

4.1 Introduction

This chapter provides additional analyses and information required under CEQA and includes the following.

- Cumulative Impact Analysis
- Significant and Unavoidable Environmental Impacts of the Proposed Project
- Significant and Irreversible Environmental Challenges
- Growth-Inducing Impacts
- Public Agency Involvement
- List of Preparers

4.2 Cumulative Impacts

The focus of the cumulative analysis is to identify Valley Link’s contribution to significant cumulative impacts and to determine whether that contribution would be considerable. This cumulative impact analysis uses the term “Valley Link Project” or “Valley Link” when referring to the Proposed Project and the alternatives analyzed at an equal level of detail (i.e., the Southfront Road Station Alternative, Mountain House Station Alternative, Downtown Tracy Station Parking Alternative 1, Downtown Tracy Station Parking Alternative 2, Stone Cut Alignment Alternative, and the West Tracy Operation and Maintenance Facility OMF Alternative).

When cumulative impacts on a resource affected by Valley Link can be clearly shown to be less than significant, and when Valley Link would have no impact on a resource or can be clearly shown to make a less-than-considerable contribution to a cumulative impact, the discussion of cumulative impacts is brief. When Valley Link is likely to contribute considerably to a significant cumulative impact, the analysis provides more detail. The cumulative analysis focuses on Valley Link’s potential contribution to the cumulative impact rather than a detailed description of the cumulative impact itself.

4.2.1 CEQA Requirements

CEQA Guidelines define a cumulative impact as two or more individual impacts that, when considered together, are considerable or that compound or increase other significant environmental impacts. The incremental impact of a project may be considerable when viewed in the context of other closely related past, present, and reasonably foreseeable probable future projects.¹

¹ *Reasonably foreseeable future projects* are defined as projects that have been adopted or have otherwise demonstrated likelihood to occur based on documentation from project sponsors.

Cumulative impacts can result from individually minor, but collectively significant, projects taking place over a period of time (CEQA Guidelines Section 15355).

CEQA Guidelines Section 15130(b) indicates that an adequate discussion of potential cumulative effects requires consideration of either a list-based approach or a projection-based approach. This EIR uses a combination of a list-based approach and a projection-based/plan-based approach to determine whether significant cumulative impacts would occur.

Under CEQA, the Tri-Valley–San Joaquin Valley Regional Rail Authority (Authority) is not responsible for mitigating overall cumulative impact. The Authority is only responsible for identifying and implementing potentially feasible mitigation to address Valley Link’s considerable contributions to identified significant cumulative impacts. Thus, the obligation to assess mitigation is limited to the fair share² portion of a significant cumulative impact that is due to the Valley Link’s considerable contribution. Other projects have a similar obligation for their contributions to significant cumulative impacts.

4.2.2 Approach and Methodology

CEQA Guidelines Section 15130(b) states that the discussion of cumulative impacts should include the following.

- Either (1) a list of past, present, and probable future projects producing related or cumulative impacts, or (2) a summary of projections contained in an adopted general plan or similar document, or in an adopted or certified environmental document, that described or evaluated conditions contributing to a cumulative impact.
- A description of the geographic scope of the area affected by the cumulative impact.
- A summary of expected environmental effects to be produced by these projects.
- Reasonable, feasible options for mitigating or avoiding the project’s contribution to any significant cumulative effects.

This EIR uses a hybrid approach consisting of a combination of the list-based and projection-based (plan-based) approaches to best identify cumulative impacts. Table 4-1 summarizes the methodology used for each cumulative subject analysis as well as the geographic area of analysis.

- **Projection Approach:** This approach discloses regional cumulative impacts related to air quality, GHG emissions, population and housing, public services, recreation, safety and security, transportation and traffic, and utilities and service systems.
- **List Approach:** Valley Link and specific projects in or adjacent to the Valley Link corridor were examined for the potential to result in cumulatively significant localized impacts. This analysis considers transportation projects proposed for the Valley Link Project corridor, as well as directly adjacent planned land development projects. The cumulative analysis uses this approach to identify localized impacts related to aesthetics, agricultural resources, air quality, biological resources, cultural resources, energy resources, geology and soils, GHG emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise and

² *Fair share* in this context refers to the portion of the cumulative impact that a project contributes to in which a project would be also be responsible for mitigating.

vibration, public services, recreation, safety and security, transportation and traffic, and utilities and service systems.

As described in Chapter 3, *Environmental Impact Analysis*, Valley Link would have no impact on forestry resources. Because Valley Link would have no impact on forestry resources, it cannot contribute to any potential cumulative impacts on forestry resources. The topic of forestry resources is thus not discussed further in this chapter.

Table 4-1. Summary of Cumulative Impact Methodology

Resource Issue	Cumulative Method	Geographic Area of Impact
Aesthetics	List	Valley Link corridor and vicinity
Agricultural resources	List	Valley Link corridor and vicinity
Air quality	<ul style="list-style-type: none"> • Projection (criteria pollutants) • List (toxic air contaminants) 	<ul style="list-style-type: none"> • Criteria pollutants: San Francisco Bay Area Air Basin and San Joaquin Valley Air Basin • Toxic air contaminants: Valley Link corridor and immediate vicinity
Biological resources	List	<ul style="list-style-type: none"> • Terrestrial species: Valley Link corridor and immediate vicinity • Aquatic species: Valley Link corridor, vicinity, and downstream
Cultural resources	List	Valley Link corridor and vicinity
Energy resources	List	Service areas of the energy providers to the Valley Link corridor
Geology and soils	List	Valley Link corridor and vicinity
GHG emissions	Projection	GHG emissions: regional and global
Hazards and hazardous materials	List	Valley Link corridor and vicinity
Hydrology and water quality	List	Valley Link corridor, vicinity, and downstream water bodies
Land use and planning	List	Valley Link corridor and vicinity
Noise and vibration	List	Valley Link corridor and vicinity
Population and housing	Projection	Alameda and San Joaquin Counties
Public services	<ul style="list-style-type: none"> • List (construction disruption) • Projection (operations) 	<ul style="list-style-type: none"> • Construction disruption: Valley Link corridor and immediate vicinity • Operation: Service areas of the public service providers to the Valley Link corridor
Recreation	<ul style="list-style-type: none"> • List (construction disruption) • Projection (operations) 	<ul style="list-style-type: none"> • Construction disruption: Valley Link corridor and immediate vicinity • Recreational demand: Jurisdictions that provides recreational resources in the vicinity of the Valley Link corridor
Safety and security	<ul style="list-style-type: none"> • List 	Valley Link corridor and vicinity

Resource Issue	Cumulative Method	Geographic Area of Impact
Transportation and traffic	<ul style="list-style-type: none"> List (construction analysis and transportation improvements) Projection (operational traffic) 	<ul style="list-style-type: none"> Construction disruption: Valley Link corridor and immediate vicinity Local traffic level of service, bicycle, and pedestrian facilities: Valley Link corridor, roadways crossing the Valley Link corridor, and roadways near stations Regional traffic and transit systems: San Francisco Bay Area and San Joaquin Valley
Utilities and service systems	<ul style="list-style-type: none"> List (construction disruption) Projection (operations) 	<ul style="list-style-type: none"> Construction disruption: Valley Link corridor and immediate vicinity Operation: Service areas of the utility and service system providers to the Valley Link corridor

4.2.3 Projections/Regional Growth Characteristics

To estimate overall growth, the cumulative analysis uses multiple land use and population growth projection sources for the jurisdictions that Valley Link has the potential to affect (Table 4-2). For Alameda County, the analysis uses the California Department of Finance (2018) population projections and the Association of Bay Area Governments (ABAG) projections for housing units (Association of Bay Area Governments 2018). For San Joaquin County, the analysis uses the California Department of Finance (California Department of Finance 2018) population projections and the Eberhardt School of Business (Eberhardt School of Business 2016) projections for housing units.

Table 4-2. Existing and Projected Population and Housing Unit Growth in the Counties of Valley Link Corridor

County	Total Population			Total Housing Units		
	Estimate (2017)	Projection (2040)	2017–2040 Difference (%)	2015	2040	2015–2040 Difference (%)
Alameda	1,650,818	2,027,328	22.8	571,370	705,330	23.4
San Joaquin	749,092	995,469	32.9	241,262	339,618	40.8

Source: California Department of Finance 2018; ABAG 2018; Eberhardt School of Business 2016

4.2.4 Projects Considered

This analysis considers cumulative impacts of three types of projects: rail projects planned within the Valley Link corridor, other regional transportation improvements, and land development adjacent to the Valley Link corridor. For land development along the Valley Link corridor, the Authority requested lists of reasonably foreseeable projects from counties and cities along the Valley Link corridor, and additional projects were added based on general knowledge. The geographic study areas considered for cumulative impact analyses vary by individual resource and can include different scales of impact (such as for criteria pollutants or GHG emissions). The resource-specific study area is noted in Table 4-1 and at the beginning of each resource analysis in this EIR. Tables 4-3, 4-4, and 4-5 summarize the projects that are considered in this cumulative analysis.

4.2.4.1 Rail Projects Planned within the Valley Link Corridor

Table 4-3 summarizes the rail projects that are planned within the Valley Link corridor. The project reference numbers in Table 4-3 correspond to the project numbers shown in Figures 4-1 and 4-2, which depict the approximate location of each project with respect to the Valley Link corridor.

Table 4-3. Rail Projects Planned within the Valley Link Corridor Considered in the Cumulative Analysis

Project Name (Reference Number)	Description	Estimated Construction Schedule	Location	Location Relative to Valley Link	Potential Conflict
Freight Rail Future Plans (1)	Increased freight	Incremental over time; specific timing unknown	California	Overlaps (Altamont and Tracy to Lathrop segments)	None
ACE Extension Lathrop to Ceres/Merced (2)	Extension of ACE commuter service between Lathrop and Ceres (Phase I); and Lathrop and Merced (Phase II)	The Ceres Extension is estimated to be constructed between 2020 and 2023; the timing for the Merced Extension is unknown	Lathrop, Ceres, Merced	Overlaps (near the North Lathrop Station)	None
Valley Rail Sacramento Extension Project (3)	New passenger rail service to Sacramento from the San Joaquin Valley	Operational as early as 2023	San Joaquin Valley and Sacramento	Overlaps (near the North Lathrop Station)	None
California High- Speed Rail (Merced to Sacramento Section) (4)	High speed rail service between San Francisco and Los Angeles (Phase I) and Sacramento to San Diego (Phase II)	Unknown	Northern California, Central Valley, Southern California	No overlap; only analyzed relative to regional effects in general	None

Sources: California Department of Transportation 2014; Altamont Corridor Express 2018; San Joaquin Regional Rail Commission 2018; California High-Speed Rail Authority 2005.

ACE = Altamont Corridor Express

Freight Rail Future Plans (1)

This is project reference 1 in Table 4-3 and on Figures 4-1 and 4-2. Portions of the Altamont Alignment would be located within the Union Pacific Railroad (UPRR) Owens-Illinois Industrial Lead and the Tracy to Lathrop Alignment would be located within the existing UPRR Owens-Illinois Industrial Lead and Tracy Subdivision. The 2014 *California Freight Mobility Plan* defines the Owens-Illinois Industrial Lead and Tracy Subdivision as a major freight facility (California Department of Transportation 2014). Infrequent service occurs at the Owens-Illinois Industrial Lead and Tracy

Subdivision to serve commercial and industrial clients, as needed. However, existing freight levels are low.

As required by the National Highway Freight Program (NHFP) established by the federal Fixing America's Surface Transportation Act, all states must develop a freight investment plan (FIP), including a list of priority projects, by December 4, 2017, to receive NHFP funding. However, the identification of priority projects under the state FIP has been postponed with the passage of Senate Bill (SB) 1, which created the Trade Corridor Enhancement Program (California Transportation Commission 2019). Additional legislation has been approved with the passage of SB 103, which provides more specific direction on the distribution on the Trade Corridor Enhancement Program funds and combines the federal NHFP funds into this new program. As such, no specific freight rail projects have been identified.

ACE Projects

ACE Extension Lathrop to Ceres/Merced Project (2)

This is project reference 2 in Table 4-3 and on Figure 4-2. To enhance intercity and commuter rail service and to promote greater transit connectivity between the Central Valley and the San Francisco Bay Area, the San Joaquin Regional Rail Commission (SJRRRC) is proposing to expand ACE service to Ceres and to Merced. This project includes a proposed station at the North Lathrop Station.

The ACE Extension Lathrop to Ceres/Merced Project would overlap with the Valley Link corridor near the North Lathrop Station. A Valley Link platform and parking lot would be located next to the proposed ACE platform and parking lot. The extension to Ceres is expected to be operational in 2023 but the schedule for the extension to Merced is currently unknown.

Valley Rail Sacramento Extension Project (3)

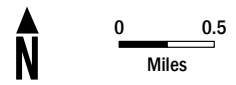
This is project reference 3 in in Table 4-3 and on Figure 4-2. The San Joaquin Joint Powers Authority (SJJPA) and the SJRRRC, which manage the San Joaquin service and ACE, respectively, are jointly undertaking the planning, design, and environmental review of the Valley Rail Sacramento Extension project. This project proposes a new passenger rail service to Sacramento from the San Joaquin Valley. This service would include stations in Lodi, Elk Grove, and four stops in Sacramento at Sacramento City College, Midtown, Old North Sacramento, and Natomas (with potential shuttle service to the Sacramento International Airport).

Preliminary plans include an increase in San Joaquin service by three daily roundtrips between the existing Amtrak Fresno Station and the proposed Natomas Station, as well as up to five new roundtrips operated by ACE between the existing ACE Stockton Station and the proposed Natomas Station.

The Valley Rail Sacramento Extension project would overlap with the Valley Link corridor near the North Lathrop Station. Based on current planning, the extension to Sacramento is expected to be operational in 2023.

