type: none"> No crossings of seismic faults or fault rupture hazard zones; and 67 ac – liquefaction zones 	<ul style="list-style-type: none"> No crossings of seismic faults or fault rupture hazard zones; and 95 ac – liquefaction zones 	N/A, included within alignment	N/A, included within alignment	N/A, included within alignment	N/A, included within alignment

Measurement	Alignment Alternatives							Station Location Options			
	Refined Program Alignment (W)	South of Caltrain Tracks (W)	Three Track (W)	Deep Tunnel (W)	Shallow Tunnel (W)	Downtown Aerial (W)	SR 87/I-280 (C)	San Jose Diridon Station (C)	Aerial Station East of Existing Diridon Station (W)	Deep Underground Station East of Existing Diridon Station (W)	Shallow Underground Station East of Existing Diridon Station (W)
Land Use											
Consistency with Local Plans/General Plans	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Traffic											
Local Traffic Effects around Stations (increased congestion)	N/A	Increased congestion on local streets.	Increased congestion on local streets.	Increased congestion on local streets.	Increased congestion on local streets.						
Road Closures	1	1	1	0	0	0	0	N/A, included within alignment	N/A, included within alignment	N/A, included within alignment	N/A, included within alignment
Community Character and Cohesion											
Physical Division of Communities (miles) ¹	0	0	0	0	0	0.4	0	0	0	0	0
Community Facilities within One-half Mile of Alternative	<ul style="list-style-type: none"> ◆ 3 Fire stations ◆ 1 Library ◆ 2 Cultural centers ◆ 8 Social service organizations ◆ 18 Churches ◆ 2 Train stations ◆ 7 Schools ◆ 14 Parks <p style="text-align: center;"><i>TOTAL = 55</i></p>	<ul style="list-style-type: none"> ◆ 3 Fire stations ◆ 1 Library ◆ 2 Cultural centers ◆ 8 Social service organizations ◆ 18 Churches ◆ 2 Train stations ◆ 7 Schools ◆ 14 Parks <p style="text-align: center;"><i>TOTAL = 55</i></p>	<ul style="list-style-type: none"> ◆ 3 Fire stations ◆ 1 Library ◆ 2 Cultural centers ◆ 8 Social service organizations ◆ 18 Churches ◆ 2 Train stations ◆ 7 Schools ◆ 14 Parks <p style="text-align: center;"><i>TOTAL = 55</i></p>	<ul style="list-style-type: none"> ◆ 3 Fire stations ◆ 1 Library ◆ 6 Cultural centers ◆ 8 Social service organizations ◆ 16 Churches ◆ 2 Train stations ◆ 7 Schools ◆ 13 Parks <p style="text-align: center;"><i>TOTAL = 56</i></p>	<ul style="list-style-type: none"> ◆ 3 Fire stations ◆ 1 Library ◆ 4 Cultural centers ◆ 8 Social service organizations ◆ 16 Churches ◆ 2 Train stations ◆ 7 Schools ◆ 13 Parks <p style="text-align: center;"><i>TOTAL = 54</i></p>	<ul style="list-style-type: none"> ◆ 3 Fire stations ◆ 1 Library ◆ 6 Cultural centers ◆ 8 Social service organizations ◆ 16 Churches ◆ 2 Train stations ◆ 7 Schools ◆ 13 Parks <p style="text-align: center;"><i>TOTAL = 56</i></p>	<ul style="list-style-type: none"> ◆ 3 Fire stations ◆ 1 Library ◆ 5 Cultural centers ◆ 8 Social service organizations ◆ 16 Churches ◆ 2 Train stations ◆ 7 Schools ◆ 13 Parks <p style="text-align: center;"><i>TOTAL = 55</i></p>	<ul style="list-style-type: none"> ◆ 2 Fire stations ◆ 4 Churches ◆ 1 Library ◆ 2 Social services organization ◆ 3 Cultural Centers ◆ 1 Train station ◆ 1 School ◆ 4 Parks <p style="text-align: center;"><i>TOTAL = 18</i></p>	<ul style="list-style-type: none"> ◆ 2 Fire stations ◆ 4 Churches ◆ 1 Library ◆ 2 Social services organizations ◆ 5 Cultural Centers ◆ 1 Train station ◆ 1 School ◆ 4 Parks <p style="text-align: center;"><i>TOTAL = 20</i></p>	<ul style="list-style-type: none"> ◆ 2 Fire stations ◆ 4 Churches ◆ 1 Library ◆ 2 Social services organizations ◆ 5 Cultural Center ◆ 1 Train station ◆ 1 School ◆ 4 Parks <p style="text-align: center;"><i>TOTAL = 20</i></p>	<ul style="list-style-type: none"> ◆ 2 Fire stations ◆ 4 Churches ◆ 1 Library ◆ 2 Social services organizations ◆ 5 Cultural Centers ◆ 1 Train station ◆ 1 School ◆ 4 Parks <p style="text-align: center;"><i>TOTAL = 20</i></p>
Residential Displacements (Single-family, multi-family, mobile home parks) [units]	20 – 25	20 – 25	17 – 22	3 – 6	12 – 16	43 – 56	6 – 11	0	0	0	0
Business Displacements (commercial, industrial, non-profit) [units]	17 – 20	17 – 20	17 – 20	12 – 14	25 – 31	22 – 32	23 – 28	0	0 – 3	2 - 5	8 - 12

¹ The linear distance of the alignment as it crosses through communities in a new right-of-way; where the alignment is along existing road or railroad corridor, the community is not considered divided.

Measurement	Alignment Alternatives							Station Location Options			
	Refined Program Alignment (W)	South of Caltrain Tracks (W)	Three Track (W)	Deep Tunnel (W)	Shallow Tunnel (W)	Downtown Aerial (W)	SR 87/I-280 (C)	San Jose Diridon Station (C)	Aerial Station East of Existing Diridon Station (W)	Deep Underground Station East of Existing Diridon Station (W)	Shallow Underground Station East of Existing Diridon Station (W)
Agency and Public Input											
Agency and Public Input	Several residents and representatives of the Greater Gardner, North Willow Glen, and Gregory Plaza neighborhoods expressed concern about the proposed program alignment (along the Caltrain corridor) and its impact to the community. Concerns include the frequency of trains, the acquisition of right-of-way (e.g., portions of Fuller Park, Word of Faith Church), and the effect that an aerial alignment near the Diridon Station would have on further segmenting their community. Specific issues include additional noise, visual impacts, vibration, traffic congestion and circulation (local road closures), property values, and construction impacts. There is community concern about the potential for blight from	Although specific comments on this alignment were limited, community members' concerns were similar to those voiced about the Refined Program Alignment. Concerned neighborhoods and organizations included Pinehurst, Greater Gardner, Willow Glen and Voices of San Jose. Additional right-of-way impacts were noted, as well as concerns about impacts to the Willow Glen Spur Trail and grade crossings at West Virginia and Auzerais. Evaluation of a tunnel alternative was requested as a way to offset impacts.	The City of San Jose requested the analysis of a three-track system as a way to lessen or avoid physical impacts in the Gardner and North Willow Glen neighborhoods. Although specific comments on this alignment were limited, community members' concerns were similar to those voiced about the Refined Program Alignment. Members of the public requested an explanation of the difference of impacts between a four-track and three-track system. Some also requested a trench alignment along the Caltrain and UPRR tracks under Curtner Avenue, the Guadalupe River and Los Gatos Creek before arriving at Diridon Station.	City of San Jose staff and members of the public requested the study of a tunnel alignment in the south of Diridon Station area as a way to potentially avoid adverse impacts to surrounding neighborhoods, minimize noise and vibration, and allow trains to achieve maximum speed. Some questioned why a BART tunnel/station was feasible given the area's soil conditions, but not a deep HST tunnel/station. Some members of the public expressed interest and support for any tunnel alignment, shallow or deep. After receiving more information about a deep tunnel/station, many community members agreed the risk and challenges associated with a deep tunnel are significant and a	This alignment was developed following the City of San Jose's request to study a shallow tunnel and in response to identification of significant challenges associated with a deep tunnel/station. Members of the public noted that this alignment would have faster travel times and fewer impacts to the Greater Gardner neighborhood than other alignment options. Some noted that the shallow tunnel was superior to the deep tunnel. Many still questioned the risks and anticipated surface impacts, including impacts at the portal from construction and equipment staging areas for any tunnel, given the soils and surface conditions in the area. The City of San Jose expressed concerns about impacts and limits to future	Members of the public expressed concern that an aerial structure in this area may be divisive to the community (particularly the Gardner and Willow Glen neighborhoods) and cause blight in and around the structures. Instead, it was suggested that a tunnel would preserve quality of life and community character. Besides dividing the neighborhood, concern was expressed about the visual impacts of a structure of this magnitude.	Study of this alignment was recommended by the City of San Jose to reduce neighborhood impacts by following existing transportation corridors through the community. Members of the public have acknowledged that this alignment could avoid impacts to the Gardner and North Willow Glen neighborhoods and take advantage of existing transportation corridors. Some specifically indicated that it be carried forward for further evaluation. Community concerns about this alignment option included potential visual impacts, noise, and construction impacts to freeway operations (SR 87 and I-280). Some commenters specifically indicated that this option was superior to following the Refined	Some members of the public noted that Diridon Station is an historic landmark that should not be negatively impacted by new structures for high-speed trains. While some people support the use of at-grade tracks south of Diridon station, others would prefer tunnels to avoid visual impacts and alteration to the existing structure and surroundings.	Of the few comments on this option, community members expressed both support for and opposition to aerial structures in this area.	Some members of the public expressed support for an underground station and tunnel because it would avoid negative impacts associated with an aerial station and structures. A few suggested that a San Jose station should be built near the HP Pavilion. After receiving more information about a deep station, including construction impacts, fire life safety measures and difficulty in connecting to different modes of transportation, many community members agreed the risk and challenges associated with a deep station are significant, and that a less risky underground alternative should be studied.	

Measurement	Alignment Alternatives							Station Location Options			
	Refined Program Alignment (W)	South of Caltrain Tracks (W)	Three Track (W)	Deep Tunnel (W)	Shallow Tunnel (W)	Downtown Aerial (W)	SR 87/I-280 (C)	San Jose Diridon Station (C)	Aerial Station East of Existing Diridon Station (W)	Deep Underground Station East of Existing Diridon Station (W)	Shallow Underground Station East of Existing Diridon Station (W)
	aerial structures, which could invite graffiti and degradation of neighborhoods. Grade crossings at West Virginia and Auzerais are also a safety concern to the community. During the scoping process and at subsequent community meetings, several residents and property owners requested that a tunnel option be evaluated for the San Jose Station Approach.			less risky underground alternative should be studied. The City of San Jose acknowledged that any benefits achieved with a deep tunnel option are outweighed by the risks and constructability issues, and requested a shallow tunnel option be evaluated. To date, several members of the public have indicated a desire to see a shallow tunnel option evaluated in lieu of a deep tunnel, despite potential impacts associated with a shallow tunnel. Some residents noted concern for surface impacts at the portals, which would be similar in the Tamien area for both tunnel alignments.	development above the shallow tunnel/station. In addition, it was noted by some that, in order to study the shallow tunnel alignment, VTA will also need to study the implications of a deep BART tunnel/station.		Program Alignment (Caltrain/UPRR corridor).				

Appendix B2: Evaluation Decision Summary for Monterey Highway Subsection Alignment Alternatives

Alignment Alternative	Carried Forward or Withdrawn	Decision Explanation
US 101 to East Gilroy / Refined Program Alignment	Carried Forward	The Refined Program Alignment Alternative is potentially practicable and is carried forward for further analysis because it does not have the constructability issues associated with the East of Caltrain/UPRR Alignment Alternative, and it would allow for more efficient operation than would the East of Caltrain/UPRR Alignment Alternative.
East of Caltrain / UPRR	Withdrawn	The East of Caltrain/UPRR Alignment Alternative is withdrawn from further analysis because of constructability issues associated with disruption to the existing Caltrain Tamien station, Caltrain and UPRR operations, and the SR 87 freeway northbound onramp.

Appendix B2: Monterey Highway Subsection Alignment Alternatives

Measurement	US 101 to East Gilroy/Refined Program Alignment (C)	East of Caltrain/UPRR (W)
Design Objectives		
Journey Time (minutes)	4.33	4.76
Rail Distance (miles)	7.93	7.94
Cost		
Operating & Maintenance Costs (cost factor)	1.00	1.00
Capital Costs (cost in millions)	\$675	\$377
Aquatic Resources		
<i>Subtotal of Aquatic Resource Impacts (acres)</i>	0	0
Wetland Habitat (acres)	0	0
Vernal Pool Complex (acres)	0	0
Streams, Creeks or Canals (miles)	0	0
Lakes/Ponds/Rivers (acres)	0	0
Reservoir (acres)	0	0
Swamps/Marshes (acres)	0	0
Constructability		
Constructability Issues Summarized	<ul style="list-style-type: none"> • Work may disrupt Caltrain operations • Tight clearances to railroad tracks along Monterey Highway • Increased railroad relocation • Tight fit between SR 87 and Caltrain Railroad Corridor 	<ul style="list-style-type: none"> • Work may disrupt Caltrain operation • Tight clearances to railroad tracks along Monterey Highway • Impacts to existing Caltrain Tamien Station • Impacts to Luther Industrial Spur • Reconstruction of SR 87 Northbound On-ramp
Disruption to Existing Railroads	<ul style="list-style-type: none"> • Caltrain and UPRR operations temporarily disrupted while they are permanently relocated to accommodate HST within Caltrain ROW from West Alma to north of Lick Street • Access to UPRR from east blocked by HST in Monterey Highway Corridor 	<ul style="list-style-type: none"> • Major disruption to Caltrain Tamien Station during its reconstruction to accommodate HST • Temporary disruption to Caltrain and UPRR operations during relocation of tracks from Tamien Station to north of Lick Street to accommodate HST • Access to UPRR from east blocked by HST in Monterey Highway Corridor
Disruption to and Relocation of Utilities	<ul style="list-style-type: none"> • 1 electrical utility • 1 natural gas line • 1 fiber optic line • Potential Santa Clara Valley Water District (SCVWD) facilities conflict 	<ul style="list-style-type: none"> • 1 electrical utility • 1 natural gas line • 1 fiber optic line • Potential conflict with SCVWD facilities

Measurement		US 101 to East Gilroy/Refined Program Alignment (C)	East of Caltrain/UPRR (W)
Environmental Resources			
Biological Resources (acres per species/habitat)	CHWR Range Data	<ul style="list-style-type: none"> • 289 ac – California Tiger Salamander (CTS) • 88 ac – San Joaquin Kit Fox (SJKF) 	<ul style="list-style-type: none"> • 293 ac – CTS • 89 ac – SJKF
	Critical Habitat	None	None
	CNDDB	<ul style="list-style-type: none"> • 0.4 ac – burrowing owl • 106 ac – CTS • 17 ac – American peregrine falcon • 203 ac – Congdon's tarplant • 106 ac – robust spineflower • 63 ac – San Francisco collinsia 	<ul style="list-style-type: none"> • 0.6 ac – burrowing owl • 109 ac – CTS • 14 ac – American peregrine falcon • 207 ac – Congdon's tarplant • 109 ac – robust spineflower • 63 ac – San Francisco collinsia
	Wildlife Refuges/ Conservation Areas	None	None
Cultural Resources (potential historical properties, known archaeological sites, archaeological sensitivity)		<ul style="list-style-type: none"> • 31 properties w/ buildings over 50 years old; • No NRHP listed/eligible properties; • 1 CEQA listed/eligible property; • 1 known archaeological site. 	<ul style="list-style-type: none"> • 35 properties w/ buildings over 50 years old; • No NRHP listed/eligible properties; • 1 CEQA listed/eligible property; • 1 known archaeological site.
Parklands		• 0.7 ac Edenvale Garden	• 0.7 ac Edenvale Garden
Agricultural Land (acres)		None	None
Williamson Act Farmland (acres)		None	None
Natural Environment			
Noise/Vibration (potential sensitive receptors/ number of parcels)		3496/399	3444/378
Visual/Scenic Resources		Mature trees along Monterey Highway removed and replaced with new landscaping and sound walls.	Mature trees along Monterey Highway removed and replaced with new landscaping and sound walls.
Geotechnical Constraints (known fault crossings or seismic zones, liquefaction zones)		<ul style="list-style-type: none"> • No crossings of seismic faults or fault rupture hazard zones; and • 253 ac – liquefaction zones 	<ul style="list-style-type: none"> • No crossings of seismic faults or fault rupture hazard zones; and • 258 ac – liquefaction zones
Land Use			
Consistency with Local Plans/General Plans		Yes – San Jose and Santa Clara general plans; No – VTA's BRT proposal	Yes – San Jose and Santa Clara general plans; No – VTA's BRT proposal
Traffic			
Local Traffic Effects around Stations (increased congestion)		N/A	N/A
Road Closures		1	1
Community Character and Cohesion			

Measurement	US 101 to East Gilroy/Refined Program Alignment (C)	East of Caltrain/UPRR (W)
Physical Division of Communities (miles) ¹	0	0
Community Facilities within One-half Mile of Alternative	<ul style="list-style-type: none"> • 3 Fire stations • 1 Police department • 13 Churches • 2 Libraries • 1 Post Office • 7 Social service organizations • 10 Schools • 12 Parks • 1 Cemetery • 2 Medical centers <p style="text-align: center;"><i>TOTAL = 52</i></p>	<ul style="list-style-type: none"> • 3 Fire stations • 1 Police department • 13 Churches • 2 Libraries • 1 Post Office • 7 Social service organizations • 10 Schools • 12 Parks • 1 Cemetery • 2 Medical centers <p style="text-align: center;"><i>TOTAL = 52</i></p>
Residential Displacements (Single-family, multi-family, mobile home parks) [units]	5-20	5-20
Business Displacements (commercial, industrial, non-profit) [units]	9-16	11-32
Agency and Public Input		
Agency and Public Input	<p>While some people favored this alignment because current rail lines run adjacent to Monterey Highway and limited land acquisitions would be required, some Silverleaf neighborhood residents expressed concern about increased traffic and noise impacts, as well as damage to homes from vibration. Concern was also expressed regarding impacts from a tunnel option at the portal due to construction and equipment staging areas. Residents, especially in the Edenvale neighborhood, are also concerned about traffic impacts from the narrowing of Monterey Highway and the closure of local roads. Requests were made to preserve the oak and walnut trees and bike lanes, and to be mindful of the new development in the vicinity of Blossom Hill Road. The City of San Jose Department of Transportation has taken steps to assist the Authority in evaluating the potential reduction of lanes of Monterey Highway to accommodate the project.</p>	<p>Public concerns centered on impacts to surrounding communities, including the New Horizons Condominiums, noise, traffic, and planned parks and trails near the Tamien Station. Concern was also expressed regarding impacts from a tunnel option at the portal due to construction and equipment staging areas. The Greater Gardner NAC chairman noted that a Native American burial site was discovered on the east side of Tamien Station. VTA facilities at Tamien Station may be impacted by high-speed rail. Some members of the public voiced their opposition to the alignment from Capitol Expressway to Bailey Road, and from Blossom Hill Road to Bernal Road, while others requested that the alignment be in a tunnel through this area.</p>

¹ The linear distance of the alignment as it crosses through communities in a new right-of-way; where the alignment is along existing road or railroad corridor, the community is not considered divided.

