# 3 TRAFFIC, TRANSIT, CIRCULATION, AND PARKING IMPACT ANALYSIS

This chapter provides additional traffic analysis in two areas identified by the November 2011 *Town of Atherton* rulings. In the November 2011 rulings, the court held that the traffic analysis required further analysis in two areas: (1) traffic impacts associated with the loss of traffic lanes parallel to the Caltrain right-of-way in certain areas along the San Francisco Peninsula; and (2) traffic impacts from the narrowing of Monterey Highway from six lanes to four lanes for approximately 3.3 miles and impacts on surrounding streets resulting from the narrowing. The following new text addresses these areas, and adds to the 2008 Final Program EIR, Chapter 3.1. The information related to the narrowing of Monterey Highway supersedes the analysis in the 2010 Revised Final Program EIR. Additional analysis is also provided for the potential loss of traffic lanes along the Oakland to San Jose Corridor in the City of Hayward. Changes to text from the Partially Revised Draft Program EIR are shown with a bar in the margin; added text is noted with underlining and deleted text is noted with strikeout.

## 3.1 Regulatory Requirements and Methods of Evaluation (addition to Section 3.1.1 of 2008 Final Program EIR)

The methodology and CEQA significance criteria presented in the 2008 Final Program EIR, Section 3.1.1 remain accurate and unchanged. The reader is referred to that document for additional context. The following discussion adds to the discussion of methodology and clarifies the method of assessing environmental impacts for the potential loss of traffic lanes parallel to the Caltrain right-of-way in the San Francisco to San Jose Corridor and the narrowing of traffic lanes on Monterey Highway. The following text is an addition to Section 3.1.1 of the 2008 Final Program EIR.

A. POTENTIAL LOSS OF TRAFFIC LANES PARALLEL TO THE CALTRAIN RIGHT-OF-WAY ALONG THE SAN FRANCISCO PENINSULA

In a transportation context, a permanent impact occurs when the project's required right-of-way affects an adjacent roadway, such as when additional right-of-way is needed to provide sufficient width to physically accommodate the rail corridor. The permanent loss of roadway capacity can cause localized congestion, or can increase congestion on nearby roadways and intersections by causing a shift in traffic volume to parallel streets. A detailed traffic analysis identifying changes in local traffic patterns, intersection and roadway congestion, and construction-period road closures is not feasible at this stage of project development because the project design has not sufficiently progressed to determine these location-specific effects.

A number of roadways on the San Francisco Peninsula run directly alongside and adjacent to the existing Caltrain right-of-way. As it is anticipated that additional right-of-way would be required to construct and operate the four track configuration necessary to accommodate HST, Caltrain, and existing freight rail in the corridor, it is possible that lane closures may be required on limited segments of some of these roadways. For the level of design presently available, typical cross-section widths[1] were used to determine if lane closures were possible on these adjacent roadway segments. Data collected between 2008 ~~2009~~ and ~~December 2011~~March 2012 was used to analyze the existing conditions on roadways and intersections adjacent to the rail corridor. The Metropolitan Transportation Commission's (MTC) travel demand model for the 2009 update to the Regional Transportation Plan (RTP) was used to project the future (2035) traffic volumes for those same

[1] This typical section width ranges from 75 feet for anticipated at-grade sections to 95 feet for a 4-track trench section.

adjacent roadways and intersections (MTC Model). Potential impacts associated with these closures are provided in an analysis that considers:

- Loss of access to properties along the roadway segment due to lane reductions.
- Volume/Capacity (V/C) ratios on these roadway segments and whether they have capacity to absorb the loss of a lane or lanes.
- Existing V/C ratios on alternate routes that motorists may use if V/C ratios on the affected roadway segments fall below an acceptable level of service.
- The potential to affect intersection level of service (LOS) at intersections that would be directly affected by lane closures, or at nearby intersections that would be likely to receive traffic diverted from roads with lane closures.

The traffic analyses in this section use a dual baseline approach. That is, the HST project's traffic impacts are evaluated using two scenarios. The first compares against current conditions ("existing" vs. "existing plus HST"). The second scenario compares impacts between future year background conditions with and without the project ("2035 No Project" vs. "2035 plus HST").[2]

The final step was to consider and augment the mitigation strategies identified in section 3.1.5 of the 2008 Final Program EIR. Once the project design has reached a sufficient level of definition, the subsequent project-level environmental analysis will evaluate location-specific impacts and necessary mitigation measures more precisely.

B. POTENTIAL NARROWING OF TRAFFIC LANES ON MONTEREY HIGHWAY AND IMPACTS ON SURROUNDING STREETS

Additional analysis is provided to determine the effect of narrowing Monterey Highway in the San Jose to Central Valley Corridor. Monterey Highway is planned to be narrowed from six lanes to four lanes from Southside Drive to Blossom Hill Road, a distance of about 3.3 miles (as shown in Figure 2-2). The reduction of capacity on Monterey Highway may cause congestion on the highway, and may increase congestion on the surrounding street network by causing a shift in traffic from the highway to surrounding streets. This analysis considers both these aspects of the narrowing, and the difference in the methodologies used to evaluate each aspect are explained below. Santa Clara Valley Travel Demand Model (VTA Model) from Spring 2011 was used to model the effects of the narrowing on Monterey Highway and the surrounding street network. The model does not take into account the trips taken off the road network by travelers shifting to the HST service.

The dual baseline approach discussed above was also used for Monterey Highway. Traffic conditions on Monterey Highway with and without the proposed narrowing were analyzed. The data included the projected traffic operating conditions under existing, existing plus HST, 2035 No Project and 2035 plus HST conditions.[3] Impacts were determined by comparing the existing condition to existing plus HST condition and the 2035 No Project condition to the 2035 plus HST condition.

The traffic impacts that the HST project would have on the surrounding street network due to the narrowing of Monterey Highway are primarily dependent on two factors (1) traffic that is diverted from Monterey Highway to the surrounding street network due to the proposed narrowing and (2) traffic removed from this network because trips by automobile that would otherwise use the network

[2] The analysis in the 2008 Final Program EIR generally utilized the year 2030 to reflect future conditions and analyze project alternatives, including the No Project Alternative. The background conditions year used in this analysis of traffic impacts is 2035. The year 2030 continues to be referenced in this Partially Revised Draft Program EIR in some instances, and there are no significant differences in the level of major roadway improvements assumed to be in operation in 2035 as compared with 2030.

[3] Existing conditions as modeled by the VTA Model reflect conditions in the year 2010.

are diverted to the HST. These factors were considered together to determine the potential traffic impacts on the region. The VTA Model was used to determine the amount of traffic diverted to neighboring streets and the route choice of the diverted traffic. The model reassigns the diverted traffic to roadways where capacity exists, insofar as the model's determination of residual traffic capacity, volume to capacity ratios, and resulting estimates of link speeds. It is not possible to determine the precise route choice of the traffic diverted from Monterey Highway due to the narrowing. For the purposes of this study, and based on professional experience, the route choices of the diverted traffic as determined by the VTA model are used.

Based on the VTA model, roadway segments projected to be operating at LOS E or worse during existing and 2035 peak hours and projected to experience an increase or decrease in traffic (100 trips or more) with HST due to the narrowing, were identified. This effect was considered along with traffic reduction in regional roadways due to mode shift from automobiles to HST to determine the impacts on the street network.

Mitigation strategies were identified to augment those identified in Section 3.1.5 of the 2008 Final Program EIR specifically as it relates to impacts on Monterey Highway and the surrounding street network. Once the project design has reached a sufficient level of definition, the subsequent project-level environmental analysis will evaluate location-specific impacts and necessary mitigation measures more precisely.

### C. POTENTIAL LOSS OF TRAFFIC LANES PARALLEL TO THE UPRR RIGHT-OF-WAY ALONG THE EAST BAY IN HAYWARD

Additional analysis is provided to determine the effect of the potential loss of a traffic lane on a limited stretch of roadway directly alongside and adjacent to the UPRR right-of-way in Hayward along the Oakland to San Jose Corridor. Additional right-of-way would be required to accommodate HST if UPRR right-of-way were unavailable. For the level of design presently available, typical cross-section widths were used to determine if a lane closures were possible.[4]

### D. CEQA SIGNIFICANCE CRITERIA

Under CEQA, a proposed project should be analyzed for the potential effects listed below (California Department of Transportation 2003).

- An increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in the number of vehicle trips, the V/C, or congestion at intersections).
- Either individually or cumulatively exceeding an LOS standard established by the county congestion management agency for designated roads or highways.
- A substantial increase in hazards attributable to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Inadequate parking capacity.
- Inadequate emergency access.
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).
- Rail, waterborne, or air traffic impacts.

[4] Refer to Figure 3-2a of the 2010 Revised Final Program EIR.

Under CEQA, the proposed project would have a significant impact related to transportation and traffic if the project would result in:

- Substantial increase in traffic on roadways that exceeds the V/C.
- Substantial interference with goods movement.
- Substantial interference with or lack of connectivity with other transit systems. [5]

## 3.2 Affected Environment (addition to Section 3.1.2 of 2008 Final Program EIR)

The affected environment presented in the 2008 Final Program EIR, Section 3.1.2 remains accurate and unchanged. The reader is referred to that document for additional context. The following text is an addition to Section 3.1.2 of the 2008 Final Program EIR.

A. POTENTIAL LOSS OF TRAFFIC LANES PARALLEL TO THE CALTRAIN RIGHT-OF-WAY ALONG THE SAN FRANCISCO PENINSULA

This corridor includes the areas on the west side of the San Francisco Bay along the Caltrain rail line, from the city of San Francisco to the city of San Jose. This is a highly urbanized area with higher density land uses surrounding the corridor that generates high volumes of regional and local automobile traffic on freeways, state highways, and on local roads.

The major intercity highway links in the corridor are the US 101 freeway links. Some freeway links in this corridor are very congested, operating at LOS E in generalized peak hour in the peak direction. This congestion extends to the local road network and many intersections in the area function at a relatively poor level of service, with long delays at traffic signals and high V/C ratios. In many areas along the corridor there are parallel roadways that flank the existing Caltrain right-of-way and many roads that cross the corridor, either at-grade at controlled (gated) crossings, or using grade-separated structures such as over and undercrossing. The level of service of these parallel and crossing roads and associated intersections varies greatly with many operating under free-flowing traffic conditions, and others that are affected by the peak hour congestion that is common in the region.

B. POTENTIAL NARROWING OF TRAFFIC LANES ON MONTEREY HIGHWAY AND IMPACTS ON SURROUNDING STREETS

Monterey Highway is a segment of El Camino Real, the original trail developed by Spanish missionaries to link the California missions in the 18th and 19th centuries. As California developed, so did Monterey Highway. This history is reflected in its design.

Monterey Highway was the original route of US 101 and some portions carried this designation until the early 1980s. Until the late 1940s, US 101 followed Monterey Highway all the way from Gilroy to downtown San Jose. In the late 1940s, a bypass of San Jose was built, starting at what is now Blossom Hill Road. In the early 1970s, a bypass was built from south of Gilroy to Cochrane Road in Morgan Hill. In the early 1980s, US 101 was completed between Blossom Hill Road and Cochrane Road and widened to its present eight lanes in the 1990s.

[5] Inadequate parking capacity, addressed in the 2008 Final Program EIR, was removed from Appendix G of the CEQA Guidelines in 2010. Inadequate parking is no longer considered an environmental impact per se. Rather, this issue only falls within the purview of CEQA if there is substantial evidence that a significant secondary environmental impact may occur as a result of an identified lack of parking. Parking issues fall outside the scope of environmental review and are not required to be addressed as part of this Partially Revised Draft Program EIR. Parking demand and availability is considered part of the overall traffic congestion analysis as discussed below.

Each of the US 101 projects diverted traffic off Monterey Highway, so that currently the highway carried carries much less traffic than it was originally designed to support. As it was used as an original route for US 101, Monterey Highway is wider than an average arterial. The width of the six-lane portion of Monterey Highway from South side Drive to Blossom Hill Road varies from 105 to 125 feet, including outside shoulders. The existing peak hour roadway LOS along Monterey Highway, between Southside Drive in southern San Jose and Bailey Road near Morgan Hill, varies mostly between A and C, showing uncongested conditions even during peak hours in most locations.[6] However, in a few locations, the LOS degrades to LOS D during peak hours, denoting delays and some traffic backup.

