FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS VALLEY LINK

PREPARED FOR:

Tri-Valley–San Joaquin Valley Regional Rail Authority
1362 Rutan Court #100
Livermore, CA 94551
Contact: Michael Tree
Email: mtree@valleylinkrail.com

PREPARED BY:

ICF
201 Mission Street, Suite 1500
San Francisco, CA 94105
Contact: Rich Walter

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Section 1
Introduction

1.1 Introduction

The Tri-Valley—San Joaquin Valley Regional Rail Authority (Authority) has prepared for certification a Final Environmental Impact Report (EIR) for the Valley Link Project (Project). The Authority proposes to establish new passenger rail service along a 42-mile corridor between the existing Dublin/Pleasanton Bay Area Rapid Transit (BART) Station and the proposed Altamont Corridor Express (ACE) North Lathrop Station included in the ACE Extension Lathrop to Ceres/Merced project. The Proposed Project would provide regular service throughout the day in both directions with timed connections with both BART and ACE services. The overall travel time from North Lathrop to the Dublin/Pleasanton BART Station would be approximately 65 minutes. The 2040 service plan includes 12-minute peak period headways and 48-minute off-peak headways (from Dublin/Pleasanton BART Station to the North Lathrop Station) with more limited service on the weekend.

The alignment of the Project is described in three segments: the Tri-Valley segment would be located within the Interstate (I-)580 median; the Altamont segment within the Alameda County Transportation Corridor right-of-way (ROW) and existing UPRR ROW; and the Tracy to North Lathrop segment within existing UPRR ROW.

The Final EIR identifies a Proposed Project, as well as alternatives that were considered. For the reasons identified in this document, the Authority has decided to pursue some of the alternatives considered in the Final EIR instead of some of the proposed facilities. As such, this document uses the term "Preferred Alternative" to identify the Project components that have been identified is preferred by the Authority.

The Preferred Alternative would include the construction and operation of seven stations, listed from west to east:

- Dublin/Pleasanton (BART Intermodal)
- Isabel (Livermore)
- Southfront Road Station Alternative - in place of the Greenville Station proposed in the Draft EIR (Livermore)
- Mountain House Station Alternative – in place of the Mountain House Station proposed in the Draft EIR (San Joaquin County)
- Downtown Tracy Station (Tracy)
- River Islands Station (Lathrop)
- North Lathrop Station (ACE Intermodal)

In addition to these stations, the Preferred Alternative would include the Stone Cut Alignment Alternative and the Tracy Operation and Maintenance Facility (OMF) in the City of Tracy.

Full implementation of the Preferred Alternative would be subject to available funding and design and construction considerations. The Authority is considering two initial operating segments (IOS). It would establish initial service from the Dublin/Pleasanton BART Station to the Southfront Road Station Alternative or Mountain House Station Alternative. The Southfront Road Station Alternative IOS would include an Interim OMF to be constructed on a 5-acre portion of the Alameda County Transportation Corridor ROW approximately 2,250 feet east of Dyer Road. The Mountain House Station Alternative IOS would include the proposed Tracy OMF in the City of Tracy.

For a detailed description of the Project, see Chapter 2, *Project Description*, of the Draft EIR and Chapter 4, *Text Revisions to the Draft EIR*, of the Final EIR.

Section 1 of this document provides a summary of the environmental review process. Section 2 describes the alternatives considered in the 2021 Final EIR. Section 3 contains the Authority's findings for each significant environmental effect of the Preferred Alternative identified in the Final EIR, as required by CEQA. Section 3 also describes the reasons why the project alternatives analyzed in the Final EIR ultimately have been rejected. Section 4 consists of a statement of overriding considerations, as required by State CEQA Guidelines Section 15093, stating the specific circumstances that support the Authority's determination that the unavoidable significant environmental effects of the Preferred Alternative are acceptable because specific benefits of the Preferred Alternative outweigh those effects.

1.2 CEQA Process

The Authority analyzed the Preferred Alternative based on the California Environmental Quality Act (CEQA, Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (14 CCR 15000, et seq.). The Final EIR prepared by the Authority determined that the Preferred Alternative could have potentially significant effects on the environment, including significant effects that cannot be avoided.

Consistent with CEQA's requirements, the Project's Draft EIR was circulated for a 50-day public review period beginning on December 2, 2020 and ending on January 21, 2021. All written comments received during the public review period were responded to in Chapter 3, *Responses to Comments* of the Final EIR.

Prior to approving the Preferred Alternative, the Authority must certify that it has considered the Final EIR, that the Final EIR adequately meets the requirements of CEQA, and that the Final EIR reflects the independent judgment of the Authority. Upon approving the Preferred Alternative, the Authority must adopt the following findings of fact regarding the significant effects identified in the Final EIR, the range of alternatives analyzed in the Final EIR, and statement of overriding considerations explaining the benefits that outweigh the significant unavoidable effects identified in the Final EIR.

Pursuant to Public Resources Code (PUB. RES. CODE) Section 21081.6, the Authority is also adopting a mitigation monitoring and reporting program (MMRP) for the mitigation measures that are the Authority's responsibility to implement. The MMRP establishes a program to ensure that the adopted mitigation measures identified in the Final EIR will be implemented.

Section 2
Alternatives Considered

2.1 Introduction

The Authority considered a range of alternatives before selecting the alternatives analyzed in Final EIR. Alternatives were identified through input from the public, agencies, and stakeholders during scoping (in 2018). Appendix A, *Scoping Report*, of the Draft EIR contains the scoping report detailing the scoping process, including the notification and scoping activities undertaken. As discussed in Chapter 5, *Other Alternatives Considered*, of the Draft EIR, the Authority chose to examine five alternatives at the same level of detail as the Proposed Project and three alternatives (including the No Project Alternative) at a lesser level of detail. Alternatives determined to be infeasible, to not avoid or substantially reduce one or more significant impacts of the Proposed Project, or to not meet all or most of the Project's objectives were dismissed from further analysis.

Based on the screening process results, the Draft EIR analyzed the following alternatives at a level of detail equal to the Proposed Project with detailed description of these alternatives in Chapter 2, *Project Description*, and environmental analysis in Chapter 3, *Environmental Impact Analysis,* and in Chapter 4, *Other CEQA-Required Analysis:*

- Stone Cut Alignment Alternative
- Southfront Road Station Alternative
- Mountain House Station Alternative
- West Tracy OMF Alternative
- Downtown Tracy Parking Alternatives 1 and 2

Draft EIR Section 5.4, *Description and Analysis of Alternatives Analyzed at a Lesser Level of Detail*, describes the three alternatives that were analyzed at a lesser level of detail than the Proposed Project and provides that environmental analysis:

- No Project Alternative
- Bus/Bus Rapid Transit (BRT) with Managed Lanes Alternative
- Electric multiple unit (EMU) with overhead catenary system (OCS)

The alternatives are summarized below, beginning with the alternatives described at an equal level of detail to the Proposed Project. In addition, due to stakeholder interest, one additional alternative that was considered in the EIR, but not analyzed (the Iron Horse Trail Alternative) is also summarized below as this document provides findings as to why this alternative is not feasible.

2.2 Stone Cut Alignment Alternative

The Stone Cut Alignment Alternative has been selected in place of a portion of the Altamont Alignment.

The Stone Cut Alignment Alternative is an approximately 2.25-mile-long bypass of the existing railroad tunnel which passes under westbound I-580 along the Altamont Alignment (see Figure 2-21 in the Draft EIR). With the Stone Cut Alignment Alternative, a short segment of the Altamont Alignment would transition from the Alameda County Transportation Corridor ROW to the UPRR ROW, parallel the existing UPRR tracks to cross I-580, and transition back to the Alameda County Transportation Corridor ROW. The entire length of the Stone Cut Alignment Alternative would be double tracked.

The Stone Cut Alignment Alternative includes a new single-span bridge approximately 180 feet long over eastbound I-580 east of the existing UPRR bridge. The proposed alignment would then cross under westbound I-580 parallel to and east of the existing UPRR tracks. Two retaining walls (one approximately 200 feet long and one approximately 140 feet long, each 10 to 20 feet high) would be constructed along the alignment where its crosses under westbound I-580.

No changes to the existing UPRR track are proposed as part of the Stone Cut Alignment Alternative. Valley Link trains would not operate on any UPRR freight tracks along the bypass. Construction of the Stone Cut Alignment Alternative would require the acquisition of ROW (see Draft EIR Appendix C, *Preliminary Right of Way Requirements*).

2.3 Southfront Road Station Alternative

The Southfront Road Station Alternative has been selected to take the place of the Greenville Station.

It would be constructed south of I-580 on a 7.3-acre site along Southfront Road between McGraw Avenue and Franklin Lane in Livermore. Access to the station would be provided from Southfront Road. The Southfront Road Station Alternative would include the same passenger amenities and sustainable design features as described for the Proposed Project. As shown in Draft EIR Figures 2-16A and 2-16B, improvements that would be constructed as part of the Southfront Road Station Alternative include:

- A 400-foot-long by 30-foot-wide double-track at-grade Valley Link station platform in the median of a widened I-580.
- A surface parking lot providing up to approximately 680 parking spaces and 4 bus bays.
- Areas designated for future surface parking expansion of the station on an adjacent 3.3-acre site to meet 2040 parking demand for a total of up to approximately 1,070 parking spaces.
- A pedestrian overcrossing from the parking lots over Southfront Road and eastbound I-580 to the median station platform, including elevators and stairs at both ends of the bridge.
- Realignment of Southfront Road to accommodate the I-580 median widening, including new driveways for buses and vehicles into the station.
- If an IOS to the Southfront Road Station Alternative is implemented, then the parking be constructed would include 3,310 parking spaces.

Access to the parking lot would be provided from Southfront Road. Construction of the Southfront Road Station Alternative would require the acquisition of ROW (see Draft EIR Appendix C, *Preliminary Right of Way Requirements*). Construction of the Southfront Road Station Alternative

would also require the following changes to I-580 and the roadways in the vicinity of the proposed station:

- Widening of the I-580 freeway median and realignment of the eastbound lanes.
- Realignment of the eastbound I-580 on-ramp from First Street and the eastbound I-580 off-ramp to Vasco Road.
- Construction of new concreate barriers and retaining walls along eastbound I-580 in the vicinity of the station.
- Realignment of Southfront Road in the vicinity of the station.

2.4 Mountain House Station Alternative

The Mountain House Station Alternative has been selected to take the place of the Mountain House Station.

The Mountain House Station Alternative would be constructed on an approximately 8-acre site (6 acres of UPRR property) west of Hansen Road between the Owens-Illinois Industrial Lead and the California Aqueduct. Access to the station would be provided by new station driveways along Hansen Road. The Mountain House Station Alternative would include the same passenger amenities and sustainable design features as described for the Proposed Project. As shown in Figure 2-17A (Owens-Illinois Industrial Lead Variant 1, Single Track) and Figure 2-17B (Owens-Illinois Industrial Lead Variant 2, Double Track) of the Draft EIR, improvements that would be constructed as part of the Mountain House Station Alternative include:

- A 400-foot-long by 20-foot-wide at-grade Valley Link station platform.
- A Valley Link mainline track with an additional station track for passing.
- A surface parking lot south of the tracks providing up to approximately 890 parking spaces and three bus bays.
- Areas designated for future surface parking expansion north of the tracks to meet 2040 parking demand for a total of up to approximately 1,060 parking spaces on a 2.5-acre site (UPRR property).
- At-grade pedestrian crossings on both ends of the platform across the southern Valley Link track, including stairs and ADA-compliant ramps to access the platform from the parking lot.
- Improvements to the existing Hansen Road at-grade crossing, including roadway concrete crossing panels, signal house, railroad signal guards and gates on both sides of the crossing, and stop bar striping.
- If an IOS to Mountain House is implemented, then the parking be constructed would include 1,650 parking spaces.

Other than the above-described station driveways and upgrades to the existing at-grade crossing, no roadway improvements to Hansen Road are included in this alternative.

Most improvements at the Mountain House Station Alternative would be constructed within existing UPRR ROW. However, construction of the station would require acquisition of property from adjacent parcels (see Appendix C, *Preliminary Right of Way Requirements*).

2.5 West Tracy OMF Alternative

The West Tracy OMF Alternative is an alternative to the proposed Tracy OMF but has not been selected as part of the Preferred Alternative.

It would be constructed on an approximately 27-acre site south of Patterson Pass Road west of the originally proposed Mountain House Station. Access to the West Tracy OMF would be provided from Via Nicolo Road. As shown in Figure 2-20 of the Draft EIR, the West Tracy OMF Alternative would include tracks, buildings, and maintenance services like those described above for the proposed Tracy OMF. However, the West Tracy OMF Alternative would likely include a septic system for sewage disposal. This alternative would require significant site grading due to the rolling topography of the site.

Some of the improvements at the West Tracy OMF Alternative would be constructed within the existing UPRR ROW. However, construction of the West Tracy OMF Alternative would require acquisition of property from adjacent parcels (see Draft EIR Appendix C, *Preliminary Right of Way Requirements*).

Like the Tracy OMF, the design of the West Tracy OMF Alternative would accommodate the anticipated 2040 Valley Link Service Plan. However, construction of the West Tracy OMF Alternative would be phased over time as service increases between 2025 and 2040.

2.6 Downtown Tracy Parking Alternatives 1 and 2

These two parking alternatives in Downtown Tracy have not been selected as part of the Preferred Alternative.

The Downtown Tracy Station Parking Alternative 1 would include construction of a three-level parking structure at the site of the existing Tracy Transit Center surface parking lot (4-acre site) at the corner of North Central Avenue and West 4th Street, providing approximately 1,040 parking spaces for a net increase of approximately 925 spaces over the existing 115-space surface lot (see Figure 2-18 of the Draft EIR). This alternative does not include the construction of a surface parking lot at the southwest corner of the North Central Avenue/West 6th Street intersection; parking for the station would only be provided at the new parking structure. Construction of this alternative is not part of baseline project funding and is dependent on completion of station area plans and funding from the City of Tracy or other local funding partners.

The Downtown Tracy Station Parking Alternative 2 would include the construction of a three-level parking structure (5-acre site) at the southwest corner of the North Central Avenue/West 6th Street intersection providing approximately 930 parking spaces. No changes to the existing Tracy Transit Center parking lot are proposed as part of this alternative (see Figure 2-19 of the Draft EIR). Construction of this alternative is not part of baseline project funding and is dependent on completion of station area plans and funding from the City of Tracy or other local funding partners.

2.7 No-Project Alternative

The No Project Alternative has not been selected.

CEQA Guidelines Section 15126.6(e) requires the analysis of a No Project Alternative. The No Project Alternative analysis must discuss the existing conditions as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved.

The No Project Alternative would result in no new rail transit or other transit connection being established between the Central Valley and Bay Area. Existing transit services between the Central Valley and Bay Area would continue, including Altamont Corridor Express (ACE) between Stockton and San Jose, Bay Area Rapid Transit (BART), and the various existing bus connections to BART. The No Project Alternative assumes that Phase I of the ACE Extension, which would extend ACE service to Ceres, would be operational by 2023.

In addition, the No Project Alternative assumes the continuation of public commuter bus services operated by the San Joaquin Regional Transit District (San Joaquin RTD). The No Project Alternative also assumes that the existing roadway system connecting the Central Valley and Bay Area (the central artery being Interstate [I-]580) will undergo maintenance but no capacity expansion projects.

2.8 Bus/Bus Rapid Transit (BRT) with Managed Lanes Alternative

The Bus/BRT Alternative has not been selected as part of the Preferred Alternative.

The Authority received comments during scoping suggesting the consideration of a non-rail alternative to the Proposed Project, namely a bus-based alternative that would make use of existing highway facilities. Prior CEQA documents prepared for the BART Extension to Livermore also considered bus-based alternatives. The prior concepts were adapted for use in developing a bus-based alternative to the Proposed Project. A Bus/Bus Rapid Transit (BRT) Alternative would require less new infrastructure than a rail project since it would use existing roadways to a large extent. Also, a Bus/BRT Alternative would have substantially lower upfront capital costs than a rail project.

Starting in the east, the Bus/BRT Alternative would have express buses originate in Manteca, near State Route 120 and Airport Way, and then travel along local streets to the (planned) North Lathrop ACE Station, and then have bus stations at the River Islands community, the Tracy Transit Center, West Tracy, Mountain House, Greenville Road, Vasco Road, Isabel Avenue, and the BART Dublin/Pleasanton Station.

Dublin/Pleasanton bound buses would travel along portions of I-5, I-205, and I-580, operating on the right-side shoulders during heavy traffic conditions (when traffic speeds fall below 35 mph) at a maximum speed of 35 mph. To accommodate bus operations, stretches of the shoulder would need to be widened by either restriping the highway lanes or expanding the shoulder itself to ensure at least 12 feet of width required for bus-on-shoulder operations.

Between Greenville Road and Dublin/Pleasanton BART Station, buses would operate in the existing I-580 Express Lanes. Passenger platforms at Dublin/Pleasanton BART Station and at Isabel Avenue would be in the median of I-580, adjacent to the existing Express Lanes. Figure 5-2 shows a conceptual design for a platform connection at the Dublin/Pleasanton BART Station. A pedestrian bridge over eastbound and westbound lanes of I-580 would provide access for riders between eastbound and westbound bus stops and a parking lot on the north side of I-580.

The Bus/BRT Alternative would require construction of widened shoulder lanes, parking areas, and bus stations. Overall, this alternative would require less construction than the Proposed Project.

The Bus/BRT Alternative would include major modifications to the Dublin/Pleasanton BART Station to provide for bus access from the I-580 Express Lanes including modifications to I-580, the BART Station, and adjacent areas. Based on the design for the Bus/BRT in the BART to Livermore EIR, to accommodate bus movement at the Dublin/Pleasanton BART station, approximately 210 surface parking spaces would need to be relocated, either to a garage or another surface parking area.

This alternative would also include construction of an Isabel Avenue bus facility in the median of I-580, accessed from the I-580 Express Lanes including a parking lot to the south side of the freeway and a pedestrian bridge linking the bus facility to the parking lot. The Bus/BRT alternative would include construction of a reduced version of the Tracy OMF (that would be needed for a rail project), assuming the lesser space will be required handling and storage of buses versus DMUs.

2.9 Electric Multiple Unit/Overhead Catenary System (EMU/OCS) Alternative

The EMU/OCS Alternative has not been selected as part of the Preferred Alternative.

The EMU/OCS Alternative would generally be the same as the Proposed Project in terms of alignment, stations, frequency, ridership, and general operations. However, instead of one of the four multiple unit technologies described in Chapter 2 and analyzed in Chapter 3 (DMU, HBMU, BEMU, and DLH), the EMU/OCS Alternative would employ EMU trainsets that would receive electric power from an overhead catenary system (OCS) consisting of wires running continuously above the alignment, supported by a series of poles placed immediately along the rail alignment (assumed to be within the same footprint as the Proposed Project).

While some EMU trains are powered by a third rail, a third-rail system requires a completely enclosed right-of-way for safety purposes. Tracks with a third rail are not safe to be crossed by pedestrians and must be sealed with fencing or other enclosures. An EMU powered by a third rail was considered but dismissed from further analysis due to such concerns.

The EMU/OCS Alternative would require unique supporting traction power facilities (TPFs), such as train control houses, traction power substations and paralleling stations, and a switching station. While preliminary engineering plans have not been developed for the EMU/OCS, the following elements are envisioned based on the spacing of supporting facilities for the Caltrain Electrification:

- Tri-Valley: one train control house, one traction power substation, and one to two paralleling stations would need to be constructed in the immediate vicinity of the proposed alignment, potentially collocated with stations and/or OMF options.
- Altamont: one to two paralleling stations in the immediate vicinity of the proposed alignment, potentially collocated with stations and/or OMF options.
- Tracy to Lathrop: one train control house, one traction power substations, and one to two paralleling stations would need to be constructed in the immediate vicinity of the proposed alignment, potentially collocated with stations and/or OMF options.

A switching station would also be likely to be required that could be at the eastern end of the Altamont segment or the western end of the Tracy to Lathrop segment to isolate separate portions of the system in the event of an outage on one segment. In addition, this alternative could require additional grading beneath existing overpasses on I-580 in the Tri-Valley area to accommodate the height of catenary poles/wires.

2.10 Iron Horse Trail Alternative

The Iron Horse Trail Alternative has not been selected as part of the Preferred Alternative.

This alternative, suggested in scoping, would utilize the Iron Horse Trail alignment in Pleasanton to connect the BART Dublin/Pleasanton Station to rail services along the UPRR Oakland Subdivision or Alameda County Transportation Corridor ROW through Livermore and eastern Pleasanton. Figure 5-6 of the Draft EIR shows the approximately alignment of this alternative in the Tri-Valley.

One variant of this alternative would only include a connection between ACE and BART and not necessarily any increase in ACE service. In concept, this would mean that ACE would not increase the amount of trains it operates, which would mean that it would need to have at least one or more of its trains depart from its current route, travel to and from BART and then continue its normal service pattern. This would mean that inbound and outbound ACE service between the San Joaquin Valley, Livermore, and the inner Bay Area would be delayed substantially by the transit to and from BART for one or more trains, which would extend service times and decrease through ridership, while resulting in some increase in ridership for those accessing BART. However, service to the BART station that would be much slower and much less frequent than the Proposed Project and would degrade ACE through service which would result in inferior transportation outcomes compared to the Proposed Project and inferior environmental benefits related to reduction in VMT, criteria pollutants, and GHG emissions.

Thus, for an Iron Horse Alternative to be an equivalent alternative to the Proposed Project with operations either on the UPRR Oakland subdivision and/or or upon new/upgraded tracks along the former SP alignment, there would be need for substantial investment in new tracks to support equivalent transit service unlike asserted in the comment received for the Draft EIR.

The use of the UPRR Oakland Subdivision through Livermore and eastern Pleasanton would require the installation of additional tracks to accommodate the additional train service and to obtain UPRR approval and UPRR would control dispatch of passenger trains. ACE service is currently limited by UPRR to four round trip trains per day along the Oakland Subdivision and UPRR has indicated to ACE that service could only be expanded if the Oakland Subdivision capacity were increased to accommodate increased passenger rail service. Passenger service on lines shared with freight operations can be subject to delays when priority is given the freight service.

The Alameda County Transportation Corridor ROW is available from Greenville to eastern Livermore and from west Livermore to Pleasanton as it is owned by Alameda County, but the tracks have been out of service for many years. As a result, to use the ROW for Valley Link, new tracks would need to be constructed. In addition, in downtown Livermore, the only available location for rail is the existing UPRR ROW, so even if the Alameda County Transportation Corridor were used for Valley Link in other locations, there would still be a need to use the UPRR ROW in downtown Livermore.

This alternative would also cross roadways between the UPRR or former SP ROW and the BART Dublin/Pleasanton Station and would require crossing improvements and/or grade separations as described in the Final EIR.

Section 3
Findings

3.1 CEQA Requirements

CEQA requires the lead agency to make written findings about the disposition of the project's effects whenever it decides to approve a project for which an EIR has been certified (PUB. RES. CODE Section 21081). Regarding these findings, Section 15091 of the State CEQA Guidelines states, in part:

> No public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:
>
> (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.
>
> (2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
>
> (3) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.
>
> (b) The findings required by subsection (a) shall be supported by substantial evidence in the record.

The "changes or alterations" referred to in the State CEQA Guidelines may be mitigation measures, alternatives to the project, or changes to the project by the project proponent. The Final EIR for the Project identifies mitigation measures that will reduce significant effects of the Project or mitigate other potential effects that may not be, strictly speaking, environmental effects under CEQA. These mitigation measures will be incorporated into the design of the Project. An MMRP will also be adopted by the Authority to ensure that the mitigation measures identified in the Final EIR and these findings will be implemented.

The documents and other materials that constitute the record upon which the Authority's decision and these findings are based can be reviewed in person at the following location[1]:

Tri-Valley–San Joaquin Valley Regional Rail Authority
1362 Rutan Court #100
Livermore, CA 94551

[1] Because of current COVID-19 social distancing requirements, including the order from Alameda County to adhere to social distancing requirements, printed copies of the Draft EIR and the Final EIR are available for public viewing by appointment only at the Tri-Valley–San Joaquin Valley Regional Rail Authority office in Livermore, California. Email or call the information request number to arrange an appointment.

- Information Line: For more information, please email info@valleylinkrail.com or call the information request line at (925) 455-7591 and leave a message.

3.2 Findings Regarding Independent Review and Judgment

Each member of the Authority was provided a complete copy of the Final EIR for the Project in advance of the hearing on the Project. The Authority hereby finds that the Final EIR reflects its independent judgment. The Authority also finds that it has independently reviewed and analyzed the Final EIR prior to taking final action with respect to the Project.

3.3 Findings Regarding the Project

3.3.1 Findings Regarding Significant and Unavoidable Effects

The Authority determines that the following significant effects cannot be avoided. Feasible mitigation measures included in the Final EIR will lessen the effects but will not result in complete mitigation of the effects to a less-than-significant level. The full text of each of the mitigation measures cited below is found in the Final EIR and that text is hereby incorporated by reference. The titles/numbers of the effects are the same as those in the Final EIR. The following identifies the pertinent mitigation measures by number and summary title.

See the next section for those effects for which mitigation measures have been adopted and that are thereby reduced below the level of significance.

3.3.1.1 Agricultural Resources

Significant Effect: Impact AG-1b. Construction of the Preferred Alternative could result in direct permanent conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide or Local Importance to nonagricultural use.

Findings: The Authority hereby makes findings (a)1 and (a)(3) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Permanent conversion would occur within the railroad ROW where land categorized as Important Farmland (i.e., Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance) occurs. The cause of permanent conversion of Important Farmland, direct use of the land, is a direct impact on Important Farmland. Appendix K-1, *Important Farmland Impacts by Parcel* of the Draft EIR, provides the list of parcels containing Important Farmland that could be permanently converted by implementation of the Preferred Alternative.

The Preferred Alternative would traverse a combination of urban lands, grazing lands, and lands with Important Farmland. As summarized in Table 3.2-7, the following alignments, stations, and OMF would result in the conversion of Important Farmland to nonagricultural uses: Isabel Station; Altamont Alignment; Tracy OMF; Tracy to Lathrop Alignment Variant 1, Single Track; Tracy to Lathrop Alignment Variant 2, Double Track; and River Islands Station. The impact of the Preferred Alternative is potentially significant.

The selected Southfront Road Station Alternative, Stone Cut Alignment Alternative, and Mountain House Station Alternative would not be located on areas identified as Important Farmland. Therefore, these alternatives would not permanently convert Important Farmland and would by themselves have no impact on Important Farmland from construction of these alternatives.