Appendix B3: Evaluation Decision Summary for Morgan Hill to Gilroy Subsection Alignment Alternatives and Stations

Alignment Alternative	Carried Forward or Withdrawn	Decision Explanation
East of UPRR to Downtown Gilroy – Program Alignment	Carried Forward	The East of UPRR to Downtown Gilroy Alignment Alternative is potentially practicable and is carried forward for further analysis because it meets the project's purpose and need and it does not have the logistical, feasibility, and high cost issues associated with the Gilroy Station Loop Alignment Alternative, which is withdrawn from further analysis.
US 101 to Downtown Gilroy	Carried Forward	The US 101 to Downtown Gilroy Alignment Alternative is potentially practicable and is carried forward for further study because it meets the project's purpose and need and it would provide an aerial structure for wildlife crossings in the sensitive Coyote Valley area.
West of Coyote Creek Parkway to Downtown Gilroy	Carried Forward	The West of Coyote Creek Parkway to Downtown Gilroy Alignment Alternative is potentially practicable and is carried forward for further analysis because it meets the project's purpose and need and reduces impacts on the Coyote Creek Parkway (a 4[f] resource) compared to most other alignment alternatives in this subsection.
Gilroy Station Loop	Withdrawn	The Gilroy Station Loop is withdrawn from further analysis because of community and visual impacts, and because of a capital cost of more than \$4.8 billion, which is the highest estimated capital cost of all of the alignment alternatives in the Morgan Hill to Gilroy Subsection.
US 101 to East Gilroy	Carried Forward	The US 101 to East Gilroy Alignment Alternative is potentially practicable and is carried forward for further analysis because it would reduce impacts on Downtown Gilroy.
West of Coyote Creek Parkway to East Gilroy	Carried Forward	The West of Coyote Creek Parkway to East Gilroy Alignment Alternative is potentially practicable and is carried forward for further analysis because it meets the project's purpose and need and would reduce potential impacts on Coyote Creek Parkway (a Section 4[f] resource) compared to most other alignment alternatives in this subsection.
East of UPRR to East Gilroy	Carried Forward	The East of UPRR to East Gilroy Alignment Alternative is potentially practicable and is carried forward for further analysis because it meets the project's purpose and need and because of its potential to reduce impacts on aquatic resources compared to the other alignment alternatives in this subsection.
Station		
Morgan Hill Station: Downtown (Four Track)	Withdrawn	The Morgan Hill Downtown Station (Four Track) is withdrawn from further analysis because the Authority, the City of Morgan Hill, and the City of Gilroy determined that the Gilroy station location options better serve the communities to the south and, therefore, better meet the project's purpose and need. In addition, the City of Morgan Hill does not want an aerial alignment through Downtown Morgan Hill.
Downtown Gilroy Station (Four Track)	Carried Forward	The Downtown Gilroy Station (Four Track) is potentially practicable and is carried forward for further analysis because it meets the project's purpose and need and it would provide connectivity to the Downtown Gilroy alignment alternatives carried forward for further analysis.
Downtown Gilroy Station (Two Track)	Withdrawn	The Downtown Gilroy Station (Two Track) Station is withdrawn from further evaluation because it would require connectivity to the Gilroy Station Loop Alignment Alternative, which is withdrawn from further analysis.
East Gilroy Station (Four Track)	Carried Forward	The East Gilroy Station (Four Track) alternative is potentially practicable and is carried forward for further analysis because it meets the project's purpose and need and it would provide connectivity to the East Gilroy alignment alternatives carried forward for further analysis.
Morgan Hill Station US 101 at Cochrane (Four Track)	Withdrawn	The Morgan Hill US 101 at Cochrane Station (Four Track) is withdrawn from further analysis because the Authority, the City of Morgan Hill, and the City of Gilroy determined that the Gilroy station location options better serve the communities to the south and, therefore, better meet the project's purpose and need.

Appendix B3: Morgan Hill to Gilroy Subsection Alignment Alternatives and Stations

Measurement	Alignment Alternatives							Station Location Options				
	East of UPRR to Downtown Gilroy – Program Alignment (C)	US 101 to Downtown Gilroy (C)	West of Coyote Creek Pkwy to Downtown Gilroy (C)	Gilroy Station Loop (W)	US 101 to East Gilroy (C)	West of Coyote Creek Pkwy to East Gilroy (C)	East of UPRR to East Gilroy (C)	Morgan Hill Station: Downtown (W)	Downtown Gilroy Station: Four-Track (C)	Downtown Gilroy Station: Two-Track (W)	East Gilroy Station: Four-Track (C)	Morgan Hill Station: US 101 at Cochrane (W)
Design Objectives												
Journey Time (minutes)	8.73	8.75	8.76	8.34	8.34	8.39	8.70	N/A	N/A	Unknown additional time due to additional miles	N/A	N/A
Rail Distance (miles)	32.01	32.10	32.14	30.58	30.58	30.75	31.77	N/A	N/A	Additional 13.2 miles	N/A	N/A
Cost												
Operation and Maintenance Costs (cost factor)	1.16	1.17	1.17	1.48	1.11	1.12	1.15	N/A	N/A	N/A	N/A	N/A
Capital Costs (cost in millions)	\$2,030-\$3,715	\$2,494-\$4,115	\$4,096-\$4,803	\$4,871	\$3,544-\$3,582	\$3,723-\$3765	\$3,240-\$3,468	N/A	N/A	N/A	N/A	N/A
Aquatic Resources												
<i>Subtotal of Aquatic Resource Impacts (acres)</i>	<i>17.9</i>	<i>34.2</i>	<i>27.6</i>	<i>23.8</i>	<i>19.4</i>	<i>11.7</i>	<i>4.7</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1.5</i>
Wetland Habitat (acres)	8.6	22.7	16.3	18.8	18.4	11.3	4.7	0	0	0	0	1.5
Vernal Pool Complex (acres)	0	0	0	0	0	0	0	0	0	0	0	0
Streams, Creeks or Canals (miles)	4.2	7.7	6.9	6.1	5.3	4.5	2.6	0	0.1	0.1	0	0.3
Lakes/Ponds/Rivers (acres)	3.2	3.8	3.2	1.0	1.0	0.4	0	0	0	0	0	0
Reservoir (acres)	6.1	7.7	8.1	4.0	0	0	0	0	0	0	0	0

Measurement	Alignment Alternatives							Station Location Options				
	East of UPRR to Downtown Gilroy – Program Alignment (C)	US 101 to Downtown Gilroy (C)	West of Coyote Creek Pkwy to Downtown Gilroy (C)	Gilroy Station Loop (W)	US 101 to East Gilroy (C)	West of Coyote Creek Pkwy to East Gilroy (C)	East of UPRR to East Gilroy (C)	Morgan Hill Station: Downtown (W)	Downtown Gilroy Station: Four-Track (C)	Downtown Gilroy Station: Two-Track (W)	East Gilroy Station: Four-Track (C)	Morgan Hill Station: US 101 at Cochrane (W)
Swamps/Marshes (acres)	0	0	0	0	0	0	0	0	0	0	0	0
Constructability												
Constructability Issues Summarized	<ul style="list-style-type: none"> Impact on train operations Tight clearances to UPRR tracks and Monterey Highway Squeezed between Monterey Highway and UPRR tracks Impact on Monterey Highway traffic Viaduct through town Urban noise restrictions through Gilroy Urban utility relocations for new stations 1 mile tunnel section 	<ul style="list-style-type: none"> Impact on train operations Tight clearances to UPRR tracks in Gilroy Traffic impacts in Gilroy 1 mile tunnel section Trench along airport Viaduct through town Urban noise restrictions through Gilroy Urban utility relocations Runway relocation Utility support relocation 	<ul style="list-style-type: none"> Impact on train operations Tight clearances to UPRR tracks in Gilroy Traffic impacts in Gilroy 1 mile tunnel section Trench along airport Viaduct through town Urban noise restrictions through Gilroy Urban utility relocations Runway relocation Utility support relocation 	<ul style="list-style-type: none"> May disrupt train operations Tight clearances to UPRR tracks in Gilroy Traffic impacts in Gilroy 1 mile tunnel section Viaduct through Gilroy Urban noise restrictions through Gilroy Urban utility relocations for new station 	<ul style="list-style-type: none"> Minimal impact to railway and highway operations 1 mile tunnel section Moderate bridge impacts Impact on US 101 Ramps Impact at CHP weigh Station 	<ul style="list-style-type: none"> Minimal impact to railway and highway operations 1 mile tunnel section Moderate bridge impacts Impact on US 101 Ramps Impact at CHP weigh Station 	<ul style="list-style-type: none"> Impact on train operations Tight clearances to Railroad tracks Squeezed between Monterey Highway and railroad tracks Impact on Monterey Highway traffic Viaduct through town 1 mile tunnel section 	N/A, included with alignment data	N/A, included with alignment data	N/A, included with alignment data	N/A, included with alignment data	N/A, included with alignment data
Disruption to Existing Railroads	Existing UPRR spur track and associated property in Downtown Gilroy to be relocated Access to UPRR from east blocked by HST from Bernal Way to Metcalf Road Issacson business spur needs to be	Access to UPRR from east mostly blocked by HST from Bernal Way to Metcalf Road	Access to UPRR from east mostly blocked by HST from Bernal Way to Metcalf Road	Access to UPRR from east mostly blocked by HST from Bernal Way to Metcalf Road	Access to UPRR from east mostly blocked by HST from Bernal Way to Metcalf Road	Access to UPRR from east mostly blocked by HST from Bernal Way to Metcalf Road	Access to UPRR from east mostly blocked by HST from Bernal Way to Metcalf Road	Caltrain short-term parking needs to be separate from market-rate HST parking	Caltrain short-term parking needs to be separate from market-rate HST parking	Caltrain short-term parking needs to be separate from market-rate HST parking	None	None

Measurement	Alignment Alternatives							Station Location Options					
	East of UPRR to Downtown Gilroy – Program Alignment (C)	US 101 to Downtown Gilroy (C)	West of Coyote Creek Pkwy to Downtown Gilroy (C)	Gilroy Station Loop (W)	US 101 to East Gilroy (C)	West of Coyote Creek Pkwy to East Gilroy (C)	East of UPRR to East Gilroy (C)	Morgan Hill Station: Downtown (W)	Downtown Gilroy Station: Four-Track (C)	Downtown Gilroy Station: Two-Track (W)	East Gilroy Station: Four-Track (C)	Morgan Hill Station: US 101 at Cochrane (W)	
	relocated												
Disruption to and Relocation of Utilities	<ul style="list-style-type: none"> 7 electrical utilities 3 natural gas mains Potential fiber optic line Potential conflict with Santa Clara Valley Water District (SCVWD) Trenching may conflict with Santa Clara Conduit, Pacheco Tunnel, and Hollister Conduit. 	<ul style="list-style-type: none"> 7 electrical utilities 4 natural gas mains Potential conflict with SCVWD 	<ul style="list-style-type: none"> 7 electrical utilities 4 natural gas mains Potential conflict with SCVWD 	<ul style="list-style-type: none"> 3 electrical utilities 1 fiber optic line Potential conflict with SCVWD Trenching may conflict with Santa Clara Conduit, Pacheco Tunnel, and Hollister Conduit. 	<ul style="list-style-type: none"> 3 electrical utilities 1 fiber optic line Potential conflict with SCVWD Trenching may conflict with Santa Clara Conduit, Pacheco Tunnel, and Hollister Conduit. 	<ul style="list-style-type: none"> 3 electrical utilities 1 fiber optic line Potential conflict with SCVWD Trenching may conflict with Santa Clara Conduit, Pacheco Tunnel, and Hollister Conduit. 	<ul style="list-style-type: none"> 7 electrical utilities 3 natural gas mains Potential fiber optic line Potential conflict with SCVWD Trenching may conflict with Santa Clara Conduit, Pacheco Tunnel, and Hollister Conduit. 	N/A, included with alignment data	N/A, included with alignment data	N/A, included with alignment data	N/A, included with alignment data	N/A, included with alignment data	
Environmental Resources													
Biological Resources (acres per species/habitat)	CHWR Range Data	<ul style="list-style-type: none"> 1,924 ac – California Tiger Salamander (CTS) 550 ac – San Joaquin Kit Fox (SJKF) 100 ac – California Red-legged Frog (CRLF) 	<ul style="list-style-type: none"> 1,709 ac – CTS 434 ac – SJKF 102 ac – CRLF 	<ul style="list-style-type: none"> 2,187 ac – CTS 888 ac – SJKF 102 ac – CRLF 	<ul style="list-style-type: none"> 1,976 ac – CTS 408 ac – SJKF 90 ac – CRLF 	<ul style="list-style-type: none"> 1,677 ac – CTS 398 ac – SJKF 90 ac – CRLF 	<ul style="list-style-type: none"> 2,191 ac – CTS 869 ac – SJKF 90 ac – CRLF 	<ul style="list-style-type: none"> 1,988 ac – CTS 523 ac – SJKF 90 ac – CRLF 	<ul style="list-style-type: none"> 21 ac – CTS 	<ul style="list-style-type: none"> 88 ac – CTS 	<ul style="list-style-type: none"> 88 ac – CTS 	<ul style="list-style-type: none"> 146 ac – CTS 	<ul style="list-style-type: none"> 39 ac – CTS
	Critical Habitat	<ul style="list-style-type: none"> 169 ac – CRLF 3.8 ac – Bay checkerspot butterfly 161 ac – CTS 	<ul style="list-style-type: none"> 172 ac – CRLF 0.8 ac – Bay checkerspot butterfly 163 ac – CTS 	<ul style="list-style-type: none"> 173 ac – CRLF 3.9 ac – Bay checkerspot butterfly 164 ac – CTS 	<ul style="list-style-type: none"> 162 ac – CRLF 0.9 ac – Bay checkerspot butterfly 159 ac – CTS 	<ul style="list-style-type: none"> 157 ac – CRLF 0.8 ac – Bay checkerspot butterfly 153 ac – CTS 	<ul style="list-style-type: none"> 157 ac – CRLF 3.9 ac – Bay checkerspot butterfly 153 ac – CTS 	<ul style="list-style-type: none"> 162 ac – CRLF 3.8 ac – Bay checkerspot butterfly 159 ac – CTS 	None	None	None	None	None

Measurement	Alignment Alternatives							Station Location Options				
	East of UPRR to Downtown Gilroy – Program Alignment (C)	US 101 to Downtown Gilroy (C)	West of Coyote Creek Pkwy to Downtown Gilroy (C)	Gilroy Station Loop (W)	US 101 to East Gilroy (C)	West of Coyote Creek Pkwy to East Gilroy (C)	East of UPRR to East Gilroy (C)	Morgan Hill Station: Downtown (W)	Downtown Gilroy Station: Four-Track (C)	Downtown Gilroy Station: Two-Track (W)	East Gilroy Station: Four-Track (C)	Morgan Hill Station: US 101 at Cochrane (W)
CNDDB	<ul style="list-style-type: none"> • 454 ac – CTS • 105 ac – hoary bat • 191 ac – pallid bat • 4.1 ac – great blue heron • 115 ac – woodland woollythreads • 11 ac – prairie falcon • 105 ac – Loma Prieta hoita • 12 ac – saline clover 	<ul style="list-style-type: none"> • 399 ac – CTS • 97 ac – hoary bat • 0.4 ac – most beautiful-jewel flower • 152 ac – pallid bat • 1.9 ac – Mt. Hamilton fountain thistle • 46 ac – woodland woollythreads • 12 ac – saline clover • 11 ac – prairie falcon • 0.4 ac – western pond turtle • 97 ac – Loma Prieta hoita • 0.3 ac – smooth lessingia 	<ul style="list-style-type: none"> • 399 ac – CTS • 95 ac – hoary bat • 234 ac – pallid bat • 4.1 ac – great blue heron • 12 ac – saline clover • 46 ac – woodland woollythreads • 11 ac – prairie falcon • 95 ac – Loma Prieta hoita 	<ul style="list-style-type: none"> • 325 ac – CTS • 120 ac – hoary bat • 0.4 ac – most beautiful-jewel flower • 167 ac – pallid bat • 1.9 ac – Mt. Hamilton fountain thistle • 44 ac – woodland woollythreads • 11 ac – prairie falcon • 0.4 ac – western pond turtle • 3.9 ac – least Bell's vireo • 107 ac – Loma Prieta hoita • 0.3 ac – smooth lessingia 	<ul style="list-style-type: none"> • 238 ac – CTS • 13 ac – hoary bat • 0.4 ac – most beautiful-jewel flower • 55 ac – pallid bat • 1.9 ac – Mt. Hamilton fountain thistle • 44 ac – woodland woollythreads • 11 ac – prairie falcon • 0.4 ac – western pond turtle • 0.9 ac – least Bell's vireo • 0.3 ac – smooth lessingia 	<ul style="list-style-type: none"> • 238 ac – CTS • 13 ac – hoary bat • 145 ac – pallid bat • 4.1 ac – great blue heron • 46 ac – woodland woollythreads • 11 ac – prairie falcon • 0.9 ac – least Bell's vireo 	<ul style="list-style-type: none"> • 329 ac – CTS • 4.1 ac – great blue heron • 13 ac – hoary bat • 0.9 ac – least Bell's vireo • 86 ac – pallid bat • 115 ac – woodland woollythreads • 11 ac – prairie falcon 	None	<ul style="list-style-type: none"> • 52 ac – CTS • 60 ac – hoary bat • 60 ac – Loma Prieta hoita • 60 ac – pallid bat 	<ul style="list-style-type: none"> • 52 ac – CTS • 60 ac – hoary bat • 60 ac – Loma Prieta hoita • 60 ac – pallid bat 	None	None
Wildlife Refuges/ Conservation Areas	None	None	None	None	None	None	None	None	None	None	None	None
Cultural Resources (potential historical properties, known archaeological sites, archaeological sensitivity)	<ul style="list-style-type: none"> • 243 properties w/ buildings over 50 years old; • 9 National Register of Historic Places (NRHP) eligible; • 17 CEQA properties; 	<ul style="list-style-type: none"> • 110 properties w/ buildings over 50 years old; • 5 NRHP-eligible properties; • 9 CEQA properties; • 3 known archaeological sites; 	<ul style="list-style-type: none"> • 146 properties w/ buildings over 50 years old; • 6 NRHP-eligible properties; • 10 CEQA properties; • 3 known archaeological sites; 	<ul style="list-style-type: none"> • 156 properties w/ buildings over 50 years old; • 10 NRHP-eligible properties; • 16 CEQA properties; • 5 known archaeological sites; 	<ul style="list-style-type: none"> • 99 properties w/ buildings over 50 years old; • 4 NRHP-eligible properties; • 1 CEQA property; • 5 known archaeological sites; 	<ul style="list-style-type: none"> • 140 properties w/ buildings over 50 years old; • 5 NRHP-eligible properties; • 1 CEQA property; • 5 known archaeological sites; 	<ul style="list-style-type: none"> • 207 properties w/ buildings over 50 years old; • 5 NRHP-eligible properties; • 2 CEQA properties; • 5 known archaeological sites; 	<ul style="list-style-type: none"> • 3 properties w/ buildings over 50 years old; • 1 CEQA property. 	<ul style="list-style-type: none"> • 11 properties w/ buildings over 50 years old; • 1 NRHP-eligible property; • 1 CEQA property; • Gilroy Station is likely eligible for National 	<ul style="list-style-type: none"> • 11 properties w/ buildings over 50 years old; • 1 NRHP-eligible property; • 1 CEQA property; Gilroy Station is likely eligible for National 	<ul style="list-style-type: none"> • 7 properties w/ buildings over 50 years old. 	<ul style="list-style-type: none"> • 1 property w/ buildings over 50 years old;