No portion of Monterey Highway exists as a freeway; therefore, travel speeds are limited. US 101, which runs parallel to Monterey Highway, tends to provide a faster north/south travel alternative, even during peak travel times, and hence serves to divert some traffic from Monterey Highway.

C. POTENTIAL LOSS OF TRAFFIC LANES PARALLEL TO THE UPRR RIGHT-OF-WAY ALONG THE EAST BAY IN HAYWARD

The Oakland to San Jose Corridor includes the areas on the east side of San Francisco Bay along I-880 from the City of Oakland to the City of San Jose. The area of potential lanes closures in the City of Hayward is bounded by East A Street, East Winton Avenue, and the UPRR right-of-way which operates freight traffic and also Amtrak Capitol Corridor passenger service. The areas immediately east and west of UPRR include newer residential development with local streets providing access.

## 3.3 Environmental Consequences (addition to Section 3.1.3 of 2008 Final Program EIR)

The environmental consequences discussion presented in the 2008 Final Program EIR, Section 3.1.3 remains accurate and unchanged. The reader is referred to that document for additional context. The following text is an addition to Section 3.1.3 of the 2008 Final Program EIR.

A. POTENTIAL LOSS OF TRAFFIC LANES PARALLEL TO THE CALTRAIN RIGHT-OF-WAY ALONG THE SAN FRANCISCO PENINSULA

No Project Alternative

The programmed or funded major roadway improvements assumed to be in operation by 2030 include some capacity improvements to improve regional circulation and individual interchange function but generally no systemwide capacity improvements (e.g., major new highway construction) and would not result in a general improvement or stabilization of conditions of existing highways across the study area. Smaller local projects involving improvements to local roadways, intersections, and bicycle and pedestrian routes are generally not included in the 2030 No Project Alternative as these items are not programmed many years in advance. Many of these local projects would occur over the project study area and most of them would be related to the traffic generated by nearby development (such as a new traffic signal for a development). It is anticipated that these local improvements would have little or no impact on regional travel demand or capacity.

High-Speed Train Alternative

The HST corridor on the San Francisco Peninsula may impact adjacent roadways by requiring right-of-way from public streets to accommodate the HST project with existing Caltrain and freight service. If existing roadway capacity is removed, it could result in impacts that include additional traffic congestion during peak travel times, loss of on-street parking used by adjacent residents and businesses, changes in circulation patterns, and street closures. The potential lane closures

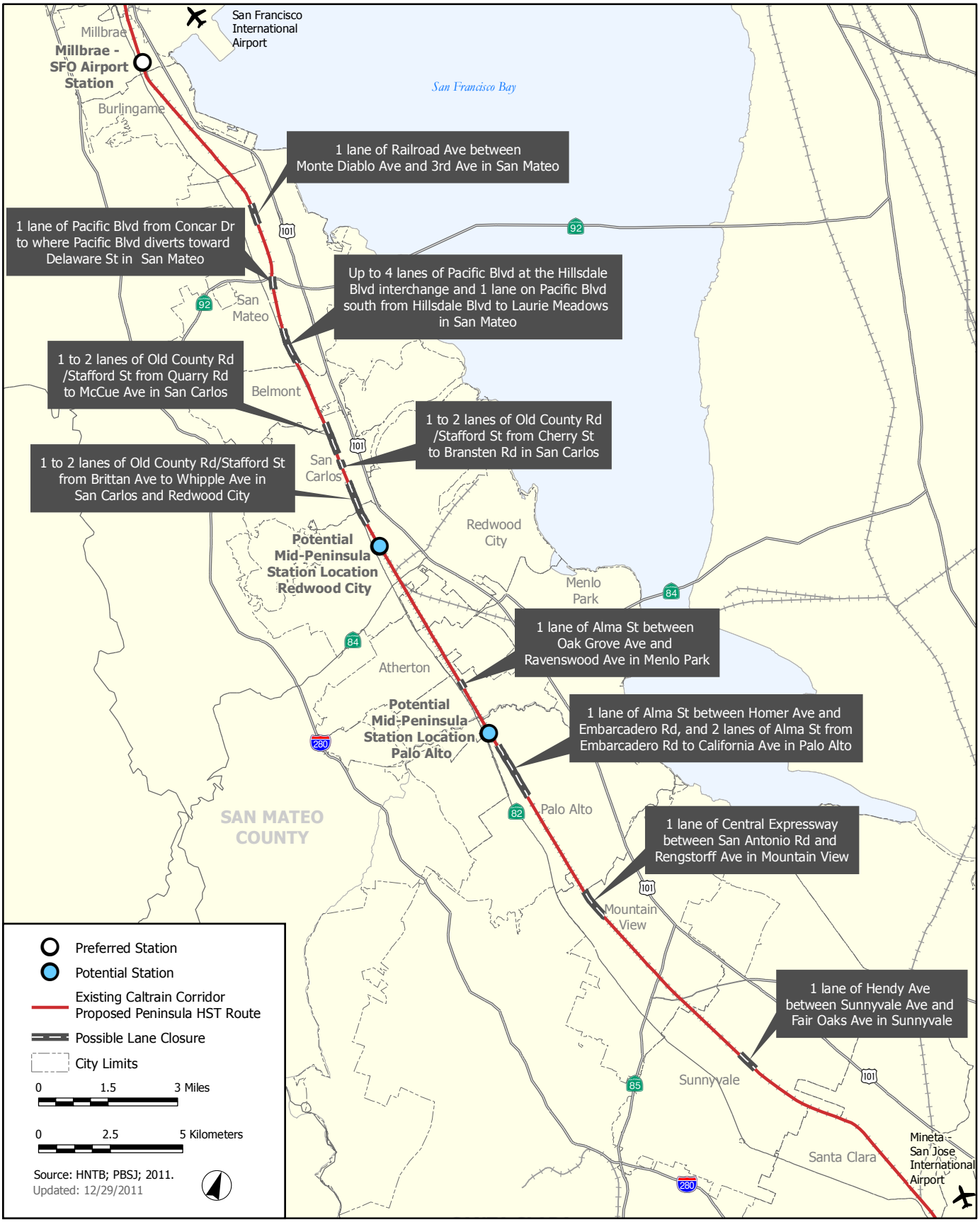
[6]VTA, Spring 2011.

discussed in this analysis include all possible closures identified with the available level of design. Through design modifications at the project EIR level, some of the closures assumed for this analysis may actually not be required. However, the following is provided as a conservative evaluation of the potential impacts of the HST project on adjacent streets due to removal of existing traffic lanes. Eight potential lane reductions along the following roadway segments were identified and are shown in Figure 3-1:

- One lane of Railroad Avenue between Monte Diablo and 3rd Avenue, in San Mateo, approximately 0.47 mile in length.
- One lane of Pacific Boulevard from Concar Drive to where the Pacific Boulevard alignment diverts from the railroad corridor toward Delaware Street, in San Mateo, approximately 0.27 mile in length.
- Up to four lanes of Pacific Boulevard at the Hillsdale Boulevard Interchange and one lane on Pacific Boulevard south from Hillsdale Boulevard to Laurie Meadows Drive, in San Mateo, approximately 0.81 mile in length.
- One to two lanes of Old County Road/Stafford Street from Quarry Road to McCue Avenue, from Cherry Street to Bransten Road, and from Brittan Avenue to Whipple Avenue, in San Carlos and Redwood City, approximately 1.91 miles in length from Quarry Road to Whipple Avenue.
- One lane of Alma Street between Oak Grove Avenue and Ravenswood Avenue, in Menlo Park, approximately 0.20 mile in length.
- One lane of Alma Street between Homer Avenue and Embarcadero Road and two lanes on Alma Street from Embarcadero Road to California Avenue, in Palo Alto, approximately 1.28 miles in length.
- One lane of Central Expressway between San Antonio Road and Rengstorff Avenue, in Mountain View, approximately 0.69 mile in length.
- One lane of Hendy Avenue between Sunnyvale Avenue and Fair Oaks Avenue, in Sunnyvale, approximately 0.46 mile in length.

This reduction in lanes may result in circulation, access, or parking impacts. Some of these impacts could include complete closure of streets with circulation diverted to surrounding roadways; conversion of two-way streets to one-way streets; increasing congestion and reduced levels of service as discussed below; changes to adjacent on-street bicycle facilities; limitations or elimination of access to some parcels; requirements for new frontage roads or new access routes; and reduction in on-street parking which could have secondary impacts related to land use viability. In some locations, there could be land use implications (acquisitions) resulting from mitigation for circulation and parking impacts.

For purposes of this programmatic analysis, and in light of the corridor being evaluated as a whole at the program level, an analysis of the potential traffic impacts for each of the eight potential lane reductions was conducted and is provided below. This analysis was based on AM (morning) and PM (evening) peak hour V/C and LOS calculations. The typical weekday AM and PM peak hours generally carry a greater amount of traffic than any other time period and are used to determine project impacts. ~~as PM peak conditions are generally more impacted than AM (morning) peak hour conditions in this region.~~ Table 3-1a ~~and~~ through Table 3-1d ~~1b~~ summarize the findings of the lane




CALIFORNIA High-Speed Rail Authority

**Figure 3-1**
**San Francisco to San Jose Possible Lane Closures**
*Bay Area to Central Valley HST Partially Revised Final Program EIR*

closure analysis using the dual baseline approach discussed above (existing vs. existing plus HST, and 2035 No Project vs. 2035 plus HST).[7]

The analysis identified that the loss of parallel lanes in limited areas along the San Francisco to San Jose Corridor has the potential to cause ~~significant~~ traffic congestion at a number of intersections, such that this increased congestion would be considered a significant impact~~s~~.[8] As indicated in Table 3-1a, when comparing the existing conditions to existing conditions plus HST in the AM peak hour, there would be a significant increase in traffic congestion at the Churchill Avenue/Alma Street intersection. When comparing the anticipated AM peak hour future condition in 2035 without HST to the future condition in 2035 plus HST in Table 3-1b, there would be an increase in traffic congestion at a second intersection as well, Page Mill Road/El Camino Real. ~~the impact would be limited to the Ravenswood Avenue/Alma Street intersection (due to the loss of one traffic lane on Alma Street~~

In the PM peak hour, the congestion impact would be limited to two intersections, Ravenswood Avenue/Alma Street and Churchill Avenue/Alma Street, for existing conditions versus existing conditions plus HST (Table 3-1c). When comparing the anticipated future condition in 2035 without HST to the future condition in 2035 plus HST ~~in~~ (Table 3-1d~~b~~), there would be a significant increase in traffic congestion at ~~number of areas experiencing a significant traffic congestion impact increases as a result of four areas of lane closures to include seven~~ eight intersections: Hillside Boulevard/El Camino Real ramps (northbound and southbound), Brittan Avenue/El Camino Real, Howard Avenue/El Camino Real, Ravenswood Avenue/Alma Street, Embarcadero Road/El Camino Real, Churchill Avenue/Alma Street, and Page Mill Road/El Camino Real.

For purposes of this programmatic analysis, and in light of the corridor being evaluated as a whole at the program level, this increase in ~~impact is considered a new significant~~ traffic congestion is considered a new significant impact for the San Francisco to San Jose Corridor, even though the impact is limited to certain areas. However, if design refinement (at the project level) avoids these lane closures, impacts could be avoided and mitigation may not be required.

B. POTENTIAL TRAFFIC IMPACTS FROM THE NARROWING OF MONTEREY HIGHWAY FROM SIX TO FOUR LANES AND IMPACTS ON SURROUNDING STREETS

No Project Alternative

As discussed above in the Affected Environment, peak hour roadway LOS along Monterey Highway in the San Jose to Central Valley Corridor under existing conditions, without HST, shows mostly uncongested (LOS A and C) conditions, with a few locations at LOS D, denoting delays and some traffic backup. Preliminary projections for year 2035 evening peak-hour volumes along Monterey Highway, without HST, between Southside Drive and Bailey Road, indicate that traffic volumes are expected to be higher in the southbound direction than in the northbound direction, leading to LOS E or F, showing congested travel conditions in the corridor. In the northbound direction, approximately 60% of the Monterey Highway corridor is projected to operate under LOS C or better, showing mostly uncongested travel conditions. Many major roadways surrounding this stretch of Monterey Highway operate at LOS E or worse under the No Project Alternative.

[7] All diverted traffic from these lane closures is assumed to be diverted to other local roads, which have been assessed for impacts. No trip reductions have been included for mode diversions from automobile to HST, as it is assumed that the majority of these trips are closely tied to nearby and adjacent land use. This represents the most conservative scenario.