The following measure mitigates this impact to the extent feasible, but not to a less than significant level.

- AG-1.2: Conserve Important Farmlands (Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Unique Farmland)

Mitigation Measure AG-1.2 would reduce impacts from permanent conversion of Important Farmland because of direct use of the land within the rail ROW by requiring purchase of agricultural conservation easements at a ratio of 1:1 for direct use of Important Farmland. This mitigation measure would be effective in minimizing the overall permanent conversion of Important Farmland to a nonagricultural use because it would preserve Important Farmland in an amount commensurate with the quantity and quality of the converted farmlands and within the same agricultural regions where the impacts would occur. However, because mitigation would not prevent conversion of Important Farmland, the impact from the Preferred Alternative would be significant and unavoidable due to the Isabel Station; Altamont Alignment; Tracy OMF; Tracy to Lathrop Alignment Variant 1, Single Track; Tracy to Lathrop Alignment Variant 2, Double Track; and River Islands Station.

Selection of the Mountain House Station Alternative in place of the originally proposed Mountain House Station would also reduce, but not avoid, the significant unavoidable impact.

Significant Effect: Impact AG-1c. Construction of the Preferred Alternative could convert Prime Farmland, Unique Farmland, or Farmland of Statewide or Local Importance to nonagricultural use because of parcel severance or creation of remnant parcels.

Findings: The Authority hereby makes finding (a)1 (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Construction would result in indirect permanent conversion of Important Farmland to nonagricultural use because of parcel severance or creation of remnant parcels. This conversion would occur where the Preferred Alternative would (1) sever access to parcels of Important Farmland or (2) create smaller parcels of Important Farmland that would be too small to farm. Appendix K-2, *Potential Severed and Remnant Parcels*, of the Draft EIR provides a list of parcels showing property-specific permanent indirect impacts, both severed parcels and remnant parcels that would be too small to farm. More specifically, Table 3.2-8 of the Draft EIR shows the acreage of Important Farmland and number of parcels that would be indirectly permanently converted to nonagricultural use because of the creation of severed or remnant parcels by the Preferred Alternative.

The following measure mitigates this impact to the extent feasible, but not to a less than significant level.

- AG-1.2: Conserve Important Farmlands (Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Unique Farmland)

Implementation of Mitigation Measure AG-1.2 would reduce impacts from permanent conversion of Important Farmland because of the creation of severed or remnant parcels by requiring the purchase of agricultural conservation easements at a ratio of 0.5:1 for remnant parcels. This mitigation measure would be effective in minimizing the overall permanent conversion of Important Farmland to a nonagricultural use because it would preserve Important Farmland in an amount commensurate with the quantity and quality of the affected farmlands and within the same agricultural regions where the impacts occur. However, it would not avoid a net loss in farmland. The analysis has taken the approach that the loss of any Important Farmland is significant, and mitigation would not prevent conversion of Important Farmland. The impact from the Preferred Alternative would be significant and unavoidable due to the proposed Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track).

Significant Effect: Impact C-AG-1. Implementation of the Preferred Alternative, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on agricultural resources.

Findings: The Authority hereby makes findings (a)1 and (a)(3) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: As documented in Section 3.2, *Agricultural Resources* and discussed in Section 5.2.5.4, *Agricultural Resources*, a trend toward conversion of agricultural land to nonagricultural uses exists throughout the Valley Link agricultural resources study area. Accordingly, in locations where the Preferred Alternative in combination with other projects would convert agricultural land to nonagricultural uses, a cumulative impact exists.

The following measures mitigate the Preferred Alternative's impact, but not to a less than significant level.

- AG-1.1: Restore Important Farmlands used for temporary staging areas
- AG-1.2: Conserve Important Farmlands (Prime Farmland, Farmland of Statewide Importance, Farmland of Local Importance, and Unique Farmland)
- AG-3.1: Notify agricultural property owners or leaseholders
- AG-3.2: Coordinate with utility and energy service providers
- AG-3.3: Verify new irrigation facilities are operational before disconnecting the original facility
- AG-3.4: Maintain access to Important Farmlands
- AG-3.5: Provide permanent equipment crossings on affected access roads.
- Select the Mountain House Station Alternative

Implementation of the Preferred Alternative would result in the direct conversion of approximately 383 acres of Important Farmland.

The Preferred Alternative's operation will result in non-agricultural uses occurring on these lands. It is reasonably estimated that some of the projects listed in Tables 4-3, 4-4, and 4-5 of the Draft EIR, especially those located within the Livermore Valley, Altamont Hills, and San Joaquin Valley, would also result in some direct and/or indirect Important Farmland conversion. Therefore, the Preferred

Alternative's direct conversion of up to approximately 383 acres of Important Farmland would constitute a cumulatively considerable contribution to this impact. With implementation of Mitigation Measure AG-1.2 and with selection of the Mountain House Station Alternative instead of the Mountain House Station, the Preferred Alternative's operational cumulative contribution to Important Farmland conversion would be reduced; however, the Preferred Alternative's permanent operational contribution to cumulative impacts on Important Farmland would remain considerable with mitigation.

3.3.1.2 Air Quality

Significant Effect: Impact AQ-2a: Construction of the Preferred Alternative could result in a cumulatively considerable net increase of criteria pollutants for which the San Joaquin Valley Air Pollution Control District (SJVAPCD) is designated a nonattainment area under the applicable federal and state ambient air quality standards (including releasing emissions that exceed quantitative thresholds for ozone precursors).

Findings: The Authority hereby makes findings (a)1 and (a)(3) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Construction of the Preferred Alternative has the potential to create air quality impacts due to emissions from heavy-duty construction equipment, worker vehicle trips, truck hauling trips, and train trips. In addition, fugitive emissions would result from site grading, asphalt paving, and demolition. Table 3.3-12 of the Draft EIR summarize estimated unmitigated construction-related emissions in the San Joaquin Valley Air Pollution Control District (SJVAPCD), respectively, in pounds per day and tons per year. The Preferred Alternative would exceed established thresholds for criteria pollutants in the SJVAPCD.

The following measures mitigate the Preferred Alternative's impact, but not to a less than significant level within the SJVAPCD.

- AQ-2-1: Implement advanced emissions controls for off-road equipment during construction.
- AQ-2-2: Implement off-road equipment engine maintenance and idling restrictions during construction
- AQ-2-3: Implement advanced emissions controls for trains during construction
- AQ-2-4: Utilize modern fleet for on-road material delivery and haul trucks during construction
- AQ-2-5: Implement fugitive dust controls during construction
- AQ-2.7: Enter into a Voluntary Emissions Reduction Agreement for Project Construction Emissions over SJVAPCD emissions in the San Joaquin Valley Air Basin (SJVAB)

As shown in Table 3.3-15, Mitigation Measures AQ-2.1 though AQ-2.4 would reduce NO_X emissions in SJVAPCD below the applicable significance threshold, and NO_X and PM2.5 emissions below the AAQA triggers. However, CO and PM10 emissions would exceed the AAQA triggers, even with implementation of all feasible onsite mitigation. Pursuant to SJVAPCD's GAMAQI, a dispersion analysis was performed to evaluate if CO and PM10 concentrations would exceed the CAAQS. CO concentrations from construction activity would not violate CAAQS (see Table 3.3-19) and construction of the Preferred Alternative would not violate a CO standard or contribute substantially to an existing or projected CO violation However, as shown in Table 3.3-17, dispersion

modeling confirms that PM10 emissions from construction activity would contribute to violations of the 24-hour PM10 CAAQS. This impact would be significant and unavoidable.

Significant Effect: Impact AQ-3g: The Preferred Alternative could expose sensitive receptors to cumulative health risks from increased exposure to DPM and PM2.5 concentrations.

Findings: The Authority hereby makes findings (a)(1) and (a)(3) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Multiple existing sources of cumulative emissions are located within 1,000 feet of the Valley Link alignment and sensitive receptors. When combined with DPM emissions from construction and operation, receptors may be exposed to cumulative health risks more than air district thresholds. BAAQMD has established cumulative risk thresholds, whereas SJVAPCD considers risks more than project-level thresholds to result in a cumulatively considerable impact.

As shown in Tables 3.3-28 and 3.3-29 of the Draft EIR, total cumulative health risks to sensitive receptors located near the Preferred Alternative during construction and operations would not exceed BAAQMD's cumulative health risk thresholds for the Altamont segment, but would exceed the thresholds for cancer risk and PM2.5 for the Tri-Valley segment. Preferred Alternative operational emissions would be less with the DMU or HBMU technology variants compared to the DLH technology variant. Without the criteria pollutant mitigation, the Preferred Alternative contribution would be higher. These impacts are a result of ambient background concentrations that exceed BAAQMD significance thresholds and a contribution of additional DPM emissions-related health risks due to the Project.

As discussed in Impacts AQ-3b through AQ-3f of the Draft EIR, neither construction nor operation of the Preferred Alternative Proposed Project would result in health risks to sensitive receptors more than SJVAPCD's thresholds of significance. SJVAPCD considers risks greater than project-level thresholds to result in a cumulatively considerable impact. Accordingly, since the Preferred Alternative Proposed Project would not exceed SJVAPCD's project-level thresholds, cumulative health risks within the SJVAPCD would be less than significant.

The following measures mitigate this impact, but not to a less than significant level.

- AQ-2-1: Implement advanced emissions controls for off-road equipment during construction.
- AQ-2-2: Implement off-road equipment engine maintenance and idling restrictions during construction
- AQ-2-3: Implement advanced emissions controls for trains during construction
- AQ-2-4: Utilize modern fleet for on-road material delivery and haul trucks during construction

The Authority does not have the jurisdiction to address existing and future sources of pollution other than those related to the Preferred Alternative. The Preferred Alternative contributions to the cumulative impacts are limited and thus there is no feasible mitigation that would reduce this impact to a less-than-significant level for the DMU, HBMU, or DLH technology variants for construction and operation, or for the BEMU technology variant for construction. This impact within the Tri-Valley segment in the BAAQMD is therefore considered significant and unavoidable for the Tri-Valley segment for construction and for operation of the DMU, HBMU, and DLH technology variants.

This impact is less than significant for the Preferred Alternative relative to BEMU operations within the Tri-Valley segment, and construction and operation outside the Tri-Valley segment, as discussed below under Less Than Significant Impacts.

Significant Effect: Impact C-AQ-1: Implementation of the Preferred Alternative, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on air quality. However, construction of the Preferred Alternative would contribute diesel particulate matter and PM2.5 emissions to a significant and unavoidable cumulative health risk impact in the Tri-Valley segment due to ambient conditions exceeding cumulative thresholds after mitigation and this could be exacerbated due to construction of other cumulative projects in the same area. Construction would also result in a significant and unavoidable impact in the San Joaquin Valley portions of Valley Link (including proposed and alternative facilities) due to the effect on localized PM10 ambient air quality conditions after mitigation.

Findings: The Authority hereby makes findings (a)(1) and (a)(3) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: The following measures mitigate this impact, but not to a less than significant level.

- AQ-2-1: Implement advanced emissions controls for off-road equipment during construction.
- AQ-2-2: Implement off-road equipment engine maintenance and idling restrictions during construction
- AQ-2-3: Implement advanced emissions controls for trains during construction
- AQ-2-4: Utilize modern fleet for on-road material delivery and haul trucks during construction
- AQ-2-5: Implement fugitive dust controls during construction
- AQ-2-6: Enter into a Voluntary Emissions Reduction Agreement for Project Construction Emissions over BAAQMD emissions in the San Francisco Bay Area Air Basin (SFBAAB)
- AQ-2-7: Enter into a Voluntary Emissions Reduction Agreement for Project Construction Emissions over SJVAPCD emissions in the San Joaquin Valley Air Basin (SJVAB)

With implementation of Mitigation Measures AQ-2.1, AQ-2.2, AQ-2.3, AQ-2.4, AQ-2.5, AQ-2.6, and AQ-2.7, construction equipment, including vehicles that would transport equipment to construction sites, would be selected and maintained in a manner that minimizes criteria pollutant emissions. Furthermore, construction fugitive dust controls and construction emissions offsets would further reduce the Preferred Alternative's construction emissions, and construction of the Preferred Alternative would have a less than considerable contribution to criteria pollutants, with mitigation.

Operation of the DLH, diesel multiple unit (DMU), or hybrid battery multiple unit (HBMU) technology variants would contribute to significant cumulative health risks to sensitive receptors at certain locations along the Tri-Valley segment (including proposed and alternative facilities in the Tri-Valley segment) due to existing risks exceeding the cumulative thresholds already. If the battery-electric multiple unit (BEMU) technology variant is chosen, then the Preferred Alternative (including facilities in the Tri-Valley segment) would not contribute to cumulative health risks due to train operations.

This impact is less than significant for criteria pollutant emissions, as discussed below under *Findings Regarding Significant Effects Mitigated to Less-Than-Significant Levels*.

3.3.1.3 Noise and Vibration

Significant Effect: Impact NOI-1a. Construction of the Preferred Alternative would expose sensitive receptors to substantial temporary increases in ambient noise levels.

Findings: The Authority hereby makes findings (a)(1) and (a)(3) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Construction of the Preferred Alternative would include three basic activities: (1) site work, (2) rail work, and (3) structures work. Site work is expected to occur over periods of 1 to 36 months, rail work is expected to occur over periods of 1 to 36 months, and structures work is expected to occur over periods of 6 to 24 months. Generally, construction of the Preferred Alternative could last anywhere from 8 to 48 months, depending on the element. Construction work could occur during the nighttime along portions of the alignment that are on active freight rail lines. The local noise ordinances for the cities and counties along the Valley Link corridor generally limit construction noise to time periods during the weekday, weekend, and holiday daytime hours. Nighttime construction work is generally prohibited, but some jurisdictions allow for variance.

Construction activities would be considered to have a significant impact if they would generate noise exposure more than the FTA thresholds. As shown in Table 3.12-9 of the Draft EIR, the operation of certain construction equipment and construction activities could generate noise exposure more than FTA thresholds. Nighttime construction near residential uses would have larger impacts than daytime construction would have and would also result in a potentially significant impact.

The following measure mitigates this impact, but not to a less than significant level.

- NOI-1.1a: Implement a construction noise control plan

The measures specified in Mitigation Measure NOI-1.1a would generally reduce the construction noise levels. However, the measures would not necessarily guarantee that all sensitive residential receptors in the vicinity of the construction area would not be exposed to noise levels exceeding the 80 dBA limit during the day or the 70 dBA limit at night. It is probable that construction near some residential areas will have to be conducted at night to avoid disruption of active freight and passenger rail operation and to complete construction on schedule. Furthermore, although a temporary sound wall may be effective in certain locations, in many cases, the nature of the construction work makes use of such sound walls infeasible. Construction-related noise would be short-term and would cease after construction is completed. Still, even with mitigation, the impact of temporary construction-related noise on nearby noise-sensitive receptors would remain a significant and unavoidable impact of the Preferred Alternative, where heavy construction would occur immediately adjacent to residences and where construction would occur at night near residences.

Significant Effect: Impact NOI-1b. Operation of the Preferred Alternative would result in a substantial permanent increase in ambient noise levels.

Findings: The Authority hereby makes findings (a)(1) and (a)(3) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: As presented in Table 3.12-10 for DMU and Table 3.12-12 for DLH (2025); and Table 3.12-11 for DMU and Table 3.12-13 for DLH (2040) of the Draft EIR, FTA model calculations show that operation of the Preferred Alternative within the Tri-Valley segment would result in no impacts. However, operation of the Preferred Alternative within the Altamont segment and the Tracy to Lathrop segment would result in moderate and severe impacts at existing residential receptors. These impacts would be related to horn noise from trains approaching the at-grade crossings and station platforms.

Therefore, operation of the Preferred Alternative would result in moderate and severe noise impacts. Because operation would cause an increase in ambient noise levels that exceed the FTA severe impact criteria, this is considered a significant impact.

The following measure mitigates this impact, but not to a less than significant level.

- NOI-1.1b: Implement a phased program to reduce train noise along the Valley Link corridor as necessary to address noise increases of FTA's severe impact thresholds.

The Authority will work with other parties when implementing this measure to apply the relevant mitigation measures identified in the Final EIR during implementation of future noise mitigation improvements. The Authority is only responsible for that portion of the cumulative increases caused by the Preferred Alternative. Other sources of cumulative increases, including other rail and non-rail sources near the Valley Link corridor, also bear responsibility for cumulative noise increases. However, some measures included in NOI-1.1b may not be feasible due to cost and site limitations or meet effectiveness or acceptability criteria. Therefore, this impact for the Preferred Alternative would remain significant and unavoidable.

Significant Effect: Impact C-NOI-1. Implementation of the Preferred Alternative, in combination with other foreseeable projects in the surrounding area, would result in a significant cumulative impact from noise.

Findings: The Authority hereby makes findings (a)(1) and (a)(3) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: During construction, an increase in noise and vibration levels would affect sensitive receptors along the Preferred Alternative corridor. Noise and vibration impacts during construction would primarily result from simultaneous construction of different projects in the same location at the same time; however, where construction occurs in quick succession in the same area, there could also be a cumulative impact due to the extended duration of construction-related noise. As shown in Tables 4-3 and 4-4 of the Draft EIR, construction of the Preferred Alternative may overlap in time or location with several rail and other regional transportation projects. There are also numerous land development projects with planned or potential construction periods that would also overlap with construction of the Preferred Alternative, as shown in Table 4-5 of the Draft EIR.

As described in Section 3.12, *Noise and Vibration* of the Draft EIR, construction noise impacts would be limited to residences within 135 to 270 feet from any given Valley Link construction site.

Construction noise impacts would be greatest during work at locations where pile driving is required for bridge construction, such as at Paradise Cut and across the San Joaquin River. Because most of the Preferred Alternative would be on an existing rail line, and in some cases within the I-580 median, construction work could occur during nighttime. Nighttime construction near residential uses in the Tracy to Lathrop segment would have larger impacts than daytime construction, because local permissible noise thresholds are lower during nighttime than they are during daytime. Disruptive nighttime construction in exceedance of local permissible noise thresholds would result in a potentially significant impact contributing to the cumulative impact of numerous projects occurring concurrently.

As shown in Table 4- 3 of the Draft EIR, if identified rail projects are implemented, there would be an increase in the number of daily trains within the Preferred Alternative corridor. Operation of Freight Future Rail Plans (reference 1) would result in an increase in daily freight trains in the Altamont and Tracy to Lathrop segments and an increase of daily passenger trains near the North Lathrop Station. Increases in passenger and freight rail service at these locations, in combination with Valley Link passenger train operation, would increase noise levels along the Valley Link corridor as well as at any shared stations or operational facilities. Although the identified rail projects would be the largest contributors to noise increases, other regional transportation and land development projects would also contribute to increased noise levels that could affect sensitive receptors in the vicinity. Land development projects along the Valley Link corridor could also introduce more sensitive receptors to the cumulative noise impacts resulting from increased rail service. Operation of other identified regional transportation and land development projects would increase noise levels by introducing more people, activities, and traffic into the vicinity of the Valley Link corridor. This combined effect would result in the potential for significant cumulative operational noise impacts.

As described in Section 3.12, *Noise and Vibration* of the Draft EIR, the Preferred Alternative would result in adverse moderate noise effects compared with existing conditions due to the introduction of new passenger rail service in the Preferred Alternative corridor. The Preferred Alternative would generate both train engine and wheel noise, as well as train horn noise for at-grade crossings and at the approach to stations. Operation of the Preferred Alternative, including operation of track improvements, would result in moderate noise impacts at locations where existing ambient noise levels are generally low, and moderate to severe impacts at locations where ambient noise levels are higher. Valley Link stations and OMF facilities would result in elevated operational noise beyond current conditions at these sites, but noise levels are expected to be less than those of passenger trains traveling along tracks.

The following measure mitigates this impact, but not to a less than significant level.

- NOI-1.1a: Implement a construction noise control plan
- NOI-1.1b: Implement a phased program to reduce train noise along the Valley Link corridor as necessary to address noise increases of FTA's severe impact thresholds

Mitigation Measure NOI-1.1a, which would require preparation of a noise control plan, would reduce potential daytime and nighttime construction noise impacts, but not necessarily to a less than significant level at all times and locations. Because there could be other projects simultaneously under construction adjacent to the Valley Link corridor, the Preferred Alternative could result in a considerable contribution to cumulative noise impacts during construction, even with mitigation.

Mitigation Measure NOI-1b would require development and implementation of a program to reduce train noise along the Valley Link corridor, as necessary. Therefore, if it is determined that

operational noise should be attenuated either at stations or elsewhere along the Preferred Alternative corridor, such strategies would be required to be implemented.

Because the Preferred Alternative would share its corridor with other identified rail projects, most notably at North Lathrop Station, it is anticipated that the strategies implemented as-needed as part of mitigation measure NOI-1b would attenuate operational noise from any identified rail projects, not just Valley Link. Such strategies may include design adjustments, installations, or speed limits, and would attenuate noise from any operating train in the corridor. It is expected that these strategies would be effective in attenuating noise resulting from single train operations. However, regular, concurrent operation of multiple trains from various operators are expected to occur at the stations along the Tracy to Lathrop segment and at nearby portions of the Tracy to Lathrop Alignment, both of which are located next to numerous sensitive receptors. It is, therefore, possible that these noise attenuation strategies will not fully mitigate noise emissions when multiple trains (Valley Link and other) are operating concurrently at this location. Therefore, at the stations along the Tracy to Lathrop segment and at nearby portions of the Tracy to Lathrop Alignment, the Preferred Alternative would result in a cumulatively considerable contribution to noise impacts, even with mitigation.

3.3.2 Findings Regarding Significant Effects Mitigated to Less-Than-Significant Levels

The Authority has determined that, for the following effects, mitigation measures included in the Final EIR will mitigate the effects of the Preferred Alternative to a less-than-significant level. The following identifies the pertinent mitigation measures by number and summary title. The full text of each of the mitigation measures cited below is found in the Draft EIR and that text is hereby incorporated by reference.

3.3.2.1 Aesthetics

Significant Effect: Impact AES-1: Construction of the Preferred Alternative could substantially degrade the existing visual character or quality of public views of the site and its surroundings, including scenic vistas and scenic highways, and create a new source of substantial light or glare that would adversely affect daytime or nighttime views.

Finding: The Authority hereby makes finding (a)(1) (described in Section 3.1 above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Visual changes resulting from introducing construction activities and equipment into the viewsheds of all user groups would be temporary for the Preferred Alternative. Construction of the alignments would generally occur in a linear fashion and migrate along the corridor. Construction would affect all viewers adjacent to or in the construction corridor. Impacts would be greater where there are more viewers and where larger portions of the Preferred Alternative would be visible. Construction may be visible from some locations with scenic vista views, such as elevated roadways and bridges that cross or parallel the existing rail corridor or adjacent multilevel buildings.

Construction activities involving heavy equipment use, soil and material transport, and land clearing in the right-of-way, along public roadways, and at construction staging areas would create fugitive

dust and introduce noise. The aesthetic disruptions would be less pronounced in urban areas where there would be less soil disruption, such as along the Tri-Valley Alignment, but more pronounced in rural areas where there would be more soil disruption.

The following measures mitigate this impact to a less than significant level.

- AES-1.1: Install visual barriers between construction work areas and sensitive residential and recreational receptors
- AES-1.2: Limit construction near residences to daylight hours
- AES-1.3: Minimize fugitive light from portable sources used for construction
- AQ-2.5: Implement fugitive dust controls during construction

Residential viewers could have construction activities occurring adjacent to their homes, or nearby, evoking a sense of invaded privacy and resulting in a potentially significant impact. Implementation of Mitigation Measures AES-1.1, AES-1.2, AES-1.3, and AQ-2.5, which call for installing visual barriers between construction and sensitive receptors, limiting work to daylight hours adjacent to sensitive receptors, limiting construction lighting near sensitive receptors, and limiting fugitive dust, would reduce this impact from the Preferred Alternative to a less-than-significant level.

For the same reasons listed above, implementation of Mitigation Measures AES-1.1, AES-1.2, AES 1.3, and AQ-2.5 would reduce the impact from construction of the Southfront Road Station Alternative, Stone Cut Alignment Alternative, and Mountain House Station Alternative to a less-than-significant level.

Significant Effect: Impact AES-2. Operation of the Preferred Alternative could substantially degrade the existing visual character or quality of public views of the site and its surroundings in non-urbanized areas, including scenic vistas.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Visual changes resulting from operation would affect residential viewers, roadway travelers, and recreationists adjacent to the Preferred Alternative. The intensity of the impact would vary, depending on the number of viewers present; proximity of viewers to the Preferred Alternative; degree of physical change in the landscape; visibility of the physical change; volume of train traffic; and required maintenance.

Many of the new stations would require the installation of utility lines to carry electricity to power the facilities. This would introduce new vertical utility features that would disrupt the visual landscape from sensitive vantages. The stations would also require fence installation as well as other barriers and railings for safety. Chain link fencing, railings, and similar barriers are often light gray, a color that detracts from views.

The following measures mitigate this impact to a less than significant level.

- AES-2.1: Landscape parking facilities at stations
- AES-2.2: Apply aesthetic design treatments to parking structures, pedestrian overcrossings, Interim OMF, viaduct structures, and retaining walls with high visibility along I-580 and from roadways within the Altamont Hills

- AES-2.3: Utilize selective grading and planting techniques in the Altamont Hills
- AES-2.4: Underground new electric transmission lines in visually sensitive areas
- AES-2.5: Apply aesthetic surface treatments to certain structures in visually sensitive areas

Implementation of Mitigation Measures AES-2.1, AES-2.2, AES-2.3, AES-2.4, and AES-2.5 would reduce impacts associated with the Preferred Alternative due to the following proposed stations and OMFs to a less-than-significant level: the Interim OMF, Mountain House Station Alternative, Tracy OMF, the River Islands Station and any TPSS installed between Greenville Road and the Tracy OMF (except if a TPSS is placed at the Mountain House Station Alternative). This is because selective grading would ensure that new landforms would preserve and blend with hilly terrain and pedestrian overcrossings would blend with and complement the surrounding landscape. In addition, darker fencing would improve visibility through the barrier compared with standard gray metal surfaces, dark-colored overhead light standards would recede into the view, and undergrounding would prevent visual intrusions from new utilities. In addition, ancillary rail features would not stand out in the landscape and detract from views. Implementation of Mitigation Measures AES-2.3 and AES-2.5 would reduce the impact from operation of the Altamont Alignment and the Stone Cut Alignment Alternative to a less-than-significant level.