California High-Speed Rail System

The planned statewide high-speed rail system would encompass more than 800 miles of rail and have up to 24 stations. The high-speed project has been broken into 10 separate sections and the



Data Sources: Esri Streetmap 2017

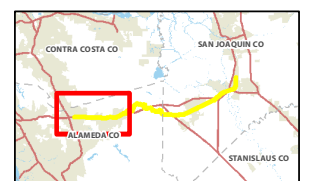
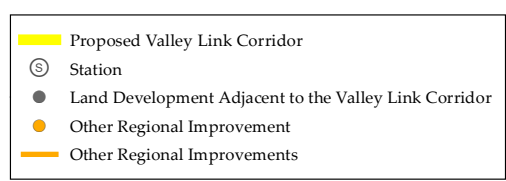
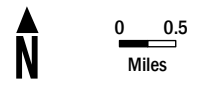
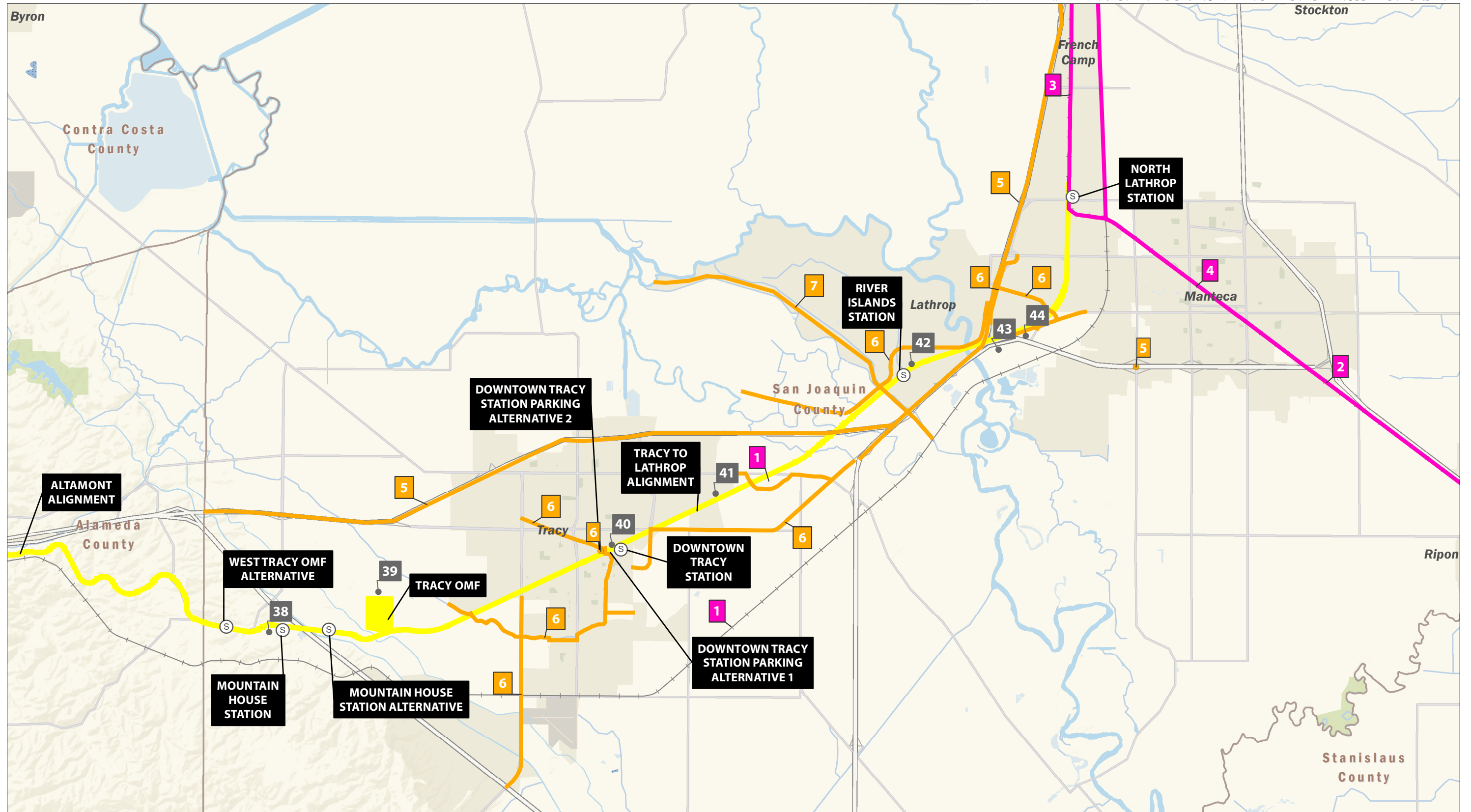


FIGURE 4-1
Tri-Valley Projects Considered in Cumulative Analysis



Data Sources: Esri Streemap, 2017

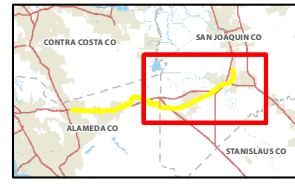
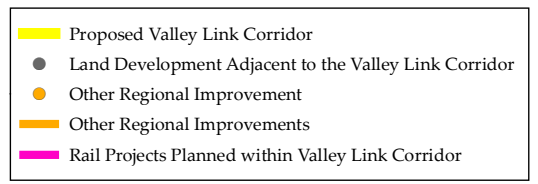


FIGURE 4-2
Altamont and Tracy to Lathrop Projects Considered in Cumulative Analysis

California High-Speed Rail Authority (CHSRA) previously prepared a program-level environmental analysis for the statewide high-speed rail system (California High-Speed Rail Authority 2005). The program-level analysis included an evaluation of various alignments for the 10 sections. Each separate section would undergo a subsequent project-level analysis prior to project approval and construction. The high-speed rail section that is closest to the Valley Link Project area is described below.

Merced to Sacramento High-Speed Rail Section (4)

This is project reference 4 in Table 4-3 and on Figure 4-2. As proposed, the Merced to Sacramento section of the California high-speed rail system would be within a 120-mile corridor from downtown Sacramento to Merced. For the Merced to Sacramento section, the California High-Speed Rail Authority's *Final Program Environmental Impact Report/Environmental Impact Statement* selected the UPRR corridor for the high-speed rail route from Sacramento south to Stockton and the BNSF corridor from Stockton to Merced as the preferred alignment (California High-Speed Rail Authority 2005). The Merced to Sacramento section is currently planned to have dedicated tracks.

The Merced to Sacramento section would not overlap within the Valley Link corridor; as a result, this project is only considered further in this cumulative analysis relative to potential cumulative impacts in the northern San Joaquin Valley region in general, as opposed to cumulative impacts that might occur along the Valley Link corridor and immediate vicinity.

4.2.4.2 Other Rail Projects

Valley Link would connect to the Bay Area Rapid Transit (BART) system at the existing Dublin/Pleasanton BART station. The BART system is mostly located outside of where Valley Link would be located (except at the Dublin/Pleasanton Station); however, because Valley Link would connect with the BART system, this cumulative analysis considers potential cumulative impacts with BART in Section 4.1.4.18.

The Valley Transportation Authority (VTA) BART Silicon Valley Extension Program is considered in Section 4.1.4.18. The VTA BART Silicon Valley Extension Program includes two phases to extend BART service into Santa Clara County. Phase I of this project would extend service from the BART Warm Springs/South Fremont Station to two new BART stations at Milpitas (Milpitas Station) and San Jose (Berryessa/North San Jose Station) and is completed. Phase II of this project would extend service from the Berryessa/North San Jose Station to downtown San Jose and Santa Clara and would include four new stations (Valley Transportation Authority 2019).

The San Joaquin Council of Governments, in its *Preliminary Draft Congested Corridors Plan* (San Joaquin Council of Governments 2019) has identified a Fixed Guideway Concept on Interstate (I-) 580/I-205 from Grant Line Road to Paradise Cut as a potential long-term (2035) project. This concept would include a fixed guideway in the median of I-580 and I-205 that could be used for autonomous vehicles, bus rapid transit, reversible lanes, or a passenger rail extension. If a passenger rail extension is built, the Preliminary Draft identifies that it could connect to the Valley Link Project west of Grant Line Road and east of Paradise Cut. This concept is at a preliminary stage of development, is not included in the San Joaquin Council of Governments' *2018 Regional Transportation Plan/Sustainable Communities Strategy*, and is not funded (San Joaquin Council of Governments 2018). Thus, this project is not considered further in this cumulative analysis. If this concept is later advanced by the San Joaquin Council of Governments, the Valley Link Project

would not preclude its completion. In addition, it should be noted that the *Preliminary Draft Congested Corridors Plan* includes Valley Link (including a downtown Tracy alignment and station) as a recommended project for the medium term (2030), so there does not appear to be any inconsistency between the Valley Link Project and the *Preliminary Draft Congested Corridors Plan*.

The *Altamont Corridor Vision* is a long-term vision to establish a universal rail corridor connecting the San Joaquin Valley and the Tri-Valley to San Jose, Oakland, San Francisco, and the Peninsula. Improvements included in this vision include more frequent rail service, Altamont Pass Tunnel and alignment improvements, Newark to Alviso improvements, and more dedicated track segments. This concept is not yet included in the San Joaquin Council of Governments' or Metropolitan Transportation Commission's Regional Transportation Plans and is not funded. Thus, this project is not considered further in this cumulative analysis. The Valley Link Project would not preclude the potential later implementation of the vision.

4.2.4.3 Other Regional Improvements

Table 4-4 summarizes the other regional improvements planned within the Valley Link corridor. The project reference numbers in Table 4-4 correspond to the project reference numbers on Figures 4-1 and 4-2, which depict the approximate location of each project with respect to the Valley Link corridor.

Major Highway Improvements

Major highway improvements are grouped together as project reference number 5 in Table 4-4 and on Figures 4-1 and 4-2.

In the face of rapid growth in the Bay Area and Central Valley, a variety of highway improvements are planned and are included in the following transportation planning documents and databases.

- *Plan Bay Area 2040 Database* (Association of Bay Area Governments and Metropolitan Transportation Commission 2019)
- *2018 Regional Transportation Plan/Sustainable Communities Strategy* (San Joaquin Council of Governments 2018).
- *Transportation 2035 Plan* (Metropolitan Transportation Commission 2009)**Error! Bookmark not defined.**

Major planned highway improvements that are within 0.25 mile of the Valley Link Corridor are as follows.

- The Interstate I-580 Integrated Corridor Mobility Project would implement multiple traffic operation systems and strategies that will address the challenges of traffic congestion in the corridor. The project will install new and upgrade existing corridor management elements along Interstate 580. Full integrated corridor mobility depends on extending North Canyons Parkway to Dublin Boulevard.
- The I-680 Transit Improvement Project includes express bus service, intelligent transportation system components, and park & ride lots along the I-680 corridor from Dublin to Martinez.

- The Santa Rita Road I-580 Overcrossing Widening Project includes widening the southbound Santa Rita Road overcrossing at I-580, constructing a third southbound through lane at Pimlico Drive, and a second on ramp lane to I-580 eastbound.
- The I-580 Interchange Improvement at Hacienda/Fallon Road—Phase 2 Project would include reconstructing the overcrossing to add lanes.
- The I-580 State Route (SR-)84/Isabel Interchange Improvements Phase 2 Project would include improvements at the I-580/Isabel/SR-84 Interchange to provide six lanes over I-580 at the Isabel/SR-84 Interchange and four lanes over I-580 at the Portola Avenue flyover.
- The I-580 First Street Interchange Improvements would include the reconstruction and modification of the I-580/First Street interchange into partial cloverleaf design with six lanes on First Street over I-580.
- The I-580 Vasco Road Interchange Improvements would include widening the I-580 overcrossing and adding new loop ramp in southwest quadrant. Includes widening Vasco Road to eight lanes between Northfront Road and Las Positas Road and other local roadway improvements.
- The I-580 Greenville Road Interchange Improvements would include a new interchange at I-580/Greenville Road to replace the existing interchange. The project will include widening the undercrossing to provide six lanes, and constructing ramps to achieve a modified partial cloverleaf interchange design.
- The I-205 High-Occupancy Vehicle (HOV) Widening Project would include widening from six to eight lanes, from Macarthur Drive to I-5.
- The I-5 HOV Widening Project would include widening I-5 to add HOV lanes and direct HOV connectors to I-205 and SR-120, from I-205 to Louise Avenue.
- The SR-120 Interchange Project would include the reconstruction of the interchange at Yosemite Avenue/Guthmiller Road.
- Improve the connection between I-580 and I-680 via HOV direct connectors.
- The I-680/I-580 interchange in Alameda County Project would widen the interchange to add an express lane direct connector and an eastbound express lane on I-580 to Tassajara Road.
- Construct I-680 express lanes from SR-84 to Alcosta Boulevard.
- Construct soundwalls in central Alameda County.
- Construct westbound off-ramp to connect I-580 to Dublin/Pleasanton BART station, or make other transit access improvements at the BART station.

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Table 4-4. Regional Improvements Planned within the Valley Link Corridor, Considered in the Cumulative Analysis

Project Name (Reference Number)	Description	Estimated Construction Schedule	Location	Location Relative to Valley Link	Potential Conflict
Major Highway Improvements (5)	Includes the following projects: <ul style="list-style-type: none"> • Projects from the <i>Plan Bay Area 2040</i> <ul style="list-style-type: none"> ○ I-580 Integrated Corridor Mobility ○ I-680 Transit Improvement, Santa Rita Road I-580 Overcrossing Widening ○ I-580 Interchange Improvement at Hacienda/Fallon Road - Phase 2 ○ I-580 SR-84/Isabel Interchange Improvements Phase 2 ○ I-580 First Street Interchange Improvements ○ I-580 Vasco Road Interchange Improvements ○ I-580 Greenville Road Interchange Improvements. • Projects from the <i>San Joaquin Council of Governments Regional Transportation Plan/Sustainable Communities Strategy</i>: <ul style="list-style-type: none"> ○ I-205 HOV Widening ○ I-5 HOV Widening ○ SR-120 Interchange Project • Projects from Metropolitan Transportation Commission’s <i>Transportation 2035 Plan</i>: <ul style="list-style-type: none"> ○ Improve the connection between I-580 and I-680 via HOV direct connectors ○ I-680/I-580 interchange in Alameda County — widen to add an express lane direct connector and an eastbound express lane on I-580 to Tassajara Road ○ I-680 Express Lanes from SR-84 to Alcosta Boulevard ○ Construct soundwalls in central Alameda County ○ Construct westbound off-ramp to connect I-580 to Dublin/Pleasanton BART station, or make other transit access improvements at the BART station 	Varies	Alameda and San Joaquin County	Within 0.25 mile	None
Major Non-Highway Improvements (6)	Includes the following projects: <ul style="list-style-type: none"> • Projects from the <i>Plan Bay Area 2040</i>: <ul style="list-style-type: none"> ○ Dublin Boulevard Widening ○ Dublin Boulevard – North Canyon Parkway Extension • Projects from the <i>San Joaquin Council of Governments Regional Transportation Plan/Sustainable Communities Strategy</i>: <ul style="list-style-type: none"> ○ Canal Trail ○ Corral Hollow Road Widening ○ UPRR Bicycle Rail Trail ○ Tracy Multi-Modal Center ○ MacArthur Drive Extension ○ Eleventh Street Improvements ○ Grant Line Corridor Improvements ○ Golden Valley Parkway ○ Class II Bikeway to ACE Station • Projects from the Metropolitan Transportation Commission’s <i>Transportation 2035 Plan</i>: <ul style="list-style-type: none"> ○ Construct bicycle/pedestrian roadway in existing Alameda County and Southern Pacific right-of-way between the Dublin/Pleasanton BART station and Dougherty Road ○ Construct a 2-lane gap closure on Las Positas Road from Arroyo Vista to west of Vasco Road ○ Tri-Valley Transit Access: implement enhanced rapid bus service in Livermore, Dublin, and Pleasanton (includes higher frequencies, new stops, and improved stop amenities) 	Varies	Alameda and San Joaquin County	Within 0.25 mile	None

Project Name (Reference Number)	Description	Estimated Construction Schedule	Location	Location Relative to Valley Link	Potential Conflict
Paradise Cut Bypass Expansion Project, per the <i>Delta Plan (7)</i>	Fixing levees and constructing new setback levees at Paradise Cut for flood risk management and ecosystem benefits	Unknown	Paradise Cut	Overlaps with Valley Link corridor	Coordination needed, the Paradise Cut Expansion Project would overlap with the new bridge over Paradise Cut for the Tracy to Lathrop Alignment Variant 2, Double Track

Sources: Association of Bay Area Governments and Metropolitan Transportation Commission 2019; San Joaquin Council of Governments 2018; Metropolitan Transportation Commission 2009; California Department of Water Resources 2017

Major Non-Highway Transportation Improvements

These improvements are grouped together as project reference 6 in Table 4-4 and on Figures 4-1 and 4-2. Major planned non-highway transportation improvements within 0.25 mile of the Valley Link Corridor listed in the transportation planning documents are noted above, and include the following.

- The Dublin Boulevard Widening Project proposes to widen Dublin Boulevard from Sierra Court to Dublin Court in the westbound direction from two to three lanes in the City of Dublin. This project also includes construction of Class II bike lanes.
- The Dublin Boulevard—North Canyon Parkway Extension Project will incorporate multimodal travel and construct the street extension to connect Dublin Boulevard in Dublin with North Canyons Parkway in Livermore at Doolan Road.
- The Canal Trail Project would include the construction of a Class I bike path.
- The Corral Hollow Road Widening Project would include the widening of Corral Hollow Road from two to four lanes.
- The UPRR Bicycle Rail Trail Project would include the construction of a Class I bike path.
- The Tracy Multi-Modal Center Project would include construction of passenger rail platform and the expansion of parking.
- The MacArthur Drive Extension Project would include the extension of the four-lane roadway from Mt. Diablo Road to Eleventh Street.
- The Eleventh Street Improvements Project would include improvements of roadways and intersection on Eleventh Street.
- The Grant Line Corridor Improvements Project would include the realignment of roadway and widening from two to four lanes, with operational improvements.
- The Golden Valley Parkway Project would include the construction of a new roadway parallel to I-5 with four lanes, from Stewart Road to Paradise Road.
- The Class II Bikeway to ACE Station Project would construct Class II bike lanes along Harlan Road, D'Arcy Parkway, Yosemite Avenue, and Yosemite Court.
- Construct bicycle/pedestrian roadway in existing Alameda County and Southern Pacific right-of-way between the Dublin/Pleasanton BART station and Dougherty Road.
- Construct a two-lane gap closure on Las Positas Road from Arroyo Vista to west of Vasco Road.
- Tri-Valley Transit Access: implement enhanced rapid bus service in Livermore, Dublin, and Pleasanton (includes higher frequencies, new stops, and improved stop amenities).