[8] To the extent any projected loss of parking from these lane closures increases or decreases traffic congestion, the lane closure analysis has taken into account projected loss of parking in determining the level of traffic impacts, as well as taking into account all other impacts of the lane closures as discussed above. In some instances, as shown in the tables~~Tables 3-1a and 3-1b~~, service is projected to improve with the project, based on changes in circulation patterns or future traffic improvements.

High-Speed Train Alternative

As discussed above in the Affected Environment, Monterey Highway in the San Jose to Central Valley Corridor is six lanes wide for approximately six miles from Hollywood Avenue to south of Blossom Hill Road, and four lanes wide south of Blossom Hill Road. Monterey Highway from approximately Southside Drive to south of Blossom Hill Road (approximately 3.3 miles) is proposed to be narrowed from six lanes to four lanes to provide a cost-effective right-of-way corridor for HST by minimizing property acquisition along the HST alignment. The San Jose Envision 2040 General Plan update was adopted by the City Council in November 2011, which made the modification of Monterey Highway official City policy. In addition, the City and Caltrans are pursuing relinquishment of portions of Monterey Highway (State Route 82) in San Jose, from the jurisdiction of Caltrans to the City of San Jose, to further facilitate any corridor modifications necessitated by the ongoing development of the HST project.

The reduction of lanes on a portion of Monterey Highway, together with HST, may create traffic impacts to Monterey Highway itself, as discussed immediately below. In addition, the narrowing of the Monterey Highway and HST may have traffic impacts on the local street network. These latter impacts, also discussed below, are considered along with the impacts of the mode shift from automobile to HST.

**Effects of the Narrowing on Monterey Highway**

With the reduction of lanes on a portion of Monterey Highway, traffic congestion on the Monterey Highway itself is projected to increase slightly in both directions. The VTA Model (Spring 2011) was used for conducting this analysis. The assumptions of this forecast consider a base scenario with Monterey Highway being six lanes from Southside Drive to south of Blossom Hill Road, and a project scenario with four lanes on Monterey Highway for this section. The forecast does not incorporate the mode shift to HST, and therefore represents a conservative scenario.

As shown in Table 3-2a, analyzing existing vs. existing plus HST conditions, traffic on this stretch of Monterey Highway peaks northbound during the morning peak hour and southbound during the evening peak hour. All segments of Monterey Highway between Southside Drive and Bailey Road operate at LOS D or better during existing peak hours, without the narrowing. Even with the narrowing, only two segments of Monterey Highway (between Capitol Expressway and Senter Road, and Senter Road and Branham Lane) are projected to degrade by one level of service to LOS E in the northbound direction during the morning peak hour. These potential impacts are significant. All other segments are projected to operate at LOS D or better, during both peak hours in both directions.

In 2035, even without the narrowing, two to four of the eight segments of Monterey Highway presented in Table 3-2b are projected to operate at LOS E or worse depending on the peak hour and travel direction. With the narrowing, one to five of the eight segments are projected to have potentially significant impacts, depending on the peak hour and travel direction.[9] Thus, the narrowing of Monterey Highway is considered a new significant traffic impact for this specific 3.3 mile segment of Monterey Highway.

[9] These impacts are based on modeling conducted using the VTA's latest model as of Spring 2011 and hence are different from the impacts presented in the 2010 Revised Final Program EIR, which used an earlier version of the VTA model.

**Table 3-1a**
**San Francisco to San Jose High Speed Train Corridor**
**Possible Lane Closures Existing Conditions Scenario Analysis**
**AM Peak Hour Levels of Service and Vehicle Delay**

| Potential Lane Reductions and Segments and Intersections Analyzed | Existing[1] | | Existing + HST | | Existing to Existing +HST Impact* |
|---|---|---|---|---|---|
| | LOS | Delay or V/C | LOS | Delay or V/C | |
| **1 lane of Pacific Blvd. from Concar Dr. to where the Pacific Blvd. alignment diverts from the railroad corridor** | | | | | |
| 19th Ave/Pacific Blvd | A | 7.3 | A | 0 | LTS |
| 19th Ave/Delaware St | C | 26.1 | C | 26.3 | LTS |
| Pacific Blvd/Delaware St | B | 14.3 | B | 14.2 | LTS |
| **Up to 4 lanes of Pacific Blvd. at the Hillsdale Blvd. Interchange and 1 lane on Pacific Blvd. south from Hillsdale Blvd. to Laurie Meadows Dr.#** | | | | | |
| Hillsdale Blvd WB Ramps/Pacific Blvd | A | 8.3 | NA | NA | NA |
| Hillsdale Blvd EB Ramps/Pacific Blvd | A | 8.7 | NA | NA | NA |
| Hillsdale Blvd/Pacific Blvd (at-grade) | NA | NA | C | 28.3 | LTS |
| Hillsdale Blvd/El Camino Real NB Ramps | D | 39.5 | D | 37.6 | LTS |
| Hillsdale Blvd/El Camino Real SB Ramps | C | 34.2 | C | 31.4 | LTS |
| 42nd Ave/Pacific Blvd | C | 32.7 | B | 18.3 | LTS |
| 42nd Ave/El Camino Real | C | 30.2 | C | 27.9 | LTS |
| **1 to 2 lanes of Old County Rd. and Stafford St. from Quarry Rd. to McCue Ave., from Cherry St. to Bransten Rd., and from Brittan Ave. to Whipple Ave.** | | | | | |
| Harbor Blvd/Old County Rd | C | 25.6 | C | 26.1 | LTS |
| Harbor Blvd/El Camino Real | B | 19.7 | C | 21.5 | LTS |
| Holly St/Old County Rd | C | 34.7 | C | 29.6 | LTS |
| Holly St/El Camino Real | D | 36.4 | D | 39.5 | LTS |
| Brittan Ave/Old County Rd | C | 27.3 | C | 27.5 | LTS |
| Brittan Ave/El Camino Real | D | 37.6 | D | 40.6 | LTS |
| Howard Ave/Old County Rd | C | 24.5 | C | 23.4 | LTS |
| Howard Ave/El Camino Real | C | 30.7 | C | 34.6 | LTS |
| Whipple Ave/El Camino Real | C | 34.7 | D | 36 | LTS |
| Whipple Ave/Stafford St | B | 11.4 | A | 0 | LTS |
| **1 traffic lane on Alma St. between Oak Grove Ave. and Ravenswood Ave.** | | | | | |
| Oak Grove Ave/Alma St | B | 14.7 | A | 8.3 | LTS |
| Oak Grove Ave/El Camino Real | C | 28.5 | C | 28.3 | LTS |
| Ravenswood Ave/Alma St | D | 31.5 | D | 31.6 | LTS |
| Ravenswood Ave/El Camino Real | D | 39.6 | D | 39.5 | LTS |

| Potential Lane Reductions and Segments and Intersections Analyzed | Existing[1] | | Existing + HST | | Existing to Existing +HST Impact* |
|---|---|---|---|---|---|
| | LOS | Delay or V/C | LOS | Delay or V/C | |
| **1 traffic lane of Alma St. between Homer Ave. to Embarcadero Rd. and 2 traffic lanes on Alma St. from Embarcadero Rd. to California Ave.** | | | | | |
| University Ave / El Camino Real NB Ramps [East] | B | 14.2 | C | 23.9 | LTS |
| Palm Dr / El Camino Real SB Ramps [West] | C+ | 21.3 | C+ | 21.9 | LTS |
| Homer Ave/Alma St | A | 6.8 | A | 6.5 | LTS |
| Embarcadero Rd/El Camino Real | D | 39.2 | D | 39.1 | LTS |
| Churchill Ave/Alma St | D | 42.0 | E+ | 55.8 | **S** |
| Page Mill Rd/El Camino Real | D | 50.6 | E- | 76 | LTS |
| **1 lane of Central Expressway between San Antonio Rd. and Rengstorff Ave.** | | | | | |
| SB Central Expy between San Antonio Rd and Rengstorff Ave | A | 833/3800** = 0.22 | A | 833/1900 = 0.44 | LTS |
| **1 lane of Hendy Ave. between Sunnyvale Ave. and Fair Oaks Ave.** | | | | | |
| Sunnyvale Ave/Hendy Ave | B+ | 11.7 | B+ | 11.6 | LTS |
| Sunnyvale Ave/Evelyn Ave | C | 30.9 | C | 30.8 | LTS |
| Fair Oaks Ave/Evelyn Ave | C | 24.8 | C | 26.7 | LTS |

* Project Impact: LTS (less than significant); S (significant)

[#] A loss of four lanes of Pacific Blvd at the Pacific Blvd/Hillsdale Blvd interchange would eliminate the interchange. It is assumed that the interchange will be rebuilt as an at-grade intersection further east, and thus the existing + project for the rebuilt, at-grade intersection is compared with existing conditions for the current interchange.

** Assumed base capacity per lane is 1900 vph.

Notes:

1. The existing traffic volumes used in the analysis were collected in 2008, 2009, 2010, and 2012.
2. Traffic re-routing to represent possible lane closures were determined by AECOM. A conservative approach was employed to shift diverted traffic onto the most likely parallel facility rather than disperse the diverted traffic to several parallel facilities. This approach increased the likelihood of identifying a significant impact as a result of the possible lane closures.
3. Intersection Delay, V/C, and Level of Service were determined using the TRAFFIX 8.0 computer program. TRAFFIX is a commonly used software package in the Bay Area and is consistent with the procedures of the Highway Capacity Manual.

**Table 3-1b**
**San Francisco to San Jose High Speed Train Corridor**
**Possible Lane Closures 2035 Baseline Scenario Analysis**
**AM Peak Hour Levels of Service and Vehicle Delay**

| Potential Lane Reductions and Segments and Intersections Analyzed | 2035 No Project[1] | | 2035 + HST | | 2035 No Project to + HST Impact* |
|---|---|---|---|---|---|
| | LOS | Delay or V/C | LOS | Delay or V/C | |
| **1 lane of Pacific Blvd. from Concar Dr. to where the Pacific Blvd. alignment diverts from the railroad corridor** | | | | | |
| 19th Ave/Pacific Blvd | A | 7.3 | A | 0 | LTS |
| 19th Ave/Delaware St | C | 28.4 | C | 28.7 | LTS |
| Pacific Blvd/Delaware St | C | 15.6 | C | 15.5 | LTS |
| **Up to 4 lanes of Pacific Blvd. at the Hillsdale Blvd. Interchange and 1 lane on Pacific Blvd. south from Hillsdale Blvd. to Laurie Meadows Dr. #** | | | | | |
| Hillsdale Blvd WB Ramps/Pacific Blvd | A | 8.8 | NA | NA | NA |
| Hillsdale Blvd EB Ramps/Pacific Blvd | A | 9.5 | NA | NA | NA |
| Hillsdale Blvd/Pacific Blvd (at-grade) | NA | NA | C | 31.4 | LTS |
| Hillsdale Blvd/El Camino Real NB Ramps | D | 46.2 | D | 46.6 | LTS |
| Hillsdale Blvd/El Camino Real SB Ramps | C | 34.2 | C | 32 | LTS |
| 42nd Ave/Pacific Blvd | D | 36.5 | B | 18.3 | LTS |
| 42nd Ave/El Camino Real | C | 32.2 | C | 29.7 | LTS |
| **1 to 2 lanes of Old County Rd. and Stafford St. from Quarry Rd. to McCue Ave., from Cherry St. to Bransten Rd., and from Brittan Ave. to Whipple Ave.** | | | | | |
| Harbor Blvd/Old County Rd | C | 26.1 | C | 27.6 | LTS |
| Harbor Blvd/El Camino Real | C | 21.1 | C | 23.1 | LTS |
| Holly St/Old County Rd | D | 40.3 | D | 40.3 | LTS |
| Holly St/El Camino Real | D | 40.1 | D | 45.5 | LTS |
| Brittan Ave/Old County Rd | C | 28.1 | C | 30.2 | LTS |
| Brittan Ave/El Camino Real | D | 40.1 | D | 46.3 | LTS |
| Howard Ave/Old County Rd | C | 24.4 | C | 23.7 | LTS |
| Howard Ave/El Camino Real | C | 31.2 | D | 37.5 | LTS |
| Whipple Ave/El Camino Real | D | 41.6 | D | 44.6 | LTS |
| Whipple Ave/Stafford St | B | 12.3 | A | 0 | LTS |