Significant Effect: Impact AES-3: Operation of the Preferred Alternative could conflict with applicable zoning and other regulations governing scenic quality in urbanized areas, including scenic vistas.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Visual changes resulting from operation have the potential to conflict with local regulations in urbanized areas if they conflict with the policies identified in local policy documents, such as city general plans. General plans for urbanized areas include those guiding the development of Alameda County, Dublin, Livermore, Tracy, and Lathrop. In general, these plans include policies to facilitate community character, land use, the protection of hillsides, and lighting. The Preferred Alternative would potentially conflict with these plans.

The Tri-Valley Alignment (within post miles 10.22–10.82, 14.97–15.63, and 17.55–18.31) would directly affect vegetation along landscaped freeway segments. This vegetation would be affected by modifications to the edge of I-580 and result in the removal of a few trees or shrubs as well as groundcover at each location. Because these removals could affect the classification of each segment as a landscaped freeway, the impact from the Tri-Valley Alignment is considered potentially significant.

The following measures mitigate this impact to a less than significant level.

- AES-2.1: Landscape parking facilities at stations
- AES-2.2: Apply aesthetic design treatments to parking structures, pedestrian overcrossings, Interim OMF, viaduct structures, and retaining walls with high visibility along I-580 and from roadways within the Altamont Hills
- AES-2.3: Utilize selective grading and planting techniques in the Altamont Hills
- AES-2.4: Underground new electric transmission lines in visually sensitive areas

- AES-2.5: Apply aesthetic surface treatments to certain structures in visually sensitive areas
- AES-3.1: Replace disturbed vegetation along landscaped freeways

Implementation of Mitigation Measures AES-2.1, AES-2.2, AES-2.3, AES-2.4, AES-2.5, and AES-3.1 would reduce impacts associated with the Preferred Alternative, due to the following alignment and stations, to a less-than-significant level: Tri-Valley Alignment, Dublin/Pleasanton Station, Isabel Station, Southfront Road Station Alternative, Downtown Tracy Station, North Lathrop Station, and any TPSS placed between Greenville Road and the Tracy OMF or at the North Lathrop Station. This is because selective grading would ensure that new landforms would preserve and blend with hilly terrain and pedestrian overcrossings would blend with and complement the surrounding landscape. In addition, darker fencing would improve visibility through the barrier compared with standard gray metal surfaces, dark-colored overhead light standards and TPSS facilities would recede into the view, and undergrounding would prevent visual intrusions from new utilities. In addition, ancillary rail features would not stand out in the landscape and detract from views, and vegetation removed along landscaped freeway segments would be replaced.

Significant Effect: Impact AES-4: Operation of the Preferred Alternative could substantially damage scenic resources within a State Scenic Highway.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: The Tri-Valley Alignment, Dublin/Pleasanton Station, Isabel Station, Southfront Road Station, Interim OMF, and Tracy OMF would fall within view of scenic corridors that are protected by regulations. The Southfront Road Station Alternative would introduce elevated structures because it would add a pedestrian overpass to the median of I-580. The Stone Cut Alignment Alternative would require landform alterations that would affect the appearance of the hillsides and views from Altamont Pass Road and I-580, both scenic routes. The Mountain House Station Alternative would have a less than significant impact. The parking areas associated with the Mountain House Station Alternative would be planted with trees that would help soften the appearance of the parking lot. Fencing and aboveground utilities would introduce new vertical features that would disrupt the visual landscape and scenic views associated with I-580, resulting in potentially significant impacts. The Stone Cut Alignment Alternative would require landform alterations that would affect the appearance of the hillsides and views from Altamont Pass Road and I-580, both scenic routes. It would result in a large slope cut that would be readily visible from I-580. Retaining wall structures would also be needed to support the slopes in proximity to I-580 underpass. However, the retaining walls would not likely be highly visible from I-580 because they would be located under the freeway and drivers pass by this location at a high rate of speed.

The following measures mitigate this impact to a less than significant level.

- AES-2.1: Landscape parking facilities at stations
- AES-2.2: Apply aesthetic design treatments to parking structures, pedestrian overcrossings, Interim OMF, viaduct structures, and retaining walls with high visibility along I-580 and from roadways within the Altamont Hills
- AES-2.3: Utilize selective grading and planting techniques in the Altamont Hills
- AES-2.4: Underground new electric transmission lines in visually sensitive areas

- AES-2.5: Apply aesthetic surface treatments to certain structures in visually sensitive areas
- AES-3.1: Replace disturbed vegetation along landscaped freeways

Implementation of Mitigation Measures AES-2.1, AES-2.2, AES-2.3, AES-2.4, AES-2.5, and AES-3.1 would reduce impacts associated with the Preferred Alternative, due to the following alignment, stations, and OMFs to a less-than-significant level: Tri-Valley Alignment, Altamont Alignment, Stone Cut Alignment Alternative, Isabel Station, Southfront Road Station Alternative, Mountain House Station Alternative, Interim OMF, and Tracy OMF. This is because selective grading would ensure that new landforms would preserve and blend with hilly terrain and pedestrian overcrossings would blend with and complement the surrounding landscape. In addition, darker fencing would improve visibility through the barrier compared with standard gray metal surfaces, dark-colored overhead light standards would recede into the view, and undergrounding would prevent visual intrusions from new utilities. In addition, ancillary rail features would not stand out in the landscape and detract from views, and vegetation removed along landscaped freeway segments would be replaced, thereby ensuring that views associated with scenic routes would be maintained.

Implementation of Mitigation Measure AES-2.5 would reduce impacts associated with the OCS poles associated with the Stone Cut Alignment Alternative BEMU technology variant to a less-than-significant level. This is because dark-colored OCS poles would recede into the view compared to standard gray metal surfaces.

Significant Effect: Impact AES-5: Operation of the Preferred Alternative could create a new source of substantial light or glare that would adversely affect daytime or nighttime views.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Parking garage, parking lot, access road, and platform lighting could include standard lighting or light-emitting diode (LED) lighting for security purposes, which could affect sensitive receptors if not properly designed. Glare could occur where vegetation removal decreases shading, resulting in increased glare, or where a new structure is built that introduces a surface that reflects sunlight and potentially increase glare. The Isabel Station, River Islands Station, and North Lathrop Station pedestrian overpasses would create new surfaces that would reflect light. The proposed structures could increase glare because of the materials used. This could increase glare for travelers on I-580, Greenville Road, and Altamont Pass Road or heading to the River Islands community, in addition to recreationists and drivers on local roadways around the stations, resulting in potentially significant impacts. The Southfront Road Station Alternative and Mountain House Station Alternative would construct new station platforms, maintenance facilities, and parking areas where none presently exist. New sources of lighting, especially blue-rich white light (BRWL) LED lighting, at all stations and maintenance facilities would result in potentially significant impacts.

The following measures mitigate this impact to a less than significant level.

- AES-2.1: Landscape parking facilities at stations
- AES-2.2: Apply aesthetic design treatments to parking structures, pedestrian overcrossings, Interim OMF, viaduct structures, and retaining walls with high visibility along I-580 and from roadways within the Altamont Hills

- AES-2.5: Apply aesthetic surface treatments to certain structures in visually sensitive areas
- AES-3.1: Replace disturbed vegetation along landscaped freeways
- AES-5.1: Apply minimum lighting standards

Implementation of Mitigation Measures AES-2.1, AES-2.2, AES-2.5, AES-3.1, and AES-5.1 would reduce impacts associated with the Preferred Alternative, due to the following stations and OMF to a less-than-significant level: Dublin/Pleasanton Station; Isabel Station; Southfront Road Station Alternative; Interim OMF; Mountain House Station Alternative; Tracy OMF; Downtown Tracy Station; River Islands Station; and North Lathrop Station. This is because landscaping at parking facilities would filter new sources of lighting, reduce the potential for structures and ancillary site features to create glare, and replace sources of shade along the landscaped freeway. Furthermore, lighting would be designed in a manner that would not contribute to light pollution or nuisance glare.

Significant Effect: Impact C-AES-1. Implementation of the Preferred Alternative, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on aesthetics.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: The land use changes associated with the cumulative condition resulting from implementation of both the Preferred Alternative and the projects identified in Tables 4-3, 4-4, and 4-5 of the Draft EIR have the potential to affect aesthetic and visual resources in several ways. These impacts would result from project construction activities; development of roadways, parking areas, and buildings; alteration of the study area's visual character; and the introduction of new light and/or glare sources that would change the visual conditions along the Valley Link corridor. These changes associated with Valley Link and other foreseeable projects would result in a significant cumulative impact on aesthetics.

The following measures mitigate these impacts to a less than significant level.

- AES-1.1: Install visual barriers between construction work areas and sensitive residential and recreational receptors
- AES-1.2: Limit construction near residences to daylight hours
- AES-1.3: Minimize fugitive light from portable sources used for construction
- AES-2.1: Landscape parking facilities at stations
- AES-2.2: Apply aesthetic design treatments to parking structures, pedestrian overcrossings, Interim OMF, viaduct structures, and retaining walls with high visibility along I-580 and from roadways within the Altamont Hills
- AES-2.3: Utilize selective grading and planting techniques in the Altamont Hills
- AES-2.4: Underground new electric transmission lines in visually sensitive areas
- AES-2.5: Apply aesthetic surface treatments to certain structures in visually sensitive areas
- AES-3.1: Replace disturbed vegetation along landscaped freeways

- AES-5.1: Apply minimum lighting standards
- AQ-2.5: Implement fugitive dust controls during construction

The presence of a parking garage, parking lot, access road, and platform lighting could affect sensitive receptors if the lighting spilled outside the site boundaries, creating a new source of nuisance lighting or glare for adjacent sensitive viewers. The Preferred Alternative's lighting, in combination with operational lighting that may be used at cumulative projects, could exacerbate this effect, leading to a significant cumulative lighting effect. However, implementation of Mitigation Measures AES-2.1, AES-2.2, AES-2.5, AES-2.6, AES-3.1, and AES-5.1 would ensure that the change to existing nighttime light and glare levels relative to parking garage, parking lot, and platform lighting at stations are nominal and will reduce this impact to a less-than-significant level for the Preferred Alternative, including the alignment, stations, and OMFs located along the Altamont Segment that would introduce features in hilly areas currently supporting minimal development. Therefore, cumulative Preferred Alternative's operational contributions to increased light and glare would be less than considerable with mitigation.

3.3.2.2 Agricultural Resources

Significant Effect: Impact AG-1a. The Preferred Alternative could result in conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide or Local Importance to nonagricultural use because of temporary use.

Finding: The Authority hereby makes finding (a)(1) (described in above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Construction would require the temporary use of Important Farmland. This land would be temporarily leased from the landowner (per a temporary construction easement) and temporarily removed from agricultural use for the duration of construction. If temporary staging areas are not immediately restored to former agricultural use (pre-construction condition) after construction, disruption in agricultural use may become permanent and result in permanent conversion of Important Farmland to nonagricultural use.

The Tracy to Lathrop segment would traverse urban land and Important Farmland. The Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track would result in temporary use of small areas of Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance (see Table 3.2-6 of the Draft EIR). The impact due to these alignments is potentially significant.

The following measure mitigates these impacts to a less than significant level.

- AG-1.1: Restore Important Farmlands used for temporary staging areas

Implementation of Mitigation Measure AG-1.1 would reduce impacts from temporary use of Important Farmland during construction to a less-than-significant level for the Preferred Alternative. This mitigation would be effective in minimizing any conversion of Important Farmland to nonagricultural use because it will require any Important Farmland temporarily used for construction access, mobilization, material laydown, and staging to be returned to a condition equal to the pre-construction staging condition. The required restoration plan and the Authority's oversight, ensuring that the restoration plan is properly implemented, will maintain Important

Farmland in equal quantities to those at the beginning of construction. The impact would be less than significant after mitigation for the Preferred Alternative.

Significant Effect: Impact AG-3a. Construction and operation of the Preferred Alternative could result in the conversion of Farmland to nonagricultural use through temporary or permanent disruption of agricultural infrastructure.

Finding: The Authority hereby makes finding (a)(1) (described in above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Construction activities that temporarily or permanently affect Important Farmland (see Table 3.2-6 and Table 3.2-7 of the Draft EIR) have the potential to disrupt agricultural infrastructure temporarily or permanently as a result of service interruptions; service shutdowns; or relocations of utilities, farm roads, and irrigation infrastructure. If temporary or permanent service, irrigation, or farm road interruptions or relocations are not coordinated with agricultural producers, agricultural operations could be affected, potentially resulting in the conversion of Important Farmland.

Operation of the Preferred Alternative would not disrupt agricultural infrastructure. However, maintenance on or adjacent to Important Farmland permanently used by the Preferred Alternative (see Table 3.2-7) could have potential to disrupt agricultural infrastructure temporarily because of service interruptions or temporary relocations of farm roads. If temporary service interruptions or temporary road relocations are not coordinated with agricultural producers, agricultural operations could be temporarily affected, potentially resulting in conversion of Important Farmland. No permanent disruption of agricultural infrastructure is anticipated because of operations and maintenance of the Preferred Alternative.

The following measures mitigate these impacts to a less than significant level.

- AG-3.1: Notify agricultural property owners or leaseholders
- AG-3.2: Coordinate with utility and energy service providers
- AG-3.3: Verify new irrigation facilities are operational before disconnecting the original facility
- AG-3.4: Maintain access to Important Farmlands
- AG-3.5: Provide permanent equipment crossings on affected access roads
- TRA-1.1: Transportation Management Plan for Project Construction

Implementation of Mitigation Measures AG-3.1, AG-3.2, AG-3.3, AG-3.4, AG-3.5, and TRA-1.1 would reduce impacts from temporary and permanent disruption of agricultural infrastructure serving Important Farmland during construction to a less-than-significant level. The mitigation measures would be effective in minimizing conversion of Important Farmland to nonagricultural uses for the reasons listed below.

- Mitigation Measure AG-3.1 will require that the construction schedule be communicated to agricultural property owners and leaseholders of Important Farmland adjacent to the Proposed Project to allow them time to adjust operations to accommodate the planned construction activities.

- Mitigation Measure AG-3.2 will require that utility and energy service disruptions because of construction be coordinated with utility and energy service providers to minimize or avoid disruptions.
- Mitigation Measure AG-3.3 will require the contractor to verify a new irrigation facility is operational prior to disconnecting the original facility to maintain continuity of irrigation services.
- Mitigation Measure AG-3.4 will require that access to Important Farmlands be maintained during construction.
- Mitigation Measure AG-3.5 will require that permanent access be provided at the end of construction if access is interrupted, to allow for continued movement during agricultural operations.
- Mitigation Measure TRA-1.1 will require development and implementation of a transportation management plan for the construction period, which will minimize construction effects on transportation movement, including movement associated with agricultural operations.

Implementation of Mitigation Measures AG-3.1, AG-3.2, and AG-3.3 would reduce impacts from temporary of agricultural infrastructure serving Important Farmland during maintenance activities to a less-than-significant level. The mitigation measures would be effective in minimizing the conversion of Important Farmland to nonagricultural uses for the reasons listed below.

- Mitigation Measure AG-3.1 will require that the maintenance schedule be communicated to agricultural property owners and leaseholders of Important Farmland adjacent to the Proposed Project to allow them time to adjust operations and accommodate planned maintenance activities.
- Mitigation Measure AG-3.2 will require that utility and energy service disruptions because of maintenance activities be coordinated with utility and energy service providers to minimize or avoid disruptions.
- Mitigation Measure AG-3.3 will require the contractor to verify a new irrigation facility is operational prior to disconnecting the original facility to maintain continuity of irrigation services.

With implementation of these mitigation measures, the impact from temporary and permanent disruption of agricultural infrastructure serving Important Farmland during construction and maintenance would be less than significant for the Preferred Alternative.

Significant Effect: Impact C-AG-1. Implementation of the Preferred Alternative, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on agricultural resources.

Findings: The Authority hereby makes findings (a)1 and (a)(3) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: The following measures mitigate the Preferred Alternative's impact to a less than considerable level.

- AG-3.1: Notify agricultural property owners or leaseholders
- AG-3.2: Coordinate with utility and energy service providers

- AG-3.3: Verify new irrigation facilities are operational before disconnecting the original facility
- AG-3.4: Maintain access to Important Farmlands
- AG-3.5: Provide permanent equipment crossings on affected access roads.

Construction of the Preferred Alternative could temporarily or permanently disrupt agricultural activities on or adjacent to Important Farmland. If temporary or permanent service, irrigation, or farm road interruptions or relocations are not coordinated with agricultural producers, agricultural operations could be affected, potentially resulting in the conversion of Important Farmland. It is reasonably foreseeable that construction activities at some of the projects listed in Tables 4-3, 4-4, and 4-5, especially those located within the Livermore Valley, Altamont Hills, and San Joaquin Valley, could similarly affect agricultural operations. Combined, these affects would constitute a cumulatively considerable contribution to the existing impact. Implementation of Mitigation Measures AG-3.1, AG-3.2, AG-3.3, AG-3.4, and AG-3.5 would require specific property owner notification and service provider coordination to minimize such impacts, thereby minimizing potential cumulatively considerable contributions to such impacts. With implementation of these mitigation measures, construction-related service interruptions would not disrupt agricultural infrastructure; therefore, the Preferred Alternative would not contribute considerably to this cumulative impact.

Operations and maintenance activities associated with the Preferred Alternative, including train operation, track inspections and repairs, and vegetation removal could temporarily disrupt agricultural activities on or adjacent to Important Farmland. If temporary service, irrigation, or farm road interruptions or relocations are not coordinated with agricultural producers, agricultural operations could be affected, potentially resulting in the conversion of Important Farmland. It is reasonably expected that some operations and maintenance activities associated with identified projects, especially rail projects, would require similar operations and maintenance activities that could present similar impacts. Combined, these impacts would constitute a significant cumulative impact regarding the disruption of agricultural infrastructure activities. However, implementation of Mitigation Measures AG-3.1, AG-3.2, AG-3.3, and AG-3.4 would require property owner notification and service provider coordination. This coordination would reduce the Preferred Alternative's contribution to this impact to a less than considerable level.

3.3.2.3 Air Quality

Significant Effect: Impact AQ-1: Construction of the Preferred Alternative could conflict with or obstruct implementation of the applicable air quality plans. Operation of the Preferred Alternative would not conflict with or obstruct implementation of the applicable air quality plans.

Finding: The Authority hereby makes finding (a)(1) (described in above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Construction emissions would exceed BAAQMD's ROG and NO_X thresholds, SJVAPCD's annual NO_X and PM10 thresholds, and the NO_X, CO, PM10, and PM2.5 ambient air quality analysis (AAQA) triggers. This is a potentially significant impact because of construction-period emissions, which would exceed thresholds for both BAAQMD and SJVAPCD.

The following measures mitigate these impacts to a less than significant level.

- AQ-2.1: Implement advanced emissions controls for off-road equipment during construction

- AQ-2.2: Implement off-road engine maintenance and idling restrictions during construction
- AQ-2.3: Implement advanced emissions controls for trains during construction
- AQ-2.4: Utilize modern fleet for on-road material delivery and haul trucks during construction
- AQ-2.5: Implement fugitive dust controls during construction
- AQ-2-6: Enter into a Voluntary Emissions Reduction Agreement for Project Construction Emissions over BAAQMD emissions in the San Francisco Bay Area Air Basin (SFBAAB)
- AQ-2-7: Enter into a Voluntary Emissions Reduction Agreement for Project Construction Emissions over SJVAPCD emissions in the San Joaquin Valley Air Basin (SJVAB)

Mitigation Measures AQ-2.1 through AQ-2.4 will reduce construction-related ROG emissions below BAAQMD's daily threshold, and construction-related NOX emissions below SJVAPCD's annual threshold. However, construction-related NOX emissions would remain above BAAQMD's daily threshold and construction-related PM10 emissions would remain above SJVAPCD's annual threshold. Also, construction-related CO and PM10 emissions would remain above SJVAPCD's daily thresholds. Dispersion modeling confirms that PM10 emissions more than SJVAPCD's AAQA trigger would contribute to violations of CAAQS. However, dispersion modeling confirms that CO emissions more than SJVAPCD's AAQA trigger would not contribute to violations of CAAQS. Because of the exceedances of BAAQMD's daily threshold and SJVAPCD's annual thresholds and the contribution of PM10 emissions within SJVAPCD to violations of CAAQS, Mitigation Measures AQ-2.6 and AQ-2.7 will be implemented to reduce criteria pollutant emissions through purchase of emissions offsets in the SFBAAB and the SJVAB to reduce emissions below threshold levels. Construction of the Preferred Alternative would not conflict with applicable air quality plans with implementation of mitigation.

Significant Effect: Impact AQ-2a. Construction of the Preferred Alternative could result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is designated a nonattainment area under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Construction of the Preferred Alternative has the potential to create air quality impacts due to emissions from heavy-duty construction equipment, worker vehicle trips, truck hauling trips, and train trips. In addition, fugitive emissions would result from site grading, asphalt paving, and demolition. This is a potentially significant impact.

The Tri-Valley Alignment would occur exclusively within BAAQMD. The alignment would result in construction-related ROG and NO_X emissions greater than BAAQMD's thresholds of significance. None of the stations would individually result in construction emissions greater than BAAQMD's thresholds of significance. Construction of the Stone Cut Alignment Alternative located within BAAQMD would result in NO_X emissions that would exceed the air district's threshold (it would result in similar, but slightly higher, construction emissions as the originally proposed portion of the Altamont Alignment). Construction of the Interim OMF option would occur in BAAQMD. The Interim OMF would not individually result in construction emissions greater than BAAQMD's thresholds of significance.

The following measures mitigate these impacts to a less than significant level within the jurisdiction of the BAAQMD. These impacts would be significant and unavoidable within the SJVAPCD as previously discussed under the Significant and Unavoidable Impacts section.

- AQ-2.1: Implement advanced emissions controls for off-road equipment during construction
- AQ-2.2: Implement off-road engine maintenance and idling restrictions during construction
- AQ-2.3: Implement advanced emissions controls for trains during construction
- AQ-2.4: Utilize modern fleet for on-road material delivery and haul trucks during construction
- AQ-2.5: Implement fugitive dust controls during construction
- AQ-2-6: Enter into a Voluntary Emissions Reduction Agreement for Project Construction Emissions over BAAQMD emissions in the San Francisco Bay Area Air Basin (SFBAAB)

Mitigation is required to reduce ROG, NO_X, CO, PM10, and PM2.5 emissions. Mitigation Measures AQ-2.1 and AQ-2.2 target emissions from off-road equipment and require engines greater than 25 horsepower to meet Tier 4 emission standards. Equipment idling times will also be reduced to 2 minutes and all engines properly tuned according to manufacturer specifications. Mitigation Measure AQ-2.3 requires trains used during rail work to meet Tier 4 emission standards, whereas Mitigation Measure AQ-2.4 requires all on-road vehicles with a gross vehicle weight rating of 19,500 pounds or greater to comply with USEPA 2007 on-road emission standards. Mitigation Measure AQ-2.5 outlines air district-recommended measures to control fugitive dust.

As shown in Table 3.3-14 of the Draft EIR, Mitigation Measures AQ-2.1 through AQ-2.4 would reduce construction-related ROG emissions in BAAQMD below the applicable significance threshold but NO_X emissions in BAAQMD would still exceed 54 pounds per day, even after implementation of all feasible onsite mitigation. Consequently, Mitigation Measure AQ-2.6 will be implemented to reduce NO_X emissions within BAAQMD to below threshold levels. With implementation of Mitigation Measures AQ-2.1 through AQ-2.4 and AQ-2.6, impacts in the BAAQMD would be less than significant.

Significant Effect: Impact AQ-3b. Construction of the Preferred Alternative could expose sensitive receptors to substantial DPM or localized PM concentrations.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Construction has the potential to create inhalation health risks and exposure to PM2.5, which may exceed local significance thresholds for increased cancer and non-cancer health risk at receptor locations adjacent to the track. As noted in Section 3.3.3.2, *Pollutants of Concern*, of the Draft EIR, the cancer risk from exposure to diesel exhaust is much higher than the risk associated with any other air toxic from construction of the Preferred Alternative.

The following measures mitigate these impacts to a less than cumulatively considerable level.

- AQ-2.1: Implement advanced emissions controls for off-road equipment during construction
- AQ-2.2: Implement off-road engine maintenance and idling restrictions during construction
- AQ-2.3: Implement advanced emissions controls for trains during construction
- AQ-2.4: Utilize modern fleet for on-road material delivery and haul trucks during construction

Tables 3.3-21 and 3.3-22 of the Draft EIR summarize estimated maximum cancer risk, chronic health hazard, and PM2.5 concentrations in the BAAQMD and SJVAPCD, respectively. Risks are presented for each geographic segment. The modeling assumes implementation of all feasible onsite mitigation measures, as described under Mitigation Measures AQ-2.1 through AQ-2.4 because these mitigation measures for criteria pollutants are required whether or not there are nearby sensitive receptors and whether or not there are significant impacts relative to sensitive receptors. The risks are shown to be below the threshold of significance. As shown in Table 3.3-23 of the Draft EIR, construction of the Mountain House Station Alternative would not result in risks above the applicable thresholds.

Significant Effect: Impact AQ-3g. The Preferred Alternative could expose sensitive receptors to cumulative health risks from increased exposure to DPM and PM2.5 concentrations.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Table 3.3-28 of the Draft EIR summarizes the cumulative cancer risk, chronic health hazard, and PM2.5 concentrations at representative locations along the Tri-Valley and Altamont segments in BAAQMD during construction. Table 3.3-29 of the Draft EIR summarizes cumulative cancer risk, chronic health hazard, and PM2.5 concentrations at representative locations along the Tri-Valley and Altamont segments in BAAQMD during operations of the Preferred Alternative. As shown in these tables, total cumulative health risks to sensitive receptors located near the Preferred Alternative during construction and operations would not exceed BAAQMD's cumulative health risk thresholds for the Altamont segment but would exceed the thresholds for cancer risk and PM2.5 for the Tri-Valley segment. Preferred Alternative operational emissions would be less with the DMU or HBMU technology variants compared to the DLH technology variant. Without the criteria pollutant mitigation, the contribution would be higher than shown in the tables. These impacts are a result of ambient background concentrations that exceed BAAQMD significance thresholds and a contribution of additional DPM emissions-related health risks due to the Preferred Alternative.

The following measures mitigate these impacts to a less than cumulatively considerable level outside the Tri-Valley segment.