Measurement	Alignment Alternatives							Station Location Options					
	East of UPRR to Downtown Gilroy – Program Alignment (C)	US 101 to Downtown Gilroy (C)	West of Coyote Creek Pkwy to Downtown Gilroy (C)	Gilroy Station Loop (W)	US 101 to East Gilroy (C)	West of Coyote Creek Pkwy to East Gilroy (C)	East of UPRR to East Gilroy (C)	Morgan Hill Station: Downtown (W)	Downtown Gilroy Station: Four-Track (C)	Downtown Gilroy Station: Two-Track (W)	East Gilroy Station: Four-Track (C)	Morgan Hill Station: US 101 at Cochrane (W)	
	<ul style="list-style-type: none"> 4 known archaeological sites; Highly sensitive for archaeological deposits. 	<ul style="list-style-type: none"> Highly sensitive for archaeological deposits. 	<ul style="list-style-type: none"> Highly sensitive for archaeological deposits. 	<ul style="list-style-type: none"> Highly sensitive for archaeological deposits. 	<ul style="list-style-type: none"> Highly sensitive for archaeological deposits. 	<ul style="list-style-type: none"> Highly sensitive for archaeological deposits. 	<ul style="list-style-type: none"> Highly sensitive for archaeological deposits. 		Register.	Register.			
Parklands	<ul style="list-style-type: none"> 5.7 ac – Coyote Creek Park Chain 4.4 ac – Coyote Creek Park Trail 0.06 ac – Metcalf Park 0.2 ac – Tulare Hill Land Bank 4.4 ac – Silveira Park 	<ul style="list-style-type: none"> 43 ac – Coyote Creek Park Chain 16 ac – Coyote Creek Park Trail 4.0 ac – Coyote Creek Golf Club 0.2 ac – Metcalf Park 	<ul style="list-style-type: none"> 29 ac – Coyote Creek Park Chain 4.5 ac – Coyote Creek Park Trail 0.2 ac – Tulare Hill Land Bank 0.1 ac – Metcalf Park 	<ul style="list-style-type: none"> 50 ac – Coyote Creek Park Chain 16 ac – Coyote Creek Park Trail 4.0 ac – Coyote Creek Golf Club 0.2 ac – Metcalf Park 	<ul style="list-style-type: none"> 43 ac – Coyote Creek Park Chain 16 ac – Coyote Creek Park Trail 4.0 ac – Coyote Creek Golf Club 0.2 ac – Metcalf Park 	<ul style="list-style-type: none"> 29.3 ac – Coyote Creek Park Chain 4.5 ac – Coyote Creek Park Trail 0.06 ac – Metcalf Park 0.2 ac – Tulare Hill Land Bank 	<ul style="list-style-type: none"> 5.7 ac – Coyote Creek Park Chain 4.4 ac – Coyote Creek Park Trail 0.06 ac – Metcalf Park 4.3 ac – Silveira Park; 0.2 ac – Tulare Hill Land Bank 	None	None	None	None	None	
Agricultural Land (acres)	<ul style="list-style-type: none"> 567 ac – Prime Farmland; 174 ac – Farmland of Statewide Importance; 26 ac – Unique Farmland; 191 ac – Farmland of Local Importance. 	<ul style="list-style-type: none"> 443 ac – Prime Farmland; 249 ac – Farmland of Statewide Importance; 21 ac – Unique Farmland; 189 ac – Farmland of Local Importance. 	<ul style="list-style-type: none"> 673 ac – Prime Farmland; 249 ac – Farmland of Statewide Importance; 31 ac – Unique Farmland; 283 ac – Farmland of Local Importance. 	<ul style="list-style-type: none"> 737 ac – Prime Farmland; 228 ac – Farmland of Statewide Importance; 5.6 ac – Unique Farmland; 131 ac – Farmland of Local Importance. 	<ul style="list-style-type: none"> 668 ac – Prime Farmland; 213 ac – Farmland of Statewide Importance; 5.6 ac – Unique Farmland; 131 ac – Farmland of Local Importance. 	<ul style="list-style-type: none"> 933 ac – Prime Farmland; 217 ac – Farmland of Statewide Importance; 14 ac – Unique Farmland; 226 ac – Farmland of Local Importance. 	<ul style="list-style-type: none"> 777 ac – Prime Farmland; 219 ac – Farmland of Statewide Importance; 11 ac – Unique Farmland; 215 ac – Farmland of Local Importance. 	None	None	None	<ul style="list-style-type: none"> 98 ac – Prime Farmland; 36 ac – Farmland of Statewide Importance 	<ul style="list-style-type: none"> 0.1 ac – Prime Farmland; 17 ac – Unique Farmland 	
Williamson Act Farmland (acres)	730	877	919	703	667	720	708	0	0	0	26	0	
Natural Environment													
Noise/Vibration (potential sensitive receptors/ number of parcels)	3081/389	2094/246	2196/317	2157/304	1374/245	1476/316	2326/368	N/A	N/A	N/A	N/A	N/A	
Visual/Scenic Resources	<ul style="list-style-type: none"> HST adjacent to existing railroad 	<ul style="list-style-type: none"> HST on cut-and-fill across hillside open 	<ul style="list-style-type: none"> HST on cut-and-fill across hillside open 	<ul style="list-style-type: none"> HST on cut-and-fill across hillside open 	<ul style="list-style-type: none"> HST on cut-and-fill across hillside open 	<ul style="list-style-type: none"> HST on cut-and-fill across hillside open 	<ul style="list-style-type: none"> HST on cut-and-fill across hillside open 	<ul style="list-style-type: none"> HST adjacent to existing railroad 	<ul style="list-style-type: none"> Large parking garage is out of scale with 	<ul style="list-style-type: none"> Aerial structure taller than many 	<ul style="list-style-type: none"> Caltrain overnight storage tracks 	<ul style="list-style-type: none"> Station located in an agricultural 	<ul style="list-style-type: none"> Location near similar sized development

Measurement	Alignment Alternatives							Station Location Options				
	East of UPRR to Downtown Gilroy – Program Alignment (C)	US 101 to Downtown Gilroy (C)	West of Coyote Creek Pkwy to Downtown Gilroy (C)	Gilroy Station Loop (W)	US 101 to East Gilroy (C)	West of Coyote Creek Pkwy to East Gilroy (C)	East of UPRR to East Gilroy (C)	Morgan Hill Station: Downtown (W)	Downtown Gilroy Station: Four-Track (C)	Downtown Gilroy Station: Two-Track (W)	East Gilroy Station: Four-Track (C)	Morgan Hill Station: US 101 at Cochrane (W)
	corridor <ul style="list-style-type: none"> • Aerial structures in downtown Morgan Hill and Gilroy out of scale with existing development • Tall aerial crossing of US 101 south of Gilroy. 	space along freeway <ul style="list-style-type: none"> • Portion of alignment passes low density residential • Aerial along freeway through Morgan Hill blocks some views to hills • Tall aerial crossing of US 101 south of Gilroy. 	space along freeway <ul style="list-style-type: none"> • Portion of alignment passes low density residential • Aerial along freeway through Morgan Hill blocks some views to hills • Tall aerial crossing of US 101 south of Gilroy. 	space along freeway <ul style="list-style-type: none"> • Portion of alignment passes low-density residential • Aerial along freeway through Morgan Hill blocks some views to hills • Single track aerial crossing of US 101 and HST main lines north of Gilroy • Aerial structure in downtown Gilroy out of scale with existing development • Tall aerial crossing of US 101 south of Gilroy. • Single track aerial crossing of HST mainline south of Gilroy 	space along freeway <ul style="list-style-type: none"> • Portion of alignment passes low-density residential • Aerial along freeway through Morgan Hill blocks some views to hills 	space along freeway <ul style="list-style-type: none"> • Portion of alignment passes low-density residential • Aerial along freeway through Morgan Hill blocks some views to hills 	corridor <ul style="list-style-type: none"> • Aerial structures in downtown Morgan Hill out of scale with existing development • Aerial crossing of US 101 north of Gilroy 	surrounding area	surrounding buildings <ul style="list-style-type: none"> • Large parking garage is out of scale with surrounding area 	moved away from station <ul style="list-style-type: none"> • Aerial structure taller than many surrounding buildings • Large parking garage is out of scale with surrounding area 	area	(big box retail)
Geotechnical Constraints (known fault crossings or seismic zones, liquefaction zones)	<ul style="list-style-type: none"> • 1 Fault line crossing; • 1 Fault rupture hazard zone; • 592 ac in liquefaction zones. 	<ul style="list-style-type: none"> • 1 Fault line crossing; • 1 Fault rupture hazard zone; • 455 ac in liquefaction zones. 	<ul style="list-style-type: none"> • 1 Fault line crossing; • 1 Fault rupture hazard zone; • 1,003 ac in liquefaction zones. 	<ul style="list-style-type: none"> • 1 Fault line crossing; • 1 Fault rupture hazard zone; • 924 ac in liquefaction zones. 	<ul style="list-style-type: none"> • 1 Fault line crossing; • 1 Fault rupture hazard zone; • 893 ac in liquefaction zones. 	<ul style="list-style-type: none"> • 1 Fault line crossing; • 1 Fault rupture hazard zone; • 1,481 ac in liquefaction zones. 	<ul style="list-style-type: none"> • 1 Fault line crossing; • 1 Fault rupture hazard zone; • 1,041 ac in liquefaction zones. 	N/A, included in alignment data	N/A, included in alignment data	N/A, included in alignment data	N/A, included in alignment data	N/A, included in alignment data
Land Use												

Measurement	Alignment Alternatives							Station Location Options				
	East of UPRR to Downtown Gilroy – Program Alignment (C)	US 101 to Downtown Gilroy (C)	West of Coyote Creek Pkwy to Downtown Gilroy (C)	Gilroy Station Loop (W)	US 101 to East Gilroy (C)	West of Coyote Creek Pkwy to East Gilroy (C)	East of UPRR to East Gilroy (C)	Morgan Hill Station: Downtown (W)	Downtown Gilroy Station: Four-Track (C)	Downtown Gilroy Station: Two-Track (W)	East Gilroy Station: Four-Track (C)	Morgan Hill Station: US 101 at Cochrane (W)
Consistency with Local Plans/General Plans	Yes – Morgan Hill and City County general plans	No – City County general plans: infill development; locate transit stops that can be conveniently accessed from downtown.	No – City County general plans: infill development; locate transit stops that can be conveniently accessed from downtown.	Yes – City of Gilroy and Santa Clara County general plans	Yes – City of Gilroy and Santa Clara County general plans	Yes – City of Gilroy and Santa Clara County general plans	Yes – City of Gilroy and Santa Clara County general plans	Yes – Morgan Hill and City County general plans	Yes – City of Gilroy and Santa Clara County general plans	Yes – City of Gilroy and Santa Clara County general plans	No – zoning and land use currently agricultural; site is part of Gilroy's 660 plan for large mixed-use development; site is distant from Caltrain and downtown	Yes – Morgan Hill and City County general plans; No – City County general plans: locate transit stops that can be conveniently accessed from downtown.
Traffic												
Local Traffic Effects around Stations (increased congestion)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Potential increase in traffic congestion on several local streets.	Potential increase in traffic congestion on several local streets.	Potential increase in traffic congestion on several local streets.	Less disruption to local traffic and impacts to fewer streets than Morgan Hill Station: Downtown, Downtown Gilroy Station: Four-track, or Downtown Gilroy Station: Two-Track.	Less disruption to local traffic and impacts to fewer streets than Morgan Hill Station: Downtown, Downtown Gilroy Station: Four-track, or Downtown Gilroy Station: Two-Track.
Road Closures	8	6	13	2	6	13	8	N/A, included within alignment data	N/A, included within alignment data	N/A, included within alignment data	N/A, included within alignment data	N/A, included within alignment data
Community Character and Cohesion												
Physical Division of Communities (miles) ¹	0	3.2	3.2	2.8	1.9	1.9	0.6	0	0	0	0	0
Community Facilities within One-half Mile of Alignment	<ul style="list-style-type: none"> • 3 Fire stations • 2 Police stations • 33 Churches • 2 Libraries • 4 Post offices 	<ul style="list-style-type: none"> • 3 Fire stations • 1 Police station • 26 Churches • 2 Libraries • 3 Post offices • 8 Social service 	<ul style="list-style-type: none"> • 3 Fire stations • 1 Police station • 26 Churches • 2 Libraries • 3 Post offices • 8 Social service 	<ul style="list-style-type: none"> • 3 Fire stations • 1 Police station • 26 Churches • 2 Libraries • 3 Post offices • 8 Social service 	<ul style="list-style-type: none"> • 2 Fire stations • 9 Churches • 2 Post offices • 3 Social service organizations • 1 Cultural 	<ul style="list-style-type: none"> • 2 Fire stations • 9 Churches • 2 Post offices • 3 Social service organization • 1 Cultural 	<ul style="list-style-type: none"> • 3 Fire stations • 1 Police station • 16 Churches • 3 Post offices • 3 Social Service Organizations 	<ul style="list-style-type: none"> • 6 Churches • 1 Train station • 2 Social service organization • 1 Cultural center 	<ul style="list-style-type: none"> • 1 Fire station • 11 Churches • 1 Police station • 2 Libraries • 1 Post office • 3 Social service 	<ul style="list-style-type: none"> • 1 Fire station • 11 Churches • 1 Police station • 2 Libraries • 1 Post office • 3 Social service 	<ul style="list-style-type: none"> • 1 Church • Social service organization • 1 School • 1 Medical center 	<ul style="list-style-type: none"> • 1 Social service organization • 1 School • 1 Medical center

¹ The linear distance of the alignment as it crosses through communities in a new right-of-way; where the alignment is along existing road or railroad corridor, the community is not considered divided.

Measurement	Alignment Alternatives							Station Location Options				
	East of UPRR to Downtown Gilroy – Program Alignment (C)	US 101 to Downtown Gilroy (C)	West of Coyote Creek Pkwy to Downtown Gilroy (C)	Gilroy Station Loop (W)	US 101 to East Gilroy (C)	West of Coyote Creek Pkwy to East Gilroy (C)	East of UPRR to East Gilroy (C)	Morgan Hill Station: Downtown (W)	Downtown Gilroy Station: Four-Track (C)	Downtown Gilroy Station: Two-Track (W)	East Gilroy Station: Four-Track (C)	Morgan Hill Station: US 101 at Cochrane (W)
	<ul style="list-style-type: none"> 8 Social service organization 4 Cultural centers 2 Train stations 23 Schools 9 Parks <p>TOTAL = 90</p>	<ul style="list-style-type: none"> organization 3 Cultural centers 1 Train station 16 Schools 8 Parks 2 Medical centers <p>TOTAL = 73</p>	<ul style="list-style-type: none"> organization 3 Cultural centers 1 Train station 15 Schools 8 Parks 2 Medical centers <p>TOTAL = 72</p>	<ul style="list-style-type: none"> organization 3 Cultural centers 1 Train station 17 Schools 8 Parks 2 Medical centers <p>TOTAL = 74</p>	<ul style="list-style-type: none"> center 8 Schools 3 Parks 2 Medical centers <p>TOTAL = 30</p>	<ul style="list-style-type: none"> center 8 Schools 3 Parks 2 Medical centers <p>TOTAL = 30</p>	<ul style="list-style-type: none"> 2 Cultural centers 1 Train station 16 Schools 4 Parks 1 Medical center <p>TOTAL = 50</p>	<ul style="list-style-type: none"> 6 Schools 5 Parks <p>TOTAL = 21</p>	<ul style="list-style-type: none"> organizations 2 Cultural centers 1 Train station 3 Schools 3 Parks <p>TOTAL = 28</p>	<ul style="list-style-type: none"> organizations 2 Cultural centers 1 Train station 3 Schools 3 Parks <p>TOTAL = 28</p>	TOTAL = 4	TOTAL = 3
Residential Displacements (Single-family, multi-family, mobile home parks) [units]	124 - 202	40 - 87	54 - 99	113 - 162	69 - 83	83 - 103	107 - 151	20 - 24	0	0	5 - 8	0
Business Displacements (commercial, industrial, non-profit) [units]	117 - 153	44 - 66	55 - 79	53 - 70	6 - 13	14 - 24	65 - 88	0	12 - 14	12 - 14	0	0 - 1
Agency and Public Input												
Agency and Public Input	The City of Gilroy expressed concerns regarding the impacts of the East of UPRR aerial alignment through the City and the impacts of an HST station on its downtown and neighborhoods. Gilroy requested that an HST trench through downtown be evaluated.	Several key state and federal agencies, including the California Department of Fish and Game (CDFG) and U.S. Fish and Wildlife Service (USFWS) prefer US 101 over the East of UPRR because the area along Monterey Highway serves as a critical linkage for wildlife movement. An elevated structure would be preferred to allow for wildlife movement from the Gabilan Range to southwest of the Diablo Range. The CDFG, USFWS, and NOAA Fisheries suggested crossing the Soap Lake floodplain using elevated/aerial structures to minimize the crossing distance. The City of Morgan Hill opposes this alignment due to impacts to existing and future developments, including downtown Main Street.	At this time, no substantial comments regarding the Gilroy Station Loop Alignment Alternative have been made.	The City of Gilroy prefers a downtown station if it is in a trench, and agrees that a two-track system in downtown Gilroy would have fewer right-of-way impacts. However, concern has been expressed that a Gilroy station could be postponed or eliminated under this alignment alternative, with the express tracks built in advance of the station loop. For all alternatives that pass through the Soap Lake floodplain southeast of Gilroy, the CDFG, USFWS and NOAA Fisheries prefer an alignment with the shortest crossing of the floodplain. Members of the Frazier Lake Airpark made requests to avoid the airpark and interference with its operations. Some residents expressed concern for impacts on agricultural land.	The City of Morgan Hill opposes this alignment due to impacts to existing and future developments, including downtown Main Street. Concerns were expressed by residents and businesses regarding impacts to properties, farmland and waterways from alignments leading to the East Gilroy	A joint resolution between the cities of Morgan Hill and Gilroy states a preference for an HST station in Gilroy because it would better serve the travel-shed in the counties to the south. The City of Morgan Hill was not in favor of the Morgan Hill Downtown station; the city does not desire an aerial structure through	Included within alignment data	Included within alignment data	While some members of the public have acknowledged that an East Gilroy station would avoid impacts to the downtown area, others are concerned that an eastern station strays too far from the existing downtown Gilroy transportation hub. Some also feel that the size/scale of the station is not appropriate in	A joint resolution between the cities of Morgan Hill and Gilroy states a preference for an HST station in Gilroy because it would better serve the travel-shed in the counties to the south. The City of Morgan Hill was not in favor of the Morgan Hill Downtown station; the city does not desire an aerial structure through downtown		

Measurement	Alignment Alternatives							Station Location Options				
	East of UPRR to Downtown Gilroy – Program Alignment (C)	US 101 to Downtown Gilroy (C)	West of Coyote Creek Pkwy to Downtown Gilroy (C)	Gilroy Station Loop (W)	US 101 to East Gilroy (C)	West of Coyote Creek Pkwy to East Gilroy (C)	East of UPRR to East Gilroy (C)	Morgan Hill Station: Downtown (W)	Downtown Gilroy Station: Four-Track (C)	Downtown Gilroy Station: Two-Track (W)	East Gilroy Station: Four-Track (C)	Morgan Hill Station: US 101 at Cochrane (W)
		<p>The City of Gilroy prefers a trench over an aerial structure for its downtown station. Public comments regarding this alignment were mixed: some residents prefer using the existing rail corridor to the greatest extent possible, while others are concerned about noise, impacts to property, historical and sensitive structures, traffic and circulation, and biological resources.</p> <p>Many residents who live east of US 101 in the Gilroy area, particularly in unincorporated Santa Clara County, are opposed to this alignment due to impacts to properties, farmland, open space, recreational facilities and their rural quality of life. Other residents prefer US 101 due to the East of UPRR alignment's impacts to property and downtown areas of Morgan Hill, San Martin and Gilroy.</p> <p>The City of Morgan Hill prefers the US 101 Alignment rather than the Refined Program Alignment. The City of Gilroy has expressed some support for a downtown station if it is in a trench rather than aerial.</p>		<p>Many residents who live east of US 101 in the Gilroy area, particularly in unincorporated Santa Clara County, are opposed to this alignment due to impacts to properties, farmland, open space, recreational facilities and their rural quality of life.</p> <p>It was noted that an elevated alignment on the east side of US 101 would be closer to sensitive serpentine grasslands and the Bay Checkerspot Butterfly habitat, but would still allow wildlife to move through the area at the same rate as it does now. The USFWS and CDFG agreed that wildlife movement is more important in this area.</p> <p>The City of Morgan Hill prefers this alignment rather than Refined Program Alignment.</p> <p>It was noted that a trench would be needed next to San Martin Airport in order to meet airspace safety requirements.</p>	station.		downtown.				this setting.	

Appendix B4: Evaluation Decision Summary for Maintenance-of-Equipment/Maintenance-of-Infrastructure Facility Alternatives

Alignment Alternative	Carried Forward or Withdrawn	Decision Explanation
Coyote Valley: A	Carried Forward	The Coyote Valley: A MOE/MOI facility is potentially practicable and is carried forward for further study because it meets the project's purpose and need and is needed to serve the following alignment alternatives: West of Coyote Creek Parkway to East Gilroy Alignment Alternative or West of Coyote Creek Parkway to Downtown Gilroy Alignment Alternative.
Coyote Valley: B	Carried Forward	The Coyote Valley: B MOE/MOI facility is potentially practicable and is carried forward for further study because it meets the project's purpose and need and is needed to serve the following alignment alternatives: East of UPRR to Downtown Gilroy Alignment Alternative or East of UPRR to East Gilroy Alignment Alternative.
South of Gilroy: C	Carried Forward	The South of Gilroy: C MOE/MOI facility is potentially practicable and is carried forward for further study because it meets the project's purpose and need and is needed to serve the following alignment alternatives: East of UPRR to East Gilroy Alignment Alternative, US 101 to East Gilroy Alignment Alternative, or West of Coyote Creek Parkway to East Gilroy Alignment Alternative.
South of Gilroy: D	Carried Forward	The South of Gilroy: D MOE/MOI facility is potentially practicable and is carried forward for further study because it meets the project's purpose and need and is needed to serve the following alignment alternatives: East of UPRR to Downtown Gilroy Alignment Alternative, US 101 to Downtown Gilroy Alignment Alternative, or West of Coyote Creek Parkway to Downtown Gilroy Alignment Alternative.