| Potential Lane Reductions and Segments and Intersections Analyzed | 2035 No Project[1] | | 2035 + HST | | 2035 No Project to + HST Impact* |
|---|---|---|---|---|---|
| | LOS | Delay or V/C | LOS | Delay or V/C | |
| **1 traffic lane on Alma St. between Oak Grove Ave. and Ravenswood Ave.** | | | | | |
| Oak Grove Ave/Alma St | C | 16.6 | A | 8.6 | LTS |
| Oak Grove Ave/El Camino Real | C | 29.8 | C | 29.5 | LTS |
| Ravenswood Ave/Alma St | E | 40.8 | E | 42.5 | LTS |
| Ravenswood Ave/El Camino Real | D | 46.6 | D | 46.4 | LTS |
| **1 traffic lane of Alma St. between Homer Ave. to Embarcadero Rd. and 2 traffic lanes on Alma St. from Embarcadero Rd. to California Ave.** | | | | | |
| University Ave / El Camino Real NB Ramps [East] | B | 15.8 | C | 30.8 | LTS |
| Palm Dr / El Camino Real SB Ramps [West] | C+ | 21.4 | C+ | 22.2 | LTS |
| Homer Ave/Alma St | A | 7.4 | A | 6.9 | LTS |
| Embarcadero Rd/El Camino Real | D | 46.5 | D | 49.5 | LTS |
| Churchill Ave/Alma St | E+ | 55.7 | F | 89.5 | **S** |
| Page Mill Rd/El Camino Real | E- | 79.3 | F | 132.6 | **S** |
| **1 lane of Central Expressway between San Antonio Rd. and Rengstorff Ave.** | | | | | |
| SB Central Expy between San Antonio Rd and Rengstorff Ave | A | 1032/3800** = 0.27 | A | 1032/1900 = 0.54 | LTS |
| **1 lane of Hendy Ave. between Sunnyvale Ave. and Fair Oaks Ave.** | | | | | |
| Sunnyvale Ave/Hendy Ave | B+ | 11.8 | B+ | 11.7 | LTS |
| Sunnyvale Ave/Evelyn Ave | C | 31.6 | C | 31.4 | LTS |
| Fair Oaks Ave/Evelyn Ave | C | 26.2 | C | 28.6 | LTS |

* Project Impact: LTS (less than significant); S (significant)

# A loss of four lanes of Pacific Blvd at the Pacific Blvd/Hillsdale Blvd interchange would eliminate the interchange. It is assumed that the interchange will be rebuilt as an at-grade intersection further east, and thus the 2035 Plus Project conditions for the rebuilt, at-grade intersection is compared with 2035 Baseline conditions for the current interchange.

** Assumed base capacity per lane is 1900 vph.

Notes:

1. The existing traffic volumes used in the analysis were collected in 2008, 2009, 2010, and 2012.
2. The future traffic projections were obtained from the MTC Regional Travel Demand Model. These projections were post-processed by AECOM to arrive at future intersection turning movement volumes.
3. Traffic re-routing to represent possible lane closures were determined by AECOM. A conservative approach was employed to shift diverted traffic onto the most likely parallel facility rather than disperse the diverted traffic to several parallel facilities. This approach increased the likelihood of identifying a significant impact as a result of the possible lane closures.
4. Intersection Delay, V/C, and Level of Service were determined using the TRAFFIX 8.0 computer program. TRAFFIX is a commonly used software package in the Bay Area and is consistent with the procedures of the Highway Capacity Manual.

**Table 3-~~1a~~ 1c**
**San Francisco to San Jose High Speed Train Corridor**
**Possible Lane Closures Existing Conditions Scenario Analysis**
**PM Peak Hour Levels of Service and Vehicle Delay**

| Potential Lane Reductions and Segments and Intersections Analyzed | Existing[1] | | Existing + HST | | Existing to Existing +HST Impact* |
|---|---|---|---|---|---|
| | LOS | Delay or V/C | LOS | Delay or V/C | |
| **1 lane of Pacific Blvd. from Concar Dr. to where the Pacific Blvd. alignment diverts from the railroad corridor** | | | | | |
| 19th Ave/Pacific Blvd | A | 7.3 | A | 0.0 | LTS |
| 19th Ave/Delaware St | C | 28.3 | C | 28.6 | LTS |
| Pacific Blvd/Delaware St | C | 16.5 | C | 16.6 | LTS |
| **Up to 4 lanes of Pacific Blvd. at the Hillsdale Blvd. Interchange and 1 lane on Pacific Blvd. south from Hillsdale Blvd. to Laurie Meadows Dr.#** | | | | | |
| Hillsdale Blvd WB Ramps/Pacific Blvd | A | 8.9 | NA | NA | NA |
| Hillsdale Blvd EB Ramps/Pacific Blvd | A | 8.8 | NA | NA | NA |
| Hillsdale Blvd/Pacific Blvd (at-grade) | NA | NA | C | 26.6 | LTS |
| Hillsdale Blvd/El Camino Real NB Ramps | D | 43.1 | D | 44.7 | LTS |
| Hillsdale Blvd/El Camino Real SB Ramps | D | 37.4 | D | 43.9 | LTS |
| 42nd Ave/Pacific Blvd | D | 44.2 | C | 21.5 | LTS |
| 42nd Ave/El Camino Real | C | 31.4 | C | 28.4 | LTS |
| **1 to 2 lanes of Old County Rd. and Stafford St. from Quarry Rd. to McCue Ave., from Cherry St. to Bransten Rd., and from Brittan Ave. to Whipple Ave.** | | | | | |
| Harbor Blvd/Old County Rd | C | 25.2 | C | 27.1 | LTS |
| Harbor Blvd/El Camino Real | C | ~~27.6~~ 26.2 | C | ~~28.3~~ 26.8 | LTS |
| Holly St/Old County Rd | D | 43.5 | C | 34.4 | LTS |
| Holly St/El Camino Real | C | 34.8 | D | 37.2 | LTS |
| Brittan Ave/Old County Rd | C | 33.2 | D | 36.3 | LTS |
| Brittan Ave/El Camino Real | D | ~~48.2~~ 38.7 | D | ~~54.9~~ 44.7 | LTS |
| Howard Ave/Old County Rd | C | 32.2 | C | 34.0 | LTS |
| Howard Ave/El Camino Real | C | 32.5 | D | 38.3 | LTS |
| Whipple Ave/El Camino Real | D | 39.3 | D | 40.5 | LTS |
| Whipple Ave/Stafford St | B | 14.1 | A | 0.0 | LTS |
| **1 traffic lane on Alma St. between Oak Grove Ave. and Ravenswood Ave.** | | | | | |
| Oak Grove Ave/Alma St | C | 18.1 | B | 12.4 | LTS |
| Oak Grove Ave/El Camino Real | C | 30.8 | C | 29.9 | LTS |
| Ravenswood Ave/Alma St | F | 77.9 | F | 108.0 | **S** |
| Ravenswood Ave/El Camino Real | D | 45.2 | D | 45.8 | LTS |

| Potential Lane Reductions and Segments and Intersections Analyzed | Existing[1] | | Existing + HST | | Existing to Existing +HST Impact* |
|---|---|---|---|---|---|
| | LOS | Delay or V/C | LOS | Delay or V/C | |
| **1 traffic lane of Alma St. between Homer Ave. to Embarcadero Rd. and 2 traffic lanes on Alma St. from Embarcadero Rd. to California Ave.** | | | | | |
| University Ave / El Camino Real NB Ramps [East] | C+ | 21.2 | C | 28.1 | LTS |
| Palm Dr / El Camino Real SB Ramps [West] | C | 24.4 | C | 29.1 | LTS |
| Homer Ave/Alma St | B+ | 11.4 | A | 9.9 | LTS |
| Embarcadero Rd/El Camino Real | D | 48.7 | E | 60.4 | LTS |
| Churchill Ave/Alma St | ~~C~~ E+ | ~~25.0~~ 56.4 | ~~C~~ E | ~~32.6~~ 72.6 | ~~LTS~~ **S** |
| Page Mill Rd/El Camino Real | D | 49.1 | E | 63.2 | LTS |
| **1 lane of Central Expressway between San Antonio Rd. and Rengstorff Ave.** | | | | | |
| SB Central Expy between San Antonio Rd and Rengstorff Ave | A | 1330/3800** = 0.35 | B | 1330/1900 = 0.70 | LTS |
| **1 lane of Hendy Ave. between Sunnyvale Ave. and Fair Oaks Ave.** | | | | | |
| Sunnyvale Ave/Hendy Ave | B | 13.4 | B | 12.2 | LTS |
| Sunnyvale Ave/Evelyn Ave | C- | 32.2 | C- | 32.2 | LTS |
| Fair Oaks Ave/Evelyn Ave | C | 28.1 | C | 29.5 | LTS |

* Project Impact: LTS (less than significant); S (significant)

# A loss of four lanes of Pacific Blvd at the Pacific Blvd/Hillsdale Blvd interchange would eliminate the interchange. It is assumed that the interchange will be rebuilt as an at-grade intersection further east, and thus the 2035 Plus Project conditions for the rebuilt, at-grade intersection is compared with 2035 Baseline conditions for the current interchange.

** Assumed base capacity per lane is 1900 vph.

Notes:

1. The existing traffic volumes used in the analysis were collected in 2009, 2010, ~~and~~ 2011, and 2012
2. Traffic re-routing to represent possible lane closures were determined by AECOM. A conservative approach was employed to shift diverted traffic onto the most likely parallel facility rather than disperse the diverted traffic to several parallel facilities. This approach increased the likelihood of identifying a significant impact as a result of the possible lane closures.
3. Intersection Delay, V/C, and Level of Service were determined using the TRAFFIX 8.0 computer program. TRAFFIX is a commonly used software package in the Bay Area and is consistent with the procedures of the Highway Capacity Manual.

**Table 3-~~1b~~ 1d**
**San Francisco to San Jose High Speed Train Corridor**
**Possible Lane Closures 2035 Baseline Scenario Analysis**
**PM Peak Hour Levels of Service and Vehicle Delay**

| Potential Lane Reductions and Segments and Intersections Analyzed | 2035 No Project[1] | | 2035 + HST | | 2035 No Project to + HST Impact* |
|---|---|---|---|---|---|
| | LOS | Delay or V/C | LOS | Delay or V/C | |
| **1 lane of Pacific Blvd. from Concar Dr. to where the Pacific Blvd. alignment diverts from the railroad corridor** | | | | | |
| 19th Ave/Pacific Blvd | A | 7.3 | A | 0.0 | LTS |
| 19th Ave/Delaware St | C | 32.5 | C | 33.3 | LTS |
| Pacific Blvd/Delaware St | C | 21.3 | C | 20.8 | LTS |
| **Up to 4 lanes of Pacific Blvd. at the Hillsdale Blvd. Interchange and 1 lane on Pacific Blvd. south from Hillsdale Blvd. to Laurie Meadows Dr. #** | | | | | |
| Hillsdale Blvd WB Ramps/Pacific Blvd | A | 9.5 | NA | NA | NA |
| Hillsdale Blvd EB Ramps/Pacific Blvd | A | 9.3 | NA | NA | NA |
| Hillsdale Blvd/Pacific Blvd (at-grade) | NA | NA | C | 30.9 | LTS |
| Hillsdale Blvd/El Camino Real NB Ramps | D | 48.8 | E | 64.4 | **S** |
| Hillsdale Blvd/El Camino Real SB Ramps | D | 39.4 | E | 75.0 | **S** |
| 42nd Ave/Pacific Blvd | E | 68.9 | C | 22.9 | LTS |
| 42nd Ave/El Camino Real | D | 37.5 | C | 34.0 | LTS |
| **1 to 2 lanes of Old County Rd. and Stafford St. from Quarry Rd. to McCue Ave., from Cherry St. to Bransten Rd., and from Brittan Ave. to Whipple Ave.** | | | | | |
| Harbor Blvd/Old County Rd | C | 26.3 | D | 42.9 | LTS |
| Harbor Blvd/El Camino Real | ~~D~~ C | ~~36.4~~ 32.8 | D | ~~39.8~~ 35.2 | LTS |
| Holly St/Old County Rd | D | 51.3 | D | 53.9 | LTS |
| Holly St/El Camino Real | D | 38.3 | D | 45.9 | LTS |
| Brittan Ave/Old County Rd | C | 34.9 | D | 41.6 | LTS |
| Brittan Ave/El Camino Real | ~~F~~ D | ~~88.2~~ 46.6 | ~~F~~ E | ~~129.4~~ 75.6 | **S** |
| Howard Ave/Old County Rd | C | 33.3 | D | 36.8 | LTS |
| Howard Ave/El Camino Real | D | 37.1 | E | 57.7 | **S** |
| Whipple Ave/El Camino Real | E | 73.4 | E | 76.9 | LTS |
| Whipple Ave/Stafford St | C | 17.0 | A | 0.0 | LTS |