Paradise Cut Bypass Expansion Project

The California Department of Water Resources identifies the Paradise Cut Bypass Expansion Project (project reference 7 in Table 4-4 above) in the *Basin-Wide Feasibility Study, San Joaquin Basin, Draft* (California Department of Water Resources 2017). This project is intended to improve flood risk management and provide ecosystem benefits in the San Joaquin River Basin. A set of improvements for this project, known as the Base Case Improvements or Option A, is expected to be paid for and implemented by River Islands Development. These improvements would include repairing levees

and constructing new setback levees on the western side of Paradise Cut (see Figure 4-2 in the *Basin-Wide Feasibility Study, San Joaquin Basin, Draft*). The repaired levees and new setback levees would be located north of the new bridge over Paradise Cut for the Tracy to Lathrop Alignment Variant 2, Double Track. In addition to these improvements, there are additional options to expand Paradise Cut by breaching the existing levees and constructing new setback levees on the east side of Paradise Cut.

4.2.4.4 Land Development Adjacent to the Valley Link Corridor

Planned, proposed, and under-construction land development projects adjacent or within 0.15 mile of the Valley Link corridor have the potential to overlap with Valley Link. Table 4-5 describes the land use projects, in various stages of development, within approximately 0.15 mile of the Valley Link corridor.

4.2.5 Cumulative Impact Analysis

This section provides the cumulative impact analysis. The cumulative impacts analysis considers the Proposed Project, including all track and technology variants, features, in combination with the cumulative projects and cumulative projections. In addition, the cumulative analysis also considers the station alternatives (i.e., the Southfront Road Station Alternative, Mountain House Station Alternative, Downtown Tracy Station Parking Alternative 1, and Downtown Tracy Station Parking Alternative 2), the Stone Cut Alignment Alternative, and the West Tracy OMF Alternative, in combination with the cumulative projects and cumulative projections.

This cumulative impact analysis uses the term “Valley Link Project” or “Valley Link” when referring to the Proposed Project and the alternatives analyzed at an equal level of detail (Southfront Road Station Alternative, Mountain House Station Alternative, Downtown Tracy Station Parking Alternative 1, Downtown Tracy Station Parking Alternative 2, Stone Cut Alignment Alternative, and the West Tracy OMF Alternative).

Table 4-6 summarizes Valley Link’s cumulative impacts and its contribution to a cumulative impact.

4.2.5.1 Construction

There is the potential for cumulative construction impacts where other projects and the Valley Link Project overlap in location or are adjacent (i.e., affecting the same resource/receptor but potentially at different times), or if they overlap in time (i.e., affecting the same resource/receptor at the same time).

Other Rail Projects in or Adjacent to Valley Link Corridor

Only some of the other rail projects would have construction in or adjacent to the Valley Link corridor, specifically, the ACE Extension Lathrop to Ceres/Merced (reference 2), and the Valley Rail Sacramento Extension Project (reference 3). Some of these projects would be constructed prior to Valley Link construction, some during, and some after Valley Link construction activities would be completed.

Table 4-5. Land Use Development Projects Adjacent to the Valley Link Corridor (within 0.15 mile)

Project Name (Reference Number)	Description	Estimated Construction Schedule	Location	Location Relative to Valley Link	Potential Conflict
Dublin					
Volvo Cars of Dublin (8)	Demolition of a small car dealer structure; re-use of existing retail building to convert to a Volvo dealer; remodeling of exterior and related site improvements	Approved; specific construction timing unknown	6430 Dublin Court	Adjacent	None
Quarry Lane Preschool (9)	Single-story preschool with 15 classrooms for 300 children	Under review; specific construction timing unknown	6085 Scarlett Drive	0.15 mile north	None
Ashton at Dublin Station (10)	220-unit apartment, amenities, and 331 structured parking spaces	Approved; specific construction timing unknown	On the northwest corner of DeMarcus Boulevard and Campbell Lane within the Transit Center	0.15 mile north	None
Westin Hotel (11)	6-story, 163,000 square foot hotel	Under review; specific construction timing unknown	Bound by Campus Drive to the west, Arnold road to the west, Martinelli Way to the north, and I-580 to the south	Overlaps	Coordination needed; the Westin Hotel would be located on a temporary construction area near the Tri-Valley Alignment.
IKEA Retail Center (12)	Store and commercial center on a 27.5-acre site	Approved; construction set to start in 2020	5144 Martinelli Way	Overlaps	Coordination needed; the Ikea Retail Center would be located on a temporary construction area near the Tri-Valley Alignment.
Dublin Cadillac Dealership (14)	3,200 square foot addition to the existing dealership	Under construction	4200 John Monego Court	Adjacent	None
AT Dublin (16)	400,500 square feet of commercial uses and up to 665 residential units	Under review; specific construction timing unknown	Bound by Northside Drive to the south, Gleason Road to the north, west of Brannigan Street, and east of Tassajara Road	Overlaps	Coordination may be needed on portions of the Proposed Project sharing a boundary with the footprint for the Tri-Valley Alignment.
Grafton Plaza Daycare & Retail (17)	Two retail buildings and daycare with 154 parking stalls	Under review; specific construction timing unknown	1000 Dublin Boulevard on the intersection of Grafton Street and Dublin Boulevard	0.15 mile north	None
Grafton Plaza – Apex Townhomes (18)	115 residential townhomes, 127-room hotel, and up to 55,000 square feet of retail commercial	Under construction	Grafton Street, adjacent to Grafton Plaza Daycare & Retail	0.15 mile north	None
Kaiser Medical Center (19)	Medical campus consisting of 950,000 square feet medical facility and 250,000 square feet commercial development built over 25 years	Under construction	Bound by Dublin Boulevard to the north, I-580 to the south, west of Fallon Gateway Center, and east of Grafton Plaza	Adjacent	None
Grand View Project (20)	Mixed use project on 122-acre site, comprised of retail/commercial and office uses and up to 338 housing units	Under review; specific construction timing unknown	Bound by Croak road to the south and east, and west.	Adjacent	None
Pleasanton					
Rosewood Commons (13)	305 apartment units and 7,520 square feet of retail space	Specific timing unknown	4400-4460 Rosewood	0.15 mile south	None
Lexus of Pleasanton (15)	New two-story dealership building	Specific timing unknown	4345 Rosewood	0.05 mile south	None
Livermore					
The Shops at Livermore (21)	New 124,000 square-foot center with retail and restaurant uses	Under construction	3010 Jack London Boulevard	0.15 mile south	None
Republic Square (22)	Retail, restaurant, and two hotels (112 and 104 rooms) in 12 separate buildings on an approximately 24-acre site	Under construction	2000 Freisman Road	Adjacent	None

Project Name (Reference Number)	Description	Estimated Construction Schedule	Location	Location Relative to Valley Link	Potential Conflict
Hyatt House & Hyatt Place (23)	Demolish existing Residence Inn and replace with new 122 room Hyatt House and 119 room Hyatt Place	Approved; specific construction timing unknown	1000 Airway Boulevard	0.05 mile north and east	None
Staybridge Suites (24)	New three-story hotel, totaling 84,560 square feet and consisting of 116 guest rooms	Approved; specific construction timing unknown	Armstrong Street, South of Kitty Hawk Road	Adjacent	None
Livermore Lincoln Dealership (25)	New 9,248 square foot Lincoln Dealership	Under construction	2348 Kitty Hawk Road	Adjacent	None
Isabel Neighborhood Plan (26)	Specific Plan that allows the development of 4,095 new housing units; approximately 2.1 million square feet of net new office, business park, and commercial development; new neighborhood parks; new pedestrian and bike facilities; and new infrastructure improvement near the proposed Isabel Station	Under review; specific construction timing unknown; project adoption and timing is contingent on adoption of the Valley Link Project	Within the City of Livermore, around the Isabel Station	Adjacent	None
Shea Homes (27)	476 condo units and community space	Under Construction	Between Isabel Avenue, Portola Avenue, and I-580	Adjacent	None
Chick-Fil-A (28)	New 4,634 square foot restaurant and drive through	Under review; specific construction timing unknown	1754 North Livermore Avenue	0.05 mile south	None
Catholic High School (29)	32-acre private high school campus	Approved; specific construction timing unknown	3658 Las Colinas Road, north of I-580, west of Springtown	0.15 mile north	None
Lassen Road Townhomes (30)	193 townhouse units (including 29 affordable units) and 23 acres of open space.	Under review; specific construction timing unknown	Lassen Road N/W of I-580 and the First Street overpass	Adjacent	None
Mission Boutique Hotel (31)	Three-story hotel with 58 rooms	Under review; specific construction timing unknown	5835 Southfront Road	Adjacent	None
Aqua Gunitite Office (32)	New 5,704 square foot office building	Under review; specific construction timing unknown	Naylor Avenue	0.15 mile south	None
Gas Station & Quick Service Restaurant (33)	Chevron Gas Station and 2,680 square foot quick service restaurant with drive through	Under review; specific construction timing unknown	7300 Southfront Road	Adjacent	None
Bay Area Commerce Center (34)	New 90,500 square feet warehouse/industrial building	Under construction	7551 Longard Drive	0.15 mile south	None
Holiday Inn Express & Suites (35)	40,000 square foot hotel with 65 rooms	Under review; specific construction timing unknown	7576 Southfront Road	0.15 mile south	None
Greenville Plaza (36)	New commercial center with gas station, convenience store, and Burger King restaurant w/drive through	Under review; specific construction timing unknown	I-580 & Greenville Road (north of 580, just south of Northfront Road)	Overlaps	Coordination needed; the Greenville Plaza may overlap with the edge of the Altamont Alignment.
Exeter (FedEx) Distribution Facility on Greenville Road (37)	New 54,450 square feet FedEx distribution facility	Approved and constructed	225 Greenville Road	Adjacent	None

Project Name (Reference Number)	Description	Estimated Construction Schedule	Location	Location Relative to Valley Link	Potential Conflict
Tracy					
Musco Family Olive Company Expansion (38)	Construction of three evaporation ponds for the storage of wastewater and a storage reservoir	Under construction	West of Tracy at the intersection of West Patterson Pass Road and Via Nicolo Road.	Overlaps	Coordination needed; a portion of the Musco Family Olive Company Expansion Project may overlap with portions of the Altamont Alignment.
Cordes Ranch Specific Plan (39)	1,800-acre parcel of land being developed for commercial, office, business-park industrial, and park and recreation use	Under construction	West of Tracy (near the intersection of West Schulte Road and Hansen Road)	Adjacent	None
Downtown Tracy Specific Plan (40)	Approximately 1,288 residential units, 110,700 square feet of retail space, 107,800 square feet of office space, and 8,800 square feet of civic space	Under review; specific construction timing unknown	Downtown Tracy (intersection of North Central Avenue and West 6 th Street)	Overlaps	Coordination may be needed, the Downtown Tracy Station, Downtown Tracy Station Parking Alternative 1, Downtown Tracy Station Parking Alternative 2, and a portion of the Tracy to Lathrop Alignment would be located within the Downtown Tracy Specific Plan.
Northeast Industrial Specific Plan (41)	Approximately 17.5 million square feet of light industrial, warehouse and manufacturing facilities on an 870-acre site	Approved; specific construction timing unknown	Bounded to the north by I-205, to the south by the Southern Pacific Railroad tracks, to the east by Banta Road, and the west by MacArthur Drive	Adjacent	None
Lathrop					
River Islands (West Lathrop Specific Plan) (42)	Master planned community consisting of approximately 4 million square feet of office/retail, 156 acres of employment center and up to 11,000 homes	Under construction	West of I-5, north of I-205	Adjacent	None
South Lathrop Specific Plan (43)	Approximately 315 acres of commercial office and limited industrial use. Approved 4 million square feet of warehouse space	Phase I (commerce center) under construction, including infrastructure	South of State Route 120, north of the Union Pacific Railroad, and east of the San Joaquin River	0.10 mile south	None
Lathrop Gateway Business Park Specific Plan (44)	Approximately 384 acres of commercial and limited industrial use	Approved; construction estimated between 2019-2026	South of Yosemite Avenue, North of State Route 120, and west of the Union Pacific Railroad	Adjacent	None

Sources: City of Dublin 2019; Baker pers. comm.; Campbell pers. comm.; City of Livermore 2019 and 2020; McBride pers. comm.; Stowers pers. comm.; City of Tracy 2009, 2012, 2013; Lipich pers. comm.; City of Lathrop 2002, 2010, 2015; Mitchell Air Quality Consulting 2018; Meissner pers. comm

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Table 4-6. Summary of Cumulative Impacts

Impact	Overall Cumulative Impact (Valley Link + Proposed Project)	Is Valley Link's Contribution Considerable?
Impact C-AES-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on aesthetics	Significant	No
Impact C-AG-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on agricultural resources.	Significant	Yes (permanent impacts on Important Farmland only)
Impact C-AQ-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on air quality.	<u>Construction:</u> Less than Significant (Criteria Pollutants) Significant (TAC emissions) <u>Operation:</u> Less than significant (Criteria Pollutants) Significant (TAC emissions)	Criteria Pollutants: No (beneficial) TAC Emissions: Yes
Impact C-BIO-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on biological resources.	Significant	Construction: No Operation: Yes
Impact C-CUL-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on cultural resources.	Construction: Significant Operation: Less than significant	No
Impact C-EN-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on energy resources.	Construction and Operation: Less than significant	No (beneficial)
Impact C-GEO-1: Implementation of the Valley Link Project, 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.	Construction: Significant (paleontological resources only) Operation: Less than significant	No
Impact C-GHG-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, would result in a significant GHG emissions impact	Construction and Operation: Less than significant	No (beneficial)

Impact	Overall Cumulative Impact (Valley Link + Proposed Project)	Is Valley Link's Contribution Considerable?
Impact C-HAZ-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact from hazardous materials	Significant	No
Impact C-HYD-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on hydrology and water quality	Significant	No
Impact C-LU-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on land use and planning	Significant	No
Impact C-NOI-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, would result in a significant cumulative impact from noise and vibration	Construction: Significant (noise), Less than significant (vibration) Operation: Significant (noise), Less than significant (vibration)	Construction: Yes (noise), No (vibration) Operation: Yes (noise), No (vibration)
Impact C-POP-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on population and housing	Construction: Less than significant Operation: Significant	Yes
Impact C-PS-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on public services	Less than significant	No
Impact C-REC-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on recreational resources	Significant	No
Impact C-SAF-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on safety and security	Construction: Less than significant Operation: Significant	No
Impact C-TRA-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on transportation and traffic	Significant	No
Impact C-USS-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on utilities and service systems	Construction: Less than significant Operation: Significant	No

Other Regional Transportation/Non-Transportation Projects

Only some of the other regional transportation improvements would have actual construction in or adjacent to the ACE Extension corridor, including some major highway improvements (reference 5) and major non-highway improvements (reference 6). Some of these projects would be constructed prior to Valley Link construction, some during, and some after Valley Link construction activities would be completed.

Land Development Projects Adjacent to Valley Link Corridor

None of the land development projects is located within the Valley Link corridor. A number of these projects are adjacent to the Valley Link corridor. Some of these projects would be constructed prior to Valley Link construction, some during, and some after Valley Link construction activities would be completed.

4.2.5.2 Operation

Other Rail Projects in or Adjacent to Valley Link Corridor

The rail projects planned within the Valley Link corridor have various planned in-service dates. Some, such as the Valley Rail Sacramento Extension Project (reference 3), would increase train service in the corridor as early as 2020. The ACE Extension Lathrop to Ceres/Merced (reference 2) would be constructed between 2020 and 2023. Freight service could also increase incrementally over time with implementation of Freight Rail Future Plans (reference 1).

Other Regional Transportation/Non-Transportation Projects

Other transportation projects concerning highways, light rail, or other transit systems would not result in cumulative operational impacts along the Valley Link corridor itself. However, there is potential for cumulative operational impacts at areas where transit projects intersect with the Valley Link corridor or at Valley Link stations and for traffic overall with roadway projects that may facilitate increased traffic.