Appendix B4: Maintenance-of-Equipment/Maintenance-of-Infrastructure Facility Alternatives

Measurement	Coyote Valley: A (C)	Coyote Valley: B (C)	South of Gilroy: C (C)	South of Gilroy: D (C)
Design Objectives				
Journey Time (minutes)	N/A	N/A	N/A	N/A
Rail Distance (miles)	N/A	N/A	N/A	N/A
Cost				
Operation and Maintenance Costs (cost factor)	1.04	1.01	1.00	5.55
Capital Costs (cost in \$ millions)	\$221	\$214	\$200	\$280
Aquatic Resources				
<i>Subtotal of Aquatic Resource Impacts (acres)</i>	<i>0.4</i>	<i>0.1</i>	<i>0</i>	<i>8.9</i>
Wetland Habitat (acres)	0.4	0.1	0	0.8
Vernal Pool Complex (acres)	0	0	0	0
Streams, Creeks or Canals (miles)	0.1	0.1	0.5	1.2
Lakes/Ponds/Rivers (acres)	0	0	0	0
Reservoir/Constructed Basin/ Constructed Watercourse (acres)	0	0	0	8.1
Swamps/Marshes (acres)	0	0	0	0
Constructability				
Constructability Issues Summarized	N/A	N/A	N/A	N/A
Disruption to Existing Railroads	0	2 temporary impacts during construction to UPRR tracks	0	0
Disruption to and Relocation of Utilities	<ul style="list-style-type: none"> • 3 gas • 6 electric 	<ul style="list-style-type: none"> • 1 gas • 2 electric 	<ul style="list-style-type: none"> • 1 gas • 0 electric 	<ul style="list-style-type: none"> • 1 gas • 1 electric

Measurement		Coyote Valley: A (C)	Coyote Valley: B (C)	South of Gilroy: C (C)	South of Gilroy: D (C)
Environmental Resources					
Biological Resources (acres per species/habitat)	CHWR Range Data	<ul style="list-style-type: none"> • 265 ac – California Tiger Salamander (CTS) • 265 ac – San Joaquin Kit Fox (SJKF) 	<ul style="list-style-type: none"> • 359 ac – CTS • 188 ac – SJKF 	<ul style="list-style-type: none"> • 255 ac – CTS 	<ul style="list-style-type: none"> • 382 ac – CTS
	Critical Habitat	<ul style="list-style-type: none"> • 0.1 ac – Bay checkerspot butterfly 	None	None	None
	CNDDB	<ul style="list-style-type: none"> • 2.2 ac – great blue heron • 69 ac – pallid bat 	<ul style="list-style-type: none"> • 80 ac – CTS • 4.4 ac – great blue heron 	<ul style="list-style-type: none"> • 214 ac – CTS • 14 ac – hoary bat • 1.1 ac least Bell's vireo 	<ul style="list-style-type: none"> • 154 ac CTS • 5.5 ac saline clover
	Wildlife Refuges/ Conservation Areas	None	None	None	None
Cultural Resources (potential historical properties, known archaeological sites, archaeological sensitivity)		<ul style="list-style-type: none"> • 21 properties w/ buildings over 50 years old; • 3 NRHP-eligible properties; • 1 CEQA property; • 2 known archaeological site 	<ul style="list-style-type: none"> • 35 properties w/ buildings over 50 years old; • 1 NRHP-eligible property; • 2 CEQA properties; • 1 known archaeological site 	<ul style="list-style-type: none"> • 19 properties w/ buildings over 50 years old; • 1 NRHP-eligible property; • 2 known archaeological sites 	<ul style="list-style-type: none"> • 7 properties w/ buildings over 50 years old;
Parklands		<ul style="list-style-type: none"> • 0.6 ac – Coyote Creek Trail • 6.9 ac – Coyote Creek 	<ul style="list-style-type: none"> • 0.2 ac – Coyote Creek Trail • 2.8 ac – Coyote Creek 	None	None
Agricultural Land (acres)		<ul style="list-style-type: none"> • 74 ac – Farmland of Local Importance; • 56 ac – Prime Farmland; • 5.1 ac – Unique Farmland; • 0 ac – Farmland of Statewide Importance 	<ul style="list-style-type: none"> • 66 ac – Farmland of Local Importance; • 152 ac – Prime Farmland; • 6.7 ac – Unique Farmland; • 3.9 ac – Farmland of Statewide Importance 	<ul style="list-style-type: none"> • 9.0 ac – Farmland of Local Importance; • 175 ac – Prime Farmland; • 0.2 ac – Unique Farmland; • 31 ac – Farmland of Statewide Importance 	<ul style="list-style-type: none"> • 104 ac – Farmland of Local Importance; • 88 ac – Prime Farmland; • 5.7 ac – Unique Farmland; • 162 ac – Farmland of Statewide Importance
Williamson Act Farmland (acres)		11	27	170	262
Natural Environment					
Noise/Vibration (potential sensitive receptors, number of parcels)		44/31	1130/178	40/21	0/0
Visual/Scenic Resources (number of scenic resources)		N/A	N/A	N/A	N/A
Geotechnical Constraints (known fault crossings or seismic zones, liquefaction zones)		<ul style="list-style-type: none"> • 1 Fault Crossing • 102 ac in Seismic Zone • 274 ac in liquefaction zone 	<ul style="list-style-type: none"> • 1 Fault Crossing • 48 ac in Seismic Zone • 372 ac in liquefaction zone 	<ul style="list-style-type: none"> • 0 Fault Crossings • 0 ac in Seismic Zone • 163 ac in liquefaction zone 	<ul style="list-style-type: none"> • 0 Fault Crossings • 0 ac in Seismic Zone • 51 ac in liquefaction zone
Land Use					
Consistency with Local Plans/General Plans		Yes	Yes	Yes	Yes

Measurement	Coyote Valley: A (C)	Coyote Valley: B (C)	South of Gilroy: C (C)	South of Gilroy: D (C)
Traffic				
Local Traffic Effects around Stations (increased congestions?)	N/A	N/A	N/A	N/A
Road Closures	0	0	0	0
Community Character and Cohesion				
Physical Division of Communities (miles) ¹	0	0	0	0
Community Facilities within One-half Mile of Alternative	<ul style="list-style-type: none"> • 1 Post Office • 1 School <p style="text-align: center;"><i>TOTAL = 2</i></p>	<ul style="list-style-type: none"> • 7 Schools • 6 Churches • 1 Cultural Center • 1 Park <p style="text-align: center;"><i>TOTAL = 15</i></p>	<ul style="list-style-type: none"> • 1 School <p style="text-align: center;"><i>TOTAL = 1</i></p>	<p style="text-align: center;"><i>TOTAL = 0</i></p>
Residential Displacements (Single- family, multi-family, mobile home parks) [units]	13 - 19	6 - 13	4 - 5	0 - 1
Business Displacements (commercial, industrial, non-profit) [units]	8 - 12	27 - 32	0 - 4	0 - 3
Agency and Public Input				
Agency and Public Input	None	None	None	None

¹ The linear distance of the alignment as it crosses through communities in a new right-of-way; where the alignment is along existing road or railroad corridor, the community is not considered divided.

Appendix B5: Evaluation Decision Summary for Pacheco Pass Subsection Alignment Alternatives

Alignment Alternative	Carried Forward or Withdrawn	Decision Explanation
Refined Program Alignment	Carried Forward	The Refined Program Alignment is potentially practicable and is carried forward for further analysis because it meets the project's purpose and need. In addition, it will enable additional review of factors involving: impacts from construction and the development of maintenance access roads from SR 152 on the right-of-way; impacts on the use of the Cottonwood Creek Wildlife Area, including hunting; and overall environmental impacts.
Close Proximity to SR 152	Carried Forward	The Close Proximity to SR 152 Alignment Alternative is potentially practicable and is carried forward for further analysis because it meets the project's purpose and need, and it meets the Authority's objective of following existing transportation corridors better than the Refined Program Alignment.

Appendix B5: Pacheco Pass Subsection Alignment Alternatives

Measurement	Refined Program Alignment (C)	Close Proximity to SR 152 (C)
Design Objectives		
Journey Time (minutes)	6.30	6.23
Rail Distance (miles)	23.09	22.85
Cost		
Operating & Maintenance Costs (cost factor)	1.01	1.00
Capital Costs (cost in millions)	\$4,174	\$4,090
Aquatic Resources		
<i>Subtotal of Aquatic Resource Impacts (acres)</i>	<i>117.1</i>	<i>220.8</i>
Wetland Habitat (acres)	63.7	116.7
Vernal Pool Complex (acres)	19.8	22.3
Streams, Creeks or Canals (miles)	9.9	10.3
Lakes/Ponds/Rivers (acres)	33.6	81.8
Reservoir (acres)	0	0
Swamps/Marshes (acres)	0	0
Constructability		
Constructability Issues Summarized	<ul style="list-style-type: none"> • 20 mi access roads for tunnels • Bridges lower than 200 ft. • 2.69 mi tunnel 	<ul style="list-style-type: none"> • 17 mi access roads for tunnels • Bridges lower than 200 ft. • 1.96 mi tunnel
Disruption to Existing Railroads	None	None
Disruption to and Relocation of Utilities	<ul style="list-style-type: none"> • 7 electrical utilities • 1 natural gas line • 1 water supply • Potential conflict with Pacheco Tunnel and Hollister Conduit 	<ul style="list-style-type: none"> • 7 electrical utilities • 1 natural gas line • 1 water supply • Potential conflict with Pacheco Tunnel and Hollister Conduit

Measurement		Refined Program Alignment (C)	Close Proximity to SR 152 (C)
Environmental Resources			
Biological Resources (acres per species/habitat)	CHWR Range Data	<ul style="list-style-type: none"> • 2,424 ac – California Tiger Salamander (CTS) • 2,147 ac – San Joaquin Kit Fox (SJKF) • 2,032 ac – California Red-legged Frog (CRLF) 	<ul style="list-style-type: none"> • 2,453 ac – CTS • 2,177 ac – SJKF • 2,051 ac – CRLF
	Critical Habitat	<ul style="list-style-type: none"> • 1,649 ac – CRLF 	<ul style="list-style-type: none"> • 1,718 ac – CRLF
	CNDDDB	<ul style="list-style-type: none"> • 5.1 ac – CRLF • 253 ac – Hall's bush-mallow • 150 ac – arcuate bush-mallow • 45 ac – Sycamore Alluvial Woodland • 661 ac – prairie falcon 	<ul style="list-style-type: none"> • 5.1 ac – CRLF • 253 ac – Hall's bush-mallow • 150 ac – arcuate bush-mallow • 45 ac – Sycamore Alluvial Woodland • 661 ac – prairie falcon
	Wildlife Refuges/ Conservation Areas	None	None
Cultural Resources (potential historical properties, known archaeological sites, archaeological sensitivity)		<ul style="list-style-type: none"> • 16 properties w/ buildings over 50 years old; • 3 NRHP listed/eligible properties; • 0 CEQA listed/eligible properties; • 6 known archaeological sites; 	<ul style="list-style-type: none"> • 16 properties w/ buildings over 50 years old; • 3 NRHP listed/eligible properties; • 0 CEQA listed/eligible properties; • 6 known archaeological sites;
Parklands		<ul style="list-style-type: none"> • 25 ac San Luis Reservoir • 93 ac San Luis Reservoir State Recreation Area • 208 ac Cottonwood Creek Wildlife Area • 192 ac San Luis Reservoir Wildlife Area 	<ul style="list-style-type: none"> • 67 ac San Luis Reservoir • 127 ac San Luis Reservoir State Recreation Area • 172 ac Cottonwood Creek Wildlife Area • 191 ac San Luis Reservoir Wildlife Area
Agricultural Land (acres)		<ul style="list-style-type: none"> • 48 ac – Farmland of Local Importance • 154 ac – Prime Farmland • 24 ac – Unique Farmland • 16 ac – Farmland of Statewide Importance 	<ul style="list-style-type: none"> • 54 ac – Farmland of Local Importance • 154 ac – Prime Farmland • 24 ac – Unique Farmland • 16 ac – Farmland of Statewide Importance
Williamson Act Farmland (acres)		789	843
Natural Environment			
Noise/Vibration (potential sensitive receptors/ number of parcels)		None	None
Visual/Scenic Resources		HST line in rural setting, visible from San Luis Reservoir and in Pacheco Creek Valley.	HST line in rural setting, visible from San Luis Reservoir and in Pacheco Creek Valley.
Geotechnical Constraints (known fault crossings or seismic zones, liquefaction zones)		<ul style="list-style-type: none"> • 0 Fault Seismic Crossings; • 0 rupture hazard zones; and • 287 ac – liquefaction zones 	<ul style="list-style-type: none"> • 0 Fault Seismic Crossings; • 0 rupture hazard zones; and • 287 ac – liquefaction zones
Land Use			
Consistency with Local Plans/General Plans		<ul style="list-style-type: none"> • Yes- Santa Clara County General Plan; • No – Merced County General Plan to: regulate the location, density, and design of development to minimize adverse impacts to encourage enhancement of rare and endangered species habitats; encourage urban uses, which could result in significant loss of sensitive habitat, be directed to less sensitive wetland, wildlife and vegetation habitat areas; ensure open space lands are used for public protection purposes. 	<ul style="list-style-type: none"> • Yes- Santa Clara County General Plan; • No – Merced County General Plan to: regulate the location, density, and design of development to minimize adverse impacts to encourage enhancement of rare and endangered species habitats; encourage urban uses, which could result in significant loss of sensitive habitat, be directed to less sensitive wetland, wildlife and vegetation habitat areas; ensure open space lands are used for public protection purposes.

Measurement	Refined Program Alignment (C)	Close Proximity to SR 152 (C)
Traffic		
Local Traffic Effects around Stations (increased congestions?)	N/A	N/A
Road Closures	0	0
Community Character and Cohesion		
Physical Division of Communities (miles) ¹	0	0
Community Facilities within One-half Mile of Alternative	• 1 Fire station <i>TOTAL = 1</i>	• 1 Fire station <i>TOTAL = 1</i>
Residential Displacements (Single-family, multi-family, mobile home parks) [units]	2-7	2-7
Business Displacements (commercial, industrial, non-profit) [units]	0	0
Agency and Public Input		
Agency and Public Input	<p>Concerns were expressed from the California Native Plant Society, Merced County Board of Supervisors, California Department of Fish and Game, Planning and Conservation League, California Rail Foundation, Bay Rail Alliance, Transportation Solutions Defense and Education Fund, Santa Clara Valley Water District, and individuals about the following biological and hydrological resources:</p> <ul style="list-style-type: none"> • Coyote Creek, Coyote Valley, Coyote Reservoir • Guadalupe River • Santa Clara County Habitat Conservation Plan • San Joaquin kit fox habitat • Red -legged frog habitat • Pacheco Creek habitat • Various plant species along SR 152 • Pacheco Conduit • Anderson Reservoir • Pajaro watershed • Sycamore Alluvial Woodlands • Steelhead run in Pacheco Creek Valley • General wildlife movement due to tunnels and bridges required to navigate the topography • Tule elk and mountain lion <p>Amongst other agency input, elevated structures were recommended as the alignment comes out of the Pacheco Pass moving east until it crosses I-5. The Merced County Farm Bureau, Defenders of Wildlife, Mariposa County Board of Supervisors and U.S. Fish and Wildlife Service requested that the Altamont Pass be used instead. There was also some support for a HST station in Los Banos or Santa Nella. Some individuals also requested that alignments across the Pacheco Pass be tunneled because they believe aerial and trench alignments are divisive.</p>	

¹ The linear distance of the alignment as it crosses through communities in a new right-of-way; where the alignment is along existing road or railroad corridor, the community is not considered divided.

Appendix B6: Evaluation Decision Summary for Wye Alternatives

Wye Alternative	Carried Forward or Withdrawn	Decision Explanation
SR 140 Wye	Withdrawn	The SR 140 Wye Alternative is withdrawn from further analysis because the potential impacts to aquatic resources would be third highest of all of the wye alternatives, and it would be the only wye alternative to impact the North Grasslands Wildlife Area. This wye alternative would also result in high visual intrusiveness by adding a train river crossing within a state park and would divide the community of McSwain for 0.7 miles. Further, this alternative would add 4 minutes of travel time between San Francisco and Los Angeles, which would likely make it inconsistent with the maximum travel time requirements of Proposition 1A and, therefore, does not meet the project's purpose and need.
Avenue 24 to Road 11 Wye	Withdrawn	The Avenue 24 to Road 11 Wye Alternative is withdrawn from further analysis because it would result in more impacts to aquatic resources than the similarly aligned SR 152 (North) to Road 13 Wye Alternative, which is the wye alternative being carried forward for further analysis within the west of Chowchilla/north of SR 152 corridor (refer to Section 6.2 of the Addendum for further detail). Further, the Avenue 24 to Road 11 Wye Alternative is withdrawn from further analysis due to strong public opposition to the Avenue 24 wye alternatives from the local farming community, the City of Chowchilla, and Madera and Merced County property owners.
Avenue 24 to East of Road 12 Wye	Withdrawn	The Avenue 24 to East of Road 12 Wye Alternative is withdrawn from further analysis because it would result in more impacts to aquatic resources than the similarly aligned SR 152 (North) to Road 13 Wye Alternative, which is the wye alternative being carried forward for further analysis within the west of Chowchilla/north of SR 152 corridor (refer to Section 6.2 of the Addendum for further detail). Further, the Avenue 24 to East of Road 12 Wye Alternative is withdrawn from further analysis due to strong public opposition to the Avenue 24 wye alternatives from the local farming community, the City of Chowchilla, and Madera and Merced County property owners.
Avenue 24 to Road 13 Wye	Withdrawn	The Avenue 24 to Road 13 Wye Alternative is withdrawn from further analysis because it would result in more impacts to aquatic resources than the similarly aligned SR 152 (North) to Road 13 Wye Alternative, which is the wye alternative being carried forward for further analysis within the west of Chowchilla/north of SR 152 corridor (refer to Section 6.2 of the Addendum for further detail). Further, the Avenue 24 to Road 13 Wye Alternative is withdrawn from further analysis due to strong public opposition to the Avenue 24 wye alternatives from the local farming community, the City of Chowchilla, and Madera and Merced County property owners.
SR 152 (North) to Road 11 Wye	Withdrawn	The SR 152 (North) to Road 11 Wye Alternative is withdrawn from further analysis because it would have greater impacts on aquatic resources compared to the similarly aligned SR 152 (North) to Road 13 Wye Alternative, which is the wye alternative being carried forward for further analysis within the west of Chowchilla/north of SR 152 corridor (refer to Section 6.2 of the Addendum for further detail).
SR 152 (North) to Road 13 Wye	Carried Forward	The SR 152 (North) to Road 13 Wye Alternative is potentially practicable and is carried forward for further analysis because it would have the second fewest aquatic resource impacts amongst all wye alternatives and offers a viable wye alternative within the west of Chowchilla/north of SR 152 corridor (refer to Section 6.2 of the Addendum for further detail).
SR 152 (North) to Road 18 Refined Wye	Carried Forward	The SR 152 (North) to Road 18 Refined Wye Alternative is potentially practicable and is carried forward for further analysis because it would have the fewest aquatic resource impacts within the east of Chowchilla/north of SR 152 corridor (refer to Section 6.2 of the Addendum for further detail). Further, the SR 152 (North) to Road 18 Refined Wye Alternative is carried forward in response to agency and public input to provide a SR 152 (North) and East of Chowchilla corridor alignment that would minimize impacts to the City of Chowchilla Greenhills Estate and unincorporated Fairmead communities.
SR 152 (North) to Road 19 Wye	Withdrawn	The SR 152 (North) to Road 19 Wye Alternative is withdrawn from further analysis because it would have the greatest impacts on aquatic resources among the SR 152 (North) wye alternatives, including the similarly aligned SR 152 (North) to Road 18 Refined Wye Alternative, which is the wye alternative being carried forward for further analysis within the east of Chowchilla/north of SR 152 corridor (refer to Section 6.2 of the Addendum for further detail). Further, this wye alternative is withdrawn because it would impact the Fairmead community.
SR 152 (South) to Road 18 Refined Wye	Carried Forward	The SR 152 (South) to Road 18 Refined Wye Alternative is potentially practicable and is carried forward for further analysis because it would have the least acreage of impacts on aquatic resources among all wye alternatives and offers a viable wye alternative within the east of Chowchilla/south of SR 152 corridor (refer to Section 6.2 of the Addendum for further detail).
SR 152 (South) to Avenue 21 to SR 99 Wye	Withdrawn	The SR 152 (South) to Avenue 21 to SR 99 Wye Alternative is withdrawn from further analysis because it would result in more impacts to aquatic resources than the similarly aligned SR 152 (South) to Road 18 Refined Wye Alternative, which is the wye alternative being carried forward for further analysis within the east of Chowchilla/south of SR 152 corridor (refer to Section 6.2 of the Addendum for further detail). Further, the SR 152 (South) to Avenue 21 to SR 99 Wye Alternative is withdrawn from further analysis due to strong opposition from the City of Chowchilla, because it would impact the Fairmead community, and due to a capital cost of more than \$7.2 billion, which is the second highest capital cost among all wye alternatives.
SR 152 (South) to Avenue 21 to Road 19 Wye	Withdrawn	The SR 152 (South) to Avenue 21 to Road 19 Wye Alternative is withdrawn from further analysis because it would result in more impacts on aquatic resources than the SR 152 (South) to Road 18 Refined Wye Alternative, which is the wye alternative being carried forward for further analysis within the east of Chowchilla/south of SR 152 corridor (refer to Section 6.2 of the Addendum for further detail).
Avenue 22 Wye	Withdrawn	The Avenue 22 Wye Alternative is withdrawn from further analysis because it would result in the second greatest acreage of impacts on aquatic resources among all wye alternatives.
Avenue 21 to Road 11 Wye	Withdrawn	The Avenue 21 to Road 11 Wye Alternative is withdrawn from further analysis because it would have greater impacts on aquatic resources than the other Avenue 21 wye alternatives, including the similarly aligned Avenue 21 to Road 13 Wye Alternative, which is the wye alternative being carried forward for further analysis within the west of Chowchilla/south of SR