| Potential Lane Reductions and Segments and Intersections Analyzed | 2035 No Project[1] | | 2035 + HST | | 2035 No Project to + HST Impact* |
|---|---|---|---|---|---|
| | LOS | Delay or V/C | LOS | Delay or V/C | |
| **1 traffic lane on Alma St. between Oak Grove Ave. and Ravenswood Ave.** | | | | | |
| Oak Grove Ave/Alma St | C | 23.1 | B | 13.5 | LTS |
| Oak Grove Ave/El Camino Real | C | 33.4 | C | 32.4 | LTS |
| Ravenswood Ave/Alma St | F | 190.2 | F | 319.4 | **S** |
| Ravenswood Ave/El Camino Real | E | 65.6 | E | 65.9 | LTS |
| **1 traffic lane of Alma St. between Homer Ave. to Embarcadero Rd. and 2 traffic lanes on Alma St. from Embarcadero Rd. to California Ave.** | | | | | |
| University Ave / El Camino Real NB Ramps [East] | C+ | 22.3 | D | 42.7 | LTS |
| Palm Dr / El Camino Real SB Ramps [West] | C | 26.8 | C- | 33.9 | LTS |
| Homer Ave/Alma St | B | 12.5 | B+ | 11.2 | LTS |
| Embarcadero Rd/El Camino Real | E | 71.6 | F | 104.9 | **S** |
| Churchill Ave/Alma St | ~~C~~ E | ~~30.3~~ 64.7 | ~~D~~ F | ~~48.6~~ 86.2 | ~~LTS~~ **S** |
| Page Mill Rd/El Camino Real | E | 66.5 | F | 109.0 | **S** |
| **1 lane of Central Expressway between San Antonio Rd. and Rengstorff Ave.** | | | | | |
| SB Central Expy between San Antonio Rd and Rengstorff Ave | A | 1698/3800** = 0.45 | D | 1698/1900 = 0.89 | LTS |
| **1 lane of Hendy Ave. between Sunnyvale Ave. and Fair Oaks Ave.** | | | | | |
| Sunnyvale Ave/Hendy Ave | B | 13.7 | B | 12.5 | LTS |
| Sunnyvale Ave/Evelyn Ave | C- | 33.6 | C- | 33.7 | LTS |
| Fair Oaks Ave/Evelyn Ave | C | 30.7 | C- | 32.2 | LTS |

* Project Impact: LTS (less than significant); S (significant)
\# A loss of four lanes of Pacific Blvd at the Pacific Blvd/Hillsdale Blvd interchange would eliminate the interchange. It is assumed that the interchange will be rebuilt as an at-grade intersection further east, and thus the 2035 Plus Project conditions for the rebuilt, at-grade intersection is compared with 2035 Baseline conditions for the current interchange.
** Assumed base capacity per lane is 1900 vph.

Notes:
1. The existing traffic volumes used in the analysis were collected in 2009, 2010, ~~and~~ 2011, and 2012
2. The future traffic projections were obtained from the MTC Regional Travel Demand Model. These projections were post-processed by AECOM to arrive at future intersection turning movement volumes.
3. Traffic re-routing to represent possible lane closures were determined by AECOM. A conservative approach was employed to shift diverted traffic onto the most likely parallel facility rather than disperse the diverted traffic to several parallel facilities. This approach increased the likelihood of identifying a significant impact as a result of the possible lane closures.
4. Intersection Delay, V/C, and Level of Service were determined using the TRAFFIX 8.0 computer program. TRAFFIX is a commonly used software package in the Bay Area and is consistent with the procedures of the Highway Capacity Manual.

**Table 3-2a**
**Existing Peak Hour Traffic Conditions on Monterey Highway**
**With and Without the Narrowing**

| | | Northbound | | | | | | | Southbound | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Monterey Highway Segment | | Existing[1] | | | Existing + HST[2] | | | | Existing[1] | | | Existing + HST[2] | | | |
| From | To | Volume | V/C | LOS | Volume | V/C | LOS | Impact[3] | Volume | V/C | LOS | Volume | V/C | LOS | Impact[3] |
| **Morning Peak Hour** | | | | | | | | | | | | | | | |
| Southside Dr. | Capitol Expy. | 2,213 | 0.78 | C | 1,683 | 0.89 | D | LTS | 307 | 0.11 | A | 304 | 0.16 | A | LTS |
| Capitol Expy. | Senter Rd. | 2,396 | 0.84 | D | 1,863 | 0.98 | E | **S** | 444 | 0.16 | A | 450 | 0.24 | A | LTS |
| Senter Rd. | Branham Ln. | 2,281 | 0.8 | D | 1,725 | 0.91 | E | **S** | 460 | 0.16 | A | 462 | 0.24 | A | LTS |
| Branham Ln. | Chynoweth Ave. | 1,951 | 0.68 | B | 1,509 | 0.79 | C | LTS | 425 | 0.15 | A | 423 | 0.22 | A | LTS |
| Chynoweth Ave. | Blossom Hill Rd. | 1,656 | 0.58 | A | 1,304 | 0.69 | B | LTS | 708 | 0.25 | A | 717 | 0.38 | A | LTS |
| Blossom Hill Rd. | Bernal Rd. | 1,007 | 0.35 | A | 956 | 0.33 | A | LTS | 242 | 0.08 | A | 240 | 0.08 | A | LTS |
| Bernal Rd. | Metcalf Rd. | 2,218 | 0.74 | C | 2,205 | 0.74 | C | LTS | 279 | 0.09 | A | 279 | 0.09 | A | LTS |
| Metcalf Rd. | Bailey Rd. | 1,760 | 0.59 | A | 1,745 | 0.58 | A | LTS | 73 | 0.02 | A | 70 | 0.02 | A | LTS |
| **Evening Peak Hour** | | | | | | | | | | | | | | | |
| Southside Dr. | Capitol Expy. | 503 | 0.18 | A | 496 | 0.26 | A | LTS | 2,008 | 0.7 | C | 1,637 | 0.86 | D | LTS |
| Capitol Expy. | Senter Rd. | 581 | 0.2 | A | 566 | 0.3 | A | LTS | 2,038 | 0.72 | C | 1,617 | 0.85 | D | LTS |
| Senter Rd. | Branham Ln. | 581 | 0.2 | A | 574 | 0.3 | A | LTS | 1,951 | 0.68 | B | 1,534 | 0.81 | D | LTS |
| Branham Ln. | Chynoweth Ave. | 564 | 0.2 | A | 552 | 0.29 | A | LTS | 1,385 | 0.49 | A | 1,182 | 0.62 | B | LTS |
| Chynoweth Ave. | Blossom Hill Rd. | 886 | 0.31 | A | 869 | 0.46 | A | LTS | 1,262 | 0.44 | A | 1,072 | 0.56 | A | LTS |
| Blossom Hill Rd. | Bernal Rd. | 281 | 0.1 | A | 277 | 0.1 | A | LTS | 736 | 0.25 | A | 662 | 0.23 | A | LTS |
| Bernal Rd. | Metcalf Rd. | 506 | 0.17 | A | 502 | 0.17 | A | LTS | 1,189 | 0.4 | A | 1,170 | 0.39 | A | LTS |
| Metcalf Rd. | Bailey Rd. | 252 | 0.08 | A | 244 | 0.08 | A | LTS | 744 | 0.25 | A | 722 | 0.24 | A | LTS |

Source: VTA Model, Spring 2011.

V/C = volume-to-capacity ratio.

[1] Base - Monterey Highway - 6 lanes from Southside Drive to Blossom Hill Road, 4 lanes from Blossom Hill Road to Bailey Road
Project - Monterey Highway - 4 lanes from Southside Drive to Bailey Road

[2] Does not account for trips that would be diverted from auto to high-speed train

[3] Impact: LTS (less than significant); S (significant)

**Table 3-2b**
**2035 Peak Hour Traffic Conditions on Monterey Highway**
**With and Without the Narrowing**

| | | Northbound | | | | | | | Southbound | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Monterey Highway Segment | | 2035 No Project [1] | | | 2035 + Project[2] | | | | 2035 No Project[1] | | | 2035 + Project [2] | | | |
| From | To | Volume | V/C | LOS | Volume | V/C | LOS | Impact[3] | Volume | V/C | LOS | Volume | V/C | LOS | Impact[3] |
| **Morning Peak Hour** | | | | | | | | | | | | | | | |
| Southside Dr. | Capitol Expy. | 2,311 | 0.81 | D | 1,835 | 0.97 | E | **S** | 1,378 | 0.48 | A | 1,222 | 0.64 | B | LTS |
| Capitol Expy. | Senter Rd. | 2,667 | 0.94 | E | 1,936 | 1.02 | F | **S** | 2,122 | 0.74 | C | 1,568 | 0.83 | D | LTS |
| Senter Rd. | Branham Ln. | 2,481 | 0.87 | D | 1,824 | 0.96 | E | **S** | 2,039 | 0.72 | C | 1,486 | 0.78 | C | LTS |
| Branham Ln. | Chynoweth Ave. | 2,600 | 0.91 | E | 1,845 | 0.97 | E | LTS | 2,337 | 0.82 | D | 1,696 | 0.89 | D | LTS |
| Chynoweth Ave. | Blossom Hill Rd. | 2,393 | 0.84 | D | 1,913 | 1.01 | F | **S** | 2,488 | 0.87 | D | 1,866 | 0.98 | E | **S** |
| Blossom Hill Rd. | Bernal Rd. | 1,721 | 0.59 | A | 1,750 | 0.6 | B | LTS | 1,978 | 0.68 | B | 2,032 | 0.7 | C | LTS |
| Bernal Rd. | Metcalf Rd. | 3,206 | 1.07 | F | 3,171 | 1.06 | F | LTS | 3,006 | 1 | F | 2,925 | 0.98 | E | LTS |
| Metcalf Rd. | Bailey Rd. | 2,653 | 0.88 | D | 2,549 | 0.85 | D | LTS | 2,960 | 0.99 | E | 2,971 | 0.99 | E | LTS |
| **Evening Peak Hour** | | | | | | | | | | | | | | | |
| Southside Dr. | Capitol Expy. | 1,726 | 0.61 | B | 1,368 | 0.72 | C | LTS | 2,401 | 0.84 | D | 1,854 | 0.98 | E | S |
| Capitol Expy. | Senter Rd. | 2,178 | 0.76 | C | 1,551 | 0.82 | D | LTS | 2,597 | 0.91 | E | 1,840 | 0.97 | E | LTS |
| Senter Rd. | Branham Ln. | 2,137 | 0.75 | C | 1,527 | 0.8 | D | LTS | 2,511 | 0.88 | D | 1,781 | 0.94 | E | **S** |
| Branham Ln. | Chynoweth Ave. | 2,620 | 0.92 | E | 1,807 | 0.95 | E | LTS | 2,514 | 0.88 | D | 1,846 | 0.97 | E | **S** |
| Chynoweth Ave. | Blossom Hill Rd. | 2,737 | 0.96 | E | 1,963 | 1.03 | F | **S** | 2,244 | 0.79 | C | 1,844 | 0.97 | E | **S** |
| Blossom Hill Rd. | Bernal Rd. | 2,235 | 0.77 | C | 2,329 | 0.8 | D | LTS | 2,118 | 0.73 | C | 2,238 | 0.77 | C | LTS |
| Bernal Rd. | Metcalf Rd. | 3,321 | 1.11 | F | 3,349 | 1.12 | F | LTS | 2,869 | 0.96 | E | 2,914 | 0.97 | E | LTS |
| Metcalf Rd. | Bailey Rd. | 3,226 | 1.08 | F | 3,240 | 1.08 | F | LTS | 2,622 | 0.87 | D | 2,689 | 0.9 | E | **S** |

Source: VTA Model, Spring 2011.
V/C = volume-to-capacity ratio.
[1] Base - Monterey Highway - 6 lanes from Southside Drive to Blossom Hill Road, 4 lanes from Blossom Hill Road to Bailey Road
Project - Monterey Highway - 4 lanes from Southside Drive to Bailey Road
[2] Does not account for trips that would be diverted from auto to high-speed train
[3] Impact: LTS (less than significant); S (significant)

**Effects of Monterey Highway Narrowing on Surrounding Streets**

The traffic impacts that the HST Project would have on the street network due to the narrowing of Monterey Highway from Southside Drive to Blossom Hill Road are primarily dependent on two factors (1) traffic that is diverted from the Monterey Highway to the surrounding street network due to the proposed narrowing and (2) traffic diverted from the region to the HST. These factors are presented together in order to analyze the potential traffic impacts on the region.