- AQ-2.1: Implement advanced emissions controls for off-road equipment during construction
- AQ-2.2: Implement off-road engine maintenance and idling restrictions during construction
- AQ-2.3: Implement advanced emissions controls for trains during construction
- AQ-2.4: Utilize modern fleet for on-road material delivery and haul trucks during construction

The modeling results shown in Tables 3.3-28 and 3.3-29 of the Draft EIR include application of Mitigation Measures AQ-2.1 through AQ-2.4 to the Preferred Alternative. This impact is less than significant for the Preferred Alternative relative to BEMU operations within the Tri-Valley segment, and construction and operation outside the Tri-Valley segment. This impact is significant and unavoidable for construction and DMU/HBMU/DLH operation in the Tri-Valley segment, as discussed previously under Significant Unavoidable Impacts.

Significant Effect: Impact AQ-3h. Construction of the Preferred Alternative could expose sensitive receptors to increasing risk of contracting Valley Fever or exposure to asbestos-containing material. Table 3.3-28 summarizes cumulative cancer risk, chronic health hazard, and PM2.5 concentrations

at representative locations along the Tri-Valley and Altamont segments in BAAQMD during construction. The table presents the Preferred Alternative and ambient contribution to the cumulative risk.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Disturbance of soil containing *C. immitis* could expose the receptors adjacent to the construction sites to spores known to cause Valley Fever. Areas endemic to *C. immitis* are generally arid to semiarid with low annual rainfall, and as such, soil containing the fungus is commonly found in Southern California and throughout the Central Valley. The risk of contracting Valley Fever is relatively higher in the San Joaquin County than in Alameda County.

Demolition of existing structures results in fugitive dust and other particulates that may disperse to adjacent sensitive receptor locations. Asbestos-containing materials (ACM) were commonly used as fireproofing and insulating agents prior to the 1970s. The U.S. Consumer Product Safety Commission banned use of most ACM in 1977 due to their link to mesothelioma. However, buildings constructed prior to 1977 that would be demolished by the Preferred Alternative may have used ACM and could expose receptors to asbestos, which may become airborne with other particulates during demolition.

The following measure mitigates these impacts to a less than cumulatively considerable level.

- AQ-2.5: Implement fugitive dust controls during construction

Dust-control measures are the primary defense against Valley Fever infection. Fugitive dust controls per Mitigation Measure AQ-2.5 would avoid dusty conditions and reduce the risk of contracting Valley Fever by implementing routine watering and other controls. This impact would be less than significant with mitigation for the Preferred Alternative.

Significant Effect: Impact C-AQ-1. Implementation of the Preferred Alternative, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on air quality.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: During construction, both the Preferred Alternative and all identified projects would emit criteria pollutants and TACs from use of construction equipment and vehicles. Although construction activities would be temporary, the emissions of these pollutants and contaminants from concurrent or nearby construction of identified projects would exceed the SJVAPCD and BAAQMD thresholds for criteria pollutants. This could result in a significant cumulative air quality impact.

Operation of all Valley Link ridership scenarios would reduce all criteria pollutant emissions under 2025 and 2040 conditions under the full buildout of Valley Link (i.e., from the Dublin/Pleasanton Station to the North Lathrop Station) except for nitrogen oxide emissions for the 2025 full build with the diesel locomotive haul (DLH) technology variant, which would still be less than BAAQMD and SJVAPCD significance thresholds. Net emissions for all technology variants would not exceed BAAQMD or SJVAPCD significance thresholds under the Southfront Road Station Alternative IOS and

Mountain House Station Alternative IOS. Thus, operational criteria pollutant emissions in BAAQMD and SJVAPCD would not exceed any air district thresholds. Accordingly, operation of the Preferred Alternative would be consistent with applicable air quality plans in BAAQMD and SJVAPCD and would have a less than considerable cumulative contribution to criteria pollutants for the full buildout of Valley Link as well as the Southfront Road Station Alternative IOS and Mountain House Station Alternative IOS. It is expected that operation of the rail projects identified in Table 4-3 of the Draft EIR similarly would also result in overall reduction of criteria pollutants (compared to the No Project Alternative increases in either passenger vehicle or truck emissions), and like the Preferred Alternative would have a less than considerable contribution to cumulative criteria pollutant impacts.

The following measures mitigate these impacts to a less than significant level.

- AQ-2.1: Implement advanced emissions controls for off-road equipment during construction
- AQ-2.2: Implement off-road engine maintenance and idling restrictions during construction
- AQ-2.3: Implement advanced emissions controls for trains during construction
- AQ-2.4: Utilize modern fleet for on-road material delivery and haul trucks during construction
- AQ-2.5: Implement fugitive dust controls during construction
- AQ-2-6: Enter into a Voluntary Emissions Reduction Agreement for Project Construction Emissions over BAAQMD emissions in the San Francisco Bay Area Air Basin (SFBAAB)
- AQ-2-7: Enter into a Voluntary Emissions Reduction Agreement for Project Construction Emissions over SJVAPCD emissions in the San Joaquin Valley Air Basin (SJVAB)

Implementation of Mitigation Measures AQ-2.1, AQ-2.2, AQ-2.3, AQ-2.4, AQ-2.5, AQ-2.6, and AQ-2.7, construction equipment, including vehicles that would transport equipment to construction sites, would be selected and maintained in a manner that minimizes criteria pollutant emissions. Furthermore, construction fugitive dust controls and construction emissions offsets would further reduce Preferred Alternative construction emissions, and construction of the Preferred Alternative would have a less than considerable contribution to criteria pollutants, with mitigation.

This impact is significant and unavoidable for toxic air contaminant emissions in the Tri-Valley segment, as discussed previously under *Findings Regarding Significant and Unavoidable Effects*. Operation of the DLH, diesel multiple unit (DMU), or hybrid battery multiple unit (HBMU) technology variants would contribute to significant cumulative health risks to sensitive receptors at certain locations along the Tri-Valley segment (including facilities in the Tri-Valley segment) due to existing risks exceeding the cumulative thresholds already. If the battery-electric multiple unit (BEMU) technology variant is chosen, then the Preferred Alternative (including facilities in the Tri-Valley segment) would not contribute to cumulative health risks due to train operations.

3.3.2.4 Biological Resources

Significant Effect: Impact BIO-1. Construction of the Preferred Alternative could remove or degrade special-status plants and their habitat.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Special-status plant species have the potential to occur adjacent to the existing disturbed lands of the footprints for the Preferred Alternative, where natural land cover with suitable habitat characteristics (e.g., alkaline soils, vernal pools, riparian forests and woodlands) is present. Where special-status plant species are present, ground disturbance could result in the direct mortality of individuals through the removal of vegetation, crushing, trampling, introduction of nonnative or invasive plants, and degradation or loss of habitat. Other temporary construction impacts on special-status plant species would include exposure to air pollutants during construction (e.g., dust) and removal of vegetation that would most likely regenerate within 1 year. In addition, the potential exists for runoff with sediment and contaminants (e.g., oil, grease, concrete) to enter upland areas as well as water bodies adjacent to construction activities, which would decrease habitat quality and potentially indirectly affect special-status plant species.

The following measures mitigate these impacts to a less than significant level.

- BIO-1.1: Conduct preconstruction surveys for special-status plant species
- BIO-1.2: Prepare a salvage, relocation, or propagation and monitoring plan for special-status plant species
- BIO-1.3: Document affected special-status plant species
- BIO-1.4: Prevent introduction or spread of invasive plant species
- Select the Southfront Road Station Alternative in place of the Greenville Station

Implementation of Mitigation Measures BIO-1.1, BIO-1.2, BIO-1.3, and BIO-1.4 would avoid or compensate for impacts on special-status plants through impact avoidance, salvage and relocation, impact documentation, and prevention of the spread of invasive plants. In addition, as described in Section 3.10, *Hydrology and Water Quality*, of the Draft EIR, construction contractor(s) would be required to obtain applicable resource agency permits and approvals and comply with permit requirements to prevent impacts on water quality and demonstrate that water quality standards and/or Waste Discharge Requirements (WDRs) are not violated. With implementation of Mitigation Measures BIO-1.1, BIO-1.2, BIO-1.3, and BIO-1.4, impacts on special-status plant species during construction of the Preferred Alternative, due to implementation of the following alignments, stations, and OMFs would be less than significant: Tri-Valley Alignment; Isabel Station; Altamont Alignment (including Owens-Illinois Industrial Lead Variant 1, Single Track and Owens-Illinois Industrial Lead Variant 2, Double Track); Stone Cut Alignment Alternative; Interim OMF; Mountain House Station Alternative; Tracy OMF; Tracy to Lathrop Alignment Variant 1, Single Track; Tracy to Lathrop Alignment Variant 2, Double Track; and River Islands Station.

Significant Effect: Impact BIO-2. Construction of the Preferred Alternative could injure or kill special-status wildlife species and remove or degrade their habitat.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: If special-status wildlife species are present, construction activities (e.g., grading, grubbing, pile driving, excavation, vegetation removal, soil compaction, increased light, noise, the introduction of invasive species) could result in direct and/or indirect effects on special-status wildlife species. Direct effects can be temporary (i.e., conditions return to baseline within 1 year of disturbance) or permanent and result in injury or mortality to special-status wildlife species.

Indirect effects are reasonably certain to occur from a proposed action later in time; these effects generally alter the behavior patterns and habitat suitability of special-status wildlife species. The types of direct and indirect effects on special-status wildlife resulting from these actions would be similar wherever habitat for a given species or a group of species is present. The description of effects on special-status wildlife is based on land cover types or habitat features that support special-status species, including some that support multiple species, and could be affected by construction. The potential of construction on special-status species is summarized in Table 3.4-4 of the Draft EIR.

The following measures mitigate this impact to a less than significant level.

- BIO-2.1: Obtain coverage from, be consistent with, and tier from existing conservation strategies as feasible
- BIO-2.2: Conduct a worker environmental training program for construction personnel
- BIO-2.3: Implement noise reduction measures for pile driving in or adjacent to streams and wetlands as feasible
- BIO-2.4: Implement seasonal restrictions for in-water work as feasible
- BIO-2.5: Protect wetlands during construction
- BIO-2.6: Protect sensitive natural communities, including riparian habitat, during construction
- BIO-2.7: Protect vernal pool-endemic species
- BIO-2.8: Protect valley elderberry longhorn beetle
- BIO-2.9: Protect California tiger salamander, western spadefoot toad, and California red-legged frog
- BIO-2.10: Protect foothill yellow-legged frog
- BIO-2.11: Protect western pond turtle and giant garter snake
- BIO-2.12: Protect California legless lizard, California glossy snake, coast horned lizard, and San Joaquin coachwhip
- BIO-2.13: Protect special-status and non-special-status nesting birds
- BIO-2.14: Protect golden eagles
- BIO-2.15: Protect Swainson's hawk nests
- BIO-2.16: Compensate for Swainson's hawk foraging habitat loss
- BIO-2.17: Protect burrowing owls and burrowing owl habitat
- BIO-2.18: Compensate for burrowing owl habitat loss
- BIO-2.18: Avoid San Joaquin kit fox and American badger
- BIO-2.19: Protect special-status and non-special-status roosting bats
- BIO-2.20: Protect riparian brush rabbit
- BIO-2.21: Compensate for riparian brush rabbit habitat loss
- BIO-2.22: Protect American badger, San Joaquin kit fox, mountain lion, and their habitat

- BIO-2.23: Compensate for American badger, San Joaquin kit fox, and mountain lion habitat loss
- BIO-2.24: Protect Crotch bumble bee and western bumble bee nesting habitat and floral resources
- BIO-2.25: Compensate for Crotch bumble bee and western bumble bee habitat loss

Implementation of Mitigation Measures BIO-2.1, BIO-2.2, BIO-2.3, BIO-2.4, BIO-2.5, BIO-2.6, BIO-2.7, BIO-2.8, BIO-2.9, BIO-2.10, BIO-2.11, BIO-2.12, BIO-2.13, BIO-2.14, BIO-2.15, BIO-2.16, BIO-2.17, BIO-2.18, BIO-2.19, BIO-2.20, BIO-2.21, BIO-2.22, BIO-2.23, BIO-2.24, and BIO-2.25 would avoid, reduce, and/or compensate for impacts on special-status wildlife through habitat avoidance, a preconstruction survey, no-disturbance buffers, timing restrictions, and compensation for habitat disturbance or loss. With implementation of Mitigation Measures BIO-2.1, BIO-2.2, BIO-2.3, BIO-2.4, BIO-2.5, BIO-2.6, BIO-2.7, BIO-2.8, BIO-2.9, BIO-2.10, BIO-2.11, BIO-2.12, BIO-2.13, BIO-2.14, BIO-2.15, BIO-2.16, BIO-2.17, BIO-2.18, BIO-2.19, BIO-2.20, BIO-2.21, BIO-2.22, BIO-2.23, BIO-2.24, and BIO-2.25 impacts on special-status wildlife species during construction of the Preferred Alternative would be reduced to less than significant.

Significant Effect: Impact BIO-3. Construction of the Preferred Alternative would injure or kill special-status fish and remove or degrade their habitat.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: When fish are present, ground disturbance from construction could result in impacts on special-status species through degradation or loss of habitat, along with a reduction in the number of available prey species, such as invertebrates. SRA cover, which is defined as nearshore aquatic habitat and adjacent woody riparian habitat that provides shade and cover in a stream or river, is important habitat for special-status fish species. Riparian vegetation removal along creek and riverbanks would affect fish habitat. The removal of SRA can increase water temperatures, decrease cover, and decrease the number of available prey species for fish, including invertebrates. Construction noise and vibration from pile driving could be other temporary impacts on special-status fish species. In addition, the potential exists for sediment and contaminants (i.e., oil, grease, concrete) in runoff to enter water bodies adjacent to construction, which would decrease water quality for aquatic species.

Noise from pile driving could injure or kill fish in Paradise Cut and the San Joaquin River. Pile driving near Paradise Cut and the San Joaquin River would occur only as a part of the Tracy to Lathrop Alignment Variant 2, Double Track. The assessment of impacts on special-status fish species due to noise from pile driving is based on specific noise thresholds and ambient noise levels.

The alignment and stations in the Tri-Valley and Altamont segments would not affect special-status fish species because suitable habitat is absent and no impact would occur within that segment.

The following measures mitigate these impacts to a less than significant level.

- BIO-2.1: Obtain coverage from, be consistent with, and tier from existing conservation strategies as feasible
- BIO-2.2: Conduct a worker environmental training program for construction personnel
- BIO-2.3: Implement noise reduction measures for pile driving in or adjacent to streams and wetlands as feasible

- BIO-2.4: Implement seasonal restrictions for in-water work as feasible
- BIO-3.1: Develop and implement a hydroacoustic monitoring plan to minimize noise effects on fish
- BIO-7.1: Compensate for loss of riparian habitat

Implementation of Mitigation Measures BIO-2.1, BIO-2.2, BIO-2.3, BIO-2.4, BIO-3.1, and BIO-7.1 would minimize or reduce impacts on special-status fish species and their habitat by reducing the likelihood of fish mortality or injury during construction, ensuring movement through the water bodies with new bridges and compensating for riparian habitat loss through in-kind habitat preservation, enhancement, and/or creation. In addition, as described in Section 3.10, *Hydrology and Water Quality*, of the Draft EIR, construction contractor(s) would be required to obtain applicable resource agency permits and approvals and comply with permit requirements to prevent impacts on water quality and demonstrate that water quality standards and/or WDRs are not violated. With implementation of Mitigation Measures BIO-2.1, BIO-2.2, BIO-2.3, BIO-2.4, BIO-3.1, and BIO-7.1, impacts on special-status fish species during construction of the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track would be less than significant.

Significant Effect: Impact BIO-4: Operation and maintenance of the Preferred Alternative could injure or kill special-status wildlife species.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Operation would increase train traffic substantially and introduce rail traffic to some areas that do not currently experience passenger rail traffic. Large carnivores, such as mountain lion and bobcats, are sensitive to anthropogenic mortality, which increases in human-dominated landscapes. Additionally, studies have documented that projects associated with human population growth and road and highway projects affect large carnivore (e.g., mountain lion) habitat and movement corridors and contribute to mortality due to vehicle strike. Operation could affect special-status wildlife species through increased train traffic, leading to anthropogenic barriers to movement and dispersal, and wildlife/train strikes across all segments of the alignment. Increased train traffic could contribute to the level of noise and ambient light present in areas that currently do not experience passenger rail traffic.

Operation of rail stations and OMFs would increase the exposure of special-status wildlife species to human presence and potential for vehicle strikes along the access roads to rail stations. The additional passenger train traffic generated by operation would be substantially different from existing levels in these areas. Increased train traffic would occur following construction, and operational conditions along the ROW would be expected to be significantly different from existing conditions with respect to special-status wildlife species.

The BEMU technology variant would include an OCS in the Altamont Pass between east of Greenville Road and the Tracy OMF. The OCS would not be implemented as part of the DMU, HBMU, and DLH technology variants and the OCS would not be required for the remaining Valley Link train route that relies on BEMU technology. Operation of OCS would introduce risk to aerial wildlife (i.e., raptors, birds of prey) through collision with electrical overhead powerlines and/or support poles, traction power station, strain gantry, or other traction power facilities, and wireless

communications facilities. The Avian PowerLine Interaction Committee also notes that small birds such as passerines can also be at risk of electrocution.

Maintenance of Valley Link tracks and stations could affect special-status wildlife species through the disturbance, modification, or removal of habitat as well as direct and indirect impacts on special-status wildlife individuals. Track maintenance activities that would occur because of Valley Link service would consist of ongoing maintenance of track, vegetation management (i.e., annual vegetation trimming, herbicide application), and infrastructure maintenance (i.e., bridges, drainage features, signal apparatus, signal infrastructures). Maintenance activities at new stations and OMFs constructed would consist of vegetation maintenance, potential use of pesticides/rodenticides, and, as required, structure maintenance (i.e., minor/major concrete work, platform maintenance, paving/road work, general maintenance). Infrastructure maintenance (e.g., tie back walls, pier protections, railroad tracks, signal lights, track switches) would also be required for a new single-span bridge over eastbound I-580 and for the crossing under westbound I-580 for the Stone Cut Alignment Alternative. Fleet maintenance would occur at select OMFs. Maintenance of Valley Link tracks and stations could affect special-status wildlife species through the disturbance, modification, or removal of habitat as well as direct and indirect impacts on special-status wildlife individuals.

The following measures and revisions mitigate this impact to a less than significant level.

- BIO-4.1: Protect nesting birds during maintenance activities
- BIO-4.2: Protect roosting bats during maintenance activities
- BIO-4.3: Minimize permanent intermittent impacts on avian and bat wildlife species due to the Altamont OCS and aerial structures
- BIO-4.4: Implement removal of carrion that may attract raptors and carnivores
- BIO-4.5: Avoid use of second-generation anticoagulant rodenticides
- BIO-8.1: Design curbs to permit California tiger salamander and California red-legged frog movement
- BIO-8.2: Install station lighting controls and fencing limitations
- BIO-8.4: Improve existing wildlife crossings and/or implement new wildlife crossing options along the Altamont Alignment and the Stone Cut Alignment Alternative
- BIO-8.5: Improve existing wildlife crossings and/or implement new wildlife crossing options along certain portions of the Tracy to Lathrop Alignment
- Select the Southfront Road Station Alternative in place of the Greenville Station
- Select the Mountain House Station Alternative in place of the Mountain House Station

The originally proposed Greenville Station would hinder wildlife movement related to the existing underground rail crossing east of Greenville, even with mitigation. The originally proposed Mountain House Station would result in a substantial impediment to wildlife movement in the undeveloped foothills, which are an area of key wildlife movement, even with mitigation. Thus, new rail services associated with the Proposed Project would result in significant and unavoidable impact on special-status species relative to the proposed Greenville Station and Mountain House Station, even after implementation of mitigation. Selection of the Southfront Road Station Alternative (in place of the Greenville Station) and Mountain House Station Alternative (in place of the Mountain House Station) avoids this significant unavoidable impact.

Implementation of the mitigation measures identified above, as well as the selection of the Southfront Road Station Alternative and the Mountain House Station Alternative would ensure that this impact from the Preferred Alternative would be less than significant.

Significant Effect: Impact BIO-6. Construction of the Preferred Alternative would remove or degrade federally regulated wetlands and other aquatic resources.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Even though most of the Preferred Alternative footprint is disturbed or developed, wetlands occur in limited areas because of the presence of a combination of geophysical factors, including local topography, soils, and hydrologic conditions. Similarly, wetlands and other aquatic resources are present in limited portions of the Preferred Alternative footprint. Most wetlands and other waters of the United States are northeast of Livermore, in the Altamont Hills, west of Tracy, or between Tracy and Lathrop. In these areas, seasonal wetlands, vernal pools, and alkali seasonal wetlands are concentrated in the Altamont Hills and areas west of Tracy, as described in Table 3.4-9 of the Draft EIR.

The following measures mitigate these impacts to a less than significant level.

- BIO-2.5: Protect wetlands during construction
- BIO-6.1: Compensate for impacts on jurisdictional wetlands and non-wetland waters of the United States (aquatic resources) prior to impacts during construction

Implementation of Mitigation Measures BIO-2.5 and BIO-6.1 would avoid, minimize, or compensate for impacts on federally regulated wetlands and other aquatic resources, which would reduce impacts to a less-than-significant level.

Significant Effect: Impact BIO-7. Construction of the Preferred Alternative could remove or degrade sensitive natural communities, including riparian habitat, identified in local or regional plans, policies, and regulations or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Sensitive natural communities within the study area include riparian and wetland plant natural communities as well as the pond and salt grass flats land cover types. Table 3.4-10 of the Draft EIR indicates the alignments, stations, and OMFs that would have the potential to affect riparian habitat and other sensitive natural communities. As shown in Table 3.4-10, the Dublin/Pleasanton Station, Interim OMF, Tracy OMF, Downtown Tracy Station, and North Lathrop Station would not affect any sensitive natural communities and would, therefore, have no impacts on sensitive natural communities.

The following measures mitigate these impacts to a less than significant level.

- BIO-2.5: Protect wetlands during construction

- BIO-2.6: Protect sensitive natural communities, including riparian habitat and salt grass flats, during construction
- BIO-6.1: Compensate for impacts on jurisdictional wetlands and non-wetland waters of the United States (aquatic resources) prior to impacts during construction
- BIO-7.1: Compensate for loss of riparian habitat
- BIO-7.2: Compensate for loss of sensitive natural communities (excluding riparian and wetland habitat)

Implementation of Mitigation Measures BIO-2.5, BIO-2.6, BIO-6.1, BIO-7.1, and BIO-7.2, impacts on sensitive natural communities (salt grass flats, alkali seasonal wetlands, freshwater wetlands, riparian scrub and forest, and vernal pools) from construction of the Preferred Alternative would be less than significant.

Significant Effect: Impact BIO-8. Construction of the Preferred Alternative could substantially interfere with the movement of native resident or migratory fish or wildlife species, established migration corridors, or the use of nursery areas.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Construction could affect native and resident wildlife movement in all land cover types, except developed land cover. Construction could affect the movement of regional wildlife, including special-status species such as mountain lion, San Joaquin kit fox, American badger, California red-legged frog, and California tiger salamander through grassland, wetland, riparian, aquatic, and cropland (i.e., row crops) land cover types. Construction in grassland, wetland, riparian, aquatic, and cropland land cover types could directly deter or prevent fish or wildlife movement through the area because of habitat removal or disturbance; the presence of physical barriers (e.g., cofferdams, dewatering activities, construction fencing, wildlife exclusionary fencing, roads), construction equipment, or humans; vegetation removal (which provides wildlife with cover during movement and dispersal); and alteration of hydrology. Construction in these habitats could indirectly deter or prevent fish or wildlife movement through vibration, noise, and light generated by construction; vegetation composition alteration; increased road and vehicle traffic, and the introduction of invasive plants. Additionally, construction of the Preferred Alternative would lead to wildlife habitat fragmentation by spread of human development and associated transportation corridors.

The following measures mitigate these impacts to a less than significant level.

- BIO-2.2: Conduct a worker environmental training program for construction personnel
- BIO-2.3: Implement noise reduction measures for pile driving in or adjacent to streams and wetlands as feasible
- BIO-2.4: Implement seasonal restrictions for in-water work as feasible
- BIO-2.5: Protect wetlands during construction
- BIO-2.6: Protect sensitive natural communities, including riparian habitat, during construction
- BIO-2.7: Protect vernal pool–endemic species

- BIO-2.8: Protect valley elderberry longhorn beetle
- BIO-2.9: Protect California tiger salamander, western spadefoot toad, and California red-legged frog
- BIO-2.10: Protect foothill yellow-legged frog
- BIO-2.11: Protect western pond turtle and giant garter snake
- BIO-2.12: Protect California legless lizard, California glossy snake, coast horned lizard, and San Joaquin coachwhip
- BIO-2.14: Protect golden eagle
- BIO-2.15: Protect Swainson's hawk nests
- BIO-2.16 Compensate for Swainson's hawk foraging habitat loss
- BIO-2.17: Protect burrowing owls and burrowing owl habitat
- BIO-2.18: Compensate for burrowing owl habitat loss
- BIO-2.19: Protect special-status and non-special-status roosting bats
- BIO-2.20: Protect riparian brush rabbit
- BIO-2.21: Compensate for riparian brush rabbit habitat loss
- BIO-2.22: Protect American badger, San Joaquin kit fox, mountain lion, and their habitat
- BIO-2.23: Compensate for American badger, San Joaquin kit fox, and mountain lion habitat loss
- BIO-2.24: Protect Crotch bumble bee and western bumble bee nesting habitat and floral resources
- BIO-2.25: Compensate for Crotch bumble bee and western bumble bee habitat loss
- BIO-3.1: Develop and implement a hydroacoustic monitoring plan to minimize noise effects on fish
- BIO-6.1: Compensate for impacts on jurisdictional wetlands and non-wetland waters of the United States (aquatic resources) prior to impacts during construction
- BIO-7.1: Compensate for loss of riparian habitat
- BIO-7.2: Compensate for loss of sensitive natural communities (excluding riparian and wetland habitat)
- BIO-8.1: Install curbs to permit California tiger salamander and California red-legged frog movement
- BIO-8.2: Install station lighting controls and fencing limitations
- BIO-8.4: Improve existing wildlife crossings and/or implement new wildlife crossing options along the Altamont Alignment and the Stone Cut Alignment Alternative
- BIO-8.5: Improve existing wildlife crossings and/or implement new wildlife crossing options along certain portions of the Tracy to Lathrop Alignment

Disturbances from construction-related noise and vibration; the presence of construction vehicles and machinery, as well as humans; and habitat removal or degradation could affect fish and wildlife movement. Impacts on native resident and migratory fish and wildlife corridors from construction

of the Preferred Alternative would be significant. Implementation of Mitigation Measures BIO-2.2, BIO-2.3, BIO-2.4, BIO-2.5, BIO-2.6, BIO-2.7, BIO-2.8, BIO-2.9, BIO-2.10, BIO-2.11, BIO-2.12, BIO-2.13, BIO-2.14, BIO-2.15, BIO-2.16, BIO-2.17, BIO-2.18, BIO-2.19, BIO-2.20, BIO-2.21, BIO-2.22, BIO-2.23, BIO-2.24, BIO-2.25, BIO-3.1, BIO-6.1, BIO-7.1, BIO-7.2, BIO-8.1, BIO-8.2, BIO-8.4, and BIO-8.5 would avoid or minimize impacts on native and resident fish and wildlife movement and wildlife corridors, and would reduce impacts to a less-than-significant level for construction of the Preferred Alternative.