Wye Alternative	Carried Forward or Withdrawn	Decision Explanation
		152 corridor (refer to Section 6.2 of the Addendum for further detail).
Avenue 21 to Road 13 Wye	Carried Forward	The Avenue 21 to Road 13 Wye Alternative is potentially practicable and is carried forward for further analysis because it would have the third fewest aquatic resource impacts amongst all wye alternatives and offers a viable wye alternative within the west of Chowchilla/south of SR 152 corridor (refer to Section 6.2 of the Addendum for further detail).
Avenue 21 to SR 99 Wye	Withdrawn	The Avenue 21 to SR 99 Wye Alternative is withdrawn from further analysis because it would result in more impacts to aquatic resources than the similarly aligned SR 152 (South) to Road 18 Refined Wye Alternative, which is the wye alternative being carried forward for further analysis within the east of Chowchilla/south of SR 152 corridor (refer to Section 6.2 of the Addendum for further detail). Further, the SR 152 (South) to Avenue 21 to SR 99 Wye Alternative is withdrawn from further analysis due to strong opposition from the City of Chowchilla, because it would impact the Fairmead community, and because it has a capital cost of more than \$7.3 billion, which is the highest estimated capital cost of all the wye alternatives.
Avenue 21 to Road 19 Wye	Withdrawn	The Avenue 21 to Road 19 Wye Alternative is withdrawn from further analysis because it would result in more impacts on aquatic resources than the SR 152 (South) to Road 18 Refined Wye Alternative, which is the wye alternative being carried forward for further analysis within the east of Chowchilla/south of SR 152 corridor (refer to Section 6.2 of the Addendum for further detail). Further, this wye alternative is withdrawn because it would impact the Fairmead community.
South of GEA Wye	Withdrawn	This alternative was withdrawn from further analysis because it would have the greatest impact on aquatic resources of all the wye alternatives. The South of GEA Wye Alternative was not included in one of the program-level corridors, and this analysis confirms it does not represent the LEDPA.

Appendix B: Wye Alternatives¹

Measurement	SR 140 Wye (W)	Avenue 24			SR 152 (North)				SR 152 (South)	SR 152 (South) to Avenue 21		Avenue 22 Wye (W)	Avenue 21				South of GEA Wye (W)
		Road 11 Wye (W)	East of Road 12 Wye (W)	Road 13 Wye (W)	Road 11 Wye (W)	Road 13 Wye (C)	Road 18 Refined Wye (C)	Road 19 Wye (W)	Road 18 Refined Wye (C)	SR 99 Wye (W)	Road 19 Wye (W)		Road 11 Wye (W)	Road 13 Wye (C)	SR 99 Wye (W)	Road 19 Wye (W)	
Design Objectives																	
Journey Time to Fresno (minutes)	28.17	23.35	23.35	23.35	23.33	23.33	24.52	23.33	24.52	23.37	23.37	23.20	23.40	23.40	23.44	23.40	23.00
Journey Time to Merced (minutes)	11.72	17.53	17.99	17.89	17.33	17.86	22.57	22.09	22.45	19.65	22.92	18.20	18.71	18.71	18.74	22.95	31.84
Journey Time Merced to Fresno (minutes)	16.45	16.23	16.80	16.22	16.61	16.29	18.88	17.59	18.88	15.09	18.16	16.90	16.78	16.78	15.09	18.16	16.45
Costs																	
Operation and Maintenance Costs per Year (cost factor)	1.00	1.08	1.13	1.07	1.10	1.10	1.26	1.16	1.24	1.16	1.18	1.10	1.08	1.13	1.24	1.23	1.34
Capital Costs (cost in millions)	\$5,276	\$5,830	\$5,456	\$5,233	\$6,170	\$6,250	\$7,139	\$6,705	\$6,904	\$7,193	\$6,570	\$5,935	\$5,530	\$5,836	\$7,338	\$5,646	\$7,103
Aquatic Resources																	
Subtotal of Aquatic Resource Impacts (acres)	173.1	127.2	138.5	132.9	122.7	118.1	123.3	135.9	116.9	124.8	123.0	181.0	128.2	119.2	125.8	123.5	245.4
Wetland Habitat (acres)	33.5	54.4	58.1	56.7	62.1	56.3	66.1	56.9	61.5	53.8	53.8	50.5	55.9	52.3	53.1	53.1	35.7
Vernal Pool Complex (acres)	125.0	48.2	48.6	49.9	40.4	41.0	41.1	42.5	41.1	40.7	43.2	101.7	40.5	41.1	40.7	43.2	197.5

¹ The colored columns in this table correlate wye alternatives that follow the same north-south trending road (i.e. Road 11 are pink colored, Road 13 are green colored, etc.) to facilitate comparison between similar alternatives

Measurement	Avenue 24				SR 152 (North)				SR 152 (South)	SR 152 (South) to Avenue 21			Avenue 21				South of GEA Wye (W)	
	SR 140 Wye (W)	Road 11 Wye (W)	East of Road 12 Wye (W)	Road 13 Wye (W)	Road 11 Wye (W)	Road 13 Wye (C)	Road 18 Refined Wye (C)	Road 19 Wye (W)	Road 18 Refined Wye (C)	SR 99 Wye (W)	Road 19 Wye (W)	Avenue 22 Wye (W)	Road 11 Wye (W)	Road 13 Wye (C)	SR 99 Wye (W)	Road 19 Wye (W)		
Streams, Creeks or Canals (miles)	8.1	21.2	26.1	23.2	24.4	20.0	24.1	20.3	20.7	25.2	22.1	22.9	23.2	22.3	27.3	23.7	20.4	
Lakes/Ponds / Rivers (acres)	5.3	8.9	10.7	7.8	8.0	7.0	7.4	7.7	6.8	8.3	7.6	8.4	11.6	6.2	6.7	6.4	4.7	
Reservoir (acres)	6.7	11.9	17.2	14.7	8.4	9.9	4.8	25.0	3.6	18.1	14.5	16	16.3	15.6	21.4	16.9	7.5	
Swamps/ Marshes (acres)	2.6	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	4.0	4.5	3.9	3.9	3.9	4.0	0.04	
Constructability																		
Constructability Issues Summarized	<ul style="list-style-type: none"> Mostly conventional construction work 2 mi bridge through environmentally sensitive area 	<ul style="list-style-type: none"> Mostly conventional construction work 1.5 mi bridge through environmentally sensitive area 	<ul style="list-style-type: none"> Mostly conventional construction work 1.5 mi bridge through environmentally sensitive area 	<ul style="list-style-type: none"> Mostly conventional construction work 1.5 mi bridge through environmentally sensitive area 	<ul style="list-style-type: none"> Mostly conventional construction work 1.5 mi bridge through environmentally sensitive area Temporary impacts to 16 miles of SR 152 Undercrossing of UPRR and SR 99 through Cut and cover box tunnel 	<ul style="list-style-type: none"> Mostly conventional construction work 1.5 mi bridge through environmentally sensitive area Temporary impacts to 16 miles of SR 152 Undercrossing of UPRR and SR 99 through Cut and cover box tunnel 	<ul style="list-style-type: none"> Mostly conventional construction work 1.5 mi bridge through environmentally sensitive area Temporary impacts to 16 miles of SR 152 Undercrossing of UPRR and SR 99 through Cut and cover box tunnel 	<ul style="list-style-type: none"> Mostly conventional construction work 1.5 mi bridge through environmentally sensitive area Temporary impacts to 16 miles of SR 152 Undercrossing of UPRR and SR 99 through Cut and cover box tunnel 2nd Cut and Cover box tunnel under crossing of UPRR and Future SR 99 	<ul style="list-style-type: none"> Mostly conventional construction work 1.5 mi bridge through environmentally sensitive area Temporary impacts to 16 miles of SR 152 Undercrossing of UPRR and SR 99 through Cut and cover box tunnel 	<ul style="list-style-type: none"> Mostly conventional construction work 1.5 mi bridge through environmentally sensitive area Temporary impacts to 16 miles of SR 152 Undercrossing of UPRR and SR 99 through Cut and cover box tunnel 	<ul style="list-style-type: none"> Mostly conventional construction work 1.5 mi bridge through environmentally sensitive area Temporary impacts to 4 miles of SR 152 	<ul style="list-style-type: none"> Mostly conventional construction work 1.5 mi bridge through environmentally sensitive area Temporary impacts to 4 miles of SR 152 	<ul style="list-style-type: none"> Mostly conventional construction work 1.5 mi bridge through environmentally sensitive area 	<ul style="list-style-type: none"> Mostly conventional construction work 1.5 mi bridge through environmentally sensitive area 	<ul style="list-style-type: none"> Mostly conventional construction work 1.5 mi bridge through environmentally sensitive area 	<ul style="list-style-type: none"> Mostly conventional construction work 1.5 mi bridge through environmentally sensitive area Cut and Cover tunnel undercrossing of UPRR and Future SR 99 	<ul style="list-style-type: none"> Mostly conventional construction work 1.5 mi bridge through environmentally sensitive area 	<ul style="list-style-type: none"> Mostly conventional construction work
Disruption to Existing Railroads	3	3	3	3	3	3	4	4	4	4	4	3	3	3	4	5	4	

Measurement	Avenue 24				SR 152 (North)				SR 152 (South)	SR 152 (South) to Avenue 21		Avenue 21				South of GEA Wye (W)		
	SR 140 Wye (W)	Road 11 Wye (W)	East of Road 12 Wye (W)	Road 13 Wye (W)	Road 11 Wye (W)	Road 13 Wye (C)	Road 18 Refined Wye (C)	Road 19 Wye (W)	Road 18 Refined Wye (C)	SR 99 Wye (W)	Road 19 Wye (W)	Avenue 22 Wye (W)	Road 11 Wye (W)	Road 13 Wye (C)	SR 99 Wye (W)		Road 19 Wye (W)	
Disruption to and Relocation of Utilities	<ul style="list-style-type: none"> 0 sewer lines (≥16") 10 comm. Lines 9 electrical lines (≥50kV) 	<ul style="list-style-type: none"> 1 sewer line (≥16") 10 comm. lines 15 electric lines (≥50kV) 	<ul style="list-style-type: none"> 0 sewer lines (≥16") 12 comm. lines 16 electric lines (≥50kV) 	<ul style="list-style-type: none"> 0 sewer lines (≥16") 12 comm. lines 14 electric lines (≥50kV) 	<ul style="list-style-type: none"> 0 sewer lines (≥16") 10 comm. lines 14 electric lines (≥50kV) 	<ul style="list-style-type: none"> 1 sewer lines (≥16") 12 comm. lines 14 electric lines (≥50kV) 	<ul style="list-style-type: none"> 0 sewer lines (≥16") 18 comm. lines 16 electric lines (≥50kV) 	<ul style="list-style-type: none"> 0 sewer lines (≥16") 17 comm. lines 17 electric lines (≥50kV) 	<ul style="list-style-type: none"> 0 sewer lines (≥16") 18 comm. lines 16 electric lines (≥50kV) 	<ul style="list-style-type: none"> 0 sewer lines (≥16") 30 comm. lines 14 electric lines (≥50kV) 	<ul style="list-style-type: none"> 0 sewer lines (≥16") 19 comm. lines 17 electric lines (≥50kV) 	<ul style="list-style-type: none"> 0 sewer lines (≥16") 18 comm. lines 13 electrical lines (≥50kV) 	<ul style="list-style-type: none"> 0 sewer lines (≥16") 11 comm. lines 17 electric lines (≥50kV) 	<ul style="list-style-type: none"> 0 sewer lines (≥16") 13 comm. lines 15 electric lines (≥50kV) 	<ul style="list-style-type: none"> 0 sewer lines (≥16") 30 comm. lines 14 electric lines (≥50kV) 	<ul style="list-style-type: none"> 0 sewer lines (≥16") 20 comm. lines 18 electric lines (≥50kV) 	<ul style="list-style-type: none"> 0 sewer lines (≥16") 10 comm. lines 6 electrical lines (≥50kV) 	
Environmental Resources																		
Biological Resources (acres per species/ habitat)	California Wildlife Habitat Relationships (CWHR) Range Data	<ul style="list-style-type: none"> 95 ac – California Red-legged Frog (CRLF) 1,219 ac – San Joaquin Kit Fox (SJKF) 2,168 ac – California Tiger Salamander (CTS) 	<ul style="list-style-type: none"> 399 ac – CRLF) 1,755 ac – SJKF 3,476 ac – CTS 	<ul style="list-style-type: none"> 399 ac – CRLF 1,722 ac – SJKF 3,453 ac – CTS 	<ul style="list-style-type: none"> 399 ac – CRLF 1,693 ac – SJKF 3,618 ac – CTS 	<ul style="list-style-type: none"> 399 ac – CRLF 1,708 ac – SJKF 3,998 ac – CTS 	<ul style="list-style-type: none"> 399 ac – CRLF 1,561 ac – SJKF 3,647 ac – CTS 	<ul style="list-style-type: none"> 399 ac – CRLF 1,696 ac – SJKF 4,222 ac – CTS 	<ul style="list-style-type: none"> 399 ac – CRLF 1,567 ac – SJKF 4,027 ac – CTS 	<ul style="list-style-type: none"> 399 ac – CRLF 1,677 ac – SJKF 4,116 ac – CTS 	<ul style="list-style-type: none"> 399 ac – CRLF 1,578 ac – SJKF 3,300 ac – CTS 	<ul style="list-style-type: none"> 399 ac – CRLF 1,580 ac – SJKF 3,663 ac – CTS 	<ul style="list-style-type: none"> 399 ac – CRLF 1,642 ac – SJKF 3,517 ac – CTS 	<ul style="list-style-type: none"> 399 ac – CRLF 1,603 ac – SJKF 3,753 ac – CTS 	<ul style="list-style-type: none"> 399 ac – CRLF 1,505 ac – SJKF 3,631 ac – CTS 	<ul style="list-style-type: none"> 399 ac – CRLF 1,569 ac – SJKF 3,374 ac – CTS 	<ul style="list-style-type: none"> 399 ac – CRLF 1,547 ac – SJKF 3,778 ac – CTS 	<ul style="list-style-type: none"> 94 ac – CRLF 2,024 ac – SJKF 2,870 ac – CTS
	Critical Habitat	<ul style="list-style-type: none"> 0.004 ac – Colusa grass 0.004 ac – Hoover's spurge 0.004 ac – Vernal pool tadpole shrimp 0.004 ac – Vernal pool fairy shrimp 0.004 ac – Conservancy fairy shrimp 	<ul style="list-style-type: none"> 2.8 ac – Vernal pool tadpole shrimp 2.8 ac – Vernal pool fairy shrimp 	None	None	<ul style="list-style-type: none"> 2.8 ac – Vernal pool tadpole shrimp 2.8 ac – Vernal pool fairy shrimp 	None	None	<ul style="list-style-type: none"> 1.5 ac – Vernal pool tadpole shrimp 1.5 ac – San Joaquin Orcutt grass 	None	None	<ul style="list-style-type: none"> 0.1 ac – Vernal Pool Tadpole Shrimp 0.1 ac – San Joaquin Orcutt Grass 	None	<ul style="list-style-type: none"> 2.8 ac – Vernal pool tadpole shrimp 2.8 ac – Vernal pool fairy shrimp 	None	None	<ul style="list-style-type: none"> 1.5 ac – Vernal Pool Tadpole Shrimp 1.5 ac – San Joaquin Orcutt Grass 	None
	California Natural Diversity Database	<ul style="list-style-type: none"> 62 ac - moestan blister beetle 0.2 ac - CTS 	<ul style="list-style-type: none"> 127 ac - moestan blister beetle 442 ac - 	<ul style="list-style-type: none"> 116 ac - moestan blister beetle 442 ac - 	<ul style="list-style-type: none"> 161 ac - moestan blister beetle 442 ac - 	<ul style="list-style-type: none"> 124 ac - moestan blister beetle 437 ac - 	<ul style="list-style-type: none"> 129 ac - moestan blister beetle 422 ac - 	<ul style="list-style-type: none"> 125 ac - moestan blister beetle 452 ac - 	<ul style="list-style-type: none"> 202 ac - moestan blister beetle .01 ac - CTS 	<ul style="list-style-type: none"> 125 ac - moestan blister beetle 455 ac - 	<ul style="list-style-type: none"> 110 ac - moestan blister beetle 402 ac - 	<ul style="list-style-type: none"> 289 ac - moestan blister beetle .01 ac - CTS 	<ul style="list-style-type: none"> 169 ac - moestan blister beetle 371 ac - 	<ul style="list-style-type: none"> 161 ac - moestan blister beetle 420 ac - 	<ul style="list-style-type: none"> 161 ac - moestan blister beetle 420 ac - 	<ul style="list-style-type: none"> 110 ac - moestan blister beetle 409 ac - 	<ul style="list-style-type: none"> 289 ac - moestan blister beetle .01 ac - CTS 	<ul style="list-style-type: none"> 1.6 ac – burrowing owl 62 ac -