*Traffic Diverted from Monterey Highway*

**Traffic Diversions** - The potential effects of Monterey Highway narrowing on the surrounding roadway network were modeled using the spring 2011 VTA model. The model does not take into account the trips taken off the road network by travelers shifting to the HST service. The Monterey Highway study corridor includes major roadways surrounding the narrowed portion of Monterey Highway as shown in the following figures.

Figures 3-2a and 3-3a show existing condition roadway segments projected to operate at LOS E or worse (red bands) during the morning and evening peak hour respectively. These figures reflect the roadway network without the narrowing of Monterey Highway. Based on the model, about 500 to 600 vehicles per hour per direction would be diverted from Monterey Highway to other facilities during the peak hour, as a result of the proposed narrowing. Yellow bands in Figures 3-2b and 3-3b indicate roadways which would operate at LOS E or worse under existing conditions and would also experience an increase in traffic (100 trips or more) in existing plus HST conditions, due to the proposed narrowing. Links projected to operate at LOS C or better under existing conditions and projected to decline to LOS E or worse in existing plus HST conditions, are also denoted by yellow bands. Green bands in the figures represent links projected to operate at LOS E or worse in existing conditions where traffic volumes would be expected to decrease (by 100 trips or more) in existing plus HST conditions.

As can be seen from these figures, under existing conditions during the AM peak hour, only three roadway segments (segments of SR 87 and US 101) which operate at LOS E or worse in the existing conditions scenario are projected to experience increased traffic volume (100 trips or more) in existing plus HST conditions due to the narrowing. In the evening peak hour, none of the roadway segments which operate at LOS E or worse would experience an increase in traffic volume (100 trips or more) in existing plus HST conditions due to the narrowing.

In comparison, the effect due to the narrowing of Monterey Highway on the surrounding street network is projected to be more pronounced in 2035. Figures 3-4a and 3-5a show 2035 No Project roadway segments projected to operate at LOS E or worse (red bands) during the morning and evening peak hour respectively. These figures reflect the roadway network without the narrowing of Monterey Highway. As shown in the figures, several roadways are projected to operate under congested traffic conditions during the 2035 peak hours without the narrowing (with the evening peak hour being more congested of the two).

Based on the model, approximately 700 to 800 vehicles per hour per direction would be diverted from Monterey Highway to other facilities during the 2035 peak hour in 2035 plus HST conditions, as a result of the proposed narrowing. The addition of traffic to roadways already operating at LOS E or worse could lead to substantial traffic impacts. Yellow bands shown in Figures 3-4b and 3-5b indicate roadways which would operate at LOS E or worse under the 2035 No Project conditions and would also experience an increase in traffic (100 trips or more) in 2035 plus HST conditions due to the proposed narrowing. Links projected to operate at LOS C or better under the 2035 No Project conditions and projected to decline to LOS E or worse in 2035 plus HST conditions due to the additional traffic, are also denoted by yellow bands. Green bands in the figures represent links

projected to operate at LOS E or worse in the 2035 plus HST scenario where traffic volumes would be expected to decrease (by 100 trips or more).

In summary, traffic volumes are expected to decline on Monterey Highway as a result of less capacity. As travelers shift route choices additional results of this shift would include slower speeds on Monterey Highway, and an increase in traffic volumes on other nearby roadways. Some of these roadways, primarily the major freeways, would operate under congested conditions in the base scenario and the additional traffic could lead to significant impacts. These roadways include US 101, I-280, SR-87 and SR-85.

While many of these traffic volume changes shown in the figures due to the narrowing are logical, some differences, farther afield from Monterey Highway, are less so. The reason for these traffic volume differences is due to the sensitivity of the VTA model to minor network changes anywhere in the system of roadways, given the high levels of traffic assigned to the peak hours. When minor changes are made to an otherwise saturated network in a traffic model, false indications of significant impacts are a possible result. Therefore, while the VTA model is a very valuable tool for estimating "big picture" transportation requirements, analysis of the model output needs to be coupled with common sense as well as engineering judgment. While the diversion of 700 to 800 vehicles (off Monterey Highway to other facilities) per peak hour, per direction in 2035 is a realistic projection, given the proposed reduction of one lane per direction, the precise route choice of the diverted traffic is less clear. The travel forecast model reassigns the diverted traffic to roadways where capacity exists, insofar as the model's determination of residual traffic capacity, volume to capacity ratios, and resulting estimates of link speeds.

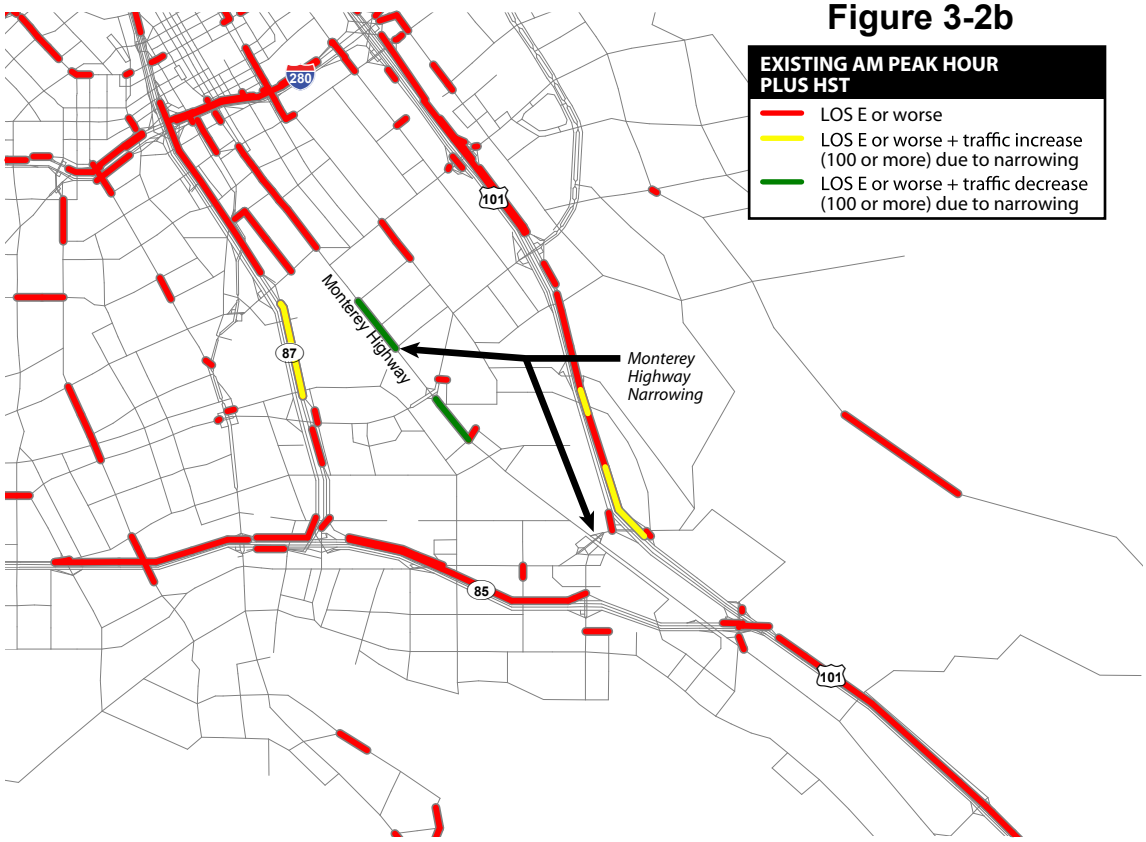
In Santa Clara County, motorists shift their time of day travel to utilize available roadway capacity, or to avoid congested roadway segments. Constructing a new roadway or widening an existing roadway typically attracts traffic from adjacent roadways, provided that the new route choice leads to shorter travel times. Conversely, a reduction in roadway capacity shifts travelers to adjacent roadways as traffic cascades across the network, seeking a balance between cost (of travel) and convenience. If the peak hour of travel demand is fully occupied, then travelers then shift their time of travel to shoulder hours as a function of time and space.

*Combined Effect of Traffic Diverted From Monterey Highway onto Surrounding Roadways, HST Related Regional Traffic Reductions from Mode Shift, and Increased Traffic at San Jose Station*

The VTA model does not reflect HST Project conditions insofar as the HST would lead to a mode shift of vehicle trips from the regional roadway network to HST. The traffic diverted as a result of the proposed highway narrowing can be compared to the trips removed from the roadway network by HST and new ingress/egress vehicular trips to the proposed San Jose HST Station to more fully assess the effects of the HST Project on the Monterey Highway study corridor.

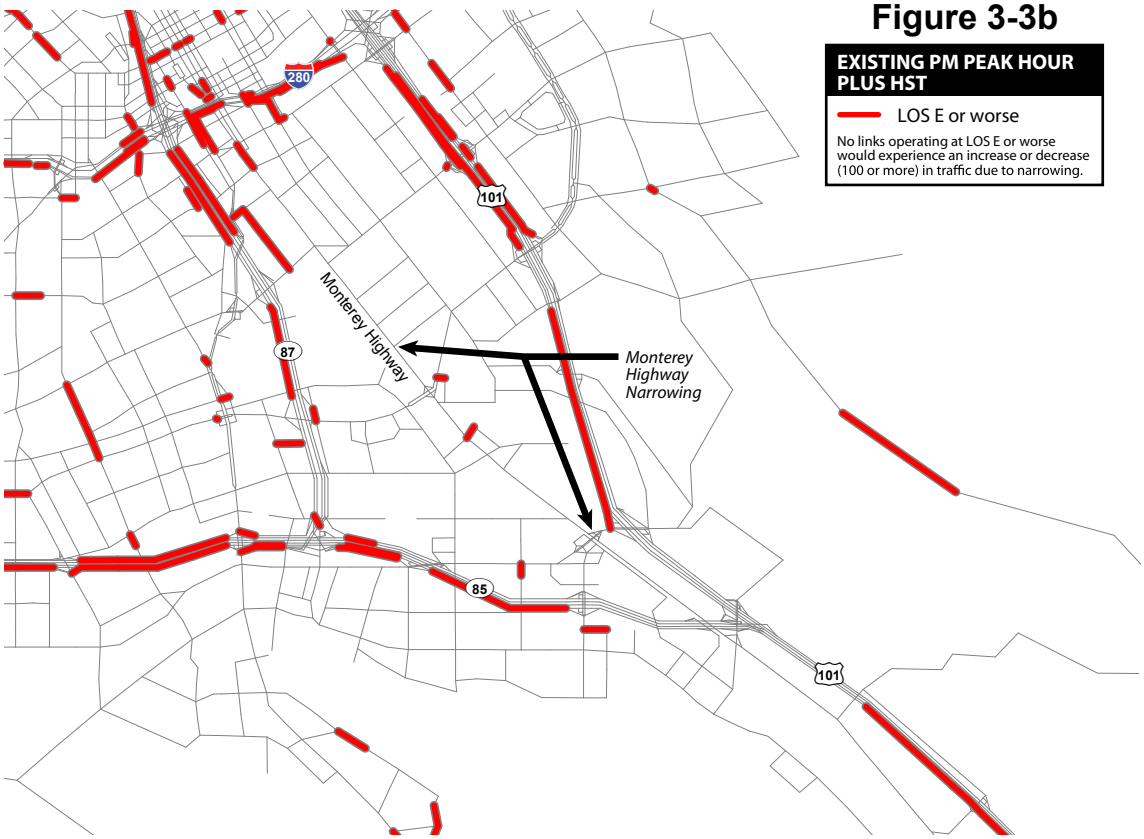
The HST system would divert traffic from intercity roadways to the HST trains. The specific roadway segments which would be affected by this trip reduction cannot be determined by the model, but for purposes of this evaluation, it is assumed that these trip reductions would occur primarily on US 101 and to a somewhat lesser extent on the other major roadways in the study area. As presented in Table 3.1-2 of the 2008 Final Program EIR approximately 5,000 automobile trips would be diverted from US 101 between San Jose and Gilroy to the HST during the total 2030 morning and afternoon peak period under the Pacheco Pass Alternative. This would translate to a diversion of about 900 automobile trips per hour off of US 101 under the 2035 peak hour.