Significant Effect: Impact BIO-9. Operation of the Preferred Alternative could substantially interfere with the movement of native resident or migratory fish or wildlife species, established migration corridors, or the use of nursery areas.

Findings: The Authority hereby makes finding (a)(3) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Operational and maintenance activities proposed at Isabel Station would affect native and migratory wildlife that use the Arroyo Las Positas riparian corridor. Therefore, Isabel Station could affect fish and wildlife movement and the impact would be potentially significant.

Operation of the Stone Cut Alignment Alternative would affect wildlife movement to a greater extent compared with the portion of the proposed Altamont Alignment that the Stone Cut Alignment Alternative would replace. This alternative would be located near the existing Alameda County Transportation Corridor ROW and UPRR ROW, which bisect the central region of the Altamont Hills adjacent to suitable movement habitat, including annual grasslands, seasonal wetlands, and ephemeral drainages. The Stone Cut Alignment Alternative (which would not use a tunnel), compared to the Altamont Alignment (which would use an existing tunnel) would have a larger surface footprint and two active railways in the area parallel to the existing tunnel rather than one, thereby increasing the potential for direct (e.g., increased potential for train strike) and indirect impacts (e.g., reduced habitat suitability) with the area of the Stone Cut Alignment Alternative parallel to the existing tunnel. Operation of the Stone Cut Alignment Alternative would increase the level of noise, lighting, human presence, and potential for wildlife strike compared to existing conditions. Thus, operation of the Stone Cut Alignment Alternative would result in a potentially significant impact. For the rest of the Altamont Alignment (including Owens-Illinois Industrial Lead Variant 1, Single Track and Owens-Illinois Industrial Lead Variant 2, Double Track), impacts in undeveloped natural land cover would have the potential to affect migratory and resident wildlife movement during the operational period. The impact would be potentially significant.

The proposed location for the Interim OMF is dominated by salt grass flats, which are surrounded, for the most part, by open natural land cover types that support wildlife movement. Common and special-status wildlife species have the potential to move through this area and be affected by operation and maintenance of the Interim OMF. This would be a potentially significant impact.

Operation of the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track would result in impacts on fish and wildlife movement because of the increase in train traffic. The Tracy to Lathrop Alignment Variant 2, Double Track would affect fish and wildlife movement to a greater extent because of a larger footprint. Impacts associated with increased train traffic in less urbanized areas of the alignment have the potential to affect migratory

and resident fish and wildlife movement during the operational period. This would be a potentially significant impact.

The River Islands Station would occur east of Paradise Cut and west of the San Joaquin River, within agricultural land cover types (row crops or fallow land), which may be used as movement corridors for wildlife. Mixed riparian forest and an aquatic ditch are also present along the UPRR ROW. Operation and maintenance activities could disrupt wildlife movement in the general area and potentially pose a threat to an established wildlife migration corridor, which is associated with Paradise Cut. This would be a potentially significant impact.

The Southfront Road Station Alternative has been selected in place of the Greenville Station included in the original Proposed Project. The alternative would be constructed south of I-580, along Southfront Road, adjacent to developed, paved industrial areas. Like the other proposed stations in developed and ruderal land cover types, there is no potential for the station to affect migratory or resident fish and wildlife movement during the operational period because this station would be entirely within an urbanized area and isolated from large areas of contiguous natural land cover. In addition, the area lacks aquatic habitat features. Therefore, operation of the Southfront Road Station Alternative would have a less-than-significant impact on fish and wildlife movement.

The Mountain House Station Alternative has been selected in place of the Mountain House Station included in the original Proposed Project. Operation and maintenance of the Mountain House Station Alternative would have a less-than-significant impact on wildlife movement for resident or migratory species because it would be surrounded by development, cropland, or previously disturbed ruderal land cover. Impacts on native or migratory fish and wildlife movement would not be substantial because the Mountain House Station Alternative would be isolated from large areas of contiguous natural land cover.

The following measures and revisions mitigate this impact to a less than significant level.

- BIO-8.1: Design curbs to permit California tiger salamander and California red-legged frog movement
- BIO-8.2: Install station lighting controls and fencing limitations
- BIO-8.4: Improve existing wildlife crossings and/or implement new wildlife crossing options along the Altamont Alignment and the Stone Cut Alignment Alternative
- BIO-8.5: Improve existing wildlife crossings and/or implement new wildlife crossing options along certain portions of the Tracy to Lathrop Alignment
- Select the Southfront Road Station Alternative in place of the Greenville Station
- Select the Mountain House Station Alternative in place of the Mountain House Station

Implementation of Mitigation Measures BIO-8.1, BIO-8.2, BIO-8.4, and BIO-8.5 would avoid or minimize impacts on native and resident fish and wildlife movement. The Southfront Road Station and Mountain House Station Alternatives would avoid the substantial impediment to wildlife movement in the undeveloped foothills, which are an area of key wildlife movement, that would have resulted from the originally proposed Greenville Station and Mountain House Station.

Implementation of the mitigation measures identified above, as well as the selection of the Southfront Road Station Alternative and the Mountain House Station Alternative would ensure that this impact from the Preferred Alternative would be less than significant.

Significant Effect: Impact BIO-10. Construction of the Preferred Alternative could conflict with local biological resource policies, including tree preservation policies or ordinances.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Construction could conflict with local biological resource policies, including tree preservation policies and ordinances, by removing locally regulated trees during construction. Tree removal is expected during construction as part of ground disturbance. However, construction would avoid tree removal, unless necessary.

The following measure mitigates these impacts to a less than significant level.

- BIO-2.1: Obtain coverage from, be consistent with, and tier from existing conservation strategies as feasible.
- BIO-10.1: Compensate for tree removal during construction

Implementation of Mitigation Measures BIO-2.1 and BIO-10.1 would require compensation for removed trees, using ratios derived from applicable local ordinances. This mitigation would require replacement trees and reduce the impact of tree removal from the Preferred Alternative to a less than significant level.

Significant Effect: Impact BIO-12. Construction of the Preferred Alternative could conflict with provisions of adopted habitat conservation plans, natural community conservation plans, or approved local, regional, or state habitat conservation plans.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Portions of the Preferred Alternative traverse the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), which is an adopted HCP that covers all of San Joaquin County. Construction of the Preferred Alternative could conflict with this adopted HCP through vegetation removal and ground disturbance, which could affect biological resources (e.g., special-status species, sensitive land cover, wetlands and aquatic resources) that are covered by the plan. Coverage for the Preferred Alternative under this HCP would be sought; if it cannot be obtained, ESA and CESA coverage, consistent with this HCP, would be obtained through USFWS/NMFS and CDFW consultation and permits.

Portions of the Preferred Alternative also traverse the East Alameda County Conservation Strategy (EACCS) in Alameda County; however, the EACCS is not an adopted HCP or NCCP. The EACCS enables local projects to comply with state and federal regulatory requirements within a framework of comprehensive conservation goals and objectives. It enables local projects to be implemented using consistent and standardized mitigation requirements. Project proponents can choose not to follow the guidelines in the EACCS. As with the SJMSCP, coverage under the EACCS would be sought for the Preferred Alternative. If it cannot be obtained, ESA and CESA coverage, consistent with the EACCS, would be obtained through USFWS/NMFS and CDFW consultation and permits. Because there are no requirements to comply with the EACCS, no impacts are associated with conflicts with the EACCS. This impact is not discussed further.

The following measures mitigate these impacts to a less than significant level.

- BIO-2.1: Obtain coverage from, be consistent with, and tier from existing conservation strategies as feasible

Implementation of Mitigation Measure BIO-2.1 would avoid conflicts with the approved SJMSCP HCP and compensate for impacts, consistent with the SJMSCP HCP. Therefore, impacts from the Preferred Alternative would be less than significant with implementation of this mitigation measure.

Significant Effect: Impact C-BIO-1. Implementation of the Preferred Alternative, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on biological resources.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: As described in Section 3.4, *Biological Resources*, of the Draft EIR, the Preferred Alternative could have significant construction impacts on special-status species, riparian habitats or other sensitive natural communities, protected wetlands or waters, and to trees along the Valley Link corridor during construction, without mitigation. However, implementation of the Mitigation Measures described in Section 3.4, *Biological Resources*, would reduce Preferred Alternative construction impacts to biological resources to less than significant levels. Generally, because construction of the Preferred Alternative would not occur in pristine areas, but rather in a developed rail corridors or highly urbanized areas, impacts would be to remnant biological resources within that context. This would be the case for most of the Valley Link corridor, specifically the Tri-Valley and Tracy to Lathrop segments. Thus, with mitigation, Valley Link's residual construction impacts would be limited in scale and extent. However, while individual Preferred Alternative construction impacts would be mitigated, at sites where the Preferred Alternative crosses through areas of sensitive biological habitat near any of the projects identified in Tables 4-3, 4-4, and 4-5 of the Draft EIR, a significant cumulative impact on biological resources could still occur. Projects including the Freight Rail Future Plans (reference 1), Major Highway Improvements (reference 5), and Paradise Cut Bypass Expansion Project, per the *Delta Plan* (reference 7), would be constructed in the same area as the Valley Link corridor.

The following measures mitigate these impacts to a less than significant level.

- AES-1.3: Minimize fugitive light from portable sources used for construction
- BIO-2.3: Implement noise reduction measures for pile driving as feasible
- BIO-2.4: Implement seasonal restrictions for in-water work as feasible
- BIO-2.5: Protect wetlands during construction
- BIO-2.6: Protect sensitive natural communities, including riparian habitat and salt grass flats, during construction
- BIO-3.1: Develop and implement a hydroacoustic monitoring plan to minimize noise effects on fish
- BIO-7.1: Compensate for loss of riparian habitat
- BIO-8.2: Install station lighting controls and fencing limitations

- BIO-8.4: Improve existing wildlife crossings and/or implement new wildlife crossing options along the Altamont Alignment and the Stone Cut Alignment Alternative
- BIO-8.5: Improve existing wildlife crossings and/or implement new wildlife crossing options along certain portions of the Tracy to Lathrop Alignment
- BIO-10.1: Compensate for tree removal during construction
- Select the Southfront Road Station Alternative in place of the Greenville Station
- Select the Mountain House Station Alternative in place of the Mountain House Station

Most of the Tri-Valley segment is in a highly urbanized context, and most of this segment is located within the existing I-580 right-of-way, which does not support substantial habitat resources. The Preferred Alternative would include the addition or replacement of bridge structures with abutments and piers within riparian habitat. Work for Major Highway Improvements (reference 5), specifically I-580 SR-84/Isabel Interchange Improvements Phase 2, would be in the same area as the proposed Isabel Station. However, implementation of the applicable mitigation measures would reduce construction of the Isabel Station's contribution to impacts on biological resources to less than significant levels in this area. In addition, in the event that environmental clearance is obtained for the highway bridge project and construction of both the Preferred Alternative and bridge activities were to occur concurrently, lead agencies would be required to coordinate with the California Department of Transportation (Caltrans) to minimize cumulative environmental impacts, including impacts to biological resources, in the vicinity.

At the eastern end of the Tri-Valley segment, the originally proposed Greenville Station would be located beyond the existing Alameda County's Urban Growth Boundary and City of Livermore boundaries. The proposed Greenville Station would be constructed adjacent to wetlands, suitable habitat for special-status species, and suitable wildlife movement habitat within and along Altamont Creek. While implementation of Mitigation Measure BIO-8.3 would minimize potential construction impacts to Altamont Creek, construction activities in proximity to sensitive biological resources can cause disturbance impacts associated with noise, lights, vibration, and otherwise disruptive activities that may deter wildlife from utilizing Altamont Creek as a movement corridor. Therefore, the Preferred Alternative, in combination with Greenville Plaza (reference 36) and Exeter (FedEx) Distribution Facility (reference 37), could still result in a significant cumulative impact to biological resources at this location. However, these impacts would be reduced by incorporation of Mitigation Measures AES-1.3, BIO-2.5, BIO-2.6, and BIO 8.2, which would ensure that construction lighting is not disruptive to wildlife and would require the development and incorporation of wetland and sensitive natural community protection strategies that would minimize the potential construction impacts at Greenville Station. Selection of the Southfront Road Station Alternative in place of the originally proposed Greenville Road Station would ensure that contributions to cumulative impacts on biological resources relative to Altamont Creek near Greenville Road and the wildlife undercrossing near Greenville Road would be less than considerable with mitigation.

Several track crossovers, stations, and OMFs in the Altamont segment and the Tracy to Lathrop segment would be in areas outside the existing railroad right-of-way. The areas east of the Altamont Hills and west of Tracy are areas of particularly sensitive biological habitat. In these areas, construction of the components of the Preferred Alternative that cross riparian habitat would substantially interfere with native or migratory fish and wildlife species movement and would impact special-status species known to occur in the region. The Musco Family Olive Company Expansion Project (reference 38) and Cordes Ranch Specific Plan (reference 39) are also located in

this vicinity, and propose, respectively, wastewater evaporation ponds and over 1,800 acres of commercial, office, business-park industrial development with park and recreation facilities. Additionally, the Paradise Cut Bypass Expansion Project, per the *Delta Plan* (reference 7), would overlap with the new bridge proposed over Paradise Cut for the Tracy to Lathrop Alignment Variant 2, Double Track. Because the Paradise Cut Bypass Expansion Project (reference 7) would also likely have to employ seasonal construction restrictions, it is feasible that construction activities associated with both bridges could occur concurrently, resulting in the potential for a significant cumulative impact to biological resources. However, because agency coordination and National Pollutant Discharge Elimination System (NPDES) compliance would be required to secure construction permits at this location for both the Preferred Alternative and identified projects, it is expected that environmental impacts to riparian habitat, aquatic resources, and special-status fish and wildlife species in the vicinity, including potential erosion impacts, would be minimized to the extent practicable. Furthermore, adherence to Mitigation Measures BIO-2.3, BIO-2.4, BIO-2.5, BIO-2.6, and BIO-3.1 would render the Preferred Alternative's contribution to aquatic resource construction impacts less than considerable.

As described in Section 3.4, *Biological Resources*, operation of the Preferred Alternative could have significant impacts on special-status species, riparian habitats or other sensitive natural communities, protected wetlands or waters, and to trees along the Valley Link corridor. Even with implementation of the Mitigation Measures described in Section 3.4, *Biological Resources*, some operational impacts would not be reduced to less than significant levels. Selection of the Southfront Road Station Alternative and Mountain House Station Alternative in place of the originally proposed Greenville Station and the Mountain House Station avoids the potential for Valley Link train operation to interfere with wildlife movement.

Operation of the Preferred Alternative would introduce new rail traffic into the eastern foothills west of I-580 where the Altamont County Transportation Corridor diverges from the UPRR Oakland subdivision. The Preferred Alternative would also increase rail traffic across the Altamont segment between Tracy and North Lathrop, subsequently increasing noise effects and the potential for train strikes. Increased train operation could act as a barrier to wildlife movement across all three Valley Link segments. Additionally, operation of rail stations and OMFs would increase exposure of special-status wildlife species to human presence, thereby increasing potential for vehicle strike along the access roads to rail stations. Implementation of Mitigation Measures BIO-8.2, BIO-8.4, and BIO-8.5, impacts relative to wildlife movement for special-status wildlife species would reduce these effects and these impacts would be reduced below the level of significance by selection of the Southfront Road Station Alternative and Mountain House Station Alternative.

Identified projects of concern for operations include Freight Rail Future Plans (reference 1), ACE Extension Lathrop to Ceres/Merced (reference 2), Valley Rail Sacramento Extension Project (reference 3), and Major Highway Improvements (reference 5), which would similarly affect biological resources through increased train traffic and/or noise emissions in the northern San Joaquin Valley. However, only potential future freight rail expansion along the Tracy Subdivision and the Owens-Illinois Industrial Lead, and potential improvements to I-580 in the Tri-Valley and Altamont segments would occur in the same area affected by the Preferred Alternative. Even with mitigation, operation of the projects that would affect the same areas affected by the Preferred Alternative, would represent a significant cumulative impact to biological resources along the Valley Link corridor. These impacts would generally be restricted to biologically sensitive areas along the Valley Link corridor. Cumulative operational railway impacts associated with increased railway noise and train-wildlife collisions are generally not expected within highly developed portions of the

Tri-Valley segment (Dublin, Pleasanton, and portions of Livermore) or within highly developed portions of the Tracy to Lathrop segment within the Cities of Tracy and Lathrop.

As described in Section 3.4, *Biological Resources*, mitigation measures would ensure that potential impacts associated with the vegetation removal required as part of track maintenance activities, as well as potential impacts associated with the new and replacement bridge operations (changes in channel morphology, hydraulics, and shading), would be reduced to less than significant levels.

However, where the Preferred Alternative and other projects would be constructed in the same vicinity, there would be a substantial increase in stormwater runoff that could degrade water quality in surface waters downstream of the Preferred Alternative and identified projects, thereby affecting aquatic species. Both the Preferred Alternative and all identified projects would be required to comply with current water quality regulations implemented through the NPDES, which requires treatment of stormwater runoff to manage impacts on water quality resulting from new development. Additionally, the Preferred Alternative would be required to comply with Mitigation Measure BIO-7.1, which requires compensation for loss of riparian habitat. Because of these regulations, there would be no significant cumulative impact related to water quality.

Valley Link train operation relative to the Greenville Station and Mountain House Station in combination with the operation of the other rail and highway projects identified in Tables 4-3 and 4-4, would represent a significant cumulative operational impact to biological resources relative to wildlife movement. Selection of the Southfront Road Station Alternative and the Mountain House Station Alternative would avoid a cumulatively considerable contribution relative to wildlife movement due to Valley Link train operations, relative to the originally proposed Greenville Station and Mountain House Station.

3.3.2.5 Cultural Resources

Significant Effect: Impact CUL-1. Construction and operation of the Preferred Alternative would directly or indirectly cause a substantial adverse change in the significance of a built environmental historical resource.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Table 3.5-1 identifies the built environment historical resources located within and outside of the existing railroad ROW. Because railroad features located within the existing ROW are considered historical resources, improvements within the ROW such as new track and track upgrades, could result in the physical alteration of the resource or its surroundings. For improvements outside of the existing railroad ROW (such as station improvements, parking lot improvements, and pedestrian overcrossings) nearby historical resources could be similarly affected. The Preferred Alternative could result in changes in the significance of a historical resource to the point where the resource would no longer be considered historic; these impacts would be potentially significant.

The potential impacts on built environment historical resources are limited to permanent impacts from the construction of Preferred Alternative, as opposed to its operation, including proposed train technology, service frequency, or service hours. Operation and maintenance would have no impact on built environment historical resources.

The following measures mitigate these impacts to a less than significant level.

- CUL-1.1: Prepare and submit Historic American Engineering Record documentation
- CUL-1.2: Prepare interpretive exhibits

Implementation of Mitigation Measures CUL-1.1 (Prepare and submit Historic American Engineering Record documentation) and CUL-1.2 (Prepare interpretive exhibits) would reduce potential impacts on historical resources to a less-than-significant level for the Preferred Alternative by preserving a record of these resources.

Significant Effect: Impact CUL-2. Construction of the Preferred Alternative could cause a substantial adverse change in the significance of an archeological resource or tribal cultural resource.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: The potential for impacts on archaeological resources occurs when a project disturbs or destroys portions of an archaeological resource during ground disturbance. This includes both known resources and previously unknown resources. Impacts from the Preferred Alternative vary because some of the facilities occur within the boundaries of known sites and some are located within areas determined to have increased sensitivity for as-yet-undocumented resources.

Potential impacts on archaeological resources would be limited to construction because operation and maintenance of the Preferred Alternative would not involve ground disturbance. As such, operation and maintenance of the Preferred Alternative would result in no impact on archaeological resources.

The following measure mitigates these impacts to a less than significant level.

- CUL-2.1: Develop and implement an archaeological testing plan
- CUL-2.2: Conduct cultural resources awareness training
- CUL-2.3: Develop an archaeological monitoring plan
- CUL-2.4: Implement avoidance and protection measures
- CUL-2.5: Conduct archaeological monitoring
- CUL-2.6: Implement procedures in case of inadvertent discoveries.

Because of the presence of the rail line, pavement, urban overlay, and property acquisition issues, in the majority of the CEQA study area, evaluation through archaeological testing is not feasible. Mitigation Measures CUL-2.1 through CUL-2.5 would be implemented where previously unevaluated resources are located to determine their eligibility as a CEQA resource (Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track). Mitigation Measures CUL-2.2 and CUL-2.6 are applicable to all areas where ground disturbance would occur, which includes all alignments, stations, and OMFs. The mitigation measures described above would allow for adequate evaluation and identification of both known and as-yet undocumented archaeological resources. Conformance with these mitigation measures would reduce potential impacts on unique archaeological resources from the Preferred Alternative to a less-than-significant level.

Significant Effect: Impact CUL-3. Construction of the Preferred Alternative could disturb human remains, including those interred outside of formal cemeteries.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: The potential for impacts associated with disturbance of human remains occurs when a project encounters or disturbs such remains, including in areas outside of formal cemeteries and known burial sites. The potential for such impacts to occur varies, depending on anticipated excavation activities. Ground disturbance would be limited during the construction phase, as such this analysis focus on the construction impacts.

Operation and maintenance of the Preferred Alternative does not include ground disturbance. Maintenance activities include annual vegetation trimming and herbicide application and are not anticipated to affect any known or as-yet-undocumented archaeological resources. Thus, operation and maintenance of the Preferred Alternative would result in a less-than-significant impact related to disturbing Native American human remains.

The following measure mitigates these construction impacts to a less than significant level.

- CUL-3.1: Comply with state laws relating to Native American remains

Implementation of Mitigation Measure CUL-3.1, as well as mitigation measures included in Impact CUL-2 would allow for evaluation, identification, and respectful treatment of archaeological resources, including human resources, and would therefore reduce potential impacts on human remains associated with construction of the Preferred Alternative to a less-than-significant level.

Significant Effect: Impact C-CUL-1. Implementation of the Preferred Alternative, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on cultural resources.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Construction of the Preferred Alternative would affect historical resources at several locations in Alameda and San Joaquin counties. However, implementation of mitigation measures to reduce impacts to such resources would ensure that the Preferred Alternative would not result in changes to the significance of a historical resource to the point at which the resource would no longer be considered historically significant; therefore, the Preferred Alternative's impacts on such resources would be less than significant after mitigation. The construction of identified rail, road, and other transportation projects and land use development projects that overlap with the Valley Link footprint or that would occur adjacent to or in the immediate vicinity of the Preferred Alternative could result in an adverse change to a listed or list-eligible property in the national, California, or local registers. Adverse changes to such resources would result in a significant cumulative impact on built environment historical resources. Reasonably foreseeable future projects would be subject to federal and state cultural resource regulations, which require identification, evaluation, and assessment of direct and indirect affects to historical resources. Additionally, future projects with the potential to affect historical resources

would be required to include appropriate/feasible mitigation to address adverse impacts to built environment historical resources.

Construction of the Preferred Alternative would affect built environment historical resources at several locations in Alameda and San Joaquin counties, but because mitigation measures would reduce potential impacts to less than significant levels, the Preferred Alternative would not result in changes to the significance of a historical resource to the point where the resource would no longer be considered historically significant. Therefore, the Preferred Alternative would not contribute to the significant cumulative impact created by other projects in the study area.

The projects and plans listed in Tables 4-3, 4-4, and 4-5 of the Draft EIR were reviewed to determine whether they, in combination with the Preferred Alternative, would result in cumulative impacts to archaeological resources and human remains. None of the projects or plans would intersect with known archaeological resources or human remains within the Preferred Alternative footprint. Therefore, there would not be a significant cumulative impact to known archaeological resources or human remains.

The following measures mitigate these impacts to a less than significant level.

- CUL-1.1: Prepare and submit Historic American Engineering Record documentation
- CUL-1.2: Prepare interpretive exhibits
- CUL-2.1: Develop and implement an Archaeological Testing Plan
- CUL-2.2: Conduct cultural resources awareness training
- CUL-2.3: Implement cultural resources monitoring plan
- CUL-2.4: Implement avoidance and protection measures
- CUL-2.5: Conduct archaeological monitoring
- CUL-2.6: Implement procedures in case of inadvertent discoveries

Construction of the Preferred Alternative would affect built environment historical resources at several locations in Alameda and San Joaquin counties, but because mitigation measures would reduce potential impacts to less than significant levels, the Preferred Alternative would not result in changes to the significance of a historical resource to the point where the resource would no longer be considered historically significant. Feasible mitigation to reduce the potential for significant cumulative impacts includes implementation of Mitigation Measures CUL-1.1 and CUL-1.2 as discussed in Section 3.5, *Cultural Resources*, of the Draft EIR. These measures would reduce potential impacts to historical resources to a less than significant level and the River Islands at Lathrop would have a less than considerable contribution to cumulative impacts with mitigation

Ground disturbing construction activities such as excavation always present the potential for the discovery of currently unknown resources, including human remains. This potential remains true for the Preferred Alternative and all projects listed in Tables 4-3, 4-4, and 4-5 of the Draft EIR. Implementation of Mitigation Measures CUL-2.2 through CUL-2.6 would ensure that such resources would be appropriately treated in the event of inadvertent discoveries during construction of the Preferred Alternative. Therefore, the Preferred Alternative's contribution to such impacts would not be considerable.

Implementation of Mitigation Measures CUL-2.1 through CUL-2.6 and CUL-3.1 would reduce cultural resources impacts from the Preferred Alternative to less than significant levels. Therefore, the Preferred Alternative's contribution to cumulative impacts on archaeological resources and human remains because of construction would be less than considerable.

3.3.2.6 Geology and Soils

Significant Effect: Impact GEO-4. Construction of the Preferred Alternative could directly or indirectly destroy a unique paleontological resource or site or unique geological feature.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: The potential for impacts on paleontological resources depends on whether the Preferred Alternative would disturb geologic units with undetermined or high paleontological sensitivity. Many alignments, stations, and OMFs would occur on geologic units with undetermined or high paleontological sensitivity. Construction would require ground disturbance, which could affect significant paleontological resources. Likewise, construction of the Southfront Road Station Alternative, Stone Cut Alignment Alternative, and Mountain House Station Alternative would require ground disturbance that could affect significant paleontological resources.