Land Development Projects Adjacent to Valley Link Corridor

Land development projects would not affect rail service itself but could result in cumulative operational impacts related to general traffic, air quality, noise, and other operational issues in combination with Valley Link. In addition, land development projects adjacent to the ACE Extension corridor would result in additional residential and commercial receptors of operational train noise impacts resultant from Valley Link and other rail projects.

4.2.5.3 Aesthetics

The geographic context for the analysis of potential contributions to cumulative impacts on aesthetics consists of areas adjacent to, within, and in the vicinity (within 0.25 miles for transportation projects and within 0.15 miles for development projects) of the Valley Link corridor. Cumulative projects within this geographic context include the projects listed in Tables 4-3, 4-4, and 4-5 that are within or adjacent to the Valley Link Project. The cumulative analysis for Aesthetics relies on a list-based approach.

Impact C-AES-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on aesthetics.

Level of Cumulative Impact	<u>Construction and Operation</u> Significant (see below in regard to the Valley Link Project’s contribution)
Applicable Mitigation Measures	<p>AES-1.1: Install visual barriers between construction work areas and sensitive residential and recreational receptors</p> <p>AES-1.2: Limit construction near residences to daylight hours</p> <p>AES-1.3: Minimize fugitive light from portable sources used for construction</p> <p>AES-2.1: Landscape parking facilities at stations</p> <p>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</p> <p>AES-2.3: Utilize selective grading and planting techniques in the Altamont Hills</p> <p>AES-2.4: Underground new electric transmission lines in visually sensitive areas</p> <p>AES-2.5: Apply aesthetic surface treatments to certain structures in visually sensitive areas</p> <p>AES-3.1: Replace disturbed vegetation along landscaped freeways</p> <p>AES-5.1: Apply minimum lighting standards</p> <p>AQ-2.5: Implement fugitive dust controls during construction</p>
Project’s Contribution Considerable?	<u>Construction and Operation</u> No

The land use changes associated with the cumulative condition resulting from implementation of both the Valley Link Project and the projects identified in Tables 4-3, 4-4, and 4-5 has 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.

Construction

As described in Section 3.1, *Aesthetics*, construction of Valley Link alignments, stations, and OMFs could substantially degrade the existing visual character or quality where such facilities would be constructed, and within surrounding areas. Degradation could occur to scenic vistas and scenic highways (such as along I-580 and Altamont Pass Road) and could occur with introduction of a new source of substantial light or glare that would adversely affect daytime or nighttime views. Visual changes resulting from the introduction of construction activities and equipment into the viewsheds of all user groups would be temporary. Construction activities for the Valley Link Project, as well as for the cumulative projects, would introduce heavy equipment and associated vehicles such as dozers, graders, scrapers, and trucks, into the viewshed. Depending on location, viewers could also view staging and storage areas and worker parking sites, which would introduce industrial-looking elements into currently non-industrial viewsheds.

Construction activities involving heavy equipment use, soil and material transport, and land clearing would generate fugitive dust, which could hinder views from scenic vistas and scenic roadways. In addition, residential viewers could have construction activities occurring near or adjacent to their homes, evoking a sense of invaded privacy, which would be a potentially significant project impact. This would occur along the Tracy to Lathrop Alignment, which travels through many residential areas, and where there are no noise barriers to screen views of stationary construction areas/staging areas. Further, there are no noise barriers limiting views of the alignment for residents along East 6th Street in Tracy, through Banta, or along 7th Street in Lathrop. In addition, there are many locations along the alignment where fences and noise barriers are present, but residences have second stories with direct views to the alignment. However, due to the temporary nature of construction, implementation of Mitigation Measures AES-1.1, AES-1.2, AES-1.3, and AQ-2.5 would reduce Valley Link Project impacts to less than significant level by installing visual barriers between construction and sensitive receptors in certain areas, limiting work to daylight hours adjacent to sensitive receptors, limiting construction lighting near sensitive receptors in certain areas, and limiting fugitive dust. Thus, the Valley Link Project's contribution to cumulative impacts on aesthetics from construction would be less than considerable with mitigation.

Operation

The analysis in Section 3.1, *Aesthetics*, indicates that visual changes resulting from operation of proposed alignments, proposed and alternative stations, and proposed and alternative OMFs could substantially degrade the existing visual character or quality of the Valley Link corridor and its surroundings, including scenic vistas, in urbanized and non-urbanized areas, and would affect residential viewers, roadway travelers, and recreationists adjacent to proposed alignments, proposed and alternative stations, and proposed and alternative OMFs. This would result in a potentially significant Valley Link Project impact. The Major Highway Improvements (reference 5) and Major Non-Highway Improvements (reference 6) identified in Table 4-4 and the local land use development projects identified in Table 4-5 would further contribute to the permanent alteration of views along these areas.

These cumulative projects, in conjunction with the Valley Link Project, would result in a significant cumulative aesthetic impact due to the installation of features incompatible with policies protecting visual resources in urbanized areas and with the existing visual character of non-urbanized areas. In non-urbanized areas, this includes the alteration of hilly landforms associated with the proposed alignment, proposed and alternative stations, and proposed and alternative OMFs located along the Altamont segment. As detailed in Section 3.1, *Aesthetics*, the Valley Link Project would also do the following.

- Affect sensitive viewers by removing and altering scenic resources associated with scenic routes (e.g., Altamont Pass Road and I-580) and landscaped freeway segments between post miles 10.22 and 10.82, 14.97 and 15.63, and 17.55 and 18.31 along the Tri-Valley Alignment
- Emphasize the presence of the rail line, such as in the Altamont Hills.
- Degrade the existing visual landscape, which would likely be negatively received by viewers given the existing scenic route protections and scenic nature of views associated with each route.

However, implementation of Mitigation Measures AES-2.1, AES-2.2, AES-2.3, AES-2.4, AES-2.5, AES-2.6, and AES-3.1 would reduce impacts to less than significant levels for the Valley Link Project by doing the following.

- Ensuring that sensitive residential and recreational viewers and roadway users along scenic roadways are not negatively affected.
- Ensuring that the proposed alignments, proposed and alternative stations, and proposed and alternative OMFs blend with, and complement the existing visual landscape in both urbanized and non-urbanized areas.
- Ensuring that proposed alignments, proposed and alternative stations, and proposed and alternative OMFs are consistent with policies governing and protecting scenic resources.
- Ensuring that impacts to scenic routes, scenic vistas, and landscaped freeway segments are minimized and do not negatively affect these aesthetic resources.
- Therefore, Valley Link Project operational contributions to the significant cumulative impact regarding visual character, scenic vistas, scenic routes, would be less than considerable.

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. Valley Link Project 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 Valley Link Project, including the alignment, stations, and OMFs located along the Altamont Segment that would introduce features in hilly areas currently supporting minimal development. Therefore, cumulative Valley Link Project operational contributions to increased light and glare would be less than considerable with mitigation.

4.2.5.4 Agricultural Resources

The geographic context for the analysis of potential cumulative contributions to impacts on agricultural resources consists of agricultural lands in the areas adjacent to, within, and in the vicinity of the Valley Link Project corridor, specifically the Livermore Valley, Altamont Hills, and San Joaquin Valley. This geographic context includes Important Farmland, agricultural land under Williamson Act contract, and confined animal agricultural facilities, including capital improvements on such facilities. The Proposed Project would not result in impacts to land under agricultural conservation easement contract; therefore, no cumulative analysis related to impacts on land under agricultural conservation easement contract is presented here.

Cumulative projects within this geographic context include the projects listed in Tables 4-3, 4-4, and 4-5 that are within or adjacent to (within 0.25 miles for transportation projects and within 0.15 miles for development projects) the Valley Link Project. The cumulative analysis for Agricultural Resources relies on a list-based approach. As documented in Section 3.2, *Agricultural Resources*, throughout the Valley Link study area for this resource, there is a trend toward converting Important Farmland to nonagricultural uses. This conversion constitutes a significant cumulative impact on agricultural resources.

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

Level of Cumulative Impact	<u>Construction and Operations</u> Significant (see below in regard to the Valley Link Project’s contribution)
Applicable Mitigation Measures	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
Project’s Contribution Considerable?	Construction and Operations Yes (permanent impacts on Important Farmland only)

As documented in Section 3.2, *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 Valley Link Project, in combination with other projects, would convert agricultural land to nonagricultural uses, a cumulative impact exists.

For this analysis, Important Farmland is defined as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland (Department of Conservation 2016a, 2016b). Farmland under Williamson Act contract is defined as land preserved under the California Land Conservation Act (County of Alameda 2016; County of San Joaquin 2014). Both Important Farmland and farmland under Williamson Act contract are described in greater detail under Section 3.2.2 “Regulatory Setting” in Section 3.2, *Agricultural Resources*.

Construction

Conversion of Important Farmland

Construction of the Valley Link Project, along with the rail, road, and land use development projects listed in Tables 4-3, 4-4, and 4-5 that are located on Important Farmland would result in a cumulative impact on Important Farmland. This impact would result from the ground-disturbing activities associated with direct temporary or permanent use of Important Farmland, and indirect use of severed parcels or remnant parcels of Important Farmland. Cumulative projects that could impact Important Farmland include rail projects such as Freight Rail Future Plans (reference 1); California High-Speed Rail (Merced to Sacramento Section) (reference 4); Major Highway Improvements (reference 5) such as I-205 HOV Widening, I-5 HOV Widening, and SR-120 Interchange Project; and land use development projects such as River Islands (West Lathrop Specific Plan) (reference 42), South Lathrop Specific Plan (reference 43), and Lathrop Gateway Business Park Specific Plan (reference 44).

Temporary Effects

Construction of the Valley Link Project would involve temporarily leasing Important Farmland from landowners (per a temporary construction easement), thereby removing it from agricultural use for

the duration of project construction; this temporary impact would be significant. Valley Link Project construction disruption is likely to take place in a similar timeframe and geography to some of the planned and reasonably foreseeable projects described herein, which may also require similar temporary construction easements on Important Farmland. However, implementation of Mitigation Measure AG-1.1 would require that Important Farmlands used as staging yards during project construction be restored to pre-construction conditions. Therefore, the Valley Link Project's cumulative contribution to the temporary construction-phase conversion of Important Farmland would not be considerable.

Impacts on Protected Agricultural Land

Construction of the rail, road, and land use development projects listed in Tables 4-3, 4-4, and 4-5 located on farmland protected by Williamson Act contract would combine with the Valley Link Project in terms of impacts on such land as a result of direct use of the land for construction activities. These projects include Freight Rail Future Plans (reference 1) and California High-Speed Rail (Merced to Sacramento Section) (reference 4). This would be a significant cumulative impact.

As described in Impact AG-2, construction of the Proposed Project would result in no impacts on Williamson Act Lands due to the creation of remainder parcels that would be below Williamson Act parcel size requirements. As such, the Proposed Project would not contribute to any cumulative impacts on Williamson Act lands.

In addition, as described in Impact AG-2, construction of the West Tracy OMF Alternative would affect one parcel under Williamson Act contract that would remain viable for continued agricultural use. As such, the impact from the West Tracy OMF Alternative would be less than significant. Loss of Williamson Act contract status is not assumed to result in the conversion of Important Farmland unless the project otherwise directly or indirectly converts agricultural land to non-agricultural land. This is because Important Farmland can be in agricultural use whether or not it is part of a voluntary Williamson Act or Farmland Security Zone contract. Thus, the West Tracy OMF Alternative's impacts on Williamson Act lands that are also Important Farmlands would be a subset of the impacts on Important Farmland. The West Tracy OMF Alternative's contribution to this cumulative impact would not be considerable.

Temporary or Permanent Disruption of Agricultural Infrastructure

Construction of the rail, road, and land use development projects listed in Tables 4-3, 4-4, and 4-5 located on or adjacent to Important Farmland could temporarily or permanently disrupt agricultural infrastructure or operations. Projects that could result in cumulative impacts on the following.

- Important Farmland include Freight Rail Future Plans (reference 1)
- California High-Speed Rail (Merced to Sacramento Section) (reference 4)
- Major Highway Improvements (reference 5) such as I-205 HOV Widening, I-5 HOV Widening, and SR-120 Interchange Project
- Land use development projects such as River Islands (West Lathrop Specific Plan) (reference 42), South Lathrop Specific Plan (reference 43), and Lathrop Gateway Business Park Specific Plan (reference 44)

The cumulative impact would be significant.

Construction of the Valley Link Project 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 Valley Link Project would not contribute considerably to this cumulative impact.

Temporary or Permanent Displacement or Severance of Confined Animal Agriculture Capital Improvements

Construction of the Valley Link Project, as well as rail, road, and land use development projects listed in Tables 4-3, 4-4, and 4-5 that would be located on or adjacent to Important Farmland containing capital improvements for confined animal facilities (such as wastewater disposal/treatment fields and on-farm structures associated with confined animals) could temporarily impact these facilities. Portions of the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track overlap with or are located adjacent to such capital improvements as listed below.

- West Schulte Road (southwest of Tracy)
- Banta Road (northeast of Tracy)
- Berry Avenue (northeast of Tracy)
- Cedar Avenue (northeast of Tracy)

Other projects that could also result in effects on confined animal agricultural facilities include the following.

- California High-Speed Rail (Merced to Sacramento Section) (reference 4)
- Major Highway Improvements (i.e., I-205 HOV Widening and I-5 HOV Widening) (reference 5)
- Musco Family Olive Company Expansion (reference 38)
- Cordes Ranch Specific Plan (reference 39)
- Northeast Industrial Specific Plan (reference 41)

Construction of these projects, in combination with the Valley Link Project, would result in a significant cumulative impact on Confined Animal Agriculture Capital Improvements. However, none of the identified capital improvement facilities along the Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track have structures, pens, or wastewater treatment lagoons that could be affected. Therefore, the Valley Link Project's contribution to cumulative impacts on such facilities would not be considerable.

Noise and Vibration Impacts on Confined Animal Agriculture

Noise and vibration emissions resulting from construction of the rail, road, and land use development projects listed in Tables 4-3, 4-4, and 4-5 that would be located on or adjacent to Important Farmland would result in a significant cumulative impact on confined animal agriculture facilities. Noise and vibration can affect farm animal behavior and productivity. All the identified confined animal facilities in the Valley Link study area are located in the San Joaquin Valley. Some of the projects that, in combination of the Valley Link Project, could contribute to impacts on confined animal agriculture include the following.

- Freight Rail Future Plans (reference 1)
- Major Highway Improvements (reference 5) such as the I-5 HOV Widening and SR-120 Interchange Project
- Cordes Ranch Specific Plan (reference 39)
- Northeast Industrial Specific Plan (reference 41)

To disturb cattle, the noise source would have to exceed the threshold of 90 decibels (Broucek 2014). As described in Section 3.2, *Agricultural Resources*, if noise levels are 90 dB or greater at the site where the animals are confined, the noise could stress the animals, resulting in changed hormone levels, reductions in milk yield, and reductions in feeding, all of which could lead to reduced productivity. Valley Link Project construction would emit noise at four confined animal facilities, but anticipated noise levels would be below 90 decibels and would not be expected to substantially alter confined animal health or behavior. As described in Section 2.0, *Project Description*, construction along the UPRR right-of-way would occur linearly, and would generally last between a few days to a week at any one location. Therefore, while construction activities at projects located near confined animal agriculture facilities may also generate noise and vibration in the area, the Valley Link Project's contribution to such effects would be temporary, below identified animal distress thresholds, and would present a less than considerable contribution to such impacts.

Operations and Maintenance

Temporary or Permanent Disruption of Agricultural Infrastructure

As shown in Table 3.2-7, implementation of the Proposed Project would result in the direct conversion of approximately 410 acres of Important Farmland. Implementation of the West Tracy OMF Alternative would result in the direct conversion of approximately 25.9 acres of Important Farmland. Valley Link Project 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, 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 Valley Link Project's direct conversion of up to approximately 410 acres of Important Farmland would constitute a cumulatively considerable contribution to this impact. With implementation of Mitigation Measure AG-1.2, the Valley Link Project's operational cumulative contribution to Important Farmland conversion would be reduced; however, the Valley Link Project's permanent operational contribution to cumulative impacts on Important Farmland would remain considerable with mitigation.