As stated above, new ingress/egress vehicular traffic to the proposed San Jose HST Station, would add traffic to the roadway network. Traffic is projected to increase on roadways surrounding the




CALIFORNIA High-Speed Rail Authority

**Figure 3-2a/3-2b**
**Roadways at LOS E or Worse Under Existing AM Peak Hour**
*Bay Area to Central Valley HST Partially Revised Final Program EIR*

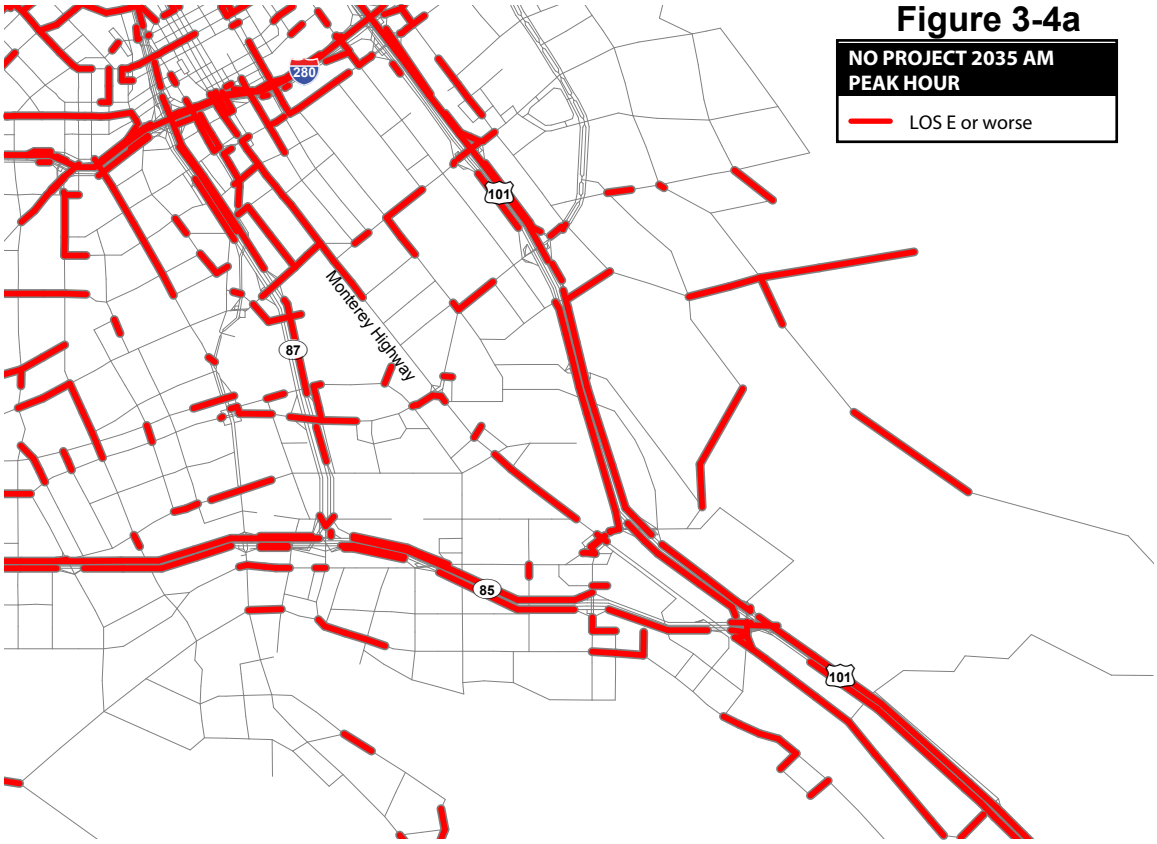


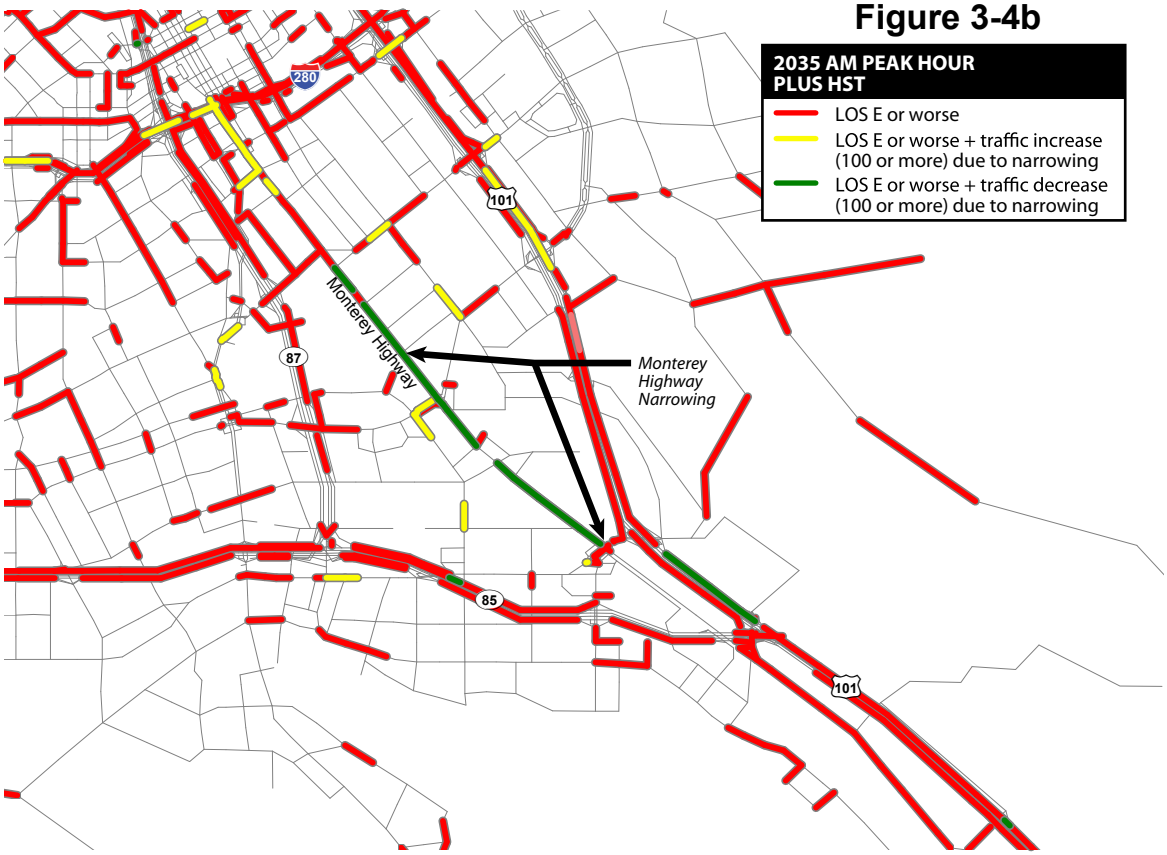

CALIFORNIA High-Speed Rail Authority

**Figure 3-3a/3-3b**

**Roadways at LOS E or Worse Under Existing PM Peak Hour**

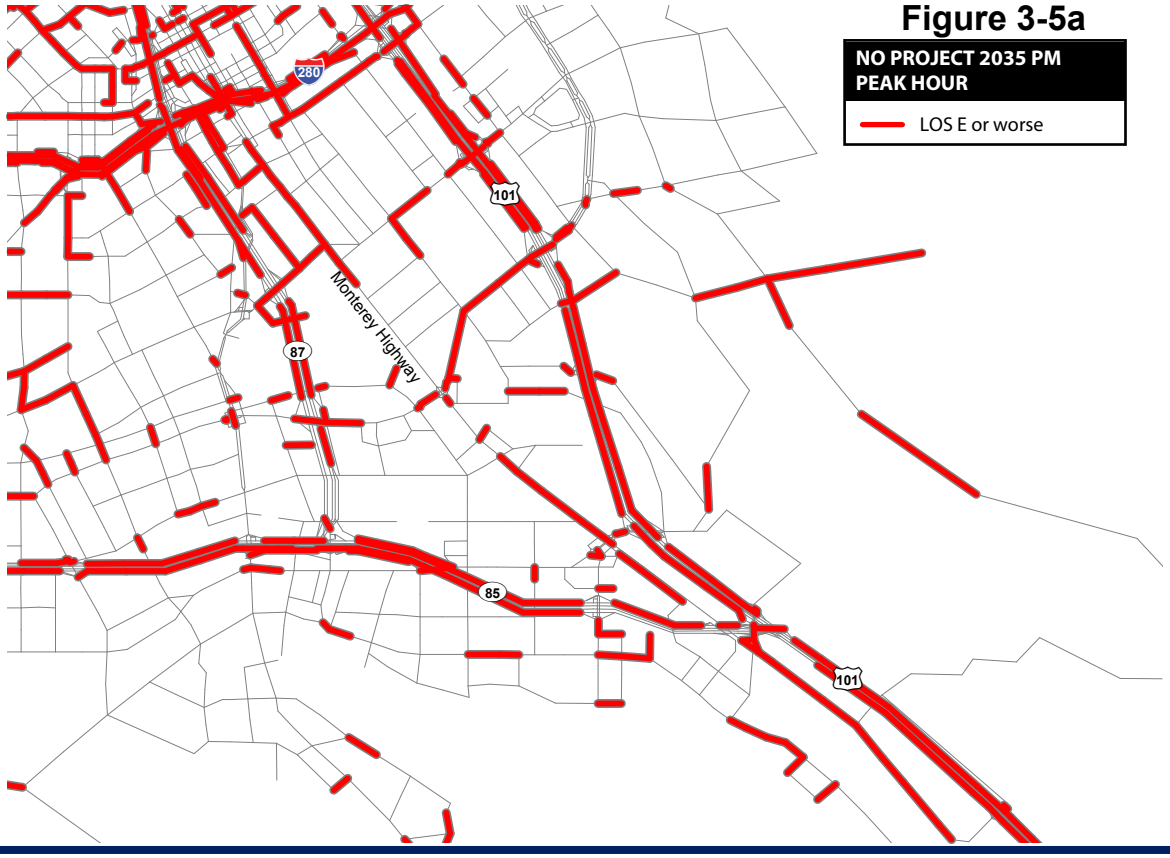
*Bay Area to Central Valley HST Partially Revised Final Program EIR*