Operational activities for the Preferred Alternative are not anticipated to be ground-disturbing and thus are not expected to have any significant impact on paleontological resources.

The following measure mitigates these impacts to a less than significant level.

- GEO-4.1: Monitor for discovery of paleontological resources, evaluate found resources, and prepare and follow a recovery plan for found resources

Mitigation Measure GEO-4.1 requires training by a qualified paleontologist for construction crews to recognize paleontological resources, stopping work in case of discovering such resources, evaluating those resources by a qualified paleontologist and, as appropriate, preparing and implementing a recovery plan. This measure would ensure that excavation would not result in destruction of significant paleontological resources and potential construction impacts would be less than significant for the Preferred Alternative.

Significant Effect: Impact C-GEO-1. Implementation of the Preferred Alternative, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on geology, soils, and unique paleontological/geologic resources.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Paleontological resources are nonrenewable and are subject to impacts from ground-disturbing activities such as grading, excavation, and vegetation clearing (Society for Vertebrate Paleontology 2010). As a nonrenewable resource, rail, road, and land development activities on geologic units that may contain paleontological resources have the potential to remove such resources irretrievably from the scientific record. Accordingly, in areas of rapid growth where paleontological resource-rich geologic units lie close to the ground surface, such as in the

paleontological resources study area described in Section 3.7, *Geology and Soils*, of the Draft EIR, a cumulative impact on paleontological resources has potential to exist.

The following measure mitigates these impacts to a less than significant level.

- GEO-4.1: Monitor for discovery of paleontological resources, evaluate found resources, and prepare and follow a recovery plan for found resources

The Preferred Alternative would be in areas that are underlain by geologic units that have yielded abundant, diverse, and scientifically important fossil finds, including remains of numerous vertebrates. Where geologic units with high paleontological sensitivity are present, construction-related ground disturbance, particularly excavation and grading, could result in disturbance, damage, or loss affecting significant (scientifically important but non-unique) paleontological resources. Ground disturbance by projects located within these sensitive geologic units presents a similar potential to disturb, damage, or lose such resources. Implementation of Mitigation Measure GEO-4.1 during construction of the Preferred Alternative would require paleontological monitoring, resource evaluation, and the preparation of recovery plans for found resources. Incorporation of this measure would provide ample protection for paleontological resources during construction of the Preferred Alternative. Thus, by recovering any paleontological resources found during ground-disturbing activities and conserving information about the context in which they were found, the Preferred Alternative's contribution to cumulative impacts on paleontological resources or unique geologic features because of construction would be less than considerable.

3.3.2.7 Hazards and Hazardous Materials

Significant Effect: Impact HAZ-2. Construction, operation, and maintenance of the Preferred Alternative could create a significant hazard to the public or the environment involving reasonably foreseeable upset conditions or the disturbance of existing hazardous materials.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Buildings, bridges, roadways with yellow pavement stripes, and railroad facilities located within the Preferred Alternative footprint for all three segments could potentially contain hazardous building materials, such as ACM, lead-based paint, universal wastes (e.g., PCBs, diethylhexyl phthalate, mercury, and other metals), wood preservatives (e.g., arsenic, chromium, copper, pentachlorophenol, or creosote), lead, and petroleum products. The disturbance of hazardous building materials could pose a health risk to construction workers, maintenance workers, the public, and/or the environment if not handled and disposed of properly. The removal of hazardous building materials prior to demolition is governed by federal and state laws and regulations. Workers who conduct hazardous materials abatement and demolition activities must be trained in accordance with OSHA and Cal/OSHA requirements. Hazardous building materials removed during construction must be transported in accordance with USDOT regulations and disposed of in accordance with RCRA, Cal. Code Regs., and/or the California Universal Waste Rule at a facility permitted to accept the wastes. Treated-wood waste, such as railroad ties, may also be disposed of in accordance with the Alternative Management Standards adopted by DTSC under Cal. Code Regs. Title 22, Chapter 34.

The following measures mitigate this impact to a less than significant level.

- HAZ-2.1: Conduct site investigations Implement voluntary oversight agreement
- HAZ-2.2: Implement construction risk management plan
- AQ-2.5: Implement fugitive dust controls during construction

Implementation of Mitigation Measures HAZ-2.1, HAZ-2.2, and AQ-2.5, would be applied to all Preferred Alternative facilities. These mitigation measures would require a voluntary oversight agreement, site-specific investigations, a CRMP, and fugitive dust controls, which would reduce impacts from the disturbance of potentially contaminated soil, ballast, and/or groundwater during construction and maintenance of the Preferred Alternative to a less-than-significant level.

Significant Effect: Impact HAZ-3. Construction, operation, and maintenance of the Preferred Alternative would create a potentially significant hazard for children at nearby schools from emissions or handling of hazardous or acutely hazardous materials.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: The handling or emission of hazardous or acutely hazardous materials near schools must consider potential health effects on children, who are considered sensitive receptors. There are existing K-12 schools within 0.25 mile of the footprint for the Tri-Valley Alignment; Tracy to Lathrop Alignment Variant 1, Single Track; and Tracy to Lathrop Alignment Variant 2, Double Track. The primary exposure pathway of concern for children at nearby schools is through the inhalation of air contaminants, such as particulate matter.

As discussed under Impact HAZ-1a and HAZ-1b, hazardous materials used during construction and operation of Preferred Alternative would be managed in accordance with applicable laws and regulations and would not be expected to create a hazard to human health. Nonetheless, as discussed under Impact HAZ-2, construction and maintenance of Preferred Alternative improvements that disturb existing soil and/or ballast contamination could generate dust and pose a health risk to the public, which includes nearby schools.

As discussed in Section 3.3, *Air Quality* of the Draft EIR, sources of hazardous emissions during construction and operation of the Preferred Alternative would include diesel particulate matter from the exhaust of construction equipment and increased passenger rail service. Based on conservative air dispersion modeling and health risk analyses, it was determined that emissions of diesel particulate matter from construction equipment could pose health risks to nearby sensitive receptors. However, nearby sensitive receptors potentially impacted would not include schools. In addition, as described in Section 3.3, *Air Quality*, it was determined that emissions of diesel particulate matter from increased operation of the proposed rail service would not pose health risks to nearby sensitive receptors, such as schools.

The following measures mitigate this impact to a less than significant level.

- HAZ-2.2: Implement construction risk management plan
- AQ-2.5: Implement fugitive dust controls during construction

Implementation of Mitigation Measures HAZ-2.2 and AQ-2.5, which would require air quality monitoring and dust control measures during excavation in areas with elevated contaminants of concern, would reduce the impact on K-12 school children from contaminated dust generated

during construction and maintenance activities to a less-than-significant level for the Preferred Alternative (due to the Tri-Valley Alignment; Tracy to Lathrop Alignment Variant 1, Single Track; and Tracy to Lathrop Alignment Variant 2, Double Track and Tracy to Lathrop Alignment, Variants 1 and 2).

Significant Effect: Impact C-HAZ-1. Implementation of the Preferred Alternative, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact from hazardous materials.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Hazardous materials impacts are typically site specific and depend on the soil and groundwater conditions underlying project sites. The geographic context for potential cumulative impacts related to hazardous materials includes areas within 0.25 miles of the Preferred Alternative for transportation projects and 0.15 miles for development projects, respectively. Projects within this geographic context include the projects listed in Tables 4-3, 4-4, and 4-5 of the Draft EIR.

The following measures mitigate this impact to a less than significant level.

- HAZ-2.1: Conduct site investigations Implement voluntary oversight agreement
- HAZ-2.2: Implement construction risk management plan
- AQ-2.5: Implement fugitive dust controls during construction

Compliance with local, state, and federal regulations for handling hazardous materials and adherence to the mandatory SWPPP would avoid impacts associated with construction-related handling of hazardous materials. For encountered contamination, implementation of Mitigation Measures HAZ-2.1, HAZ-2.2, and AQ-2.5 would require that the Authority conduct pre-construction investigations of potentially contaminated areas; prepare a risk management plan (RMP) outlining appropriate containment procedures for handling and disposal of any encountered contaminated soil, ballast, or groundwater; and implement fugitive dust controls to manage potentially hazardous airborne dust emissions from construction activities. Where the Preferred Alternative would be constructed within 0.25 mile of existing schools, the RMP and fugitive dust controls required under Mitigation Measures HAZ-2.2 and AQ-2.5 would reduce potential construction-related hazards to sensitive receptors. Identified projects that would be constructed within the vicinity of the Preferred Alternative, including within 0.25 mile of schools, would be required to comply with local, state, and federal regulations pertaining to hazardous materials. Because hazardous materials impacts are site-specific, potential hazardous materials construction impacts to the projects identified in Tables 4-3, 4-4, and 4-5 of the Draft EIR may not be identical to those anticipated with the Preferred Alternative. However, because both the Preferred Alternative and identified projects would be required to comply with all applicable regulations to reduce hazardous materials impacts, potential impacts would collectively be significantly reduced. Thus, with adherence to these regulations and incorporation of mitigation measures, the Preferred Alternative's contribution to cumulative impacts related to hazardous materials because of construction would be less than considerable with mitigation.

Operation and maintenance activities associated with the Preferred Alternative would involve the routine use of diesel fuel to power locomotives and pesticides to clear vegetation from track areas to

reduce fire risk. Common activities such as fueling and pesticide applications could result in the exposure of workers, the public, and/or the environment to hazardous materials if the materials are not properly managed or are accidentally released. Because the Preferred Alternative and all identified projects would be required to adhere to federal and state regulations, including the California Environmental Protection Agency Unified Program, the operational risk of exposure to hazardous materials, as well as the risk of accidental release of hazardous materials, including risks to K-12 school children, would be minimized. However, Preferred Alternative maintenance, as well as maintenance activities associated with similar projects such as the rail projects identified in Table 4-3 of the Draft EIR and the rail/road projects identified in Table 4-4 of the Draft EIR, could result in the disturbance of contaminated soil, ballast, or groundwater. If contaminated materials are encountered, implementation of Mitigation Measures HAZ-2.1, HAZ-2.2, and AQ-2.5 would require pre-construction investigations of potentially contaminated areas; preparation of an RMP outlining appropriate containment procedures for handling and disposal of any encountered contaminated soil, ballast, or groundwater; and the implementation of fugitive dust controls. Thus, the Preferred Alternative's contribution to cumulative impacts related to hazardous materials because of operations would be less than considerable, assuming mitigation and adherence to all applicable regulatory requirements.

3.3.2.8 Hydrology and Water Quality

Significant Effect: Impact HYD-1a. Construction of the Preferred Alternative could violate water quality standards or waste discharge requirements, provide substantial additional sources of polluted runoff, or otherwise substantially degrade surface or ground water quality.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: For the Preferred Alternative, construction would require earthwork. If contaminants are present in reused existing soil or imported fill materials that are exposed to stormwater, contaminants could leach into stormwater runoff from the reused existing soil or imported fill and result in pollution of stormwater runoff and surface water, potentially reducing the quality of the receiving water.

Construction of the Preferred Alternative would involve grading and reuse of existing soil and use of imported fill materials. If contaminants are present in reused existing soil or in fill materials that are placed in a location exposed to stormwater, contaminants could leach into stormwater runoff from the reused existing soil or imported fill and result in pollution of stormwater runoff and surface water, potentially reducing the quality of the receiving water.

Pesticides would be used (like current operation) to maintain and clear vegetation from track areas. The future use of pesticides for vegetation removal near the tracks would be required to comply with DPR regulations that are intended to protect human health and the environment (see discussion under *California Department of Pesticide Regulation* in Section 3.10.2.2). DPR puts special controls on pesticides that can be especially dangerous to human health or the environment if not used correctly, limiting their use to trained individuals and only at times and places approved by a permit from the County Agricultural Commissioners (California Department of Pesticide Regulation 2008). Use of pesticides for vegetation removal near the tracks in compliance with DPR regulations would therefore result in a less-than-significant impact on water quality.

Trains can be sources of pollutants such as petroleum products (i.e., oil, grease, and diesel) and metals. Under normal operating conditions, the amount of these pollutants released by modern trains is minimal (i.e., only minor drips) because trains undergo regular inspections and maintenance to prevent and fix leaks. Impacts from minor drips would be limited to the area immediately below the railroad tracks, and the track ballast material would minimize stormwater runoff from the area of localized impacts and prevent significant impacts on water quality. Therefore, operation of the Preferred Alternative within track areas would not contribute new significant sources of pollutants to stormwater runoff unless an accidental release of hazardous materials occurs along the tracks. Operation of the Preferred Alternative would comply with stringent federal and state protocols and regulations intended to reduce the likelihood of accident conditions. Accident conditions, including the accidental release of hazardous materials and the potential effects on water quality, are not expected to increase with operation of the Preferred Alternative.

The Preferred Alternative improvements within track areas would include altering drainage patterns (e.g., altering or creating drainage systems) along tracks. If appropriate stormwater control and treatment systems are not designed and constructed as part of these improvements, pollutants that may be entrained in sediments could be transported from track areas to surface waters in stormwater runoff. The Construction General Permit includes post-construction stormwater performance standards that address water quality and channel protection for construction projects that are not in an area subject to post-construction standards of an active Phase I or Phase II MS4 permit with an approved Storm Water Management Plan. The Construction General Permit requires post-construction runoff to match preconstruction runoff in quality, which would not only reduce the risk of impact on the receiving water's channel morphology but would also provide some protection of water quality. The Construction General Permit also requires implementation of post-construction BMPs to reduce pollutants in stormwater discharges that are reasonably foreseeable after all construction phases have been completed. Compliance with the post-construction requirements of the Construction General Permit must be demonstrated by submitting a map and post-construction runoff calculation worksheets with the Notice of Intent.

The following measures mitigate this impact to a less than significant level.

- HAZ-2.2: Implement construction risk management plan

Implementation of Mitigation Measure HAZ-2.2, as described in Section 3.9, *Hazardous Materials*, requires preparation of an RMP. The RMP will include guidelines for testing and reuse of existing soil to ensure that potentially contaminated existing soil would not be reused in a manner that could pollute stormwater runoff, surface waters, or groundwater. The RMP will include guidelines for testing and use of imported fill material to ensure that contaminated fill materials are not used in a manner that could pollute stormwater runoff, surface waters, or groundwater. Implementation of Mitigation Measure HAZ-2.2 will ensure that operation of the Preferred Alternative would have a less-than-significant impact on water quality.

Significant Effect: Impact HYD-1b. Operation and maintenance of the Preferred Alternative could violate water quality standards or waste discharge requirements, provide substantial additional sources of polluted runoff, or otherwise substantially degrade surface or ground water quality.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: For the Preferred Alternative, construction would require earthwork. If contaminants are present in reused existing soil or imported fill materials that are exposed to stormwater, contaminants could leach into stormwater runoff from the reused existing soil or imported fill and result in pollution of stormwater runoff and surface water, potentially reducing the quality of the receiving water.

The following measure mitigates this impact to a less than significant level.

- HAZ-2.2: Implement construction risk management plan

Implementation of Mitigation Measure HAZ-2.2, as described in Section 3.9, *Hazardous Materials* of the Draft EIR, requires preparation of an RMP. The RMP will include guidelines for testing and reuse of existing soil to ensure that potentially contaminated existing soil would not be reused in a manner that could pollute stormwater runoff, surface waters, or groundwater. The RMP will include guidelines for testing and use of imported fill material to ensure that contaminated fill materials are not used in a manner that could pollute stormwater runoff, surface waters, or groundwater. Implementation of Mitigation Measure HAZ-2.2 will ensure that operation of the Preferred Alternative would have a less-than-significant impact on water quality.

Significant Effect: Impact HYD-3a. Construction of the Preferred Alternative would substantially alter the existing drainage patterns, in a manner that would result in substantial erosion or siltation on- or off-site; or provide substantial additional sources of polluted runoff; or risk release of pollutants due to Preferred Alternative inundation.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: The Preferred Alternative would require construction activities within drainage courses during construction of bridges and culverts within 100-year and 200-year floodplains (see Figures P-4A, P-4B, and P-4C of the Draft EIR). In addition, Preferred Alternative-related construction activities would be required within or across small urban or rural streams that could flood during winter storm events, even if those small streams are not designated as 100- or 200-year floodplains. If flooding of construction areas occurs, stockpiles of construction materials could be inundated and result in pollution of onsite or offsite downstream surface waters.

The following measure mitigates this impact to a less than significant level.

- HYD-3a.1: Prevent construction materials from being exposed to storm flooding hazards

Mitigation Measure HYD-3a.1 contains specific measures to prevent construction materials from being exposed to storm flooding hazards. This measure would mitigate potential construction impacts related to flooding hazards to a less-than-significant level by eliminating the potential for construction materials to be carried offsite by floodwaters.

Significant Effect: Impact HYD-3b: Operation of the Preferred Alternative would substantially alter the existing drainage patterns, including through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems; or provide substantial additional sources of polluted runoff.

Finding: The Authority hereby makes finding (a)(1) (described in Section 3.1 above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Operation of the Preferred Alternative would increase runoff from new impervious surfaces, which has the potential to exceed stormwater drainage capacity and/or result in increased potential for transport of onsite and offsite downstream pollutants.

Compliance with the applicable MS4/NPDES Permit requirements, including post-construction requirements of the Construction General Permit, would ensure that operation of all Preferred Alternative improvements would minimize increases in stormwater runoff compared to the existing conditions. However, increases in stormwater runoff could still result from improvements such as creation of new pavement surfaces and connection of trackside drainage ditches to existing storm drainage systems where previously no such connections existed. The new surfaces and connection to existing storm drainage systems could contribute toward exceeding the capacity of existing storm drainage systems and/or result in increased pollutant transport. This is a potentially significant impact.

The following measure mitigates this impact to a less than significant level.

- HYD-3b.1: Perform detailed hydraulic evaluations and implement new or modify existing stormwater controls as required to prevent storm drainage system capacity exceedance and reduce pollutant transport

Implementation of Mitigation Measure HYD-3b.1 would require detailed hydraulic evaluations, and modification of stormwater controls as required and would reduce potential impacts related to creation of new impervious surfaces that would in turn increase the rate or volume of stormwater runoff, which could result in exceeding storm drainage system capacity and/or downstream pollutant transport, to a less-than-significant level due to the Preferred Alternative.

Significant Effect: Impact HYD-4. Construction and operation of the Preferred Alternative would substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that could result in onsite or offsite flooding, and could impede flood flows.

Finding: The Authority hereby makes finding (a)(1) (described in Section 3.1 above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: The Preferred Alternative would include construction and operation of new facilities across small drainages and watercourses as shown in Figures P-4A, P-4B, and P-4C; and in FEMA 100-year flood zones as shown on Figures P-4A and P-4B of the Draft EIR. In addition, Preferred Alternative facilities would also be constructed and operated in CVFPP 200-year flood zones in the Tracy to Lathrop segment, as shown in Figure P-4B.

The Preferred Alternative would include construction of new bridges and culverts across drainage courses, and improvements within flood zones. If these improvements are not appropriately designed, their operation could potentially impede or redirect flood flows during operation resulting in downstream offsite flooding, as well as onsite inundation.

Operation of the Preferred Alternative would create new impervious surfaces, which could also result in an increased rate and/or volume of stormwater runoff that could result in onsite or offsite downstream flooding.

The Central Valley Flood Protection Project (CVFPP) is intended to guide 200-year flood reduction efforts in the Central Valley. Portions of the Preferred Alternative in the Tracy to Lathrop segment would be located in an area covered by the *Basin-Wide Feasibility Study, San Joaquin Basin* (California Department of Water Resources 2017b) and would encroach on levees and floodways under CVFPB's jurisdiction; therefore, compliance with the CVFPP would be required. From the Stanislaus River to near Bear Creek and Disappointment Slough in the Delta, existing flood management facilities include a leveed conveyance system on the main stem of the San Joaquin River.

Paradise Cut diverts flows out of the San Joaquin River to channels in the South Delta. The feasibility study for the lower San Joaquin River (California Department of Water Resources 2017b) identifies several potential flood improvements for this area, including an expansion of the Paradise Cut Bypass, which is located on the southwestern side of Stewart Tract in Lathrop. Paradise Cut is a federal flood control bypass that diverts flows from the San Joaquin River during high flows. Due to sedimentation and other factors, the current capacities of Paradise Cut and the lower San Joaquin River just downstream of Paradise Cut weir do not meet their original design capacities. The purpose of the Paradise Cut Bypass Expansion is to increase the flow in the Paradise Cut Bypass to reduce peak flood stages along the San Joaquin River downstream and help maintain a potential 200-year level of protection with respect to climate change for Lathrop and Manteca. As shown on Figure P-4C of the Draft EIR, portions of the Preferred Alternative (Tracy to Lathrop Alignment Variant 1, Single Track; Tracy to Lathrop Alignment Variant 2, Double Track; and the River Islands Station) would be constructed in and would require construction and operation of culverts and bridges in the Paradise Cut area and would also require a bridge crossing over the San Joaquin River. If these improvements are not appropriately designed, their operation could potentially impede or redirect flood flows during Preferred Alternative operation and could potentially interfere with flood reduction efforts that are planned by DWR and CVFPB San Joaquin Basin-Wide Feasibility Study.

The following measure mitigates this impact to a less than significant level.

- HYD-3b.1: Perform detailed hydraulic evaluations and implement new or modify existing stormwater controls as required to prevent storm drainage system capacity exceedance and reduce pollutant transport
- HYD-4.1: Perform hydrologic and hydraulic studies for project improvements to be located in floodplains, coordinate with regulatory agencies, and obtain required permits.

Implementation of Mitigation Measure HYD-3b.1 would require detailed hydraulic evaluations and design of new, or modification of existing, stormwater controls for new impervious surfaces to minimize the rate and volume of stormwater runoff. Implementation of Mitigation Measure HYD-4.1 requires that detailed, site-specific hydrologic and hydraulic studies be conducted and used to design Preferred Alternative facilities such that flood flows would not be impeded or redirected; requires that the Authority consult with DWR and CVFPB to ensure that Preferred Alternative facilities are designed so they will not interfere with flood protection efforts under the San Joaquin Basin-Wide Feasibility Study; and requires the Authority to consult with, design, and obtain all necessary permits from agencies with regulatory authority over construction through levees.

Implementation of these mitigation measures would reduce potential impacts related to flooding from creation of new impervious surfaces and alteration of drainages and the potential impacts related to structures that would impede flood flows to a less than significant level.

Significant Effect: Impact C-HYD-1. Implementation of the Preferred Alternative, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on hydrology and water quality.

Finding: The Authority hereby makes finding (a)(1) (described in Section 3.1 above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: As described in Section 3.10, *Hydrology and Water Quality*, the Preferred Alternative has the potential to degrade water quality from the transport of disturbed soils and materials such as fuels, lubricants, and paints into downstream waterbodies. Furthermore, the Preferred Alternative would involve direct, in-water work for bridges and culverts in a variety of locations. However, projects that disturb 1 acre or more of soil, which includes the Preferred Alternative as well as all projects listed in Tables 4-3, 4-4, and 4-5 of the Draft EIR, are required to comply with the requirements of the SWRCB's NPDES Construction General Permit, which requires preparation of a SWPPP and implementation of best management practices that are specifically designed to protect water quality from sediment carried by erosion.

As described in Section 3.10, *Hydrology and Water Quality* of the Draft EIR, the Preferred Alternative would include construction activities within 100- and 200-year floodplains, and construction would be undertaken within and across other small urban or rural streams that could flood during winter storm events. This could lead to an increased risk of off-site flooding.

As described in Section 3.10, *Hydrology and Water Quality*, operation of the Preferred Alternative would result in increased use of petroleum products (e.g., oil, grease, and diesel), metal, and herbicide pollutants. Under typical operating conditions, the amount of these pollutants released by modern trains is minimal (i.e., only minor drips) because trains undergo regular inspections and maintenance to prevent and fix leaks. The storage, use, and disposal of herbicides is heavily regulated at the federal, state, and local level; these regulations are specifically designed to reduce the potential for adverse human health or environmental effects. The Preferred Alternative would also increase the amount of impervious surface areas to accommodate vehicle parking, stations and platforms, train maintenance, and fueling activities. Pollutants that accumulate on impervious surfaces would enter stormwater during rain events; however, design of stormwater control systems in compliance with existing regulations (e.g., the SWRCB's NPDES Construction General Permit; Caltrans' NPDES permit; requirements for Small Municipal Separate Storm Sewer System [MS4] Permits; and Industrial General Permits) would ensure that stormwater runoff from the Preferred Alternative would not cause erosion and sedimentation in receiving waters and that runoff from impervious surface areas would be managed and treated to remove contaminants. Furthermore, all projects listed in Tables 4-3, 4-4, and 4-5 of the Draft EIR would also be required to comply with applicable NPDES/MS4 permits during operations.

All the projects listed in Tables 4-3, 4-4, and 4-5 of the Draft EIR would alter existing drainage patterns and increase the amount of impervious surfaces. As a result, increased stormwater runoff would occur, which could exceed the capacity of stormwater drainage systems. Local planning requirements would require most, if not all, of these projects to prepare an analysis of impacts on existing drainage systems. In addition, compliance with regional and countywide stormwater

regulations (e.g., requirements for MS4 Permits and Industrial General Permits) would address substantial sources of increased stormwater runoff associated with projects and would require such projects to provide features for retention of water onsite and treatment of stormwater runoff. In addition, projects that would result in an increased need for off-site stormwater conveyance or treatment would be required to pay a fair-share contribution towards the new local and/or regional infrastructure. However, because most of these projects are still in the planning phase, the necessary hydrologic and hydraulic studies that would determine the timing, rate, amount of stormwater runoff, and the onsite and/or offsite facilities necessary to convey and treat the runoff, have not been prepared. Therefore, these projects would result in significant impacts from exceedance of stormwater drainage systems, which in turn would result in cumulatively significant degradation of water quality.