Measurement	Avenue 24				SR 152 (North)				SR 152 (South)	SR 152 (South) to Avenue 21			Avenue 21				South of GEA Wye (W)
	SR 140 Wye (W)	Road 11 Wye (W)	East of Road 12 Wye (W)	Road 13 Wye (W)	Road 11 Wye (W)	Road 13 Wye (C)	Road 18 Refined Wye (C)	Road 19 Wye (W)	Road 18 Refined Wye (C)	SR 99 Wye (W)	Road 19 Wye (W)	Avenue 22 Wye (W)	Road 11 Wye (W)	Road 13 Wye (C)	SR 99 Wye (W)	Road 19 Wye (W)	
(CNDDDB)	<ul style="list-style-type: none"> • 14 ac - giant garter snake • 5.9 ac - western pond turtle • 7.1 ac - succulent owl's clover • 14 ac - forked hare-leaf • 0.2 ac - California linderiella • 0.2 ac - western spadefoot • 14 ac - western mastiff bat • 10 ac - delta button-celery • 0.2 ac - San Joaquin kit fox • 1.7 ac - Yuma myotis • 0.2 ac - vernal pool tadpole shrimp • 3.7 ac - Cismontane Alkali Marsh • 13 ac - Swainson's hawk • 14 ac - round-leaved filaree • 18 ac - Sanford's arrowhead • 553 ac - longhorn fairy shrimp • 48 ac - tricolored blackbird 	<ul style="list-style-type: none"> giant garter snake • 2.4 ac - western pond turtle • 8.9 ac - hispid bird's-beak • 15 ac - recurved larkspur • 4.3 ac - lesser saltscale • 15 ac - Hoover's cryptantha • 4.3 ac - American badger • 4.3 ac - northern harrier • 4.3 ac - Wright's trichocoronis • 12 ac - Swainson's hawk • 40 ac - Cismontane Alkali Marsh • 35 ac - heartscale • 4.3 ac - Sanford's arrowhead • 285 ac - longhorn fairy shrimp 	<ul style="list-style-type: none"> giant garter snake • 2.4 ac - western pond turtle • 8.9 ac - hispid bird's-beak • 18 ac - recurved larkspur • 4.3 ac - lesser saltscale • 18 ac - Hoover's cryptantha • 4.3 ac - American badger • 4.3 ac - northern harrier • 4.3 ac - Wright's trichocoronis • 16 ac - Swainson's hawk • 40 ac - Cismontane Alkali Marsh • 35 ac - heartscale • 4.3 ac - Sanford's arrowhead • 285 ac - longhorn fairy shrimp 	<ul style="list-style-type: none"> giant garter snake • 2.4 ac - western pond turtle • 8.9 ac - hispid bird's-beak • 9.6 ac - recurved larkspur • 4.3 ac - lesser saltscale • 9.6 ac - Hoover's cryptantha • 4.3 ac - American badger • 4.3 ac - northern harrier • 4.3 ac - Wright's trichocoronis • 17 ac - Swainson's hawk • 40 ac - Cismontane Alkali Marsh • 35 ac - heartscale • 4.3 ac - Sanford's arrowhead • 285 ac - longhorn fairy shrimp 	<ul style="list-style-type: none"> giant garter snake • 2.4 ac - western pond turtle • 8.9 ac - hispid bird's-beak • 229 ac - recurved larkspur • 4.3 ac - lesser saltscale • 229 ac - Hoover's cryptantha • 4.3 ac - American badger • 4.3 ac - northern harrier • 21 ac - subtle orache • 4.3 ac - Wright's trichocoronis • 7.6 ac - Swainson's hawk • 40 ac - Cismontane Alkali Marsh • 35 ac - heartscale • 4.3 ac - Sanford's arrowhead • 285 ac - longhorn fairy shrimp 	<ul style="list-style-type: none"> giant garter snake • 2.4 ac - western pond turtle • 8.9 ac - hispid bird's-beak • 194 ac - recurved larkspur • 4.3 ac - lesser saltscale • 194 ac - Hoover's cryptantha • 4.3 ac - American badger • 4.3 ac - northern harrier • 4.3 ac - Wright's trichocoronis • 17 ac - Swainson's hawk • 40 ac - Cismontane Alkali Marsh • 35 ac - heartscale • 4.3 ac - Sanford's arrowhead • 285 ac - longhorn fairy shrimp 	<ul style="list-style-type: none"> giant garter snake • 2.4 ac - western pond turtle • 8.9 ac - hispid bird's-beak • 174 ac - recurved larkspur • 4.3 ac - lesser saltscale • 174 ac - Hoover's cryptantha • 4.3 ac - American badger • 4.3 ac - northern harrier • 21 ac - subtle orache • 4.3 ac - Wright's trichocoronis • 41 ac - Northern hardpan vernal pool • 16.6 ac - Swainson's hawk • 1.5 ac - Yuma myotis • 40 ac - Cismontane Alkali Marsh • 35 ac - heartscale • 4.3 ac - Sanford's arrowhead • 285 ac - longhorn fairy shrimp 	<ul style="list-style-type: none"> • 422 ac - giant garter snake • 2.4 ac - western pond turtle • 8.9 ac - hispid bird's-beak • 181 ac - recurved larkspur • 4.3 ac - lesser saltscale • 181 ac - Hoover's cryptantha • 4.3 ac - American badger • 4.3 ac - northern harrier • 4.3 ac - Wright's trichocoronis • 17 ac - Swainson's hawk • 1.0 ac - Yuma myotis • 40 ac - Cismontane Alkali Marsh • 35 ac - heartscale • 4.3 ac - Sanford's arrowhead • 285 ac - longhorn fairy shrimp 	<ul style="list-style-type: none"> giant garter snake • 2.4 ac - western pond turtle • 8.9 ac - hispid bird's-beak • 231 ac - recurved larkspur • 4.3 ac - lesser saltscale • 231 ac - Hoover's cryptantha • 4.3 ac - American badger • 4.3 ac - northern harrier • 4.3 ac - Wright's trichocoronis • 41 ac - Northern hardpan vernal pool • 17 ac - Swainson's hawk • 1.5 ac - Yuma myotis • 40 ac - Cismontane Alkali Marsh • 35.5 ac - heartscale • 4.3 ac - Sanford's arrowhead • 285 ac - longhorn fairy shrimp 	<ul style="list-style-type: none"> giant garter snake • 2.4 ac - western pond turtle • 8.9 ac - hispid bird's-beak • 39 ac - recurved larkspur • 158 ac - lesser saltscale • 39 ac - Hoover's cryptantha • 4.3 ac - American badger • 4.3 ac - northern harrier • 20 ac - subtle orache • 4.3 ac - Wright's trichocoronis • 17 ac - Swainson's hawk • 4.7 ac - Yuma myotis • 40 ac - Cismontane Alkali Marsh • 167 ac - heartscale • 4.3 ac - Sanford's arrowhead • 261 ac - longhorn fairy shrimp 	<ul style="list-style-type: none"> • 437 ac - giant garter snake • 2.4 ac - western pond turtle • 8.9 ac - hispid bird's-beak • 40 ac - recurved larkspur • 106 ac - lesser saltscale • 40 ac - Hoover's cryptantha • 4.3 ac - American badger • 4.3 ac - northern harrier • 22 ac - subtle orache • 4.3 ac - Wright's trichocoronis • 17 ac - Swainson's hawk • 1.0 - Yuma myotis • 40 ac - Cismontane Alkali Marsh • 137 ac - heartscale • 4.3 ac - Sanford's arrowhead • 285 ac - longhorn fairy shrimp 	<ul style="list-style-type: none"> giant garter snake • 2.4 ac - western pond turtle • 8.9 ac - hispid bird's-beak • 21 ac - recurved larkspur • 126 ac - lesser saltscale • 21 ac - Hoover's cryptantha • 4.3 ac - American badger • 4.3 ac - northern harrier • 74 ac - subtle orache • 4.3 ac - Wright's trichocoronis • 16 ac - Swainson's hawk • 17 ac - succulent owl's clover • 40 ac - Cismontane Alkali Marsh • 157 ac - heartscale • 4.3 ac - Sanford's arrowhead • ac - longhorn fairy shrimp 	<ul style="list-style-type: none"> giant garter snake • 2.4 ac - western pond turtle • 8.9 ac - hispid bird's-beak • 100 ac - lesser saltscale • 4.3 ac - American badger • 4.3 ac - northern harrier • 4.5 ac - subtle orache • 4.3 ac - Wright's trichocoronis • 11 ac - Swainson's hawk • 40 ac - Cismontane Alkali Marsh • 131 ac - heartscale • 4.3 ac - Sanford's arrowhead • 285 ac - longhorn fairy shrimp 	<ul style="list-style-type: none"> giant garter snake • 2.4 ac - western pond turtle • 8.9 ac - hispid bird's-beak • 201 ac - lesser saltscale • 4.3 ac - American badger • 4.3 ac - northern harrier • 85 ac - subtle orache • 4.3 ac - Wright's trichocoronis • 18 ac - Swainson's hawk • 40 ac - Cismontane Alkali Marsh • 4.3 ac - Sanford's arrowhead • 285 ac - longhorn fairy shrimp 	<ul style="list-style-type: none"> giant garter snake • 2.4 ac - western pond turtle • 8.9 ac - hispid bird's-beak • 139 ac - lesser saltscale • 4.3 ac - American badger • 4.3 ac - northern harrier • 0.7 ac - subtle orache • 4.3 ac - Wright's trichocoronis • 16 ac - Swainson's hawk • 4.7 ac - Yuma myotis • 40 ac - Cismontane Alkali Marsh • 147 ac - heartscale • 4.3 ac - Sanford's arrowhead • 261 ac - longhorn fairy shrimp 	<ul style="list-style-type: none"> • 420 ac - giant garter snake • 2.4 ac - western pond turtle • 8.9 ac - hispid bird's-beak • 90 ac - lesser saltscale • 4.3 ac - American badger • 4.3 ac - northern harrier • 0.7 ac - subtle orache • 4.3 ac - Wright's trichocoronis • 17 ac - Swainson's hawk • 40 ac - Cismontane Alkali Marsh • 121 ac - heartscale • 4.3 ac - Sanford's arrowhead • 285 ac - longhorn fairy shrimp 	<ul style="list-style-type: none"> moestan blister beetle • 8.0 ac - giant garter snake • 7.1 ac - succulent owl's clover • 0.1 ac - lesser saltscale • 32 ac - Nelson's antelope squirrel • 26 ac - blunt nosed-leopard lizard • 16 ac - Swainson's hawk • 1.6 ac - California horned lark • 3.1 ac - San Joaquin whipsnake • 63.5 ac - San Joaquin kit fox • 6.0 ac - giant kangaroo rat • 96 ac - prairie falcon • 1.8 ac - heartscale • 1.7 ac - Yuma myotis • 125 ac - Valley Sacaton Grassland

Measurement	Avenue 24				SR 152 (North)				SR 152 (South)	SR 152 (South) to Avenue 21			Avenue 21				South of GEA Wye (W)
	SR 140 Wye (W)	Road 11 Wye (W)	East of Road 12 Wye (W)	Road 13 Wye (W)	Road 11 Wye (W)	Road 13 Wye (C)	Road 18 Refined Wye (C)	Road 19 Wye (W)	Road 18 Refined Wye (C)	SR 99 Wye (W)	Road 19 Wye (W)	Avenue 22 Wye (W)	Road 11 Wye (W)	Road 13 Wye (C)	SR 99 Wye (W)	Road 19 Wye (W)	
Wildlife Refuges/Conservation Areas	• 90 ac – GEA • 22 ac – North Grasslands Wildlife Area	• 268 ac – Grassland Ecological Area (GEA)	• 268 ac – GEA	• 268 ac – GEA	• 268 ac – GEA	• 268 ac – GEA	• 268 ac – GEA	• 268 ac – GEA	• 268 ac – GEA	• 243 ac – GEA	• 244 ac – GEA	• 244 ac – GEA	• 268 ac – GEA	• 268 ac – GEA	• 243 ac – GEA	• 268 ac – GEA	None
Cultural Resources (potential historical properties, known archaeological sites, archaeological sensitivity)	• 93 properties w/ buildings over 50 years old • 6 NRHP eligible or listed properties • 6 known archaeological sites	• 100 properties w/ buildings over 50 years old • 11 NRHP eligible or listed properties • No known archaeological sites	• 112 properties w/ buildings over 50 years old • 11 NRHP eligible or listed properties • 1 known archaeological site	• 106 properties w/ buildings over 50 years old • 11 NRHP eligible or listed properties • 2 known archaeological sites	• 159 properties w/ buildings over 50 years old • 11 NRHP eligible or listed properties • No known archaeological sites	• 153 properties w/ buildings over 50 years old • 11 NRHP eligible or listed properties • No known archaeological sites	• 159 properties w/ buildings over 50 years old • 9 NRHP eligible or listed properties • No known archaeological sites	• 151 properties w/ buildings over 50 years old • 11 NRHP eligible or listed properties • No known archaeological sites	• 154 properties w/ buildings over 50 years old • 9 NRHP eligible or listed properties • No known archaeological sites	• 129 properties w/ buildings over 50 years old • 11 NRHP eligible or listed properties • 1 known archaeological site	• 126 properties w/ buildings over 50 years old • 11 NRHP eligible or listed properties • No known archaeological sites	• 122 properties w/ buildings over 50 years old • 12 NRHP eligible or listed properties • 3 known archaeological sites	• 125 properties w/ buildings over 50 years old • 11 NRHP eligible or listed properties • No known archaeological sites	• 141 properties w/ buildings over 50 years old • 11 NRHP eligible or listed properties • No known archaeological sites	• 127 properties w/ buildings over 50 years old • 11 NRHP eligible or listed properties • 1 known archaeological site	• 122 properties w/ buildings over 50 years old • 11 NRHP eligible or listed properties • No known archaeological sites	• 98 properties w/ buildings over 50 years old • 6 NRHP eligible or listed property • 5 known archaeological sites
Parklands	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	0.2 ac – Dos Amigos
Agricultural Land (acres) ²	• 139 ac – Farmland of Local Importance • 607 ac – Prime Farmland • 536 ac – Unique Farmland • 466 ac – Farmland of Statewide Importance	• 197 ac – Farmland of Local Importance • 934 ac – Prime Farmland • 791 ac – Unique Farmland • 680 ac – Farmland of Statewide Importance	• 189 ac – Farmland of Local Importance • 971 ac – Prime Farmland • 771 ac – Unique Farmland • 682 ac – Farmland of Statewide Importance	• 225 ac – Farmland of Local Importance • 1,032 ac – Prime Farmland • 746 ac – Unique Farmland • 677 ac – Farmland of Statewide Importance	• 186 ac – Farmland of Local Importance • 1,133 ac – Prime Farmland • 736 ac – Unique Farmland • 778 ac – Farmland of Statewide Importance	• 182 ac – Farmland of Local Importance • 908 ac – Prime Farmland • 737 ac – Unique Farmland • 687 ac – Farmland of Statewide Importance	• 183 ac – Farmland of Local Importance • 1,162 ac – Prime Farmland • 953 ac – Unique Farmland • 584 ac – Farmland of Statewide Importance	• 194 ac – Farmland of Local Importance • 1,023 ac – Prime Farmland • 1,017 ac – Unique Farmland • 609 ac – Farmland of Statewide Importance	• 211 ac – Farmland of Local Importance • 1,133 ac – Prime Farmland • 917 ac – Unique Farmland • 705 ac – Farmland of Statewide Importance	• 187 ac – Farmland of Local Importance • 1,024 ac – Prime Farmland • 746 ac – Unique Farmland • 689 ac – Farmland of Statewide Importance	• 233 ac – Farmland of Local Importance • 1,155 ac – Prime Farmland • 960 ac – Unique Farmland • 672 ac – Farmland of Statewide Importance	• 200 ac – Farmland of Local Importance • 967 ac – Prime Farmland • 912 ac – Unique Farmland • 588 ac – Farmland of Statewide Importance	• 256 ac – Farmland of Local Importance • 1,074 ac – Prime Farmland • 876 ac – Unique Farmland • 748 ac – Farmland of Statewide Importance	• 257 ac – Farmland of Local Importance • 1,058 ac – Prime Farmland • 748 ac – Unique Farmland • 760 ac – Farmland of Statewide Importance	• 187 ac – Farmland of Local Importance • 961 ac – Prime Farmland • 830 ac – Unique Farmland • 539 ac – Farmland of Statewide Importance	• 232 ac – Farmland of Local Importance • 1,092 ac – Prime Farmland • 1,085 ac – Unique Farmland • 517 ac – Farmland of Statewide Importance	• 241 ac – Farmland of Local Importance • 790 ac – Prime Farmland • 672 ac – Unique Farmland • 967 ac – Farmland of Statewide Importance

² The SR 152 (South) to Road Refined Wye, SR 152 (South) to Avenue 21 to SR 99 Wye, and SR 152 (South) to Avenue 21 to Road 19 wye alternatives would render large areas of farmland inaccessible and economically unusable because of the way in which farmland is boxed in between alternatives, and thus would result in a direct loss of that agricultural land. This area has been included in the total acreage of impacted agricultural land, including the conversion of Williamson Act farmland. Please refer to Attachment 4 for further discussion of the study area methodology used for this impacts analysis.

Measurement	Avenue 24				SR 152 (North)				SR 152 (South)	SR 152 (South) to Avenue 21			Avenue 21				South of GEA Wye (W)
	SR 140 Wye (W)	Road 11 Wye (W)	East of Road 12 Wye (W)	Road 13 Wye (W)	Road 11 Wye (W)	Road 13 Wye (C)	Road 18 Refined Wye (C)	Road 19 Wye (W)	Road 18 Refined Wye (C)	SR 99 Wye (W)	Road 19 Wye (W)	Avenue 22 Wye (W)	Road 11 Wye (W)	Road 13 Wye (C)	SR 99 Wye (W)	Road 19 Wye (W)	
Williamson Act Farmland (acres)	760	1,148	1,070	1,073	1,191	1,024	1,292	1,353	1,308	1,147	1,492	1,217	1,303	1,192	1,030	1,399	1,512
Natural Environment																	
Noise/Vibration (number of potential sensitive receptors)	1,137/236	1,224/208	1,044/147	1,216/174	1,298/276	1,321/269	737/147	1,332/273	757/169	1,094/110	978/245	1,015/202	1,259/246	1,279/232	1,184/115	1,356/244	1,051/153
Visual/Scenic Resources	0 mi of aerial structure in urban setting	0 mi of aerial structure in urban setting	0 mi of aerial structure in urban setting	0 mi of aerial structure in urban setting	0 mi of aerial structure in urban setting	0 mi of aerial structure in urban setting	0 mi of aerial structure in urban setting	0 mi of aerial structure in urban setting	0 mi of aerial structure in urban setting	2.0 mi of aerial structure in urban setting	0 mi of aerial structure in urban setting	0 mi of aerial structure in urban setting	0 mi of aerial structure in urban setting	0 mi of aerial structure in urban setting	2.0 mi of aerial structure in urban setting	0 mi of aerial structure in urban setting	0 mi of aerial structure in urban setting
Geotechnical Constraints (known fault crossings, seismic zones, liquefaction zones)	No crossings of seismic faults or fault rupture hazard zones; No liquefaction zones	No crossings of seismic faults or fault rupture hazard zones; No liquefaction zones	No crossings of seismic faults or fault rupture hazard zones; No liquefaction zones	No crossings of seismic faults or fault rupture hazard zones; No liquefaction zones	No crossings of seismic faults or fault rupture hazard zones; No liquefaction zones	No crossings of seismic faults or fault rupture hazard zones; No liquefaction zones	No crossings of seismic faults or fault rupture hazard zones; No liquefaction zones	No crossings of seismic faults or fault rupture hazard zones; No liquefaction zones	No crossings of seismic faults or fault rupture hazard zones; No liquefaction zones	No crossings of seismic faults or fault rupture hazard zones; No liquefaction zones	No crossings of seismic faults or fault rupture hazard zones; No liquefaction zones	No crossings of seismic faults or fault rupture hazard zones; No liquefaction zones	No crossings of seismic faults or fault rupture hazard zones; No liquefaction zones	No crossings of seismic faults or fault rupture hazard zones; No liquefaction zones	No crossings of seismic faults or fault rupture hazard zones; No liquefaction zones	No crossings of seismic faults or fault rupture hazard zones; No liquefaction zones	No crossings of seismic faults or fault rupture hazard zones; No liquefaction zones
Land Use																	
Consistency with Local Plans/General Plans	Consistent with current plans. Crosses through City of Chowchilla's Site Annexation Plan area.	Consistent with current plans. Crosses through City of Chowchilla's Site Annexation Plan area.	Consistent with current plans. Crosses through City of Chowchilla's Site Annexation Plan area.	Consistent with current plans. Crosses through City of Chowchilla's Site Annexation Plan area.	Consistent with current plans. Crosses through City of Chowchilla's Site Annexation Plan area.	Consistent with current plans. Crosses through City of Chowchilla's Site Annexation Plan area.	Consistent with current plans. Crosses through City of Chowchilla's Site Annexation Plan area.	Consistent with current plans. Crosses through City of Chowchilla's Site Annexation Plan area.	Consistent with current plans. Crosses through City of Chowchilla's Site Annexation Plan area.	Consistent with current plans. Crosses through City of Chowchilla's Site Annexation Plan area.	Consistent with current plans. Crosses through City of Chowchilla's Site Annexation Plan area.	Consistent with current plans.	Consistent with current plans.	Consistent with current plans.	City of Chowchilla opposes SR 99 alignments within City limits. Crosses through City of Chowchilla's Site Annexation Plan area.	Consistent with current plans.	Consistent with current plans.