Temporary disruption associated with Valley Link Project and project maintenance activities from other project could contribute to a cumulative impact on Important Farmland where such activities

would occur on or adjacent to such resources. Projects that could result in a cumulative impact on Important Farmland as a result of temporary disruption of agriculture include the following.

- Freight Rail Future Plans (reference 1)
- Major Highway Improvements (reference 5) such as the I-205 HOV Widening, I-5 HOV Widening, and SR-120 Interchange Project
- Land use development projects such as River Islands (West Lathrop Specific Plan) (reference 42)
- South Lathrop Specific Plan (reference 43)
- Lathrop Gateway Business Park Specific Plan (reference 44)

Operations and maintenance activities associated with the Valley Link Project, 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 Valley Link Project's contribution to this impact to a less than considerable level.

Noise Impacts on Confined Animal Agriculture

Valley Link Project operation will primarily result in noise and vibration emissions associated with train operation. As described above, noise and vibration can affect farm animal behavior and productivity and induce behavioral changes. While it is expected that development projects will produce some operational noise, the projects are primarily residential and commercial; therefore, their operational noise is not expected to significantly impact animal behavior or productivity. However, the rail and road projects listed in Tables 4-3 and 4-4 that would be located near confined animal agriculture facilities could emit operational noise similar to that anticipated with Valley Link Project operations. Because confined animal agriculture facilities in the vicinity of the Valley Link Project occur only within San Joaquin County, projects including Freight Rail Future Plans, ACE Extension Lathrop to Ceres/Merced, Valley Rail Sacramento Extension Project, Major Highway Improvements, and Major Non-Highway Improvements (references 1–6) could result in a cumulative impact.

As described above, to disturb cattle, noise sources generally must exceed the threshold of 90 decibels (Broucek 2014). Operation of the Valley Link Project would result in noise at four confined animal facilities in San Joaquin County, but the anticipated noise level would be below 90 decibels. Because the Valley Link Project would generally share rail facilities with proposed rail projects, it is not expected that two trains would operate in the same location near confined animal facilities at the same time. Therefore, animals would not be exposed to the combined noise emissions from two concurrently operating trains (a Valley Link train and another train) in a manner that would exceed these decibel levels.

In addition, while the identified highway improvement projects may also result in elevated operational highway noise, the Valley Link Project would only operate adjacent to highway facilities along the I-580 corridor in the Tri-Valley segment. Because no confined animal facilities are located in this area, no significant cumulative impact would occur.

4.2.5.5 Air Quality

The geographical context for the analysis of potential contributions to cumulative impacts on air quality consists of the San Francisco Bay Area Air Basin and San Joaquin Valley Air Basin. The existing conditions for the Valley Link air quality study area are presented in Section 3.3, *Air Quality*. The air quality analysis relies on the projection approach for criteria pollutants rather than on a list of individual projects, but the toxic air contaminant (TAC) analysis considers a list of projects qualitatively.

Impact C-AQ-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on air quality.

Level of Cumulative Impact	<u>Construction and Operations</u> Significant (see below in regard to the Valley Link Project’s contribution)
Mitigation Measures	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: Offset Project Construction Emissions in the San Francisco Bay Area Air Basin AQ-2.7: Offset Project Construction Emissions in the San Joaquin Valley Air Basin
Project’s Contribution Considerable?	<u>Construction and Operations</u> Criteria Pollutants: No (beneficial) TAC Emissions: Yes

Construction

Criteria Pollutants

The San Joaquin Valley Air Pollution Control District (SJVAPCD) has established project-level thresholds to identify projects that may contribute to violations of the ambient air quality standards (see Section 3.3, *Air Quality*, Table 4.3-1). During construction, both the Valley Link Project 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 result in a significant cumulative air quality impact.

Construction of Valley Link Project elements would exceed Bay Area Air Quality Management District's (BAAQMD's) reactive organic gases and nitrogen oxide thresholds, SJVAPCD's annual nitrogen oxide and particulate matter less than 10 microns in diameter (PM10) thresholds, and the nitrogen oxide, carbon monoxide (CO), PM10, and particulate matter less than 2.5 microns in diameter (PM2.5) ambient air quality analysis triggers, depending on the emission scenario, indicating that construction emissions may contribute to violations of California ambient air quality standards within these districts. This is a potentially significant impact as a result of the construction-period emissions, which would exceed thresholds for SJVAPCD. Therefore, these exceedances, in combination with anticipated construction emissions from the projects listed in Tables 4-3, 4-4, and 4-5, would release criteria pollutants that would degrade air quality. However, 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 Valley Link Project construction emissions, and Valley Link Project construction would have a less than considerable contribution to criteria pollutants, with mitigation.

Toxic Air Contaminants

Construction of the projects listed in Tables 4-3, 4-4, and 4-5 could emit TACs (in the form of diesel particulate matter) from the use of construction equipment and vehicles, which emit TACs that could affect the health of sensitive receptors in the surrounding vicinity. However, as described above, Mitigation Measures AQ-2.1, AQ-2.2, and AQ-2.3 would implement strict construction vehicle requirements for the Valley Link Project. Because the identified projects would also be required to abide by policies and regulations applicable to their local air quality district, it is reasonably expected that these projects would also incorporate similar best management practices to minimize TAC emissions.

However, construction of the Valley Link Project would contribute diesel particulate matter and PM2.5 emissions to a significant and unavoidable cumulative health risk impact in the Tri-Valley segment (including proposed and alternative facilities) 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.

Operation

Operation of identified rail projects such as Freight Rail Future Plans (reference 1), ACE Extension Lathrop to Ceres/Merced (reference 2), Valley Rail Sacramento Extension Project (reference 3), as well as planned rail/road projects such as Major Highway Improvements (reference 5) and Major Non-Highway Improvements (reference 6) that would occur within the Valley Link Project vicinity would result in criteria pollutants and TACs from vehicle and diesel engine use.

The identified passenger rail projects provide alternatives to vehicular travel, and freight rail provides an alternative to trucking and thus usually result in a net reduction in criteria pollutant emissions relative to vehicular travel or trucking. Other regional transportation projects would increase vehicular criteria pollutant emissions if such projects result in induced traffic. Operation of

land development projects would increase criteria pollutant emissions from increased vehicular travel to and from these destinations, as well as building energy consumption, waste generation, water and waste treatment, and other sources. However, it is anticipated that many of the residents of new proposed residential development located in the Valley Link Project vicinity, as well as within the vicinity of other rail projects identified in Table 4-3, would occasionally use Valley Link trains as a transportation alternative, thereby reducing operational criteria pollutant impacts associated with residential development below initially anticipated levels.

Overall, 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 Greenville initial operating segment (IOS) and Mountain House IOS. Thus, operational criteria pollutant emissions in BAAQMD and SJVAPCD would not exceed any air district thresholds. Accordingly, operation of the Valley Link Project 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 Greenville IOS, and the Mountain House IOS. It is expected that operation of the rail projects identified in Table 4-3 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 Valley Link Project would have a less than considerable contribution to cumulative criteria pollutant impacts.

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. The Valley Link Project (including alternative facilities in the Tri-Valley segment) with the battery-electric multiple unit (BEMU) technology variant would not contribute to cumulative health risks due to train operations.

4.2.5.6 Biological Resources

This analysis is focused on potential cumulative impacts to sensitive biological resources, which includes potential impacts to special-status species, riparian habitats or other sensitive natural communities, protected wetlands or waters, wildlife migration corridors or nursery sites, and the overall potential for habitat loss. This analysis also examines potential conflicts with local biological protection ordinances or adopted habitat conservation plans.

The geographic context for the analysis of potential contributions to cumulative biological resources impacts includes the Valley Link Project footprint, as well as the immediate vicinity. For potential impacts on terrestrial species, the geographic context includes the portions of the Valley Link corridor where the Valley Link Project would be located, and adjacent areas that may be subject to indirect impacts. For aquatic species, the geographic context includes both the footprint underlying the Valley Link Project, as well as the aquatic features traversed by the Valley Link Project, and downstream areas that may potentially be affected. Identified projects within this geographic context include the projects listed in Tables 4-3, 4-4, and 4-5 that are within or adjacent to the Valley Link Project. The cumulative impacts analysis for Biological Resources relies on a list-based approach.

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

Level of Cumulative Impact	<u>Construction and Operations</u> Significant (see below in regard to the Valley Link Project’s contribution)
Applicable Mitigation Measures	<ul style="list-style-type: none"> 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-8.3: Revise Greenville Station design and install wildlife crossing improvements near the existing underpass east of Greenville Road 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
Project’s Contribution Considerable?	<u>Construction</u> No <u>Operations</u> Yes

Construction

The Tri-Valley segment and Tracy to Lathrop segment of the Valley Link Project are primarily located in urban and suburban rail corridors with only isolated habitat resources. Generally, land cover throughout most of these segments is disturbed, developed, or agricultural. Therefore, impacts to habitat resources in these segments would be localized to identified habitat areas. However, the Altamont segment is primarily located in an undeveloped rail corridor and passes through several areas of sensitive biological resources, such as seasonal wetlands and areas with known occurrences of special-status plant, wildlife, and fish species. Key sensitive biological habitat areas along the Valley Link Project corridor include areas in the Altamont Hills (where the Tri-Valley segment transitions into the Altamont segment) to the area west of Tracy and Paradise Cut and the San Joaquin River (Tracy to Lathrop segment).

Although the majority of the Valley Link Project would be constructed within the existing railroad right-of-way, new station options, new parking structures, OMFs, and new track crossovers would be constructed outside of the existing railroad right-of-way. Construction activities would result in a loss of biological resources due to grading, excavation, and habitat degradation (i.e., removal of shrubs, trees, water features, and natural habitat such as riparian communities). Aquatic resources such as seasonal wetlands, creeks, and ponds could be degraded from accidental oil spills, sedimentation, or be affected by changes in hydrology. Construction activities for the projects

identified in Tables 4-3, 4-4, and 4-5 could also result in the loss of biological resources due to grading, paving, and tree removal where sensitive biological resources are present.

As described in Section 3.4, *Biological Resources*, the Valley Link Project 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 without mitigation. However, implementation of the Mitigation Measures described in Section 3.4, *Biological Resources*, would reduce Valley Link Project construction impacts to biological resources to less than significant levels. Generally, because construction of the Valley Link Project 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 Valley Link Project construction impacts would be mitigated, at sites where the Valley Link Project crosses through areas of sensitive biological habitat in close proximity to any of the projects identified in Tables 4-3, 4-4, and 4-5, 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. Additional rail and land use development projects, listed below and located in the vicinity of the Valley Link Project, could also contribute to cumulative construction impacts to biological resources when combined with the Valley Link Project.

- ACE Extension Lathrop to Ceres/Merced (reference 2)
- Valley Rail Sacramento Extension Project (reference 3)
- Westin Hotel (reference 11)
- IKEA Retail Center (reference 12)
- AT Dublin (reference 16)
- Exeter (FedEx) Distribution Facility on Greenville Road (reference 37)
- Musco Family Olive Company Expansion (reference 38)
- Cordes Ranch Specific Plan (reference 39)
- Downtown Tracy Specific Plan (reference 40)
- River Islands (West Lathrop Specific Plan) (reference 42)
- South Lathrop Specific Plan (reference 43)

The majority of the Tri-Valley segment is located in a highly urbanized context, and the majority of the Valley Link Project proposed in this segment is located within the existing I-580 right-of-way, which does not support substantial habitat resources. The Valley Link Project 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 located 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 Valley Link Project 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 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 Valley Link Project, 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. Thus, the Valley Link Project's contributions to cumulative impacts on biological resources at the Greenville Road Station would be less than considerable with mitigation.

Several proposed track crossovers, proposed and alternative stations, and proposed and alternative OMFs in the Altamont segment and the Tracy to Lathrop segment would be located 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 Valley Link Project 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 Valley Link Project 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 Valley Link Project's contribution to aquatic resource construction impacts less than considerable.

Operation

As described in Section 3.4, *Biological Resources*, Valley Link Project operation 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. The potential for Valley Link train operation to interfere with wildlife movement remains significant and unavoidable for the proposed Greenville Station and the Mountain House Station, and for the West Tracy OMF Alternative.

Operation of the Valley Link Project 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, including the area of proposed Mountain House Station and the West Tracy OMF Alternative (if advanced). The Valley Link Project 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 Project 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. Even with implementation of Mitigation Measures BIO-8.2, BIO-8.3, BIO-8.4, and BIO-8.5, impacts relative to wildlife movement for special-status wildlife species associated with the proposed Greenville Station and Mountain House Station, and the West Tracy OMF Alternative would remain significant.

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 Valley Link Project. Even with mitigation, operation of the projects that would affect the same areas affected by the Valley Link Project, 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. As described above under *Construction*, implementation of Mitigation Measure BIO-8.3 would minimize potential impacts to Altamont Creek.

However, where the Valley Link Project 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 Valley Link Project and identified projects, thereby affecting aquatic species. Both the Valley Link Project 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 Valley Link Project 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 Project train operation relative to the Greenville Station, Mountain House Station, and the West Tracy OMF Alternative 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. With the exception of operation of the Greenville Station, the Mountain House Station, and the West Tracy OMF Alternative, proposed mitigation would reduce potential contributions to operational cumulative impacts on biological resources to a less-than-significant level. However, the Valley Link Project's operational contribution to cumulative impacts on biological resources relative to the Greenville Station, Mountain House Station and the West Tracy OMF Alternative (if advanced) would be cumulatively considerable.

4.2.5.7 Cultural Resources

The geographic context for the analysis of potential contributions to cumulative impacts on built environment historical resources includes the area within and adjacent to the Valley Link Project, the parcels surrounding and intersected by the Valley Link Project, and the full extent of historical districts intersected by the project. The CEQA study area for Valley Link includes a variety of historical-age buildings, structures, and districts that are considered historical resources under CEQA and are eligible for national, California, or local historic registers. Table 3.5-1 in Section 3.5, *Cultural Resources* lists the 11 built environment historical resources in the Valley Link study area.

The cumulative geographic context for archaeological resources and human remains includes the Valley Link footprint and the areas directly within and adjacent to this footprint where reasonably foreseeable projects and plans have the potential to impact known and as-yet undocumented archaeological resources and human remains.

Identified projects in the geographic area for cultural resources include all projects listed in Tables 4-3, 4-4, and 4-5, which displays all projects that are located within or adjacent to Valley Link Project components and features, including development projects located within 0.15 miles of Project components and features. The cumulative analyses for cultural resources rely on a list approach.

Impact C-CUL-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on cultural resources

Level of Cumulative Impact	<u>Construction</u> Significant (see below in regard to the Valley Link Project’s contribution)
	<u>Operation</u> Less than significant
Mitigation Measures	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
Project’s Contribution Considerable?	<u>Construction and operation</u> No

Construction

Built Environment

Construction of the Valley Link Project 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 Valley Link Project 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 Valley Link Project impacts to such resources would be less than significant after mitigation. However, 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 Valley Link Project could result in an adverse changes 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.

As described above, construction of the Valley Link Project 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 Valley Link Project 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. However, several land development projects in the vicinity of the Valley Link Project in San Joaquin County have the potential to adversely affect built environment historical resources in the Valley Link Project vicinity. The Cordes Ranch Specific Plan (reference 39) development project, located adjacent to the Valley Link

Project, includes a segment of the Delta Mendota Canal (see Figure 3.5-1D, Map ID 09) within the planning area; however, the Cordes Ranch Specific Plan Project does not propose any changes to the Delta Mendota Canal. Furthermore, while the Cordes Ranch Specific Plan Project will result in increased urban development near the Delta Mendota Canal, it will not impair the historical resource through demolition or alteration of its character-defining features which contribute to its historical significance (City of Tracy 2013).