As discussed in Section 3.10, *Hydrology and Water Quality* of the Draft EIR, railway improvements within the existing UPRR right-of-way for the Preferred Alternative would alter drainage patterns by altering or creating trackside ditches and drainage systems. Other Valley Link facilities such as new station boarding platforms, parking lots, parking structures, roadways, bridges, and OMF facilities would also create new impervious surfaces and stormwater drainage systems, which would alter drainage patterns and create new sources of runoff. If stormwater control systems are not appropriately designed for these improvements, stormwater runoff could exceed the capacity of stormwater drainage systems and result in degradation of water quality. However, compliance with existing regulations, including post-construction requirements of the SWRCB's NPDES Construction General Permit and hydromodification management requirements of applicable MS4 permits would minimize stormwater runoff. Additionally, implementation of Mitigation Measure HYD-3b.1 would require detailed hydraulic evaluations to ensure that new and/or modified stormwater infrastructure would be appropriately designed and that runoff from the Preferred Alternative would not exceed the capacity of storm drainage systems and result in water quality degradation. Thus, the Preferred Alternative's contribution to cumulative operational impacts on exceedance of stormwater drainage systems and water quality would be less than considerable with mitigation.

The rail and regional transportation projects listed in Table 4-3 of the Draft EIR and the River Islands Development Project, Northeast Industrial Specific Plan, and South Lathrop Specific Plan, would entail operation within 100-year or 200-year floodplains. In addition, these projects would also require operation within the boundaries of the legal Delta, and within the area covered by the *Basin-Wide Feasibility Study, San Joaquin Basin* (California Department of Water Resources 2017) and would encroach on levees and floodways under the jurisdiction of the Central Valley Flood Protection Board and other agencies such as Federal Emergency Management Agency (FEMA), U.S. Army Corps of Engineers (USACE), California Department of Water Resources (DWR), and local reclamation districts. Although such projects are subject to multiple state regulations, because most of the identified projects are still in the planning phase, the necessary hydrologic and hydraulic studies that would inform the appropriate design and sizing of facilities in floodplains, and the necessary storm drainage infrastructure, have not been prepared. Therefore, the identified projects would result in significant operational impacts from flooding related to storm drainage infrastructure and impeding or redirecting flood flows (including interference with proposed flood protection improvements that are envisioned under the San Joaquin Basin-Wide Feasibility Study).

As discussed in Section 3.10, *Hydrology and Water Quality* of the Draft EIR, Preferred Alternative facilities would increase the rate and amount of stormwater runoff from alteration of drainage patterns and creation of impervious surfaces, which could result in flooding. Preferred Alternative facilities would also be in 100- and 200-year floodplains and would require crossing over small

urban or rural streams, as well as Paradise Cut and the San Joaquin River. Therefore, Valley Link facilities could increase flooding from increased stormwater runoff, impede flood flows and thereby increase upstream or downstream flooding, and potentially reduce the effectiveness of flood improvements included in the Central Valley Flood Protection Plan as part of the San Joaquin Basin-Wide Feasibility Study.

The following measures mitigate this impact to a less than significant level.

- HAZ-2.2: Implement construction risk management plan
- HYD-3a.1: Prevent construction materials from being exposed to storm flooding hazards
- HYD-3b.1: Perform detailed hydraulic evaluations and implement new or modify existing stormwater controls as required to prevent storm drainage system capacity exceedance and reduce pollutant transport
- HYD-4.1: Perform hydrologic and hydraulic studies for project improvements located in floodplains, coordinate with regulatory agencies, and obtain required permits

The Preferred Alternative would require implementation of permit requirements from California Department of Fish and Wildlife, U.S. Army Corps of Engineers (USACE), and/or the SWRCB and Mitigation Measures HAZ-2.2, which requires the implementation of a construction risk management plan. Additional requirements that would also prevent degradation of water quality for in-water work, such as a Clean Water Act Section 401 Water Quality Certification, are discussed in Section 3.4, *Biological Resources*. Where identified projects would be constructed within or adjacent to aquatic features, these projects would also be subject to these permit requirements to minimize construction impacts on water quality. Thus, the Preferred Alternative's contribution to cumulative construction impacts on water quality from erosion would not be considerable.

Implementation of Mitigation Measure HYD-3a.1 would prevent the storage of stockpiled construction materials, such as soil, fuels, and lubricants, in flood zones during the winter months when storms are most likely to occur. Thus, the Preferred Alternative's contribution to cumulative construction impacts on water quality from flooding would be less than considerable with mitigation.

In addition to the regulatory permits described above applicable to both the Preferred Alternative and other future projects, implementation of Mitigation Measure HAZ-2.2 would require preparation of an RMP outlining appropriate containment procedures for handling and disposal of any encountered contaminated soil and groundwater and incorporates limitations for use and handling near creeks, surface waters, or other aquatic habitats based on the findings of an ecological risk assessment. Thus, the Preferred Alternative's contribution to cumulative operational impacts on water quality and stormwater runoff would be less than considerable with mitigation.

In addition to the state and local stormwater regulations discussed above, implementation of Mitigation Measure HYD-3b.1 would require detailed hydraulic evaluations to ensure that new and/or modified stormwater infrastructure would be appropriately designed and that runoff from the Preferred Alternative would not exceed the capacity of storm drainage systems and result in water quality degradation. Thus, the Preferred Alternative's contribution to cumulative operational impacts on exceedance of stormwater drainage systems and water quality would be less than considerable with mitigation.

In addition to the federal, state and local flood protection regulations discussed in Section 4.2.5.12 of the Draft EIR, implementation of Mitigation Measure HYD-3b.1 would require detailed hydraulic evaluations to ensure that new and/or modified stormwater infrastructure would be appropriately designed and that runoff from the Preferred Alternative would not exceed the capacity of storm drainage systems or contribute to flooding. Additionally, implementation of Mitigation Measure HYD-4.1 would require site-specific detailed hydrologic and hydraulic studies for portions of the Preferred Alternative located within 100- and 200-year floodplains. The results of these studies would be used to inform the facility design such that 100- and 200-year flows could pass without impedance, as required by FEMA, DWR, USACE, and Central Valley Flood Protection Board standards, thereby preventing upstream, onsite, and downstream flooding. Mitigation Measure HYD-4.1 also requires the Authority to consult with DWR and Central Valley Flood Protection Board regarding Preferred Alternative -related work that is proposed in the Paradise Cut area, to ensure that facilities are designed so they will not impair any of the flood zone improvements planned by DWR and Central Valley Flood Protection Board as part of the *2017 Central Valley Flood Protection Plan Update* and the *Basin-Wide Feasibility Study, San Joaquin Basin, Draft* (DWR 2017). Finally, Mitigation Measure HYD-4.1 requires the Authority to obtain all necessary permits, consult with any necessary agencies with levee jurisdiction, and perform work in accordance with the terms of the permits, which would contain measures to protect public safety and water quality, as issued by the cognizant regulatory agency. Thus, the Preferred Alternative's contribution to cumulative operational impacts related flooding would be less than considerable with mitigation.

3.3.2.9 Land Use and Planning

Significant Effect: Impact LU-2. Construction and operation of the Preferred Alternative could result in an impact due to a conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: The Preferred Alternative would be subject to regional and local plans and regulations. Land use plans, policies, and regulations adopted by cities, counties, and agencies with jurisdiction over the Preferred Alternative area are listed in Table 3.11-2 of the Draft EIR. Many of these policies are adopted for the purpose of restricting growth to planned areas and preventing development outside of established urban areas to prevent sprawl, protect agricultural land, and prioritize infill development. Each relevant policy or regulation is accompanied by an analysis of the Preferred Alternative's potential to conflict or be inconsistent with each respective policy.

Table 3.11-2 of the Draft EIR identifies potential conflicts between the Preferred Alternative and plans, policies, and regulations. In general, the Preferred Alternative is consistent with adopted land use plans, policies, or regulations. However, the Draft EIR does identify potentially significant impacts due to the Greenville Station and the Mountain House Station.

Construction of the Greenville Station would occur in unincorporated Alameda County on land planned for agriculture, outside of the City of Livermore's Urban Growth Boundary (UGB). Locating urban-style development, such as a commuter rail station, outside the UGB is inconsistent with the *Plan Bay Area 2040* regional plan, the Alameda County General Plan Open Space Element, and the *City of Livermore General Plan 2003-2025*. As discussed in Section 3.11, *Land Use and Planning* of the

Draft EIR, it would conflict with Livermore General Plan Objective LU-5.1, Policy LU-1.1 P1, Objective LU-18.1, and Policy LU-18.1 P3 that discourage development outside established UGBs. This policy inconsistency of allowing development outside the UGB could have a significant impact on known habitat of threatened and endangered species in the area and could serve as a catalyst for development in areas not currently anticipated in Livermore or Alameda County planning documents. In addition, construction of the Greenville Station outside of the UGB could result in pressures to develop the surrounding area with urban uses incompatible with currently adopted plans and policies in the station vicinity. This could be a significant impact.

The Mountain House Station would be in unincorporated San Joaquin County and is not located within the City of Tracy's sphere of influence (County of San Joaquin 2012). The Mountain House Station would be developed in areas located beyond current developed areas and would potentially conflict with policies intended to direct new urban development to locations within existing communities. Specifically, the Mountain House Station would be inconsistent with the *San Joaquin County General Plan* Policies LU-1.1, LU-2.1, and C-1.5. The Mountain House Station and West Tracy OMF Alternative could be inconsistent with the *City of Tracy General Plan* Policies LU-8.1 P1 and CC-4.1 P1. These policies contain language that development outside city boundaries could cause unplanned growth or conversion of agricultural lands and should therefore be opposed. Further, the Mountain House Station would be in areas zoned for agricultural uses. Like the Greenville Station, construction of the Mountain House Station as originally proposed could result in pressures to develop the immediate surrounding area with urban uses that would be incompatible with currently adopted plans and policies in the vicinity. This could be a significant impact.

The following changes mitigate this impact to a less than significant level.

- Select the Southfront Road Station Alternative and Mountain House Station Alternative in place of the Greenville Station and Mountain House Station.

Selection of the Southfront Road Station Alternative in place of the Greenville Station and the Mountain House Station Alternative in place of the Mountain House Station avoids the significant and unavoidable impacts identified with those originally proposed stations. With these changes, the Preferred Alternative would result in a less than significant impact.

3.3.2.10 Noise and Vibration

Significant Effect: Impact NOI-2a. Construction of the Preferred Alternative would expose sensitive receptors to substantial increases in groundborne vibration levels.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Construction activities can be expected to generate vibration levels at 25 feet as high as 94 VdB from compactors during site work, 87 VdB from bulldozers during rail work, and 104 VdB from impact pile drivers during structures work. Except for pile drivers, it is unlikely that such equipment would be used close enough to sensitive structures to have any damage effects. For pile driving, it is anticipated that the potential for damage effects would be limited to structures located at distances in the range of 30 to 75 feet from construction activities, depending on the building category.

Vibration annoyance effects or interference with the use of sensitive equipment, resulting from the vibration impact from pile driving is expected to be even greater than damage effects. Based on FTA methodology, Table 3.12-13 of the Draft EIR provides the approximate distances within which receivers could experience construction-related vibration annoyance effects. The results of the analysis indicate that vibration impacts would extend to distances of 230 to 630 feet from pile driving operation, depending on vibration sensitivity.

It is possible that construction activities involving pile drivers occurring at the edge of or slightly outside of the current right-of-way could result in vibration damage, and damage from construction vibration due to the Preferred Alternative would be a potentially significant impact.

The following measure mitigates this impact to a less than significant level.

- NOI-2.1a: Implement a construction vibration control plan

With implementation of Mitigation Measure NOI-2.1a, vibration impacts would be avoided or minimized; if building damage occurs due to construction then repairs would be made, or compensation provided. With implementation of Mitigation Measure NOI-2.1a, impacts resulting from construction vibration structural damage would be less than significant for the Preferred Alternative.

Significant Effect: Impact C-NOI-1. Implementation of the Preferred Alternative, in combination with other foreseeable projects in the surrounding area, would result in a significant cumulative impact from vibration.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: During construction, an increase in vibration levels would affect sensitive receptors along the Preferred Alternative corridor. Vibration impacts during construction would primarily result from simultaneous construction of different projects in the same location at the same time; however, where construction occurs in quick succession in the same area, there could also be a cumulative impact due to the extended duration of construction-related vibration. As shown in Tables 4-3 and 4-4 of the Draft EIR, the Preferred Alternative construction may overlap in time or location with several rail and other regional transportation projects. There are also numerous land development projects with planned or potential construction periods that would also overlap with construction of the Preferred Alternative, as shown in Table 4-5 of the Draft EIR.

As described in Section 3.12, *Noise and Vibration* of the Draft EIR, construction vibration levels at 25 feet could be as high as 94 velocity decibels (VdB) from compactors during site work, 87 VdB from bulldozers during rail work, and 104 VdB from impact pile drivers during structures work; pile driving activities are anticipated where bridges would be constructed, such as at Paradise Cut and the San Joaquin River. Vibrational impacts would extend to distances of 230 to 630 feet from pile-driving operations, 100 to 240 feet for compacting, and less than 130 feet for bulldozers, depending on the vibration sensitivity of the land use category.

As described in Section 3.12, *Noise and Vibration*, the Preferred Alternative would not result in any operational vibration impacts along the Valley Link corridor. Although the Preferred Alternative would introduce new passenger rail service from Dublin/Pleasanton to Lathrop, this new service would utilize mostly existing freeway and railroad corridors that are already utilized for vehicle and

freight rail traffic. Because of the volume of existing freight train traffic and high volume of vehicle traffic within the I-580 corridor in the area where Valley Link operations would occur, the increased vibration due to passenger trains with Valley Link operations would be very small. Also, because the new passenger rail service would not result in vibration levels greater than existing levels, no vibration impacts are projected at locations with existing train operations. Thus, the Preferred Alternative's contribution to cumulative vibration impacts because of operations would be less than considerable.

The following measure mitigates this impact to a less than significant level.

- NOI-2.1a: Implement a construction vibration control plan

Mitigation Measure NOI-2.1a would require preparation of a vibration control plan to reduce potential construction vibration impacts. Although there could be other projects simultaneously under construction adjacent to the Preferred Alternative corridor, unlike noise, vibration levels do not tend to accumulate. Thus, the Preferred Alternative's contribution to cumulative vibration impacts because of construction would be less than considerable with mitigation.

3.3.2.11 Population and Housing

Significant Effect: Impact POP-1. Construction and operation of the Preferred Alternative could substantially induce, either directly or indirectly, unplanned population growth in an area.

Findings: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: The Preferred Alternative may induce substantial amounts of unplanned population growth in three ways: (1) if the Preferred Alternative would result in a substantial amount of permanent employment that results in a substantial amount of unplanned growth; (2) if the Preferred Alternative (i.e., construction of stations, train operations) indirectly facilitates land use changes in the immediate vicinity of station areas that would result in substantial amounts of unplanned growth; or (3) if Valley Link service would substantially increase housing demand beyond planned levels.

Studies suggest that transit stations are more likely to increase the attractiveness of developing the surrounding area if land use policies and the character of the area are conducive to such development. If local land use policies support increased development and population growth, new stations are more likely to induce transit-oriented development (TOD). Although construction of a new transit station or expansion of an existing transit station, such as at the Tracy Transit Center, which currently serves only buses but would become part of the Valley Link Downtown Tracy Station with the Preferred Alternative, could make surrounding land more attractive to developers, an expansion of transit service by itself would not induce growth. Local land use policies, market conditions, political attitudes, and regulatory constraints would all inform the feasibility of developing TOD around stations for the Preferred Alternative.

The Greenville Station could result in pressures to develop the surrounding area with urban uses that would be incompatible with currently adopted plans and policies in the station vicinity. Development within the unincorporated county would be contingent upon review and approval by the City of Livermore and Alameda County and require changes to both Livermore and the county urban limit lines, thereby requiring a vote by residents of both Livermore and Alameda County. The

Authority considered mitigation to coordinate with Alameda County and the City of Livermore to initiate a general plan amendment planning process to address the issues related to population growth in the Greenville area. The Alameda County and the City of Livermore have exclusive responsibility for land use planning in each respective jurisdiction. Because the Authority has no jurisdiction of land use planning within Alameda County and the city of Livermore, mitigation to initiate a general plan amendment process is infeasible. In addition, there is no indication that Alameda County or the City of Livermore intend to amend the general plan.

Because the Authority has no land use authority and cannot mandate changes to local land use plans, there is currently no formal plan to change the planning documents to accommodate a transit station at Greenville Road or additional development around a new transit station. Development in this area would be inconsistent with current planning and would result in unplanned impacts on biological resources, and possibly other resources. Thus, the impact of the Greenville Station is considered significant and unavoidable.

Mountain House Station could result in pressures to develop the immediate surrounding area with urban uses that would be incompatible with currently adopted plans and policies in the vicinity. Development within the unincorporated county would be contingent upon review and approval by the City of Tracy and San Joaquin County and require changes to city and county urban limit lines. The Authority considered mitigation to coordinate with Alameda County, San Joaquin County, and the City of Tracy to initiate a general plan amendment planning process to address the issues related to population growth in the Mountain House Station area. Alameda County, San Joaquin County, and the City of Tracy have exclusive responsibility for land use planning in each respective jurisdiction. Because the Authority has no jurisdiction over land use planning within Alameda County, San Joaquin County, or the city of Tracy, mitigation to initiate a general plan amendment process is infeasible. In addition, there is no indication Alameda County, San Joaquin County, and the City of Tracy intend to amend the general plan. Furthermore, there are currently no formal plans to change local land use plans to accommodate the Mountain House Station or anticipate additional development around the new transit station. The Authority has no land use authority and cannot mandate changes to local land use plans. Development in the area would be inconsistent with current planning and could result in unplanned impacts on other resource areas.

The following changes mitigate these impact to a less than significant level.

- Select the Southfront Road Station Alternative and Mountain House Station Alternative in place of the Greenville Station and Mountain House Station.

Selection of the Southfront Road Station Alternative in place of the Greenville Station and the Mountain House Station Alternative in place of the Mountain House Station avoids the significant and unavoidable impacts identified with those originally proposed stations. With these changes, the Preferred Alternative would result in a less than significant impact on population and housing.

Significant Effect: Impact C-POP-1. Implementation of the Preferred Alternative, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on population and housing.

Findings: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: As summarized in Section 3.13, *Population and Housing* of the Draft EIR, the Greenville Station and Mountain House Station could result in pressures to develop the surrounding area with urban uses that would be incompatible with currently adopted plans and policies in the station vicinity, some of which are designed to promote environmental protection. Because the Authority has no land use authority and cannot mandate changes to local land use plans, there is currently no formal plan to change the planning documents to accommodate the Greenville Station, Mountain House Station, or additional development around a new transit station. Development in these areas would be inconsistent with current planning and could result in unplanned impacts on biological resources, and possibly other resources. Thus, the impact of the Proposed Project from implementation of the Greenville Station and the Mountain House Station is considered significant and unavoidable and mitigation is considered infeasible. Valley Link's contribution to a potential significant cumulative impact, due to land uses that are incompatible with local land use plans, would be considerable due to the Greenville Station and Mountain House Station.

The following Project changes mitigate this impact to a less than significant level.

- Select the Southfront Road Station Alternative and Mountain House Station Alternative in place of the Greenville Station and Mountain House Station contained in the Proposed Project.

Selection of the Southfront Road Station Alternative in place of the Greenville Station and the Mountain House Station Alternative in place of the Mountain House Station avoids the significant and unavoidable impacts identified with those originally proposed stations. With these changes, the Preferred Alternative would result in a less than considerable contribution to a cumulative impact on population and housing.

3.3.2.12 Recreation

Significant Effect: Impact REC-1. Construction and operation of the Preferred Alternative could substantially impair access to and/or the quality of existing recreational facilities.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Three recreational resources are within the footprint or within 300 feet of the Tri-Valley Alignment and Dublin/Pleasanton Station: the Dublin Sports Ground is adjacent to the Tri-Valley Alignment; the Iron Horse Regional Trail is within an underpass below the Tri-Valley Alignment footprint and crosses under I-580 at the proposed Dublin/Pleasanton Station; and the Arroyo Las Positas Trail is approximately 50 feet from the Tri-Valley Alignment and separated from the Preferred Alternative footprint by open space and vegetation.

The Preferred Alternative could have an impact on the above resources because of their proximity or overlap with the Preferred Alternative. The Dublin Sports Ground and the Arroyo Las Positas Trail are within 300 feet of the Preferred Alternative footprint and there are no roads or buildings acting as barriers to construction dust or visual degradation. Therefore, the potential exists for a significant impact on the Dublin Sports Ground and the Arroyo Las Positas Trail. The Iron Horse Regional Trail crosses under I-580 at the proposed Dublin/Pleasanton Station. The Dublin/Pleasanton Station would require right-of-way (ROW) acquisition. Construction activities associated with overhead bridge expansion may also be required within this recreational resource.

Based on preliminary engineering, the construction area associated with the Dublin/Pleasanton Station platform, adjacent to the existing BART station platform, could require construction that could encroach on the Iron Horse Regional Trail undercrossing. In addition, users of nearby portions of the trail would experience impacts involving visual degradation and increased noise and dust during the construction period. Thus, use and accessibility at this recreational resource would be temporarily disrupted during the construction period, which could potentially substantially impair the quality of the trail, resulting in a potentially significant impact.

As discussed in Section 3.15, *Recreation* of the Draft EIR, four recreational resources are located within 300 feet of the Tracy to Lathrop Alignment, variants 1 and 2 and the Downtown Tracy Station; and two recreational resources are located within the footprint of the Tracy to Lathrop Alignment, variants 1 and 2. The Preferred Alternative could have an impact on these resources because of their proximity to or overlap with the Preferred Alternative. As a result, users of these recreational resources would most likely experience impacts involving visual degradation and increased noise and dust during the construction period. The duration of construction-period impacts would vary, based on the proposed improvement. Users of recreational resources in the vicinity of track improvements may experience construction-period impacts that last a few days to a week, whereas users of recreational resources in the vicinity of station areas may experience construction-period impacts that last up to 3 months. Users of new railroad bridges that cross water features, such as the San Joaquin River, may experience construction-period impacts that last up to 36 months.

The San Joaquin River and Mossdale Crossing Regional Park are within the footprint of the Tracy to Lathrop Alignment, variants 1 and 2. The portion of the footprint within Mossdale Crossing Regional Park is within the UPRR ROW, which is currently within the Park. The San Joaquin River and Mossdale Crossing Regional Park therefore face the greatest risk of being affected by construction for an extended period. Users of Mossdale Crossing Regional Park would experience impacts involving visual degradation, increased noise, and dust during construction. Construction of the Tracy to Lathrop Alignment, variant 1 would require the installation of new replacement track on the already existing track crossing at the San Joaquin River. Upgrading of the existing track within the UPRR ROW would occur in segments. Once the sub-grade, ballast, and upgraded track are installed for one segment, construction would continue down the alignment. In addition to the new tracks, construction of the Tracy to Lathrop Alignment, variant 2 would entail construction of a new bridge over the San Joaquin River, which could last approximately 14 to 36 months. Although construction would be temporary, the duration of construction activities could potentially substantially impair access to or the quality of existing recreational facilities. The impacts would be potentially significant. Thus, use and accessibility of these recreational resources would be temporarily disrupted during the construction period. Construction of the Tracy to Lathrop Alignment, variants 1 and 2 could temporarily and potentially substantially impair the quality of the San Joaquin River and Mossdale Crossing Regional Park and would therefore result in a potentially significant impact.

The following measures mitigate this impact to a less than significant level.

- REC-1.1: Coordinate with the East Bay Regional Park District to provide advance notice of construction activities and maintain safe access to the Iron Horse Regional Trail during construction
- REC-1.2: Coordinate with San Joaquin County to provide advance notice of and maintain a safe open channel in the San Joaquin River during construction activities

- AES-1.1: Install visual barriers between construction work areas and sensitive residential and recreational receptors
- AQ-2.1: Implement advanced emissions controls for off-road equipment
- AQ-2.2: Implement off-road engine maintenance and idling restrictions
- AQ-2.3: Implement advanced emissions controls for trains
- AQ-2.4: Utilize modern fleet for on-road material delivery and haul trucks
- AQ-2.5: Implement fugitive dust controls during construction
- NOI-1.1a: Implement construction noise control plan

Mitigation for impacts on Iron Horse Regional Trail and the San Joaquin River, both of which are within the Preferred Alternative footprint, would involve local jurisdictions. Mitigation Measure REC-1.1 would ensure the continued availability of Iron Horse Regional Trail during construction. A safe detour would be provided during construction of the track alignments to ensure that use of the trail would remain available for pedestrians, bicyclists, and equestrians. Coordination between the Authority and the EBRPD would ensure more effective communication with recreationalists concerning temporary closures. Mitigation Measure REC-1.2 would ensure that the San Joaquin River would remain accessible to recreationists during construction. Agency coordination with San Joaquin County would help ensure an open channel for water recreation under the bridge. In the event of a temporary closure, the Authority will coordinate with the County on the timing and give advance notice to the community.

Other resources within 300 feet of the Preferred Alternative footprint would be susceptible to construction noise and dust. Mitigation Measure AES-1.1, which is described in greater detail in Section 3.1, *Aesthetics* of the Draft EIR, would require the Authority to install visual barriers between construction activities and sensitive receptors that would experience visual degradation during construction, including nearby recreational facilities. Recreational facilities that would be subject to visual degradation include those sites identified as occurring within 0.25 mile of Preferred Alternative construction sites, which would have unobstructed views of construction activities, such as Mossdale Crossing Regional Park. Mitigation Measures AQ-2.1 through AQ-2.5 require advanced emissions controls, engine maintenance, idling restrictions, fleet requirements for construction equipment and fugitive dust control measures to minimize potential construction air quality and dust impacts on users of nearby recreational resources. Mitigation Measure NOI-1.1a, which is described in greater detail in Section 3.12, *Noise* of the Draft EIR, requires development of a Noise Control Plan, which would incorporate best practices to minimize the impacts of construction-related noise to nearby sensitive receptors, including recreational facilities. Disruption to recreational resources from construction activities would be temporary, and usage of the recreational facilities would most likely return to normal after construction. Implementation of Mitigation Measures REC-1.1, REC-1.2, AES-1.1, AQ-2.1, AQ-2.2, AQ-2.3, AQ-2.4, AQ-2.5, and NOI-1.1a would reduce potential impacts on recreational resources to a less-than-significant level due to the construction of the Preferred Alternative (due to the Tri-Valley Alignment; Dublin/Pleasanton Station; Tracy to Lathrop Alignment, variants 1 and 2; Downtown Tracy Station).

Significant Effect: Impact C-REC-1. Implementation of the Preferred Alternative, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on recreational resources.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Users of recreational resources in the vicinity of the Preferred Alternative would experience impacts involving visual degradation, and increased noise and dust during the construction period. Likewise, construction of the projects listed in Tables 4-3, 4-4, and 4-5 of the Draft EIR could result in similar impacts to the recreational resources that would be affected by construction of Valley Link. Table 4-7 of the Draft EIR identifies the projects that would be located within 1,000 feet of the recreational resources that could be affected by Valley Link.