Measurement	Avenue 24				SR 152 (North)				SR 152 (South)	SR 152 (South) to Avenue 21		Avenue 22 Wye (W)	Avenue 21				South of GEA Wye (W)
	SR 140 Wye (W)	Road 11 Wye (W)	East of Road 12 Wye (W)	Road 13 Wye (W)	Road 11 Wye (W)	Road 13 Wye (C)	Road 18 Refined Wye (C)	Road 19 Wye (W)	Road 18 Refined Wye (C)	SR 99 Wye (W)	Road 19 Wye (W)		Road 11 Wye (W)	Road 13 Wye (C)	SR 99 Wye (W)	Road 19 Wye (W)	
Traffic																	
Local Traffic Effects around Stations (increased congestion)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Road Closures ³	21	21	31	40	32	32	33	32	33	31	32	25	41	40	41	42	29
Community Character and Cohesion																	
Physical Division of Communities (miles) ⁴	0.7	2.3	2.3	2.3	1.8	1.8	4.7	4.4	4.8	0	2.5	0	0	0	0	2.5	0
Community Facilities within One-half Mile of Alternative	<ul style="list-style-type: none"> • 1 Fire station • 1 Train station • 12 Churches • 12 Social service organizations • 7 Schools • 3 Cultural centers • 2 Police stations • 1 Post office • 3 Parks • 1 Library <p>TOTAL = 43</p>	<ul style="list-style-type: none"> • 1 Fire station • 1 Train station • 2 Schools <p>TOTAL = 4</p>	<ul style="list-style-type: none"> • 1 Fire station • 1 Train station • 2 Schools <p>TOTAL = 4</p>	<ul style="list-style-type: none"> • 1 Fire station • 1 Train station • 2 Schools <p>TOTAL = 4</p>	<ul style="list-style-type: none"> • 1 Fire station • 1 Train station • 2 Churches • 1 Cemetery • 1 Social service organization • 3 Schools <p>TOTAL = 9</p>	<ul style="list-style-type: none"> • 1 Fire station • 1 Train station • 2 Churches • 1 Cemetery • 1 Social service organization • 3 Schools <p>TOTAL = 9</p>	<ul style="list-style-type: none"> • 1 Fire station • 1 Train station • 2 Churches • 1 Cemetery • 1 Social service organization • 3 Schools <p>TOTAL = 9</p>	<ul style="list-style-type: none"> • 1 Fire station • 1 Train station • 2 Churches • 1 Cemetery • 1 Social service organization • 3 Schools <p>TOTAL = 9</p>	<ul style="list-style-type: none"> • 1 Fire station • 1 Train station • 3 Churches • 1 Cemetery • 1 Social services organization • 3 Schools <p>TOTAL = 10</p>	<ul style="list-style-type: none"> • 3 Fire stations • 1 Train station • 6 Churches • 1 Social service organization • 3 Schools • 1 Cultural center • 1 Post office • 2 Parks <p>TOTAL = 18</p>	<ul style="list-style-type: none"> • 2 Fire stations • 1 Train station • 1 Church • 3 Schools • 1 Cultural center <p>TOTAL = 8</p>	<ul style="list-style-type: none"> • 2 Fire stations • 1 Train station • 2 Churches • 3 Schools • 1 Park <p>TOTAL = 9</p>	<ul style="list-style-type: none"> • 2 Fire stations • 1 Train station • 3 Schools • 1 Cultural center <p>TOTAL = 7</p>	<ul style="list-style-type: none"> • 2 Fire stations • 1 Train station • 1 Church • 4 Schools • 1 Cultural center <p>TOTAL = 9</p>	<ul style="list-style-type: none"> • 3 Fire stations • 1 Train station • 5 Churches • 4 Schools • 1 Social service organization • 1 Cultural center • 1 Post office • 2 Parks <p>TOTAL = 18</p>	<ul style="list-style-type: none"> • 2 Fire stations • 1 Train station • 4 Schools • 1 Cultural center <p>TOTAL = 8</p>	<ul style="list-style-type: none"> • 1 Fire station • 1 Train station • 1 Church • 1 School <p>TOTAL = 4</p>
Residential Displacements (single-family, multi-family, mobile home parks)	83 - 98	131 - 143	111 - 122	129 - 143	133 - 158	142 - 163	138 - 163	136 - 153	145 - 165	130 - 146	137 - 153	102 - 111	128 - 144	128 - 142	126 - 137	133 - 144	77 - 86

³ SR152 wye alternatives will include elimination of cross median turns i.e. installation of median barrier.

⁴ The linear distance of the alignment as it crosses through communities in a new right-of-way; where the alignment is along existing road or railroad corridor, the community is not considered divided.

Measurement	Avenue 24				SR 152 (North)				SR 152 (South)	SR 152 (South) to Avenue 21		Avenue 22 Wye (W)	Avenue 21				South of GEA Wye (W)
	SR 140 Wye (W)	Road 11 Wye (W)	East of Road 12 Wye (W)	Road 13 Wye (W)	Road 11 Wye (W)	Road 13 Wye (C)	Road 18 Refined Wye (C)	Road 19 Wye (W)	Road 18 Refined Wye (C)	SR 99 Wye (W)	Road 19 Wye (W)		Road 11 Wye (W)	Road 13 Wye (C)	SR 99 Wye (W)	Road 19 Wye (W)	
[units]																	
Business Displacements (commercial, industrial, non-profit) [units]	18 - 20	1 - 3	4 - 5	2 - 5	9 - 13	5 - 10	7 - 15	5 - 8	6 - 12	6 - 9	3 - 6	4 - 6	2 - 3	2 - 3	5 - 6	2 - 3	9 - 10
Agency and Public Input																	
SR 152 Corridor					X	X	X	X	X	X	X						
	<p>This corridor consists of wye alternatives along SR 152, including: SR 152 (North) to Road 11 wye, SR 152 (North) to Road 13 wye, SR 152 (North) to Road 18 Refined wye, SR 152 (North) to Road 19 wye, SR 152 (South) to Road 18 Refined wye, SR 152 (South) to Avenue 21 to SR 99 wye, and SR 152 (South) to Avenue 21 to Road 19 wye.</p> <p>A wye alternative along SR 152 is generally preferred by most stakeholders over Avenue 24 or Avenue 21. Certain communities prefer the SR 152 wye alternatives because they follow an existing transportation corridor. The City of Chowchilla will accept a SR 152 alignment, and believes that getting the County of Merced and Caltrans to revise the SR 152 Freeway Agreement would be the key to obtaining widespread acceptance by various stakeholders for this alignment.</p> <p>Stakeholder input is mixed on the SR 152 to Road 18 Wye alternatives (both to the north and south of SR 152). Opposition to this wye alternative was expressed due to the potential for direct property impacts to residential and business properties, potential impacts to the Green Hill Estates residents, and traffic circulation. Supporters suggest that this wye alternative would be a safer route to and through Madera than the other wye alternatives, with fewer impacts to the community and home-to-school routes, and safer over-/undercrossings. Other supporters suggest that the SR 152 (North) to Road 18 Wye Alternative would have the fewest impacts to farms and businesses. Preserve Our Heritage supports the SR 152 to Road 18 wye alternatives (to the north and south of SR 152). Senator Anthony Cannella of Merced and Madera Counties wrote a letter to the Authority on December 10, 2013 that identified the SR 152 North to Road 18 wye alternatives and SR 152 South to Road 18 wye alternative as his district's preferred wye alternatives (see Appendix C).</p>																
North of SR 152 Corridor (Avenue 24)		X	X	X													
	<p>This corridor consists of wye alternatives to the north of SR 152, including: Avenue 24 to Road 11 wye, Avenue 24 to East of Road 12 wye, and Avenue 24 to Road 13 wye.</p> <p>Numerous commenters expressed concerns and/or opposition to the Avenue 24 wye alternatives. The farming community expressed strong concerns about the wye alternatives along Avenue 24 that included loss of usable farmland and the impact to farm operations and irrigation infrastructure, especially wells. AJF Dairy expressed concerned about impacts to their property along Avenue 24. Madera and Merced County property owners are opposed to the Avenue 24 wye alternatives because they do not follow existing transportation corridors. The City of Chowchilla is strongly opposed to any Avenue 24 alignment. Some residents of Los Banos, however, expressed support for the Avenue 24 wye alternatives.</p>																
South of SR 152 Corridor (Avenue 22, Avenue 21)												X	X	X	X	X	
	<p>This corridor consists of wye alternatives to the south of SR 152, including: Avenue 22 wye, Avenue 21 to Road 11 wye, Avenue 21 to Road 13 wye, Avenue 21 to SR 99 wye, and Avenue 21 to Road 19 wye.</p> <p>Commenters expressed mixed support for the Avenue 21 wye alternatives. The City of Chowchilla suggests that the Avenue 21 wye alternatives provide the best wye options. The Chowchilla Elementary School District supports the Avenue 21 to Road 13 Wye Alternative as it would result in the least impacts on their facilities. The Chowchilla Seventh Day Adventist Church and the Alview-Dairyland Union School District specifically opposed all the Avenue 21 wye alternatives. Preserve Our Heritage is specifically opposed to the Avenue 21 to Road 13 Wye Alternative.</p>																

Measurement	Avenue 24				SR 152 (North)				SR 152 (South)	SR 152 (South) to Avenue 21		Avenue 22 Wye (W)	Avenue 21				South of GEA Wye (W)
	SR 140 Wye (W)	Road 11 Wye (W)	East of Road 12 Wye (W)	Road 13 Wye (W)	Road 11 Wye (W)	Road 13 Wye (C)	Road 18 Refined Wye (C)	Road 19 Wye (W)	Road 18 Refined Wye (C)	SR 99 Wye (W)	Road 19 Wye (W)		Road 11 Wye (W)	Road 13 Wye (C)	SR 99 Wye (W)	Road 19 Wye (W)	
East of Chowchilla Corridor	X											X					X
	<p>This corridor consists of wye alternatives to the east of Chowchilla, including: SR 140 wye, SR 152 (North) to Road 18 Refined wye, SR 152 (North) to Road 19 wye, SR 152 (South) to Road 18 Refined wye, SR 152 (South) to Avenue 21 to SR 99 wye, SR 152 (South) to Avenue 21 to Road 19 wye, Avenue 22 wye, Avenue 21 to SR 99 wye, and Avenue 21 to Road 19 wye.</p> <p>While numerous commenters indicated a preference for a wye connection to the east of Chowchilla, there is mixed support for the Road 18 wye alternatives. Commenters noted that alternatives on the east side of Chowchilla would eliminate track through Chowchilla, and would no longer surround Chowchilla on all sides.</p> <p>Road 18 Wye Alternatives. Opposition to the SR 152 to Road 18 wye alternatives is due to the potential for direct property impacts to residential and business properties, potential impacts to the Green Hill Estates residents, and traffic circulation. Supporters suggest that these wye alternatives would provide a safer route to and through Madera than the other wye alternatives, with fewer impacts to the community and home-to-school routes, and safer over-/undercrossings. Other supporters suggest that the SR 152 (North) to Road 18 Refined Wye Alternative would have the fewest impacts to farms and businesses. Preserve Our Heritage supports the SR 152 to Road 18 wye alternatives. The Greenhills Master Association opposes the Road 18 wye alternatives.</p> <p>Road 19 Wye Alternatives. The City of Chowchilla favors a Road 19 alignment over Road 18 that tie into Avenue 21 to ensure that the alignments are as far away from housing as possible.</p> <p>SR 99 Wye Alternatives. The City of Chowchilla is adamantly opposed to wye alternatives along UPRR (SR 99) through the City.</p>																
West of Chowchilla Corridor			X														
	<p>This corridor consists of wye alternatives to the west of Chowchilla, including: Avenue 24 to Road 11 wye, Avenue 24 to East of Road 12 wye, Avenue 24 to Road 13 wye, SR 152 (North) to Road 11 wye, SR 152 (North) to Road 13 wye, Avenue 21 to Road 11 wye, and Avenue 21 to Road 13 wye.</p> <p>Numerous commenters opposed any alignments west of Chowchilla, instead indicating a preference for a wye connections south and/or east of Chowchilla and arguing that alignments to the east of Chowchilla would eliminate track through the City, and the alternative would no longer surround Chowchilla on all sides. Amongst the alternatives west of Chowchilla, rural interests generally favor a Road 11 or Road 13 alignment over the East of Road 12 alignment, particularly due to potential road closures, noting that road closures would limit the movement of agricultural goods and reduce access to impacted areas. Other commenters expressed a preference for the Avenue 21 to Road 13 Wye Alternative noting that it would have fewer potential impacts to Fairmead school(s), residents, and traffic circulation. Commenters opposed to the Avenue 21 to Road 13 Wye Alternative expressed concerns due to potential impacts to farmland, schools, homes and the water district. Commenters also expressed concern about loss of usable farmland and impacts to farm operations and irrigation infrastructure from parcel severance resulting from Avenue 24 options. Other commenters believe that an alignment running between Roads 12 and 13 may be acceptable if it was moved closer to the Road 12 alignment and tied into SR 152.</p> <p>The local organization Preserve Our Heritage opposes the Avenue 21 to Road 13 Wye. The Greenhills Master Association supports the Road 13 wye alternatives. The Chowchilla Elementary School District supports the Avenue 21 to Road 13 Wye Alternative as it would be result in the least impacts on their facilities.</p>																

Appendix C

**Agency, Stakeholder, and Public
Outreach Meetings in Wye Alternative
Study Area**

APPENDIX C
AGENCY, STAKEHOLDER, AND PUBLIC OUTREACH MEETINGS IN
WYE ALTERNATIVES STUDY AREA
SEPTEMBER 2009—DECEMBER 2013

Location	Date	Meeting details
Corridor Cities		
Los Banos and Dos Palos	May 18, 2010	Outreach meeting for presentation of scroll maps to City staff, Alternatives Analysis maps for Avenue 24 and Avenue 21 alignments, and the corresponding wyes near Chowchilla.
City of Chowchilla	April 20, 2012	Discuss revisiting the SR 152 Freeway Agreement with Caltrans to allow HST to shift 152 alignment closer to freeway.
City of Fresno	December 2, 2011	Discussion of Merced to Fresno Section Preferred Alternative Alignment Meeting.
Merced County representatives	December 2, 2011	Discussion of Merced to Fresno Section Preferred Alternative Alignment Meeting.
Local, State and Federal Agency Briefings		
San Jose to Merced Section Technical Working Group #1 (Merced)	September 10, 2009	First San Jose to Merced Section Technical Working Group meeting of local agencies (cities, counties) and transportation agencies to provide updates and coordination opportunities.
San Jose to Merced Section Technical Working Group #2 (Merced)	December 14, 2009	Presentation on initial recommendations for carrying alternative alignments forward for technical analysis and discussion on the San Jose to Merced Section Draft EIR/EIS.
California Department of Conservation	January 4, 2010	Discussion regarding farmland issues.
Merced County	April 9, 2010	Discuss current 15% engineering plans with respect to grade separations, road closures, and alignment profile.
Merced to Fresno Section – Technical Working Group Meeting #1 (Merced & Madera)	April 27, 2010	Review materials presented at the April 8, 2010 Authority Board Meeting and gather feedback on wye options. Presentations were given by project team members and the TWG reviewed the large roll out maps of the wye options.
Madera County Roads Department	June 15, 2010	Discussed Avenue 21 and 24 alignment design options through Madera County.
San Jose to Merced Section Technical Working Group #3: Merced	June 17, 2010	Discuss alignment alternatives with local, transportation, and resource agencies.
Chowchilla Water District	July 6, 2010	Discussed the district's irrigation distribution system.
Panoche Water and Drainage District	July 7, 2010	Discussed the district's irrigation distribution system.
Central California Irrigation District	July 7, 2010	Discussed the district's irrigation distribution system.
Sacramento – State Capitol	September 1, 2010	Revised Bay Area - Central Valley Final Program EIR Public Hearing.
Merced to Fresno Section Technical Working Group #2 (Madera & Merced)	September 23, 2010	Provided San Jose to Merced Section representation at these meetings.
Madera County staff	September 23, 2010	Detailed technical coordination meeting.

Location	Date	Meeting details
Merced to Fresno Section Technical Working Group #3 (Merced & Madera)	April 21, 2011	Merced to Fresno Section TWG meeting.
San Jose to Merced Section Technical Working Group #4 (Merced)	May 25, 2011	Update on San Jose to Merced Section Supplemental Alternative Analysis Report.
Madera County Planning Department	Week of December 9, 2011	Discussion of wyes, selection of hybrid alignment and Merced to Fresno Section Draft EIR/EIS.
Chowchilla Water District	February 15, 2012	Project update and discussion.
Merced-Fresno Technical Working Group #4 (Merced)	February 22, 2012	Merced-Fresno TWG meeting.
Meeting with Madera and Chowchilla Officials	March 6, 2012	Discuss wye alternatives and Hybrid Alignment.
Caltrans, Madera County, City of Chowchilla	April 20, 2012	Discuss revisiting the SR 152 Freeway Agreement with Caltrans to allow HST to shift 152 alignment closer to freeway.
Merced City and County	April 26, 2012	Joint San Jose to Merced and Merced to Fresno Section meeting to discuss response to comments on Merced to Fresno Section Draft EIR/EIS.
San Jose to Merced Section Technical Working Group #5 (Webinar)	April 26, 2012	Discuss Revised 2012 Business Plan, recent section activities, proposed wye refinements, upcoming San Jose to Merced Section July 2011 Supplemental AA Report, and provide an updated project schedule.
San Jose to Merced Section Technical Working Group #6 (Webinar)	August 15, 2012	Discuss statewide and regional milestones, provide an update on the wye alignment selection process, and upcoming activities.
Community		
Madera County Farm Bureau	June 15, 2010	To provide information about the April 8, 2010, Authority Board Meetings and gather feedback on wye options.
Los Banos Unified School District	June 17, 2010	Discussed impacts of the project on Volta Elementary School.
Merced County Farm Bureau Board of Directors	July 22, 2010	Provided a status report and discussion of alternative alignments.
Tribal Consultation Meeting	August 16, 2010	Provided information about the April 8, 2010 Merced to Fresno Section Supplemental Alignment Analysis Report, gather feedback on wye options, and new Chowchilla design.
Preserve Our Heritage Merced Office	September 15, 2010	Provided information about the California High-Speed Rail Project and Merced to Fresno Section Preliminary and Supplemental Alternatives Analysis reports, and listened to Preserve Our Heritage concerns.
Tribal Cultural Consultation meetings	October 11-12, 2010	Discussed issues of potential concern regarding proposed construction of the project.
Amah Mutsun Tribal Band	January 8, 2011	Presented biological, anthropological, and engineering issues relating to the project.
County of Madera offices	March 22, 2011	Meeting requested by Preserve Our Heritage to present their concerns with the current alignments under evaluation.
County of Madera offices	May 17, 2011	Meeting Requested by Preserve Our Heritage to listen to their concerns with the current alignments under evaluation.
Madera Irrigation District	May 27, 2011	Meeting to discuss SR 152 required Caltrans setbacks for HST and to discuss Preserve Our Heritage's new proposed alternative paralleling SR 152 with north wye leg traversing east of Chowchilla.

Location	Date	Meeting details
Madera Irrigation District	June 24, 2011	Meeting to discuss San Jose to Merced Section Supplemental Alternatives Analysis for east west alignment (which included an alternative along SR 152). Presented Preserve Our Heritage alternative proposed on May 27, 2011, with revisions made by CHSRA Team to make the proposal conform to HST design criteria.
Meeting with Val Lopez, Native American Community	July 15, 2011	Meeting to discuss issues important to Native American community.
Chowchilla School District	November 29, 2011	Provided overview of statewide HST program, key documents, milestones, maps and explanation of alignments under consideration.
Merced County Farm Bureau	December 2, 2011	Discussion of Merced to Fresno Section Preferred Alternative Alignment.
Merced Rotary	December 2, 2011	Discussion of Merced to Fresno Section Preferred Alternative Alignment.
Fresno Chamber of Commerce	Week of December 9, 2011	Discussion of wyes, selection of Hybrid Alignment and Merced to Fresno Section Draft EIR/EIS.
Fresno Hispanic Chamber	Week of December 9, 2011	Discussion of wyes, selection of Hybrid Alignment and Merced to Fresno Section Draft EIR/EIS.
Fresno Black Chamber	Week of December 9, 2011	Discussion of wyes, selection of Hybrid Alignment and Merced to Fresno Section Draft EIR/EIS.
Merced Rotary	Week of December 9, 2011	Discussion of wyes, selection of Hybrid Alignment and Merced to Fresno Section Draft EIR/EIS.
Frank Bigelow	Week of December 9, 2011	Discussion of wyes, selection of Hybrid Alignment and Merced to Fresno Section Draft EIR/EIS.
Church and Dwight	Week of December 9, 2011	Discussion of wyes, selection of Hybrid Alignment and Merced to Fresno Section Draft EIR/EIS.
Soares Dairy	Week of December 9, 2011	Discussion of wyes, selection of Hybrid Alignment and Merced to Fresno Section Draft EIR/EIS.
Lazy K Ranch	Week of December 9, 2011	Discussion of wyes, selection of Hybrid Alignment and Merced to Fresno Section Draft EIR/EIS.
Mordecai Ranch	Week of December 9, 2011	Discussion of wyes, selection of Hybrid Alignment and Merced to Fresno Section Draft EIR/EIS.
RSA Investments, LLC	Week of December 9, 2011	Discussion of wyes, selection of Hybrid Alignment and Merced to Fresno Section Draft EIR/EIS.
Kahl Ranch	Week of December 9, 2011	Discussion of wyes, selection of Hybrid Alignment and Merced to Fresno Section Draft EIR/EIS.
Live Oak Farms	Week of December 9, 2011	Discussion of wyes, selection of Hybrid Alignment and Merced to Fresno Section Draft EIR/EIS.
Wells Nut Farm Inc.	Week of December 9, 2011	Discussion of wyes, selection of Hybrid Alignment and Merced to Fresno Section Draft EIR/EIS.
Operating Engineers Local 3 / North Valley Labor Federation	Week of December 9, 2011	Discussion of wyes, selection of Hybrid Alignment and Merced to Fresno Section Draft EIR/EIS.