The Valley Link Project, in combination with reasonably foreseeable future projects in Tracy, could result in cumulative impacts to built environment historical resources, including the Tracy Historic District, West Side Bank, and 77 W 6th Street (see Figure 3.5-1E, Map IDs 13, 14, and 15, respectively), as a result of future development for the Downtown Tracy Specific Plan (reference 40). Implementation of the Downtown Tracy Specific Plan could result in the demolition of resources that contribute to the historic district, and of individually significant historical resources. Reasonably foreseeable future projects undertaken as part of the Downtown Tracy Specific Plan would be subject to applicable federal and state cultural resource regulations which require identification, evaluation, and assessment of direct and indirect affects to historical resources. Additionally, future projects that affect historical resources would be required to include appropriate/feasible mitigation to address adverse impacts to built environment historical resources. There is the potential for significant and unavoidable impacts to historical resources through demolition or substantial alteration in future projects that cannot be mitigated to less than significant. However, Valley Link Project contributions to cumulative impacts on built environment historical resources in Tracy because of Valley Link Project construction would be less than considerable.

River Islands at Lathrop, part of the West Lathrop Specific Plan, (reference 42) is located adjacent to the Mosssdale Bridge (Figure 3.5-F, Map ID 27). The continued development of this master-planned community with up to 11,000 homes, 4 million square feet of office/retail space, and a 156-acre employment center has the potential for indirect affects to the setting of the Mosssdale Bridge; however it would be less-than-significant as the land development would not result in the demolition or alteration of the historical resource or to its immediate setting to such an extent that it would no longer be able to convey its historical significance. The proposed bridge (for the Tracy to Lathrop Alignment Variant 2, Double Track) adjacent to the Mosssdale Bridge could result in a significant cumulative impact on the historical resources through cumulative affects to the immediate setting of the Mosssdale Bridge. 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*. 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.

Construction of other identified projects, including road, other transportation improvements, and land development projects, could also affect built environment historical resources outside the Valley Link Project footprint and its immediate vicinity. Because these impacts would be site-specific and would not overlap geographically or otherwise interact with the Valley Link Project, they are not discussed further in this analysis.

Archaeological Resources

The projects and plans listed in Tables 4-3, 4-4, and 4-5 were reviewed to determine whether they, in combination with the Valley Link Project, 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 Valley Link Project footprint. Therefore, there would not be a significant cumulative impact to known archaeological resources or human remains. However, 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 Valley Link Project and all projects listed in Tables 4-3, 4-4, and 4-5. 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 Valley Link Project construction. Therefore, the Valley Link Project's contribution to such impacts would not be considerable.

Two of the projects and plans that were reviewed for the cumulative impact analysis, the Paradise Cut Bypass Expansion Project, per the *Delta Plan* (reference 7) and the Downtown Tracy Specific Plan (reference 40), would include construction activities with associated ground disturbance in areas within the Valley Link footprint previously identified as having increased sensitivity for buried archaeological resources. As established previously, such areas also retain the potential for containing human remains. Therefore, these projects and plans, combined with the Valley Link Project, could result in significant cumulative impacts to as-yet undocumented archaeological resources and human remains within the Valley Link Project footprint. However, implementation of Mitigation Measures CUL-2.1 through CUL-2.6 and CUL-3.1 would reduce Valley Link cultural resources impacts to less than significant levels. Therefore, the Valley Link Project's contribution to cumulative impacts on archaeological resources and human remains because of construction would be less than considerable.

Operation

Built Environment

Generally, the identified projects and the Valley Link Project would not require further ground disturbance or disturbance of built environment cultural resources after construction. Therefore, there would be no significant cumulative operational period impact to built environment resources.

Archaeological Resources

Once construction is completed, Valley Link Project operation would not require further ground disturbance. Therefore, Valley Link Project operations would not result in impacts on archaeological resources or human remains in the Valley Link Project footprint. Similarly, it is not expected that the projects and plans identified in Tables 4-3, 4-4, and 4-5 would require substantial operational ground disturbance. Therefore, there would be no significant cumulative operational period impact to archaeological resources.

4.2.5.8 Energy Resources

The geographic context for the analysis of potential contributions to cumulative impacts on energy resources is the service areas of the energy providers that would serve the Valley Link Project during construction and operation. Projects within this geographic context include all projects listed in Tables 4-3, 4-4, and 4-5. The cumulative analysis for energy resources relies on a list approach.

Impact C-EN-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on energy resources.

Level of Cumulative Impact	<u>Construction and Operations</u> Less than significant
Mitigation Measures (for Air Quality reasons, not Energy reasons)	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
Project's Contribution Considerable?	<u>Construction and operations</u> No (beneficial)

Construction

During construction of the Valley Link Project and the projects listed in Tables 4-3, 4-4, and 4-5, there could be a temporary distributed increased demand for energy resources across Alameda County and San Joaquin County, including the incorporated cities of Dublin, Pleasanton, Livermore, Tracy, and Lathrop. However, these areas already accommodate substantial construction projects, and the overall level of construction, considered on a regional scale, is not expected to substantially change with the identified projects compared with existing conditions. Furthermore, as described in Section 2.0, *Project Description*, the new track would be constructed linearly, with construction activities lasting a few days to approximately a week before moving to a different location. The primary sites of sustained construction activities and subsequent energy use required for Valley Link Project construction would be at facilities such as stations and OMFs. Identified projects that would be located near (within approximately 0.5 miles of) such facilities include the following.

- Ashton at Dublin Station (reference 10)
- Westin Hotel (reference 11)
- IKEA Retail Center (reference 12)
- Staybridge Suites (reference 24)
- Livermore Lincoln Dealership (reference 25)
- Isabel Neighborhood Plan (26)
- Shea Homes (reference 27)
- Catholic High School (reference 29)
- Lassen Road Townhomes (reference 30)
- Mission Boutique Hotel (reference 31)
- Aqua Gunit Office (reference 32)
- Gas Station & Quick Service Restaurant (reference 33)

- Bay Area Commerce Center (reference 34)
- Holiday Inn Express & Suites (reference 35)
- Greenville Plaza (reference 36)
- Exeter (FedEx) Distribution Facility on Greenville Road (reference 37)
- Musco Family Olive Company Expansion (reference 38)
- Cordes Ranch Specific Plan (reference 39)
- Downtown Tracy Specific Plan (reference 40)
- River Islands (West Lathrop Specific Plan) (reference 42)
- South Lathrop Specific Plan (reference 43)

Construction of these projects, in addition to Valley Link Project construction, is expected to locally increase energy resource demands to meet construction energy needs. However, as described in Section 3.18, Utilities, no additional utility service would need to be provided to suit Valley Link Project construction needs. Additionally, as described in Section 3.6, Energy, it is not expected that construction equipment used for the Valley Link Project will require electricity.

Equipment delivery and truck hauling uses substantial energy during construction activities and is expected to do so for the Valley Link Project and the identified projects. This collective use of energy could be cumulatively considerable. However, as described in Section 3.3, *Air Quality*, Mitigation Measures AQ-2.1, AQ-2.2, AQ-2.3, and AQ-2.4 would require that Valley Link Project construction equipment, including vehicles that would transport equipment to construction sites, would be selected in a manner that minimizes emissions and uses fuel efficiently. Additionally, many financial incentives are offered by government agencies and utility companies to support energy-efficient investments. Therefore, it is expected that construction materials built and purchased from offsite suppliers would be efficiently produced based on the economic incentives for efficiency. In addition, jurisdictions in which construction would occur require reuse and recycling of construction and demolition materials, which would reduce the inherent energy cost of materials. Government agencies and utility companies offering incentives for energy-saving construction practices for the Valley Link Project would also likely serve the identified projects located within the same region, and energy-saving regulatory requirements would be the same for multiple construction projects occurring within the same jurisdiction. Thus, with adherence to these incentives and policies, as well as adherence to the mitigation measures described above, the Valley Link Project's contribution to cumulative construction-phase energy impacts would be less than considerable with mitigation.

Operations

Operations of the Valley Link Project trains, as well as the other passenger rail projects identified in Tables 4-3 and 4-4 including ACE Extension Lathrop to Ceres/Merced (reference 2), Valley Rail Sacramento Extension Project (reference 3), and California High-Speed Rail (Merced to Sacramento Section) (reference 4), would all require fuel energy to operate. Other identified projects, such as residential and commercial development, would also require energy to operate. Collectively, these would result in a significant cumulative energy impact. However, passenger rail projects are expected to result in overall reduced energy use from a reduction in automobile vehicle miles traveled (VMT) and, subsequently, overall savings in automobile fuel consumption from the modal shift from personal vehicle use to mass rail transit. Therefore, the Valley Link Project's contribution

to any cumulatively significant operational energy impact would not be considerable; in fact, Valley Link would result in energy savings that would be an environmental benefit.

4.2.5.9 Geology and Soils

Impacts related to geology, soils, and paleontological resources are typically site-specific and depend on the local geologic and soil conditions. The geographic context for the analysis of potential cumulative impacts on geology, soils, and paleontological resources includes areas within and adjacent to the Valley Link Project.

Impacts related to paleontological resources are specific to the geologic units in which activities would occur and depend on the previous disturbance of sediments. The study area for paleontological resources includes the geologic units affected by the Valley Link Project as listed in Table 3.7-9. Projects within this geographic context include the projects listed in Tables 4-3, 4-4, and 4-5, which displays all projects that are located within or adjacent to Valley Link. The cumulative analysis for geology, soils, and paleontological resources relies on a list-based approach.

Impact C-GEO-1: Implementation of the Valley Link Project, 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.

Level of Cumulative Impact	<u>Construction</u>
	Significant (paleontology only; see below in regard to the Valley Link Project's contribution) Less than significant (geology and soils)
Applicable Mitigation Measure	<u>Operation</u>
	Less than significant
Project's Contribution Considerable?	<u>Construction</u> No (geology, soils, and paleontology)

Construction

Construction impacts are limited to the potential for increased erosion and potential damage to paleontological resources. Impacts related to other geologic and soil conditions are discussed under operations. However, 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*, a cumulative impact on paleontological resources has potential to exist.

Geologic and Soil Conditions - Erosion

Construction of any of the projects listed in Tables 4-3, 4-4, and 4-5 could result in cumulatively significant erosion impacts unless construction activities are controlled. All new projects that disturb one or more acres, which includes all of the cumulative projects listed in Tables 4-3, 4-4, and 4-5 as well as the Valley Link Project, must comply with the NPDES Construction General Permit, which requires substantive controls to prevent erosion during project construction, including preparation of a Stormwater Pollution Prevention Plan (SWPPP). As a result, no significant cumulative erosion impact would occur.

Paleontological Resources

Construction of any of the proposed rail, road, and land use development projects listed in Tables 4-3, 4-4, and 4-5 that are located on geologic units with high or undetermined paleontological sensitivity (University of California Museum of Paleontology 2018a–2018f, 2019; Wagner et al. 1991, Marchand and Allwardt 1981, Barlock 1989, Bartow 1985, Shierer and Magoon 2007), have potential to result in cumulative impacts to paleontological resources as a result of ground-disturbing construction activities. This includes projects that would disturb previously undisturbed sediments located in geologic units that occur near the Isabel Station, in the Altamont Hills, east of the Altamont hills, east and west of the River Islands Station, and between the River Island Station and the North Lathrop Station. Projects that would occur at in these locations include rail projects such as Freight Rail Future Plans, ACE Extension Lathrop to Ceres/Merced, Valley Rail Sacramento Extension Project (references 1 and 2); road projects such as Major Highway Improvements (reference 5), including the I-580 SR-84 Isabel Interchange Improvements, I-580 Greenville Road Interchange Improvements, and I-205 HOV Widening; and land use development projects such as Shea Homes (reference 27), Holiday Inn Express & Suites (reference 35), Greenville Plaza (reference 36), West Lathrop Specific Plan (reference 42), and Lathrop Gateway Business Park Specific Plan (reference 44).

Because the geographical areas described above are subject to population growth, and the sediments at 5 feet and greater below ground surface have largely not been disturbed, construction of these projects, as well as the Valley Link Project, could have a significant cumulative impact on paleontological resources.

The Valley Link Project would be located 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. However, implementation of Mitigation Measure GEO-4.1 during Valley Link Project construction 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 Valley Link Project construction. Thus, by recovering any paleontological resources found during ground-disturbing activities and conserving information about the context in which they were found, the Valley Link Project's contribution to cumulative impacts on paleontological resources or unique geologic features as a result of construction would be less than considerable.

Operation

Geologic and Soil Conditions

The projects listed in Tables 4-3, 4-4, and 4-5 that are located in Dublin, Pleasanton, Livermore, and throughout the Diablo Range (i.e., projects located along the Altamont segment) could experience strong seismic ground shaking, liquefaction, liquefaction-induced settlement and subsidence, and landslides. Furthermore, the Exeter (FedEx) Distribution Facility on Greenville Road (reference 36); Greenville Plaza (reference 36); I-580 Greenville Road Interchange Improvements and I-580 Integrated Corridor Mobility Major Highway Improvements (reference 5); and the Freight Rail Future Plans (reference 1) projects could subject people and facilities to hazards from surface fault rupture. Any of the projects listed in Tables 4-3, 4-4, and 4-5 could be subject to hazards from unstable soils, expansive soils, and corrosive soils.³ Although it is unlikely, facilities associated with the identified projects could also require the operation of site-specific septic systems. However, all individual projects would be subject to applicable state codes, particularly the California Building Standards Code and the requirements of the Alquist-Priolo Act, along with local codes and design standards, all of which are specifically designed to reduce site-specific geologic, seismic, and soils hazards. Septic systems, if necessary, for any identified projects, are regulated by Alameda and San Joaquin County's respective Local Agency Management Programs for Onsite Wastewater Treatment Systems, which are in turn regulated by the State Water Resources Control Board (SWRCB). Local Agency Management Programs contain specific septic system design and operational requirements that are intended to reduce the potential for water quality degradation to the maximum extent practicable.

As described in Section 3.7, *Geology and Soils*, some Valley Link facilities would be sited in areas with known seismic, geologic, and soils hazards with the potential for surface fault rupture, strong seismic ground shaking, liquefaction, subsidence, and landslides; along with unstable, expansive, and corrosive soils; and soils unsuitable for conventional septic systems. However, the Valley Link Project would be designed and constructed in accordance with the California Building Standards Code, Alquist-Priolo Act requirements, and industry design and engineering standards and guidelines such as the *American Railroad Engineering and Maintenance-of-Way Association Manual*, and Caltrans *Design Standards* (2019), which are designed to protect structural integrity and human safety to the maximum extent practicable. Septic systems for Valley Link facilities would be designed and operated in accordance with the Alameda and San Joaquin County Local Agency Management Programs, which are designed to prevent water quality degradation to the maximum extent practicable. Therefore, there would be no significant cumulative seismic, geologic, or soil hazard impacts.

Paleontological Resources

Operations and maintenance activities associated with rail, road, and development projects that would be located on geologic units with high or undetermined paleontological sensitivity (references 1 through 5, 24, 25, 27, 42, and 44) could potentially affect paleontological resources if ground-disturbing maintenance activities are required. While operational activities are generally

³ Soils with high moisture content, high electrical conductivity, high acidity, and high dissolved-salts content are most corrosive. In general, sandy soils have high resistivity and are the least corrosive; soils with a high clay content can be highly corrosive. The potential for corrosion of steel is rated as high for most of the Valley Link footprint, and the potential for corrosion of concrete is rated as low to moderate within the Valley Link footprint.

not ground disturbing, maintenance activities can involve ground disturbance such as vegetation removal, which could result in erosion that may expose or damage paleontological resources. However, because ground disturbance associated with maintenance generally takes place on land previously disturbed during project construction, no significant cumulative operational impact on paleontological resources is expected to occur.

4.2.5.10 Greenhouse Gas Emissions

The geographic context for cumulative impacts on GHG emissions is the planet. All the projects in Tables 4-3, 4-4, and 4-5 are included in the analysis as well as cumulative GHG emissions from California, the U.S. and the rest of the world. As shown in Table 4-1, the cumulative analysis for GHGs relies on a projection approach for GHG emissions.