The duration of construction-period impacts varies between a few days to a week (track work) and 12 to 36 months (station and railroad bridges), depending on the facility constructed. Although construction would be temporary, the duration of construction activities could impair access to or the quality of existing recreational facilities. For a cumulative impact to occur, the construction period for the Preferred Alternative and the construction period for the identified project would have to overlap for a substantial period, such that access would be impaired. As summarized in Table 4-7 of the Draft EIR, most recreational facilities would not be affected because the facilities are separated from identified projects by parking lots or existing buildings that would block the visual, noise, and dust impacts. Nonetheless, as shown in Table 4-7, there are some projects located close to recreational resources that would also be affected by Valley Link and a potential cumulative impact could occur if there were overlap in construction schedules. Thus, the Preferred Alternative in combination with the construction of other nearby projects, would constitute a potentially significant cumulative impact.

The following measures mitigate this impact to a less than significant level.

- AES-1.1: Install visual barriers between construction work areas and sensitive residential and recreational receptors
- AQ-2.1: Implement advanced emissions controls for off-road equipment
- AQ-2.2: Implement off-road engine maintenance and idling restrictions
- AQ-2.3: Implement advanced emissions controls for trains
- AQ-2.4: Utilize modern fleet for on-road material delivery and haul trucks
- AQ-2.5: Implement fugitive dust controls during construction
- NOI-1.1a: Implement construction noise control plan

The Preferred Alternative would implement Mitigation Measures AES-1.1, AQ-2.1 through AQ-2.5, and NOI-1.1a, which would require the installation of visual barriers between stationary construction work areas and sensitive recreational receptors; require advanced emissions controls, engine maintenance, idling restrictions, fleet requirements for construction equipment, and fugitive dust control measures; and the preparation of a construction noise plan. These mitigation measures would limit the visual exposure of construction activities, minimize potential construction air quality and dust impacts, and noise of construction activities to users of nearby recreational resources. Thus, Preferred Alternative's contribution to cumulative impacts on recreational resources because of construction would be less than considerable with mitigation.

3.3.2.13 Transportation and Traffic

Significant Effect: Impact TR-1. Construction and operation of the Preferred Alternative could conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: As discussed in Section 3.17, *Transportation and Traffic* of the Draft EIR, the Preferred Alternative would conform to—and not conflict with—programs, plans, ordinances, and policies addressing the circulation system, and impacts of Preferred Alternative operation related to the regulatory setting would be less than significant. Likewise, operation-related impacts for the alternatives analyzed at an equal level of detail would be less than significant.

However, in recognition of potential disruptions during construction of the Preferred Alternative to the circulation system, to mainline (freight and passenger) rail operation along UPRR-owned ROW, and to BART operation, the impacts of construction of the Preferred Alternative have been conservatively deemed significant. Likewise, construction-related impacts for the alternatives analyzed at an equal level of detail have been conservatively deemed significant

The following measures mitigate the Preferred Alternative's contribution to these effects to less than significant.

- TRA-1.1: Transportation management plan for project construction
- TRA-1.2: Mainline railway disruption control plan for project construction
- TRA-1.3: BART disruption control plan for project construction

Implementation of Mitigation Measure TRA-1.1, TRA-1.2, and TRA-1.3 would address construction-related effects on the circulation system, on mainline railway operation along UPRR-owned ROW, and on BART operation, and would reduce these impacts to less than significant. Likewise, Mitigation Measures TRA-1.1, TRA-1.2, and TRA-1.3 would reduce these impacts to less than significant for the Preferred Alternative.

Significant Effect: Impact C-TRA-1: Implementation of the Preferred Alternative, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on transportation and traffic.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Considering the Preferred Alternative in conjunction with identified projects, potential effects on transportation and traffic may be amplified where construction activities are in proximity or when they take place concurrently. Standard construction practices and regulations require construction contractors to work with relevant parties (e.g., public works departments, transportation agencies, transit service providers) to coordinate construction activities and identify, avoid, and minimize disruptions to the circulation system. Despite these requirements, however, it is possible that cumulative construction effects could reach the level of a significant impact.

For certain components of the circulation system, however, it cannot be determined with reasonable certainty whether general conformance with applicable programs, plans, ordinances, or policies would be achievable. The ability to improve transit service and facilities, for example, is often restricted by the availability of funding, and it is possible that land use development in the cumulative timeframe may generate additional ridership that would require substantive physical improvements that are not foreseeable at this time, or that may not be implemented in time to ensure that transit continues to function in accordance with applicable programs, plans, ordinances, or policies. Likewise, it is not certain whether goals and objectives from the regulatory setting related to VMT reduction are fully achievable. Given this uncertainty, cumulative impacts related to the regulatory setting are conservatively deemed significant.

The following measures mitigate this impact to a less than significant level.

- TRA-1.1: Transportation management plan for project construction
- TRA-1.2: Mainline railway disruption control plan for project construction
- TRA-1.3: BART disruption control plan for project construction

Implementation of Mitigation Measures TRA-1.1, TRA-1.2, and TRA-1.3 would mitigate project-specific construction impacts to less than significant levels by maximizing planning and coordination between the Preferred Alternative and other transportation services. While these mitigation measures would reduce the significant construction impact to less than significant, they would also reduce the Preferred Alternative's contribution to the impact to less than considerable.

3.3.2.14 Utilities and Service Systems

Significant Effect: Impact USS-1. Construction or operation of the Preferred Alternative could result in relocation or construction of new or expanded electric power, natural gas, or telecommunication facilities, the construction of which could cause significant environmental effects.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: As discussed in Section 3.18, *Utilities and Service Systems* of the Draft EIR, construction of the Preferred Alternative could disrupt utilities or require utilities to be relocated. It is possible that relocation or accidental disruption during construction could disrupt utility service or damage utilities, resulting in a potentially significant impact on utilities infrastructure.
The following measure mitigates this impact to a less than significant level.

- USS-1.1: Implement a Utility Relocation Plan

Implementation of mitigation measures USS-1.1 would ensure that the potential for disruption of utilities or utility relocation is minimized by pre-planning and coordination between the Preferred Alternative and the utility providers.

Significant Effect: Impact C-USS-1. Implementation of the Preferred Alternative, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on utilities and service systems.

Finding: The Authority hereby makes finding (a)(1) (described above), as required by PUB. RES. CODE 21081 and stated in State CEQA Guidelines Section 15091, with respect to the above identified effect.

Facts in Support of Findings: Construction of both the Preferred Alternative and identified projects, such as the ACE Extension Lathrop to Ceres/Merced and California High-Speed Rail (Merced to Sacramento Section), could disrupt utilities or require utilities to be relocated. However, the agencies affiliated with these projects would work with local utility service providers to address the potential for utility disruption during construction, and to minimize service interruptions.

The following measure mitigates this impact to a less than significant level.

- USS-1.1: Implement a Utility Relocation Plan
- HAZ-2.2: Implement Construction Risk Management Plan

Implementation of mitigation measures USS-1.1 and HAZ-2.2 would ensure that the potential for disruption of utilities or utility relocation is minimized by pre-planning and coordination between the Preferred Alternative and the utility providers.

3.4 Findings Regarding the Alternatives

As required by CEQA, a discussion of possible alternatives to the Proposed Project, including the No-Project Alternative, was included in the Draft EIR and Final EIR. With adoption of the Preferred Alternative, the Authority makes the following findings to support its rejection of the following alternatives and recommendation to adopt the Southfront Road Station Alternative, Stone Cut Alignment Alternative, and Mountain House Station Alternative as part of the approved Project. Therefore, no infeasibility findings are necessary for those three alternatives. Other alternatives were considered and screened out of the range of alternatives analyzed in the EIR for the reasons discussed in Section 5.8 of the Final EIR, which is hereby incorporated by reference.

As noted above, Section 15091 (a)(3) of the State CEQA Guidelines describes that one of the findings that a lead agency can make concerning significant project impacts is that specific economic, legal, social, technological, or other considerations, make infeasible the Project alternatives identified in the Final EIR. In the Final EIR, Chapter 5, *Other Alternatives Considered*, the alternatives were screened for potential technical, logistical, and financial feasibility, but the alternatives were not evaluated for all economic, legal, social or other considerations that make up the broader definition of "feasibility" in Section 15091 (a)(3). In these findings, the decision-making body is making a final determination of feasibility.

An alternative may have been determined to be potentially technically, logistically, and financially "feasible" in the Final EIR and still ultimately be concluded by the Authority to meet the definition of "infeasibility" per Section 15091 (a)(3) when all considerations are considered. The final determination of infeasibility "involves a balancing of various 'economic, environmental, social, and technological factors.'" (*City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 401, 417). Where there are competing and conflicting interests to be resolved, the determination of infeasibility "is not a case of straightforward questions of legal or economic feasibility," but rather, based on policy considerations. (*California Native Plant Society v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 1001-02). "[A]n alternative that is impractical or undesirable from a policy standpoint may be

rejected as infeasible." (*Id*. at p. 1002, citing 2 Kostka & Zischke, Practice Under the Cal. Environmental Quality Act, (Cont. Ed. Bar 2010) section 17.29, p. 824).

For this EIR, the following basic objectives are the primary purposes of the Project identified in Chapter 2, *Project Description,* of the Draft EIR. These are integrated objectives, meaning that an alternative must satisfy all of them to meet the standard of the Project. Improved rail service is intended to provide an alternative to vehicle travel that will meet statewide objectives for air quality improvement and greenhouse gas (GHG) reduction (as expressed in the air quality standards of the San Francisco Bay Area Air Quality Management District, San Joaquin Valley Air Pollution Control District, and the Air Resources Board's SB 32 Scoping Plan), as well as regional objectives for reducing traffic congestion and improving transportation sustainability (as expressed in the Regional Transportation Plans/Sustainable Communities Strategies adopted by the San Joaquin and Bay Area Metropolitan Planning Organizations).

- Improve connectivity within the Northern California Megaregion: connecting housing, people, and jobs.
- Establish rail connectivity between BART's rapid transit system and the ACE commuter service in the Tri-Valley
- Pursue Project implementation that is fast, cost-effective, and responsive to the goals and objectives of the communities it will serve
- Be a model of sustainability in the design, construction, and operation of the system
- Support the vision of the California State Rail Plan to connect the Northern California Megaregion to the State rail system.

3.4.1 No-Project Alternative

Findings: The Authority hereby finds that this alternative is determined to be infeasible for the following reasons.

Facts in Support of Findings: The No-Project Alternative would largely maintain existing levels of service. The No-Project Alternative would not meet any of the Project's objectives listed above. Intercity service and transit connections would remain at existing levels and therefore connectivity within the region, and between the BART and ACE systems, not be enhanced. Sustainability would not be enhanced because regional air quality, and GHG emissions would not be improved beyond existing baseline levels. Further, the No-Project Alternative would not improve connectivity within the Megaregion. For these reasons, the No-Project Alternative is determined to be infeasible.

3.4.2 Greenville Station

Findings: The Authority hereby finds that this alternative is determined to be infeasible for the following reasons.

Facts in Support of Findings: The Greenville Station would be in an area of high biological sensitivity, with the potential to support numerous special status species, including California tiger salamander and California red-legged frog, among others. The presence of the Greenville Station may deter normal wildlife use of the undercrossing under I-580 and contribute to wildlife dispersal. These impacts relative to the Mountain House would result in a significant and unavoidable impact on biological resources. The Greenville Station would also be inconsistent with land use planning for

the area and would have the potential to induce unplanned growth, which would be a significant and unavoidable land use and population and housing impact. Inclusion of the Southfront Road Station Alternative in the Preferred Alternative would avoid the significant and unavoidable impacts on biological resources, land use, and population and housing associated with the Greenville Station. The alternative is rejected for this reason.

3.4.3 Mountain House Station

Findings: The Authority hereby finds that this alternative is determined to be infeasible for the following reasons.

Facts in Support of Findings: The Mountain House Station would be in an area of high biological sensitivity, with the potential to support numerous special status species, including California tiger salamander, California red-legged frog, and San Joaquin kit fox, among others. The presence of the Mountain House Station may deter normal wildlife movement and contribute to wildlife dispersal. These impacts relative to the Mountain House would result in a significant and unavoidable impact on biological resources. The Mountain House Station would also be inconsistent with land use planning for the area and would have the potential to induce unplanned growth, which would be a significant and unavoidable land use and population and housing impact. Inclusion of the Mountain House Station Alternative in the Preferred Alternative would avoid the significant and unavoidable impacts on biological resources and population and housing associated with the Mountain House Station. The alternative is rejected for this reason.

3.4.4 West Tracy OMF Alternative

Findings: The Authority hereby finds that this alternative is determined to be infeasible for the following reasons.

Facts in Support of Findings: The West Tracy OMF Alternative would be in an area of high biological sensitivity, with the potential to support numerous special status species, including California tiger salamander, American badger, and San Joaquin kit fox. The presence of the West Tracy OMF Alternative may deter normal wildlife use of the area and contribute to wildlife dispersal. These impacts relative to the West Tracy OMF Alternative would result in a significant and unavoidable impact on biological resources. Under the Preferred Alternative; as revised by inclusion of the Southfront Road Station Alternative, Stone Cut Alignment Alternative, and Mountain House Station Alternative; would avoid significant and unavoidable impacts on biological resources. The alternative is rejected for this reason.

3.4.5 Downtown Tracy Station Parking Alternative 1

Findings: The Authority hereby finds that this alternative is determined to be infeasible for the following reason.

Facts in Support of Findings: Construction of this alternative would involve a parking garage (in the near term), which would make it more costly than the Preferred Alternative. Construction of this alternative is not part of baseline project funding and is dependent on completion of station area plans and funding from the City of Tracy or other local funding partners. The uncertainty of financing this alternative is contrary to the Project objective calling for "project implementation that

is fast, [and] cost-effective." Furthermore, this alternative would not avoid or reduce any significant unavoidable impacts of the Preferred Alternative. This alternative is rejected for these reasons.

3.4.6 Downtown Tracy Station Parking Alternative 2

Findings: The Authority hereby finds that this alternative is determined to be infeasible for the following reason.

Facts in Support of Findings: Construction of this alternative would involve a parking garage (in the near term) which would make it more costly than the Preferred Alternative. Construction of this alternative is not part of baseline project funding and is dependent on completion of station area plans and funding from the City of Tracy or other local funding partners. The uncertainty of financing this alternative is contrary to the Project objective calling for "project implementation that is fast, [and] cost-effective." Furthermore, this alternative would not avoid or reduce any significant unavoidable impacts of the Preferred Alternative. This alternative is rejected for these reasons.

3.4.7 Bus/Bus Rapid Transit (BRT) with Managed Lanes Alternative

Findings: The Authority hereby finds that this alternative is determined to be infeasible for the following reasons.

Facts in Support of Findings: This alternative would not meet the Project objective to "[s]upport the vision of the California State Rail Plan to connect the Northern California Megaregion to the State rail system" to the same extent as the Project. A Bus/BRT alternative injects a non-rail mode into trips between the ACE and BART systems. This does not establish true rail connectivity. This alternative would result in substantially lower ridership (estimated weekday ridership of 5,660 in 2040) than the Preferred Alternative (estimated weekday ridership of 32,990 in 2040), which would result in substantially lower reductions in vehicle miles travelled, lower reductions of criteria pollutant emissions, and lower reduction in greenhouse gas (GHG) emissions. The lower ridership would mean that this alternative would not meet the Project objective to "Improve connectivity within the Northern California Megaregion: connecting housing, people, and jobs" in any way as much as the Preferred Alternative. The relatively lower reductions in criteria pollutants and GHG emissions in the long run would mean that this alternative would not meet the Project objective to "be a model of sustainability" in operations in any way as much as the Preferred Alternative. Due to not meeting one of the Project objectives and not meeting several other Project Objectives to any similar degree as the Preferred Alternative, and due to inferior environmental outcomes related to VMT, air quality, and GHG emissions, this alternative was rejected.

3.4.8 Electric Multiple Unit/Overhead Catenary System (EMU/OCS) Alternative

Findings: The Authority hereby finds that this alternative is determined to be infeasible for the following reasons.

Facts in Support of Findings: The EMU/OCS Alternative would be substantially more expensive than the Project. Based on 15% level engineering plans, capital costs for the Proposed Project (from Dublin/Pleasanton to North Lathrop, using DMU trainsets and the single-track variant from

Mountain House Station Alternative to Downtown Tracy) were estimated at $2.3 billion to $2.9 billion ($2018). The Altamont OCS would add an additional $185 million to $232 million to the cost of rolling stock.

No capital cost estimates were developed for the EMU/OCS Alternative construction and operation, but given the additional infrastructure, the capital cost estimate is assumed to be greater than that of the Proposed Project. In particular, the EMU/OCS Alternative would likely entail much greater construction costs owing to catenary poles and wires for the entire length of the route. For example, where the train would operate within the freeway median and traverse beneath existing overpasses, it may be necessary for trains to run within lowered trenches (or for overpasses to be raised) to accommodate catenary structures. Due to the additional construction impacts and cost, this alternative was rejected.

3.4.9 Iron Horse Alternative

Findings: The Authority hereby finds that this alternative is determined to be infeasible for the following reasons.

Facts in Support of Findings: If the Iron Horse Trail Alternative did not include any track capacity improvements east of Pleasanton (e.g., only included improvements along the Iron Horse Trail alignment), then this alternative would only be supported by existing ACE levels of service. In this scenario, this alternative would result in substantially lower ridership, reduction of VMT, reduction of criteria pollutants, and reduction of GHG emissions compared to the Preferred Alternative. Furthermore, in this scenario, ACE service from the San Joaquin Valley to Silicon Valley would be delayed due to at least one morning and one evening train needing to divert from the current ACE route to service the Dublin/Pleasanton BART station, which would impair ACE ridership due to the additional travel time. If the Iron Horse Trail Alternative did include track capacity improvements east of Pleasanton (in addition to along the Iron Horse Trail alignment), then it would not have substantial cost savings relative to the Preferred Alternative but would result in inferior service times due to a lengthier route of travel. An alignment through Downtown Livermore is opposed by the City of Livermore, and the City of Pleasanton is most likely to oppose this alternative due to the substantial construction disruption to construct along the Iron Horse Trail alignment, as well as the operational noise and recreational impacts of this alternative.

As described in Chapter 5 in the Draft EIR and in responses to comments, the Iron Horse Alternative would not meet the following project objectives:

- *Pursue project implementation that is fast, cost-effective, and responsive to the goals and objectives of the communities it will serve.* As described above, in order for this alternative to have similar levels of service and ridership as the Preferred Alternative, it would require substantial railway improvements between Greenville Road and the BART Dublin/Pleasanton Station in addition to roadway crossing improvements along the Iron Horse Trail alignment, which would incur the opposition of the City of Livermore and the likely opposition of the City of Pleasanton (both of which are member agencies of the Authority), which would slow the Project implementation and would not be responsive to the goals and objectives of communities served by the Project. In addition, this alternative would require substantial improvements between Lathrop and Greenville to provide the same level of service as the Proposed Project which will result in similar costs for that portion as the Proposed Project.

- *Be a model of sustainability in the design, construction, and operation of the system*. Because the project would place a railway through existing residential neighborhoods, would require acquisition of park lands, would displace/require rerouting of a regional trail, and would have inferior service (and thus inferior ridership) and thus less reductions of VMT, criteria pollutants, and GHG emissions, this alternative would not be a model of sustainability.

For these reasons, this alternative was rejected.

Section 4
Overriding Considerations

4.1 Introduction

CEQA requires decision-makers to balance the economic, legal, social, technological, or other benefits of a project against its unavoidable environmental risks when determining whether to approve a project. If the specific economic, legal, social, technological or other benefits of the project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered acceptable (State CEQA Guidelines 15093). In this case, the lead agency must state in writing the specific reasons to support its action. This "statement of overriding considerations" shall be supported by substantial evidence in the record, shall be included in the record of the project approval, and should be mentioned in the notice of determination. Pursuant to Section 15093 of the CEQA Guidelines, the following Statement of Overriding Considerations has been prepared for the Preferred Alternative.

4.2 Statements of Fact in Support of Overriding Considerations

The Authority hereby finds that the following social, legal, environmental and economic benefits of the Preferred Alternative outweigh the significant unavoidable impacts for the following reasons. These benefits, viewed both individually and collectively, outweigh the significant unavoidable adverse effects of implementing the Preferred Alternative:

- The 42-mile, 7-station Preferred Alternative would link the Dublin/Pleasanton BART Station in the Tri-Valley with a major intermodal ACE station in North Lathrop. Currently, there is a 5-mile gap between ACE service and the BART system in the Tri-Valley and, after decades of planning, the BART board decided in May 2018 to no longer plan for expansion of the BART system to Livermore. Connecting BART and ACE with frequent, bidirectional service throughout the day, and providing expanded passenger rail connectivity between the San Joaquin Valley and the Bay Area, will increase inter-regional mobility. The connection of these two intermodal hubs would link nearly 500 miles of commuter and intercity rail with more than 130 stations in the Northern California Megaregion, providing an alternative to congested roads and highways.
- The Altamont Pass Corridor, located in the center of the Northern California Megaregion, connects the San Joaquin Valley to the Tri-Valley in the Bay Area and is a vital node in the megaregion's economic ecosystem as well as a key megaregion transportation route. The I-580 freeway serves the Altamont Pass Corridor and ranks as one of the most congested freeways in the megaregion during peak hours due to a high volume of regional and inter-regional commuter, freight, and recreational traffic. According to the Bay Area Council Economic Institute, more than 86,000 commuters currently travel this route daily, and this number is expected to increase by up to 75 percent from 2016 to 2040.

Throughout the Bay Area region, daily minutes of delay per worker due to commute congestion have steadily increased, rising by more than 40 percent over the past two decades. Within Alameda

County, the highways are key regional and inter-regional connectors. As one of the region's highway network hubs, Alameda County experiences a disproportionately high share of the region's congestion. Overall, 47 percent of trips on Alameda County roads originate outside of the county. I-580 is the primary east-west transportation corridor in eastern Alameda County, and the topography of the areas north and south of I-580 limits alternative east-west transportation routes. In 2018, Alameda County had five of the top ten most congested roads and 31 percent of the Bay Area's congestion-related vehicle delay. Specifically, the westbound segment of I-580 from approximately the San Joaquin County line to Hacienda Drive in Dublin and Pleasanton was the 17th most congested highway segment in the Bay Area in 2015, with the congestion primarily occurring during the morning commute.

Rapid development within eastern Alameda County and in the Tri-Valley area, as well as inter-regional commuting from San Joaquin County, has resulted in severe congestion along I-580. For example, 84 percent of Tracy residents commute out of Tracy for work. San Joaquin County places in the top 10 nationally for its percentage of residents with a commute over 90 minutes long. It is estimated that these commuters spent over 5,000 hours stuck in traffic in each direction during an average day during 2017. These long commutes can be explained in part by the long distance traveled and by the growing congestion on I-580. The number of daily commuters traveling through the Tri-Valley from Northern San Joaquin Valley has grown to 86,445, a 43 percent increase from 2010 to 2017 (Figure 1-7). As shown in Figure 1-8, the number of daily commuters traveling through the Tri-Valley from Northern San Joaquin Valley has continued to increase (14 percent between 2017 and 2018), resulting in even greater congestion.

The Preferred Alternative will help reduce commute traffic on heavily travelled routes between the Bay Area and northern San Joaquin Valley. The rapid increase in travel demand between the San Joaquin Valley, the Tri-Valley, and the South Bay, coupled with the growth in population in the surrounding areas, has placed increasing pressures on the highways serving the region. By 2040, the Preferred Alternative is expected to provide an estimated 33,000 daily rides in 2040. This will help ameliorate expected vehicle congestion in the I-580/Altamont Pass freeway corridor.

- The Preferred Alternative is designed to meet, serve, and expand on regional and State transportation goals as the Preferred Alternative and other investments in the megaregion are developed over the next two decades. Valley Link closes critical transit gaps and improves connectivity within the Bay Area and the Northern California Megaregion by connecting two designated State Rail Hubs, Stockton Area Hub and the Tri-Valley Hub, and providing a potential early connection to high-speed rail.
- The Preferred Alternative, by displacing vehicle trips with commuter rail trips, will reduce future air quality deterioration, particularly in the San Joaquin Valley Air Basin. The SJVAB is designated an extreme nonattainment area for the 8-hour federal standard for ozone and a nonattainment area for the federal PM2.5 standard. With respect to California standards, the SJVAB is currently a severe nonattainment area for the 1-hour ozone standard and a nonattainment area for the 8-hour ozone, PM2.5, and PM10 standards.

Section 3.3, *Air Quality* of the Draft EIR provides a summary of data collected at the air quality monitoring stations nearest to the Preferred Alternative corridor and a discussion of the total number of days that state and federal ambient air quality standards were exceeded. Because transportation is the major contributor to ozone precursors, increasing auto travel threatens the area's improvement in air quality. Growing congestion will add to the potential problems because of increased emissions of vehicles operating in stop-and-go traffic. Shifting commuters and other

travelers to higher occupancy modes is highly desirable as a means to partially offset the effects on air quality produced by the growth in auto travel. The Valley Link service offers the greatest potential for increased high-occupancy travel from the San Joaquin Valley to the Bay Area including in areas with the most severe air quality problems in the corridor. As shown on Table 3.3-19 of the Draft EIR, compared to existing conditions, by 2040, Valley Link would result in reduction in criteria emissions in both the BAAQMD and SJVAPCD.

- The State has adopted AB 32, the Global Warming Solutions Act of 2006, which seeks to make a first step in reducing statewide greenhouse gas (GHG) emissions. The long-term effects of climate change, if unchecked, could have substantial adverse effects on the economy, health, welfare and natural heritage of the San Francisco Bay Area and San Joaquin Valley, including sea level rise and more frequent droughts. The Authority, in adopting the Preferred Alternative, desires to connect the BART and ACE rail systems in a way that contributes most substantially to reducing GHG emissions to support California, national, and global efforts by reducing vehicle miles travelled (VMT) associated with commuting between the Bay Area and the northern San Joaquin Valley.

The Preferred Alternative will operate 74 daily round trips—providing an estimated 33,000 daily rides in 2040. This will result in the reduction of approximately 1.477 million vehicle miles traveled per year in 2040 (based on weekday reductions only) and the reduction of an estimated 33,979 to 42,657 metric tons of greenhouse gas (GHG) emissions annually in 2040. In addition, the Preferred Alternative would support the planning of local communities for transit-oriented development such as around the Isabel Station and near the Southfront Road Station Alternative in Livermore as well as the Downtown Tracy Station.