Location	Date	Meeting details
Billy Powell	Week of December 9, 2011	Discussion of wyes, selection of Hybrid Alignment and Merced to Fresno Section Draft EIR/EIS.
Preferred Alternative Meeting with Fairmead Community Baptist Church	January 9, 2012	Public Joint meeting with Merced to San Jose Section to discuss wye connection.
Chowchilla—Joint San Jose to Merced/Merced to Fresno Stakeholder Meeting	January 25, 2012	Discussed the preferred Merced to Fresno Section alignment recently approved by the Board, along with current wye options, potential impacts and a smooth transition between segment teams.
Merced County Board of Education	February 21, 2012	Meeting to discuss the impact to bus routes and tax revenues.
Merced—Plainsburg Elementary and Le Grand Union High School District	February 22, 2012	Presentation on wye options.
Merced—Plainsburg Elementary and Le Grand Union High School District	March 28, 2012	Follow-up meeting to discuss wye configurations.
Chowchilla and Alview-Dairyland School Districts	April 18, 2012	Provided update on HST project, answer key questions from prior meeting, discuss status of wyes and San Jose to Merced Section process.
Preserve Our Heritage	April 20, 2012	Discussed response to comments on Merced to Fresno Section Draft EIR/EIS.
Merced County Farm Bureau	April 26, 2012	Discussed response to comments on Merced to Fresno Section Draft EIR/EIS.
Meeting with City of Merced, Merced County, Kole Upton, and Merced Farm Bureau	June 6, 2012	Discussed project and wye alignments.
Meeting with City of Merced, Merced County, Kole Upton, and Merced Farm Bureau	June 20, 2012	Discussed project and wye alignments
California Truckers Association	August 31, 2012	Met with San Jose to Merced Section team to discuss wyes.
Galilee Baptist Church	March 20, 2013	First Community Information Meeting to inform the public about Central Valley Wye area alignment alternatives.
Chowchilla Fairgrounds, Little Theater	March 27, 2013	Second Community Information Meeting to inform the public about Central Valley Wye area alignment alternatives.
Galilee Baptist Church	May 30, 2013	Community Meeting to follow up from March to discuss more details regarding impacts.
Elected Officials and Staff		
Madera County Supervisors	June 15, 2010	The project team presented a general overview of the possible alignment through Madera County, including the various wye options.
Madera County Board of Supervisors	June 15, 2010	Discussed Avenue 21 and 24 alignment design options through Madera County.
Merced County Supervisors	February 14, 2012	Informal meeting to provide introductions, project timetable, and to solicit ideas and suggestions on issues/stakeholders.

Location	Date	Meeting details
Gilroy City Council Meeting	February 27, 2012	The project team gave a 45-minute presentation and it was organized around 12 themes the team had heard from the community and focused on trying to rate the two station locations in response to these community values or concerns such as noise, economic development, environment, connectivity, etc.
Madera and Chowchilla Officials	March 6, 2012	Discussed wye alternatives and Merced to Fresno Section Hybrid Alignment.
Supervisor Wasserman Aide, Kevin Maitski	April 25, 2012	Provided an overview of the HST project and background history.
Merced County Supervisor Pedrozo	June 6, 2012	Provided update on activities and wyes.
Merced County Supervisor O'Bannion	June 6, 2012	Discussion of wyes.
Supervisor Wasserman Aide, Kevin Maitski	June 28, 2012	Discussion of HST Project.
City of Chowchilla and Madera County Staff	July 11, 2012	Discussion of SR 152 wye alignments.
Madera City Council and County Board of Supervisors	July 11, 2012	Discussion of Avenue 12 and Avenue 9 alignments.
Merced County Supervisors	October 3, 2012	Discussion of Central Valley activities status briefing and wyes.
Supervisor Wasserman and Country Roads	December 21, 2012	HST Project Overview.
Alternatives Analysis Public Information Meetings (PIMs) & Community Open Houses		
Public Scoping Meeting – Merced	March 18, 2009	Presented an overview of high speed rail, the project process and schedule, the various section subsections, and gather public comments.
Merced—Merced Community Senior Center	October 8, 2009	Presented an overview of the project, schedule, activities to date, and information on potential alignments.
Merced—Merced Community Senior Center	December 17, 2009	Presented the alternative alignments that the Authority and FRA recommended to be carried forward into the San Jose to Merced Section EIS/EIR process.
Merced to Fresno Section – Public Information Meeting (Merced)	April 29, 2010	Provided information about the April 8, 2010, Authority Board Meetings and gathered feedback on wye options.
Merced to Fresno Section – Public Information Meeting (Madera)	April 29, 2010	Provided information about the April 8, 2010, Authority Board Meetings and gathered feedback on wye options.
Los Banos—Los Banos Police Annex	June 15, 2010	Shared alignment alternatives with more than 80 stakeholders.
Dos Palos—Dos Palos Y Service Club	June 17, 2010	Shared alignment alternatives with more than 25 stakeholders.
Merced—Merced Community Senior Center	July 15, 2010	Shared alignment alternatives with more than 65 stakeholders.
Merced to Fresno Section: Public Information Meeting (Fairmead)	July 20, 2010	Provide information about the April 8, 2010, Authority Board Meetings and gathered feedback on wye options and new Chowchilla design option.

Location	Date	Meeting details
Merced to Fresno Section: Public Information Meeting (Chowchilla)	July 22, 2010	Provided information about the April 8, 2010 Authority Board Meetings and gathered feedback on wye options and new Chowchilla design option.
Merced to Fresno Section Supplemental Alternatives Analysis Public Information Meeting—Merced Senior Center	May 25, 2011	Open house to present findings of San Jose to Merced Section Supplemental Alternative Analysis Report.
Merced to Fresno Section public information meeting—Merced Senior Center	June 1, 2011	Open house.
Merced to Fresno Section public information meeting—Madera Fairgrounds	June 2, 2011	Open house.
Los Banos Supplemental Alternatives Analysis Public Information Meeting—Los Banos Community Center	June 13, 2011	Open house to present findings of May 2011 San Jose to Merced Section Supplemental Alternatives Analysis Report.
Chowchilla—Fairmead Church Joint San Jose to Merced and Merced to Fresno Section Stakeholder Meeting	January 9, 2012	Discussed the Merced to Fresno Section Preferred Alternative, Wye options, potential impacts and a smooth transition between section teams.
Central Valley Community Meeting – Madera Community College Center	December 12, 2012	Provided updated on the California High-Speed Rail program, for Merced, Madera and Fresno Counties.
Central Valley Community Meeting – Merced College – Business Resource Center	December 13, 2012	Provided update on the California High-Speed Rail program, for Merced, Madera and Fresno Counties.

SUMMARY OF AGENCY AND PUBLIC INPUT

As described in the Supplemental Checkpoint B Summary Report, stakeholder input has been solicited regarding the wye alternatives throughout the environmental review process for both the Merced to Fresno and San Jose to Merced Sections. Agency consultation and public participation activities have been conducted through a variety of formal and informal methods, including:

- Interagency Technical Working Group (TWG) meetings;
- Public Information Meetings (PIMs);
- Informal meetings with key community leaders, select members of the public, and local/resource agency staff;
- Informal resource-specific agency meetings;
- Informational open houses and informal presentations to community organizations and groups;
- Letter, email, and phone requests for information and informal consultation; and
- Distribution of public notices, fact sheets, and a Frequently Asked Questions (FAQ) document with project information and updates on the ongoing studies.

A variety of stakeholders ranging from landowners, farm owners, residents, organizations, public agencies and elected officials have expressed opinions on the selection of a wye alternative. The Supplemental Checkpoint B Summary Report summarized this input according to several key themes (see Section 2.3 of the Supplemental Checkpoint B Summary Report).

Stakeholder input is a critical component of the Authority's process in considering and selecting alternatives for evaluation in the CEQA/NEPA environmental process, and the Authority has been closely coordinating with a variety of persons and organizations throughout the project area to obtain input on which wye alternatives are preferred by local agency and public stakeholders. Soliciting stakeholder input is a complicated process, further compounded by the complex nature of the wye alternatives around the City of Chowchilla and surrounding communities. Each of the wye alternatives consists of an east-west and north-south component; for example, the SR 152 (North) to Road 13 wye is made up of an east-west alignment following SR 152 to the north, and a north-south alignment along Road 13. During stakeholder meetings, stakeholders typically provide a comment in favor of or opposition to one or more alignments; however, with intermittent exceptions this preference is not typically ascribed to one east-west or north-south component of that alternative, making it very challenging to extrapolate that input to other alternatives with similar characteristics. For example, in the case of the SR 152 (North) to Road 13 wye, commenters typically do not state if their preference is specifically related to impacts that would result from the portion of the alignment along SR 152, or that portion along Road 13.

To address this issue, we've summarized stakeholder input according to each of five main corridors that compose the wye alternatives: SR 152 Corridor, North of SR 152 Corridor, South of SR 152 Corridor, East of Chowchilla Corridor, and West of Chowchilla Corridor. There is some overlap between the corridors, with most of the wye alternatives falling in multiple corridors.

SR 152 Corridor

This corridor consists of wye alternatives along SR 152, including: SR 152 (North) to Road 11 wye, SR 152 (North) to Road 13 wye, SR 152 (North) to Road 18 5/8 Aerial Option wye, SR 152 (North) to Road 19 wye, SR 152 (South) to Road 18 5/8 Aerial Option wye, SR 152 (South) to Avenue 21 to SR 99 wye, and SR 152 (South) to Avenue 21 to Road 19 wye.

A wye alternative along SR 152 is generally preferred by most stakeholders over Avenue 24 or Avenue 21. Certain communities prefer the SR 152 wye alternatives because they follow an existing transportation corridor. The City of Chowchilla will accept a SR 152 alignment, and believes that getting the County of Merced and Caltrans to revise the SR 152 Freeway Agreement would be the key to obtaining widespread acceptance by various stakeholders for this alignment.

Stakeholder input is mixed on the SR 152 to Road 18 Wye alternatives (both to the north and south of SR 152). Opposition to this wye alternative was expressed due to the potential for direct property impacts to residential and business properties, potential impacts to the Green Hill Estates residents, and traffic circulation. Supporters suggest that this wye alternative would be a safer route to and through Madera than the other wye alternatives, with fewer impacts to the community and home-to-school routes, and safer over-/undercrossings. Other supporters suggest that the SR 152 (North) to Road 18 Wye Alternative would have the fewest impacts to farms and businesses. Preserve Our Heritage supports the SR 152 to Road 18 wye alternatives (to the north and south of SR 152), as documented in multiple written comments submitted by Kole Upton & Family and other members at Wye Public Information Meetings held in Fairmead and Chowchilla on March 20, 2013 and March 27, 2013. Senator Anthony Cannella of Merced and Madera Counties wrote a letter to the Authority on December 10, 2013 that identified the SR

152 North to Road 18 wye alternatives and SR 152 South to Road 18 wye alternative as his district's preferred wye alternatives (see Appendix D).

North of SR 152 Corridor

This corridor consists of wye alternatives to the north of SR 152, including: Avenue 24 to Road 11 wye, Avenue 24 to East of Road 12 wye, and Avenue 24 to Road 13 wye.

Numerous commenters expressed concerns and/or opposition to the Avenue 24 wye alternatives. The farming community expressed strong concerns about the wye alternatives along Avenue 24 that included loss of usable farmland and the impact to farm operations and irrigation infrastructure, especially wells. In a letter dated August 6, 2013, AJF Dairy expressed concerned about impacts to their property along Avenue 24. Madera and Merced County property owners are opposed to the Avenue 24 wye alternatives because they do not follow existing transportation corridors. The City of Chowchilla is strongly opposed to any Avenue 24 alignment. Some residents of Los Banos, however, expressed support for the Avenue 24 wye alternatives.

South of SR 152 Corridor

This corridor consists of wye alternatives to the south of SR 152, including: Avenue 22 wye, Avenue 21 to Road 11 wye, Avenue 21 to Road 13 wye, Avenue 21 to SR 99 wye, and Avenue 21 to Road 19 wye.

Commenters expressed mixed support for the Avenue 21 wye alternatives. The City of Chowchilla suggests that the Avenue 21 wye alternatives provide the best wye options. Per a letter dated June 20, 2013, the Chowchilla Elementary School District supports the Avenue 21 to Road 13 Wye Alternative as it would result in the least impacts on their facilities. The Chowchilla Seventh Day Adventist Church (per a letter dated August 26, 2013) and the Alview-Dairyland Union School District (as documented by a written comment submitted at a March 27, 2013 Wye Public Information Meeting in Chowchilla) specifically opposed all the Avenue 21 wye alternatives. Preserve Our Heritage is specifically opposed to the Avenue 21 to Road 13 Wye Alternative, as documented in multiple written comments submitted by Kole Upton & Family and other members at Wye Public Information Meetings held in Fairmead and Chowchilla on March 20, 2013 and March 27, 2013.

West of Chowchilla Corridor

This corridor consists of wye alternatives to the west of Chowchilla, including: Avenue 24 to Road 11 wye, Avenue 24 to East of Road 12 wye, Avenue 24 to Road 13 wye, SR 152 (North) to Road 11 wye, SR 152 (North) to Road 13 wye, Avenue 21 to Road 11 wye, and Avenue 21 to Road 13 wye.

Numerous commenters opposed any alignments west of Chowchilla, instead indicating a preference for a wye connections south and/or east of Chowchilla and arguing that alignments to the east of Chowchilla would eliminate track through the City, and the alternative would no longer surround Chowchilla on all sides. Amongst the alternatives west of Chowchilla, rural interests generally favor a Road 11 or Road 13 alignment over the East of Road 12 alignment, particularly due to potential road closures, noting that road closures would limit the movement of agricultural goods and reduce access to impacted areas. Other commenters expressed a preference for the Avenue 21 to Road 13 Wye Alternative noting that it would have fewer potential impacts to Fairmead school(s), residents, and traffic circulation. Commenters

opposed to the Avenue 21 to Road 13 Wye Alternative expressed concerns due to potential impacts to farmland, schools, homes and the water district. Commenters also expressed concern about loss of usable farmland and impacts to farm operations and irrigation infrastructure from parcel severance resulting from Avenue 24 options. Other commenters believe that an alignment running between Roads 12 and 13 may be acceptable if it was moved closer to the Road 12 alignment and tied into SR 152.

The local organization Preserve Our Heritage opposes the Avenue 21 to Road 13 Wye, as documented in multiple written comments submitted by Kole Upton & Family and other members at Wye Public Information Meetings held in Fairmead and Chowchilla on March 20, 2013 and March 27, 2013. The Greenhills Master Association supports the Road 13 wye alternatives, as documented in multiple letters received by the Authority and through discussion at an individual stakeholder meeting held with the Authority Central Valley Director, Diana Gomez on May 15, 2013. The Chowchilla Elementary School District supports the Avenue 21 to Road 13 Wye Alternative as it would be result in the least impacts on their facilities, per a letter dated June 20, 2013.

East Of Chowchilla Corridor

This corridor consists of wye alternatives to the east of Chowchilla, including: SR 140 wye, SR 152 (North) to Road 18 Refined wye, SR 152 (North) to Road 19 wye, SR 152 (South) to Road 18 Refined wye, SR 152 (South) to Avenue 21 to SR 99 wye, SR 152 (South) to Avenue 21 to Road 19 wye, Avenue 22 wye, Avenue 21 to SR 99 wye, and Avenue 21 to Road 19 wye.

While numerous commenters indicated a preference for a wye connection to the east of Chowchilla, there is mixed support for the Road 18 wye alternatives. Commenters noted that alternatives on the east side of Chowchilla would eliminate track through Chowchilla, and would no longer surround Chowchilla on all sides.

Road 18 Wye Alternatives. Opposition to the SR 152 to Road 18 wye alternatives is due to the potential for direct property impacts to residential and business properties, potential impacts to the Green Hill Estates residents, and traffic circulation. Supporters suggest that these wye alternatives would provide a safer route to and through Madera than the other wye alternatives, with fewer impacts to the community and home-to-school routes, and safer over-/undercrossings. Other supporters suggest that the SR 152 (North) to Road Refined Wye Alternative would have the fewest impacts to farms and businesses. Preserve Our Heritage supports the SR 152 to Road 18 wye alternatives, as documented in multiple written comments submitted by Kole Upton & Family and other members at Wye Public Information Meetings held in Fairmead and Chowchilla on March 20, 2013 and March 27, 2013. The Greenhills Master Association opposes the Road 18 wye alternatives, as documented in multiple letters received by the Authority and through discussion at an individual stakeholder meeting held with the Authority Central Valley Director, Diana Gomez on May 15, 2013.

Road 19 Wye Alternatives. The City of Chowchilla favors a Road 19 alignment over Road 18 that tie into Avenue 21 to ensure that the alignments are as far away from housing as possible.

SR 99 Wye Alternatives. The City of Chowchilla is adamantly opposed to wye alternatives along UPRR (SR 99) through the City.

COMMENT TALLY:

Included in the table below is a tally of all comments received in support of or opposition to a particular wye alternative or corridor, as of November 22, 2013.

Wye Alternative	Supports	Opposes
SR 152 to Road 18	100	2
SR 152 (North)	14	4
Avenue 21 to Road 13	25	73
SR 152 (North) to Road 13	5	1
Avenue 21	2	8
Road 13	19	7
Road 18/18 ½	2	25

Appendix D

**December 11, 2013 Letter from
Senator Cannella**

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SACRAMENTO, CA 95814
(916) 651-4012

918 15TH STREET
MODESTO, CA 95354
(209) 577-6592

1640 N STREET
SUITE 210
MERCED, CA 95340
(209) 726-5495

369 MAIN STREET
SUITE 208
SALINAS, CA 93901
(831) 769-8040

California State Senate

SENATOR
ANTHONY CANNELLA
TWELFTH SENATE DISTRICT



COMMITTEES
AGRICULTURE
VICE-CHAIR
NATURAL
RESOURCES & WATER
VICE-CHAIR
GOVERNMENTAL
ORGANIZATION
ENERGY, UTILITIES &
COMMUNICATIONS
TRANSPORTATION &
HOUSING

December 10, 2013

Dan Richard, Chair
California High-Speed Rail Authority
770 L Street, Suite 800
Sacramento, CA 95814

Re: Support for Central Valley Wye Alternatives SR 152 (North) to Road 18 and SR 152 (South) to Road 18

Dear Chairman Richard:

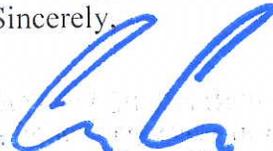
In developing its Supplemental EIR/EIS for the Merced to Fresno Section, the High-Speed Rail Authority is currently considering four alternative alignments for the Central Valley Wye located near Chowchilla. I am writing in support of the SR 152 (North) to Road 18 Wye and SR 152 (South) to Road 18 Wye Alternatives.

I am proud to represent both Merced and Madera Counties and am pleased to see that in considering the alternative alignments for this region, the Authority has worked to mitigate the impacts to agricultural lands, homes, schools, businesses, and environmental resources.

These alternatives have received broad support from many stakeholders, members of the public, and agencies, and I urge their adoption.

Thank you for your consideration.

Sincerely,



Anthony Cannella
Senator, 12th District

cc: Members
Jeff Morales, Chief Executive Officer