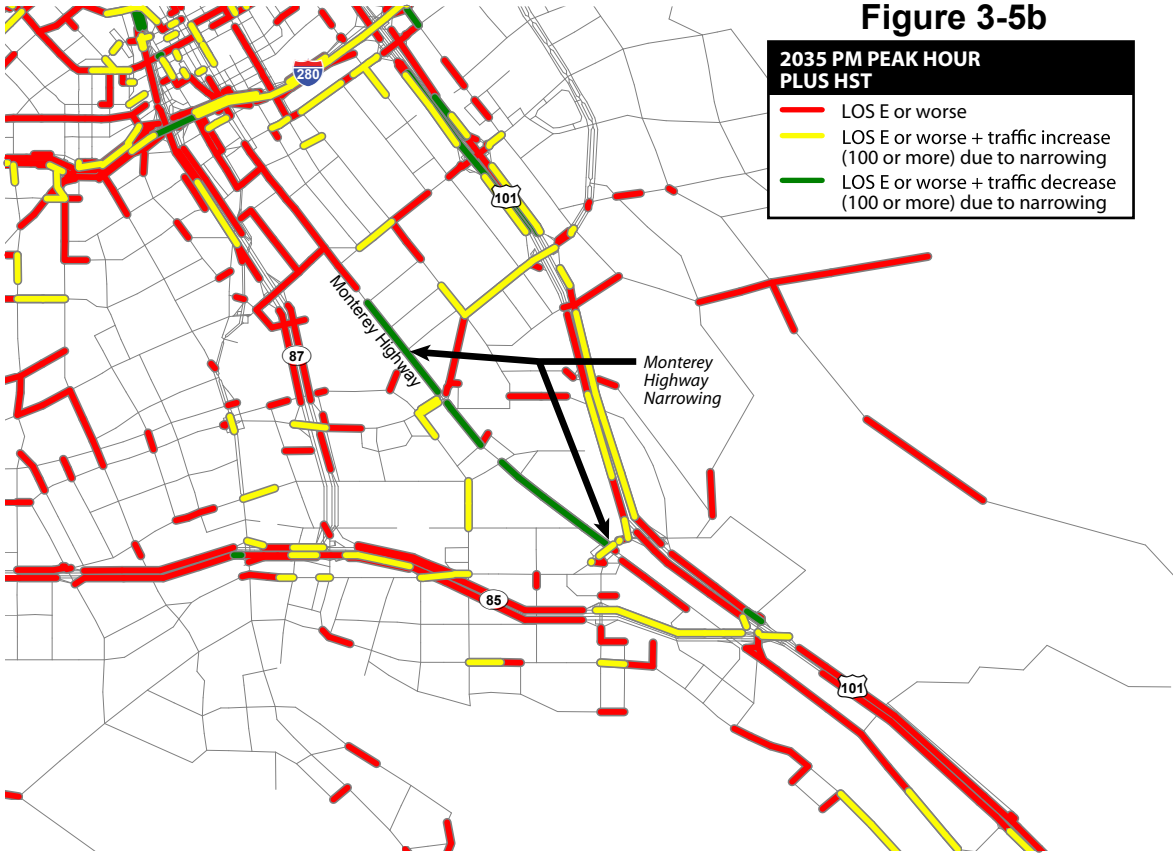



CALIFORNIA High-Speed Rail Authority

**Figure 3-4a/3-4b**
**Roadways at LOS E or Worse Under 2035 AM Peak Hour**
*Bay Area to Central Valley HST Partially Revised Final Program EIR*




CALIFORNIA High-Speed Rail Authority

**Figure 3-5a/3-5b**
**Roadways at LOS E or Worse Under 2035 PM Peak Hour**
*Bay Area to Central Valley HST Partially Revised Final Program EIR*

proposed station and is projected to lead to an increase in the V/C ratio of the cordon surrounding the proposed San Jose station.

Viewing the combined effects of narrowing Monterey Highway, the mode shift from automobile to HST, and station area traffic increases at San Jose, there is some possibility that the mode shift to HST will offset local traffic congestion from narrowing Monterey Highway. While motorists would shift travel routes as a result of the proposed narrowing of a portion of Monterey Highway, an equal or greater number of motorists would be removed from south San Jose roadways altogether as a result of mode shifts from automobile to HST. By 2035, the Santa Clara County roadway network would be sufficiently congested such that any small decrease in roadway demand would be insignificant on a regional and subregional level. As demonstrated in the Bay Area, Santa Clara County and City of San Jose, travelers would shift their route choices, both in terms of the time and space, to optimize travel time and cost tradeoffs. Considering the uncertainty of the potential for the mode shift from automobile to HST to offset the impacts from narrowing Monterey Highway on the surrounding roadways, the narrowing is considered a significant traffic impact on the surrounding street network.

In summary, for purposes of this programmatic analysis and taking into consideration the mode shift from automobiles to HST where applicable, the narrowing of Monterey Highway is considered a new significant traffic impact both on the affected 3.3 mile segment of the Monterey Highway itself, and on the surrounding roadway network. Mitigation strategies are identified below.

C. POTENTIAL LOSS OF TRAFFIC LANES PARALLEL TO THE UPRR RIGHT-OF-WAY ALONG THE EAST BAY IN HAYWARD

No Project Alternative

Smaller local projects involving improvements to local roadways, intersections, and bicycle and pedestrian routes are generally not included in the 2030 No Project Alternative as these items are not programmed many years in advance. Many of these local projects would occur over the project region and that much of it would be related to the traffic generated by nearby development (such as a new traffic signal for a development). It is assumed that no improvements would be made to the local streets in Hayward in the vicinity of the HST project's needs for additional right-of-way between East A Street and East Winton Avenue.

High-Speed Train Alternative

The HST on the Oakland to San Jose Corridor may impact a parallel roadway along the Niles/I-880 alignment in the City of Hayward by requiring right-of-way from public streets to accommodate the HST project assuming that no portion of the UPRR right-of-way is available (see Section 3.2.2 of the 2010 Final Revised Program EIR). If existing roadway capacity is removed east of the UPRR tracks and south of the Hayward Amtrak Station along Meckland Avenue/Martin Luther King Drive between East A Street and north of East Winton Avenue (approximately 0.6 mile), it could result in localized impacts that include additional traffic congestion during peak travel times, loss of on-street parking used by adjacent residents, changes in circulation patterns, and street closures. For purposes of this programmatic analysis, the traffic impact at this location is considered a new significant impact for the Oakland to San Jose Corridor, even though the impact is limited to a certain area. However, if design refinement (at the project level) avoids these lane closures, impacts could be avoided and mitigation may not be required.

## 3.4 Role of Design Practices in Avoiding and Minimizing Effects (addition to Section 3.1.4 of 2008 Final Program EIR)

The design practices presented in the 2008 Final Program EIR, Section 3.1.4 remain accurate and unchanged. The reader is referred to that document for additional context. The following text is an addition to Section 3.1.4 of the 2008 Final Program EIR.

A. POTENTIAL LOSS OF TRAFFIC LANES PARALLEL TO THE CALTRAIN RIGHT-OF-WAY ALONG THE SAN FRANCISCO PENINSULA

An approach to avoid and minimize effects of the potential loss of traffic lanes parallel to the Caltrain right-of-way along the San Francisco to San Jose Corridor could include modifying the HST alignment either horizontally and/or vertically. Design solutions that avoid these lane closures include but are not limited to the following:

- Adjustment Vertical Alignments. Where the rail alignment would overlap the road, the vertical alignment of the road or rail corridor could be adjusted to separate them:
  - The vertical alignment for the rail corridor could be raised on an aerial structure partially above the roadway such that the aerial structure would overhang the roadway. Columns supporting the aerial structure would be positioned to accommodate the roadway such that the roadway travel lanes would not be permanently impacted.
  - The vertical alignment for the rail corridor could be lowered in a trench with the road continuing to operate above the depressed rail corridor. The roadway would be partially supported by a cantilevered structure over the trench such that the roadway travel lanes would not be permanently impacted.
- Lane Width Reductions. Existing travel lanes could be narrowed to standard minimum widths to provide additional space to accommodate the rail corridor. The reduced travel lane widths would follow standards set forth by the jurisdiction in which the roadway is located.
- Realignment of Roadway Segment. The horizontal alignment of the roadway segment could be shifted such that it does not conflict with the rail right-of-way.
- Reduction of On-Street Parking. In cases where lane width reductions cannot accommodate the width required for the rail corridor and where a shift in the roadway is not possible due to potential impacts to private property (such as residences), the existing on-street parking could be reduced on one or both sides, as necessary, prioritizing maintaining parking for residences and commercial property.

## 3.5 Mitigation Strategies and CEQA Significant Effects (addition to Section 3.1.5 of 2008 Final Program EIR)

The mitigation strategies and CEQA significant effects presented in the 2008 Final Program EIR, Section 3.1.5 remain accurate and unchanged. The reader is referred to that document for additional context. The following text is an addition to Section 3.1.5 of the 2008 Final Program EIR.

A. POTENTIAL LOSS OF TRAFFIC LANES PARALLEL TO THE CALTRAIN RIGHT-OF-WAY ALONG THE SAN FRANCISCO PENINSULA AND IN HAYWARD ALONG THE UPRR RIGHT-OF-WAY

Strategies for lane closures related to additional right-of-way requirements:

- Determine the amount of diverted traffic onto parallel facilities and make improvements to those facilities to accommodate the diverted traffic.
- Realign the roadway to replace any loss of capacity.

- Change the affected roadway to one way to maintain access to properties along roadway and assess the diversion of the traffic eliminated onto parallel facilities, mitigating any new effects as required.
- Use physical barriers for protection to separate bicycle lanes from moving traffic.
- Restriping of parking spaces to fit with changed circulation patterns and/or to maintain number of spaces.
- Calculate project-related level of impact at intersections and roadways that are affected by these lane closures in combination with other cumulative projects and growth. Work with local jurisdictions and congestion management agencies to determine "fair share contribution" to fund reasonable share of necessary improvements.

The above mitigation strategies would be refined and applied at the project level and are expected to substantially avoid or lessen impacts to a less-than-significant level in most circumstances where lane closures are required due to the need for additional right-of-way along the San Francisco to San Jose Corridor and in the East Bay in the City of Hayward. At the project level, it is expected that lane closure impacts would be mitigated to a less-than-significant level, but it is possible that at some locations impacts would not be mitigated to the less-than-significant level. Sufficient information is not available at this programmatic level to conclude with certainty that the above mitigation strategies would reduce impacts to a less-than-significant level in all circumstances. This document therefore concludes that traffic impacts associated with lane closures may be significant, even with the application of mitigation strategies. Additional environmental assessment will allow a more precise evaluation in the second-tier, project-level environmental analyses. The co-lead agencies will work closely with local government agencies at the project level to implement mitigation strategies.

B. POTENTIAL NARROWING OF TRAFFIC LANES ON MONTEREY HIGHWAY AND IMPACTS ON SURROUNDING STREETS

The degradation of LOS projected for segments of Monterey Highway as discussed above will require that a Transportation Impact Analysis be prepared at the project-level to evaluate specific impacts and identify mitigation measures. At the program level, mitigation strategies include:

- Optimizing signal timings (for the revised traffic volumes and capacity)
- Synchronizing signals (Coordinating the timing of the signals between successive intersections, and automatically adjusting the traffic signals to facilitate the movement of vehicles through the intersections. This will help in reducing overall stops and delays. This works well if the distance between adjacent signals is a quarter of a mile or less).
- Selectively adding new turn lanes at intersections, if feasible based on project-based design. (For example, adding two left-turn lanes instead of an existing single left-turn lane. The traffic analysis will show which intersections would require additional turn lanes. Adding turn lanes would be much more economical/affordable than adding whole lanes.)
- Promoting more transit usage in the corridor by increasing frequency of popular transit services.

Mitigation strategies for traffic impacts on neighboring streets due to the narrowing of Monterey Highway, if necessary, would also include signal timing optimization, signal synchronization and selectively adding new turn lanes at intersections.

Sufficient information is not available at this programmatic level to conclude with certainty that the above mitigation strategies would reduce impacts on Monterey Highway or to neighboring streets due to narrowing of Monterey Highway to a less-than-significant level in all circumstances. This document therefore concludes that traffic impacts may be significant, even with the application of mitigation strategies.

## 3.6 Subsequent Analysis (addition to Section 3.1.6 of 2008 Final Program EIR)

The subsequent analysis presented in the 2008 Final Program EIR, Section 3.1.6 remains accurate and unchanged. The reader is referred to that document for additional context. The following text is an addition to Section 3.1.6 of the 2008 Final Program EIR.

A transportation impact analysis will be conducted at the project-level, which will include a detailed evaluation of traffic, parking, pedestrian, bicycle, transit, construction and cumulative transportation impacts of the proposed HST project. This information will identify:

- Changes in traffic volumes on regional roadways that result from HST construction and operations;
- Changes in traffic volumes on local streets that result from passengers accessing/leaving HST stations, from project construction, and from other HST related roadway changes, and the effect of these changed volumes on roadway operations and critical intersections;
- The number of parking spaces required and the placement of the parking facilities. Potential parking impacts will be evaluated based on the existing and future parking supply and the projected parking demand. Parking demand will be based upon the patronage and mode of access forecasts at each proposed station, including parking and related circulation impacts for adjacent neighborhoods;
- Potential impacts to transit including potential for inadequate capacity of feeder bus service, potential for traffic congestion from project to disrupt or delay bus service that serve or run near stations or other transit operations. Potential impacts of project construction on transit service will also be evaluated in detail;
- The effect of the project and project construction on existing and planned pedestrian and bicycle facilities. Potential impacts on pedestrian and bicycle connections to and across HST facilities will be analyzed. Detailed information and analysis of potential traffic impacts including impacts to pedestrian and bike facilities and feasible mitigation measures will be included in project-level EIR/EIS; and
- Cumulative potential traffic impacts due to the proposed project. Detailed information and analysis of impacts and feasible mitigation measures will be included in project-level EIS/EIR.