Impact C-GHG-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, would result in a significant GHG emissions impact

Level of Cumulative Impact	<u>Construction and Operations</u> Less than significant
Applicable Mitigation Measures (for Air Quality reasons, not GHG reasons)	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
Project's Contribution Considerable?	<u>Construction and Operations</u> No (beneficial)

During construction, all identified projects would emit GHGs from construction equipment and vehicles. Although construction activities are temporary, the lifespan of the most emitted GHG, carbon dioxide, can be up to 100 years, and many other GHGs can last for decades. Operation of identified rail projects, such as ACE Extension Lathrop to Ceres/Merced (reference 2), Valley Rail Sacramento Extension Project (reference 3), California High-Speed Rail (reference 4), as well as freight rail operations, would result in GHG emissions. However, these rail projects provide alternatives to vehicular travel, and freight rail provides an alternative to trucking and thus usually result in a net reduction in GHG emissions relative to vehicular travel or trucking. Other regional transportation projects would increase vehicular GHG emissions if such projects result in induced traffic. If these cumulative projects result in a net decrease in VMT (e.g., through high-occupancy vehicle lanes, such as the I-205 and I-5 HOV widening projects [reference 5]), they would reduce GHG emissions. Operation of land development projects would increase GHG pollutant emissions from increased vehicular travel, as well as building energy consumption, waste generation, water and waste treatment, and other sources. The emission of GHGs constitutes a significant cumulative impact.

Construction

As described in Section 3.8, *Greenhouse Gas Emissions*, construction of the Valley Link Project could create GHG impacts using heavy-duty construction equipment, construction worker vehicle trips, truck hauling trips, and locomotive trips. Although there is no threshold for construction-period emissions, Mitigation Measures AQ-2.1 through AQ-2.4, which are required to reduce criteria pollutant emissions, would also reduce GHG emissions during construction. Impact GHG-1 in Section 3.8, *Greenhouse Gas Emissions* identifies that construction emissions would be offset within five to seven years of commencing Valley Link operations. Thus, Valley Link’s contribution to cumulative GHG emissions during construction would be less than considerable because operational GHG emissions reductions would more than offset construction emissions in approximately five to seven years.

Operation

Over time, local, state, and federal plans are seeking to dramatically reduce GHG emissions overall. Many of the communities along the Valley Link corridor have adopted local climate action plans to reduce GHG emissions in their jurisdictions, and Assembly Bill 32 mandated GHG emission reductions at a state level back to 1990 levels by 2020. According to the state’s latest inventory data, in 2017, the state’s emission had been reduced to slightly below 1990 levels.

As described in Section 3.8, *Greenhouse Gas Emissions*, operation of the Proposed Project and the alternatives analyzed at an equal level of detail would increase existing operational GHG benefits, resulting in even greater GHG reductions, relative to the No Project Alternative (see Impact GHG-1). Operational GHG reduction benefits from the Proposed Project and the alternatives analyzed at an equal level of detail would offset the short-term construction increase in GHG emissions in a few years. Emissions savings achieved thereafter would contribute to reductions in GHG emissions and more than offset the GHG emissions of Valley Link during the construction period. This reduction would be an environmental benefit and as a result, Valley Link’s contribution to cumulative GHG emissions during operations would be less than considerable (beneficial).

4.2.5.11 Hazards and Hazardous Materials

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 Valley Link Project 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. The analysis for hazardous materials relies on a list-based approach.

Impact C-HAZ-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact from hazardous materials

Level of Cumulative Impact	<u>Construction and Operations</u> Significant (see below in regard to the Valley Link Project’s contribution)
Mitigation Measures	HAZ-2.1: Conduct site investigations HAZ-2.2: Implement construction risk management plan AQ-2.5: Implement fugitive dust controls during construction
Project’s Contribution Considerable?	<u>Construction and Operations</u> No

Construction

Any of the projects listed in Tables 4-3, 4-4, and 4-5 could expose people or the environment to hazardous materials present in the underlying soils or groundwater. These projects could also expose people or the environment to such materials by using hazardous materials typically associated with construction.

In addition, some of the projects listed in Tables 4-3, 4-4, and 4-5 would likely take place within 0.25 mile of a K-12 school, and therefore present the potential to expose students to such materials if appropriate remediation strategies are not incorporated. For projects involving improvements to or development of a site where soil or groundwater contamination has already occurred, the potential exists for a release of hazardous materials during construction and/or remediation of those sites. Some of the identified projects are proposed in areas with known contamination, and other projects may encounter previously unknown contamination issues. Exposure to hazardous materials also includes potential exposure to toxic air contaminants, which consist primarily of diesel particulate matter and fugitive dust, as described in greater detail in Section 3.3, *Air Quality*. Construction equipment that would be used to construct the Valley Link Project and the projects listed in Tables 4-3, 4-4, and 4-5 can emit diesel particulate matter, and earthmoving construction activities such as grading and excavation present the potential to generate fugitive dust. The exposure of people or the environment to hazardous materials during construction of identified projects could constitute a significant cumulative impact.

As described in Section 3.9, *Hazardous Materials*, contaminated soil or groundwater may be encountered during construction of the Valley Link Project. In addition, construction activities would involve use of common hazardous materials such as fuels, paints, and lubricants. Compliance with local, state, and federal regulations for handling hazardous materials and adherence to the mandatory SWPPP would address 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 Valley Link Project 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 Valley Link Project vicinity, 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 may not be identical to those anticipated with the Valley Link Project. However, because both the Valley Link Project 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 Valley Link Project's contribution to cumulative impacts related to hazardous materials because of construction would be less than considerable with mitigation.

Operation

Operationally, the land development projects listed in Table 4-5 that involve residential, commercial, and office uses, would generally have limited types and quantities of hazardous materials present, and these materials would typically be limited to household-type products such as cleaners. Because these materials would generally be present in small quantities and would be contained, they are not considered to result in a significant cumulative impact.

Rail and other regional transportation projects as displayed in Tables 4-3 and 4-4 (references 1 through 6), as well as land development projects involving medical and industrial and some commercial uses (references 19, 33, 34, 36, 37, 38, 39, 41, and 43) would most likely involve greater amounts of operational hazardous materials. Hazardous materials present at these facilities may include solvents, flammable materials, compressed gases, fuels, maintenance materials, and industrial cleaning fluids along with other chemicals used in materials processing, medical facility, and transportation operations. Some of these projects would also generate hazardous materials waste. Use and handling of such materials is highly regulated by local, state, and federal requirements. However, the exposure of people or the environment to hazardous materials during operation of the identified projects could constitute a significant cumulative impact.

Operation and maintenance activities associated with the Valley Link Project and Project elements, 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 Valley Link Project 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, Valley Link Project maintenance, as well as maintenance activities associated with similar projects such as the rail projects identified in Table 4-3 and the rail/road projects identified in Table 4-4, 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 Valley Link Project'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.

4.2.5.12 Hydrology and Water Quality

The geographic context for cumulative impacts on hydrology and water quality consists of the Valley Link Project footprint, vicinity, and downstream waterbodies. Projects within this geographic context include the projects listed in Tables 4-3, 4-4, and 4-5. The analysis for hydrology and water quality relies on a list-based approach, and considers potential cumulative impacts associated with erosion, stormwater runoff, and water quality, groundwater recharge, changes to drainage patterns, and flooding, in the context of the Valley Link Project and the projects listed in Tables 4-3, 4-4, and 4-5.

Impact C-HYD-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on hydrology and water quality

Level of Cumulative Impact	<u>Construction and Operation</u> Significant (see below in regard to the Valley Link Project’s contribution)
Applicable Mitigation Measures	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
Project’s Contribution Considerable?	<u>Construction and Operation</u> No

Construction

Water Quality and Erosion

Earthmoving activities associated with the projects listed in Tables 4-3, 4-4, and 4-5 have the potential to increase erosion and result in accidental spills of hazardous materials. During winter storm events, disturbed soils and hazardous materials could be transported to downstream receiving water bodies, resulting in sedimentation and accumulation of pollutants such as fuels, lubricants, and paints which would degrade water quality. Therefore, projects that would also occur adjacent to water bodies spanned by the Valley Link Project, such as the rail projects identified in Table 4-3 and the River Islands/West Lathrop Specific Plan (reference 42), would result in significant cumulative erosion- and pollutant-related water quality impacts during construction.

As described in Section 3.10, *Hydrology and Water Quality*, the Valley Link Project also 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 Valley Link Project would also 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 Valley Link Project as well as all projects listed in Tables 4-3, 4-4, and 4-5, 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. Additionally, the Valley Link Project 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 Valley Link Project’s contribution to cumulative construction impacts on water quality from erosion would not be considerable.

Water Quality and Flooding

The rail and regional transportation projects listed in Tables 4-3 and 4-4, and the River Islands Development Project (West Lathrop Specific Plan) development project (reference 42), Northeast Industrial Specific Plan (reference 41), and South Lathrop Specific Plan (reference 43), would require construction activities within 100-year or 200-year floodplains. In addition, construction activities associated with these projects may be required within or across other 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 storm-related flooding of construction areas were to occur, stockpiles of construction materials could be inundated and carried into onsite or offsite waterbodies, which could result in pollution of surface waters. Therefore, these projects would result in significant cumulative flood-related water quality impacts during construction.

As described in Section 3.10, *Hydrology and Water Quality*, the Valley Link Project would require construction activities within 100- and 200-year floodplains, and construction would be required within and across other small urban or rural streams that could flood during winter storm events. However, 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 Valley Link Project's contribution to cumulative construction impacts on water quality from flooding would be less than considerable with mitigation.

Operation

Water Quality and Stormwater Runoff

Operation of any of the projects listed in Tables 4-3, 4-4, and 4-5 could degrade water quality due to an increase in impervious surfaces (which would increase the amount of stormwater runoff) and handling of hazardous materials (which could contaminate the stormwater runoff). Increases in stormwater runoff could cause downstream erosion and sedimentation, resulting in increased turbidity in receiving waters, depending on waterway conditions. Contaminated stormwater runoff would result in increased pollutant loading due to contact with petroleum and other contaminants commonly deposited on impervious surfaces. In addition, rail and other regional transportation projects would increase the potential for leakage of diesel, oil, and grease, and for accidental spills of herbicides, which are used for vegetation maintenance along railway corridors; leaks or spills of any of these materials could further degrade surface water quality. Therefore, the cumulative operational water quality impacts of these projects could be significant.

As described in Section 3.10, *Hydrology and Water Quality*, operation of the Valley Link Project 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 Valley Link Project 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 Valley Link Project 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 would also be required to comply with applicable NPDES/MS4 permits during operations. Additionally, 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 Valley Link Project's contribution to cumulative operational impacts on water quality and stormwater runoff would be less than considerable with mitigation.

Groundwater Recharge

The Valley Link Project, as well as all of the projects listed in Tables 4-3, 4-4, and 4-5 would involve the creation of new impervious surfaces that could impede groundwater recharge because stormwater would run off of the impervious surfaces rather than infiltrating the ground surface and recharging aquifers. Stormwater runoff would be conveyed either to local surface drainage ways, where it would percolate through the ground back into the groundwater aquifer or would be conveyed via underground pipelines to larger streams and rivers. Surface water in streams and rivers is a major source of groundwater recharge in Alameda and San Joaquin Counties. Therefore, although new impervious surfaces would impede on-site groundwater recharge, the stormwater runoff would ultimately still contribute to groundwater recharge via percolation from local and regional creeks, streams, and rivers. Furthermore, all of the projects listed in Tables 4-3, 4-4, and 4-5 would be required to implement low impact development (LID) features as part of state and local MS4 permits, such as the incorporation of on-site vegetated swales, permeable pavement, and soil amendments, which are designed to infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall. Thus, the Valley Link Project's contribution to cumulative groundwater recharge impacts would be less than considerable.

Exceedance of Stormwater Drainage Systems

As described above, all of the projects listed in Tables 4-3, 4-4, and 4-5 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. 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*, railway improvements within the existing UPRR right-of-way for the Valley Link Project 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 Valley Link Project would not exceed the capacity of storm drainage systems and result in water quality degradation. Thus, the Valley Link Project's contribution to cumulative operational impacts on exceedance of stormwater drainage systems and water quality would be less than considerable with mitigation.

Flooding

The rail and regional transportation projects listed in Table 4-3 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. *Delta Plan* Policy RR P4 (Cal. Code Regs. Title 23, Section 5015) prohibits encroachment in the Lower San Joaquin River Floodplain Bypass area unless it can be demonstrated by appropriate analysis that the encroachment will not have a significant adverse impact on floodplain values and functions. *Delta Plan* Policy RR P3 (Cal. Code Regs. Title 23, Section 5014) prohibits construction of an encroachment in a floodway unless it can be demonstrated by appropriate analysis that the encroachment will not unduly impede the free flow of water in the floodway or jeopardize public safety. Operation of the identified projects may also be required within or across other 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. Finally, operation of the identified projects could exceed the capacity of existing drainage systems such that onsite or offsite flooding may occur. However, the identified projects must comply with regulatory controls administered by federal, state, and local agencies related to construction and operation of projects in and through levees (e.g., FEMA, USACE, Central Valley Flood Protection Board, DWR), which are designed to ensure that the integrity of flood protection levees is maintained. Furthermore, the cumulative projects are also subject to post-construction requirements of the SWRCB's NPDES Construction General Permit and hydromodification management requirements of applicable MS4 permits, which are designed to reduce runoff and thereby limit the potential for flooding created by stormwater runoff. 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*, Valley Link 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. Valley Link facilities would also be located 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. Because the Valley Link Project is the very early planning stage, the necessary hydrologic and hydraulic studies that would inform the appropriate design and sizing of facilities in floodplains and across water courses have not been prepared. 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 the potential for flooding from 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 Valley Link Project 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 Valley Link Project proposed 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 Valley Link Project-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 Valley Link Project's contribution to cumulative operational impacts related flooding would be less than considerable with mitigation.

4.2.5.13 Land Use and Planning

The geographic context for potential cumulative impacts on land use includes the areas adjacent to, and in the vicinity of, the Valley Link Project corridor, including stations and OMFs. Projects within this geographic context include the projects listed in Tables 4-3, 4-4, and 4-5. The cumulative analysis for land use relies on a list-based approach.

Impact C-LU-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on land use and planning

Level of Cumulative Impact	<u>Construction and Operation</u> Potentially significant (see below in regard to the Valley Link Project's contribution)
Applicable Mitigation Measures	None
Project's Contribution Considerable?	<u>Construction and Operation</u> No

Construction

Construction of rail and road/rail projects (Tables 4-3 and 4-4) and land development projects (Table 4-5) along with the Valley Link Project could result in temporary land use impacts adjacent to the UPRR right-of-way because of temporary construction disruptions to existing land uses. However, road/rail projects would either occur within existing railroad or roadway rights-of-way or on vacant lands adjacent to such features (road/rail projects in Table 4-3 and 4-4). Land use development projects (Table 4-5) would displace the parcel's existing land use(s) with a new use but would have to go through local land use permitting processes to ensure consistency with local plans and policies. Therefore, none of the cumulative projects, in combination with the Valley Link Project, is expected to result in a significant cumulative impact due to temporary disruption in construction related to divisions of a community, or conflicts with land use plans, policy, or regulations for the purpose of avoiding or mitigating an environmental effect.

Operation

Community Division

Road/rail projects would either occur within existing railroad or roadway rights-of-way or on vacant lands adjacent to such features (road/rail projects in Table 4-3 and 4-4); it is possible some rail/road projects may result in community divisions, depending on design. For example, the California High-Speed Rail extension from Merced to Sacramento has not been advanced to the project-level review, so it is unknown whether its design may affect community cohesion or not. The I-5 and I-205 expansions could increase existing community divisions by expanding the width of existing roadways. Land use development projects (Table 4-5) may displace the parcel's existing land use(s) with a new use but would have to go through local land use permitting processes to ensure consistency with local plans and policies and thus are not likely to result in significant community divisions.

The majority of the Valley Link Project would occur within or alongside existing Caltrans, Alameda County, and UPRR rights-of-way. These existing transportation corridors already function as physical barriers. Thus, Valley Link operation within these corridors would not result in new barriers that would divide existing communities beyond current conditions. Valley Link components that are located outside of these corridors involve new parking lots, extended station platforms, at-grade and above-grade pedestrian crossings, and new track connections. These components, which are located directly adjacent to the Caltrans, Alameda County, and UPRR rights-of-way, would not alter or impede community connectivity and access in their proposed locations, sever existing roads or crossings, or displace community uses.

While it is possible that some projects that result in divisions that affect community cohesion, the Valley Link Project is not expected to contribute substantially to any cumulative impacts related to any such divisions that may occur, and this project's contribution would be a less than significant impact.

Land Use Plan and Policy Consistency

Roadway and rail projects identified in Table 4-3 and 4-4 that would operate within existing transportation corridors would not result in land use plan or policy inconsistencies. Roadway and rail projects that operate outside of transportation corridors, which could include California High-Speed Rail, or I-5 or I-205 expansions, for example, may result in land use plan or policy inconsistencies adopted for the purpose of environmental projection. Projects may include changes in land use that may be in conflict with existing policies and plans but for these projects to be approved, they would have to be brought into consistency with applicable policies and plans during the entitlement process that would likely resolve inconsistencies. The Valley Link Project may contribute to cumulative impacts to land use plan and policy consistency.

The Valley Link Project would generally be consistent with regional and local plans and policies, with the exception of Greenville Station, Mountain House Station, Tracy OMF, West Tracy OMF Alternative, and Mountain House Station Alternative, which were determined to present significant and unavoidable conflicts with applicable policies regarding development outside of the Urban Growth Boundary in unincorporated areas of Alameda County and San Joaquin County. The Valley Link Project is consistent with the Isabel Neighborhood Plan (reference 26), which has been adopted by the City of Livermore.

Additionally, while it is possible that the Valley Link Project could contribute to project-level significant and unavoidable unplanned population growth at certain localized areas around some stations (see Section 3.13, *Population and Housing*) this potential unplanned development would not be cumulatively considerable, because the other development projects are proposed in planned growth areas. Therefore, it is assumed there would be no cumulative impact related to land use plan and policy consistency at sites that may experience unplanned population growth. Similarly, although the Valley Link Project would result in a project-level significant and unavoidable land use policy consistency impact in the Tri-Valley and Altamont areas, the development projects do not present such inconsistencies, and no such impacts are expected at the Tracy to Lathrop Segment with the Valley Link Project. Thus, there would be no significant cumulative impact related to land use plan and policy consistency, but the project-level impact would remain significant and unavoidable.

4.2.5.14 Noise and Vibration

The geographic context for potential cumulative noise and vibration-related impacts consists of the areas adjacent to and in the vicinity of the Valley Link Project alignment. Projects within this geographic context include the projects listed in Tables 4-3, 4-4, and 4-5.

Impact C-NOI-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, would result in a significant cumulative impact from noise and vibration

Level of Cumulative Impact	<u>Construction</u> Significant (noise, see below in regard to the Valley Link Project's contribution) Less than significant (vibration)
	<u>Operations</u> Significant (noise) Less than significant (vibration)
Applicable Mitigation Measures	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 over FTA's severe impact thresholds NOI-2.1a: Implement a construction vibration control plan
Project's Contribution Considerable?	<u>Construction</u> Yes (noise) No (vibration)
	<u>Operation</u> Yes (noise) No (vibration)

Construction

During construction, an increase in noise and vibration levels would affect sensitive receptors along the Valley Link Project 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, Valley Link Project construction may overlap in time or location with the following rail and other regional transportation projects.

- Freight Rail Future Plans (reference 1)—Overlaps (Altamont and Tracy to Lathrop segments)
- ACE Extension Lathrop to Ceres/Merced (reference 2)—Overlaps (near the North Lathrop Station)
- Valley Rail Sacramento Extension Project (reference 3)—Overlaps (near the North Lathrop Station)
- Paradise Cut Bypass Expansion Project, per the *Delta Plan* (reference 7)—Overlaps with Valley Link corridor

There are also numerous land development projects with planned or potential construction periods that would also overlap with Valley Link Project construction, as shown in Table 4-5. With multiple projects close to each other and overlapping construction schedules, there is the potential for significant cumulative construction noise and vibration impacts to sensitive receptors close to construction activities. As shown in Table 4-5, construction of the Valley Link Project may overlap in time or location with the following land use development projects.

- Westin Hotel (reference 11)
- IKEA Retail Center (reference 12)

- At Dublin (reference 16)
- Greenville Plaza (reference 36)
- Exeter (FedEx) Distribution Facility on Greenville Road (reference 37)
- Musco Family Olive Company Expansion (reference 38)
- Downtown Tracy Specific Plan (reference 40)

Noise

As described in Section 3.12, *Noise and Vibration*, 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 Valley Link Project 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. 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 Valley Link Project could result in a considerable contribution to cumulative noise impacts during construction, even with mitigation.

Vibration

As described in Section 3.12, *Noise and Vibration*, 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. 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 Valley Link corridor, unlike noise, vibration levels do not tend to accumulate. Thus, the Valley Link's contribution to cumulative vibration impacts because of construction would be less than considerable with mitigation.

Operation

Noise

As shown in Table 4-3, if identified rail projects are implemented, there would be an increase in the number of daily trains within the Valley Link Project 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 result in the potential for significant cumulative operational noise impacts.

As described in Section 3.12, *Noise and Vibration*, the Valley Link Project would result in adverse moderate noise effects compared with existing conditions due to the introduction of new passenger rail service in the Valley Link Project corridor. The Valley Link Project 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 Valley Link Project, 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. Additionally, 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 Valley Link Project corridor, such strategies would be required to be implemented.

Because the Valley Link Project 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 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 Valley Link Project would result in a cumulatively considerable contribution to noise impacts with mitigation.

Vibration

For operational vibration impacts, identified regional transportation and land development projects would not likely have substantial effects on vibration levels resulting from traffic generation involving light duty and passenger vehicles. Increased vibration along roadways may occur at locations in very close proximity to heavy truck traffic but would not otherwise be a significant impact. Identified rail projects would be the largest contributor to vibration increases. Based on the modeling conducted for identified rail projects, the existing vibration levels (measured in vibration velocity [VdB]) for diesel freight and passenger rail service at 50 feet from the outermost track varies between 72 and 80 VdB, depending on local site conditions and speed. This range would be representative of diesel operations for the Valley Link Project and other

identified diesel passenger rail operations for the Valley Link Project, ACE Extension Lathrop to Ceres/Merced (reference 2), and Valley Rail Sacramento Extension Project (reference 3). Existing vibration levels for freight trains at 100 feet from the outermost track vary between 73 and 81 VdB, which is considered a conservative representation for future freight service increases. These existing levels exceed FTA annoyance thresholds of 72 VdB for immediately adjacent residences and of 75 VdB for immediately adjacent institutional buildings, but do not approach structural damage thresholds. Because Freight Rail Future Plans (reference 1) could result in a future increases in train frequency in the Altamont and Tracy to Lathrop segments, sensitive receptors located within 100 feet of both Valley Link and freight rail service lines could be subject to cumulative operational vibration impacts.

As described in Section 3.12, *Noise and Vibration*, the Valley Link Project would not result in any operational vibration impacts along the Valley Link corridor. Although the Valley Link Project 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, Valley Link’s contribution to cumulative vibration impacts because of operations would be less than considerable.

4.2.5.15 Population and Housing

The geographic context for cumulative impacts on population and housing is the two counties (Alameda and San Joaquin Counties) in which Valley Link service would operate. Cumulative growth projections within this geographic context are summarized in Table 4-2. The cumulative analysis for population and housing relies on a projection approach.

Impact C-POP-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on population and housing

Level of Cumulative Impact	<u>Construction</u> Less than significant
	<u>Operation</u> Significant (see below in regard to the Valley Link Project’s contribution)
Applicable Mitigation Measures	None
Project’s Contribution Considerable?	<u>Operation</u> Yes

Construction

As described in Section 3.13, construction of Valley Link would have the potential to induce local population growth temporarily through employment of workers during the construction period. Similarly, construction of other identified projects would have the potential to induce local population growth temporarily through employment of workers during the construction period. However, most employment opportunities for Valley Link and other identified projects are

anticipated to be filled by local workers who reside in Alameda and San Joaquin County and would not contribute to temporary population growth. Non-local labor would commute or temporarily relocate during the construction period; once construction is complete, non-local workers would depart. Employment opportunities generated by construction of Valley Link and other identified projects are not anticipated to generate permanent population growth in improvement areas. Thus, the cumulative impact on population growth due to construction would be less than significant.

Operation

Growth Inducement

In general, a project may foster spatial, economic, or population growth in a geographic area if it removes obstacles to population growth (e.g., the establishment or expansion of an essential public service or the extension of a roadway to an area). Included in this definition are the rail and other regional transportation projects such as ACE Extension Lathrop to Ceres/Merced (reference 2), Valley Rail Sacramento Extension Project (reference 3), California High-Speed Rail (reference 4), major planned highway improvements (notable of which are the I-5 and I-205 Widening Projects and other capacity-increasing roadway projects) that could facilitate travel between areas of California by providing an additional mode of transportation, as well as some major non-highway improvements (reference 6), such as the Golden Valley Parkway Project, which would establish a new roadway to an area where none previously existed. Generally, growth associated with identified rail and other regional transportation projects would not be substantial as these projects are designed to support planned growth through the regional transportation planning process, supported by local general planning processes. These projects are not expected induce population growth beyond that already projected for the region. The employment opportunities created by a large transportation project, such as California High-Speed Rail (reference 4) as well as identified commercial projects would be filled by the existing and/or planned local population.

The identified land development projects generally consist of commercial, industrial, institutional, office, and residential developments that would increase population and housing in the region. These land development projects may induce unplanned growth for projects that are not consistent with local and regional land use plans. Growth associated with land development projects that are consistent with local land use plans is considered planned for and accounted for in the local jurisdiction's general plan. Many land development projects are proposed consistent with current local land use planning; some of these projects seek general plan and zoning amendments to allow uses that are not consistent with current local planning. All land development projects must be approved by land use jurisdictions, which are required by law to amend local land use plans or make the appropriate findings prior to approving any inconsistent uses. If these projects were to induce substantial population growth in the region that would exceed regional projects, the cumulative impact would be significant.

Track improvements for Valley Link do not have the potential to attract new growth or accelerate population growth rates in the areas surrounding the corridor. These improvements, such as track modifications and new bridges, contribute to better operations and service but would not improve access to Valley Link or induce population growth in the areas where they are proposed. Thus, track improvements would not have the potential to induce new development or substantially redistribute the existing pattern or intensity of population and housing and would not contribute to a cumulative impact.

Where new or alternative stations are proposed, with the exception of the Greenville and Mountain House Stations, local or regional growth and development policies generally support the establishment of stations surrounded by transit-oriented development. Furthermore, Valley Link stations are meant to serve growing populations in the San Joaquin Valley, as summarized in Section 3.13. As such, the population growth that may result in the San Joaquin Valley overall is already planned. The regional growth and local development policies of the areas in which these new stations would be located generally support the establishment of stations and the development of land uses that utilize transit services; intensification of land uses surrounding these stations would be a redistribution of planned growth taking advantage of transit availability in the community. Thus, the contribution of these stations to a cumulative impact would be less than considerable except as it relates to the localized growth pressure around the Greenville Station and the Mountain House Station.

As summarized in Section 3.13, 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.

Displacement

The Valley Link Project would result in the displacement of one single-family home in the City of Livermore (as a result of the Tri-Valley Alignment). As such, this analysis is focused on the geographic context of the City of Livermore. As shown in Table 4-5, there are several land development projects that are planned within the City of Livermore (references 21 through 37). The identified land development projects generally consist of commercial, industrial, institutional, office, and residential developments. If any of these projects is located on sites with homes, these projects could also result in the displacement of homes. Nonetheless, because the Valley Link Project would only displace one single-family home, the Valley Link Project's contribution to a cumulative impact is expected to be less than considerable.

4.2.5.16 Public Services

The geographic context for cumulative construction impacts on public services is the Valley Link corridor and vicinity. The geographic context for cumulative operation-related public services impacts includes the service area of the public service providers to the Valley Link corridor. For construction impacts on public services, projects included within this geographic area are all projects listed in Tables 4-3, 4-4, and 4-5. The cumulative analysis for public services relies on both a list approach (for construction disruption) based on the projects listed in Tables 4-3, 4-4, and 4-5, and a projection approach (for operations).

Public services include fire protection, police protection, emergency medical services, schools, libraries, and other public facilities. For construction, the analysis addresses the potential for temporary public service demands. For operations, the analysis addresses the potential for service ratio and response time increases for fire protection, emergency responders, and law enforcement, as well as the potential need for new or physically altered fire protection, law enforcement, schools, or other public facilities.

Impact C-PS-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on public services

Level of Cumulative Impact	<u>Construction and Operation</u> Less than significant
Applicable Mitigation Measures	None

Construction

During construction of the identified projects, there could be a temporary increase in demand for public services throughout the region. However, the region already accommodates substantial numbers of construction projects. On a regional scale, the overall level of construction associated with Valley Link is not expected to substantially change existing demands on public services. Therefore, none of the identified projects, in combination with Valley Link, is expected to result in the need for new or physically altered public facilities or result in any significant cumulative impacts associated with construction of new public facilities.

Construction of Valley Link would include new or modified at-grade crossings and other improvements that could affect local roadways and streets and increase emergency response times. However, traffic impacts would be short-term and temporary. As part of the Valley Link Project, construction transportation planning would include the development and implementation of traffic control plans that would address temporary road closures, detour provisions, allowable routes, and alternative access. Traffic control plans would be implemented to ensure that adequate local emergency access would be maintained throughout the entire construction duration. Coordination with local jurisdictions on emergency vehicle access would be required as part of the traffic control plans to lessen these disruptions and to maintain access by firefighters, law enforcement, and emergency medical responders.

Accidents involving construction workers and equipment and increased potential for crime and vandalism at staging areas could result in increased need for public services; however, California Occupational Safety and Health Administration's Title 8 regulations require an emergency action plan that establishes protocol for any construction worker-related emergency scenarios and establishes safety measures to prevent and respond to medical emergencies (California Occupation Safety and Health Administration 2005). In addition, construction areas would include fencing and visual screening to deter trespassers from accessing the construction sites. As described in Section 3.13, *Population and Housing*, some construction workers are expected to reside locally, and therefore are already served by local public service facilities. Consequently, the construction labor force required to construct the Valley Link Project would not result in a significant permanent increase in public service demand that could require new or altered facilities. Because traffic disruptions and the potential for construction-related accidents would be temporary, construction of the Valley Link Project, in addition

to the projects listed above, would not result in a permanent increase in public service demand that could require new or altered facilities. Additionally, Valley Link Project construction would have no significant impacts on service ratios, or other performance objectives for schools and other public facilities, because construction would be temporary and would not generate growth beyond creating temporary employment opportunities, some of which would be filled locally. As such, Valley Link Project construction, in combination with construction of any or all of the above listed projects, would not result in a significant cumulative impact.

Operation

Operation of Valley Link, including train service and expanded parking areas at existing and new stations could spur unplanned growth. Most growth would likely occur in the general vicinity of the Valley Link Project, but growth would not be limited to the immediate vicinity of station areas. Any such population increases could in turn result in an increased demand for emergency and law enforcement services. As described in Section 3.13, *Population and Housing*, the presence of the Greenville and Mountain House Stations could result in unplanned population growth. However, such growth would be subject to the approval of local jurisdictions (the City of Livermore and Alameda County). Should such future development be approved, the respective decision-making jurisdictions would be required to evaluate the need for any increased emergency response services that may be needed to serve whatever new development is proposed. In addition, such development would be required to undergo CEQA analysis to identify potential impacts to emergency response service times and ratios. The Valley Link Project would not directly induce growth; therefore, whether any unplanned growth actually results and whether such growth would in turn increase service ratios such that new police, fire, or similar facilities would be required, is considered speculative at this point. Therefore, Valley Link, in combination with any of the above listed projects, is not expected to result in the need for new or physically altered public facilities or result in significant cumulative impacts associated with operation of new public facilities.

4.2.5.17 Recreation

As described in Section 3.15, *Recreation*, Valley Link would have no impact on the environment with regard to the construction or expansion of recreational facilities (Impact REC-3). Cumulative impacts are, therefore, addressed only for those thresholds that would result in an impact (Impacts REC-1 and REC-2).

The geographic context for cumulative construction impacts on recreational resources is the Valley Link corridor and vicinity. The geographic context for operation-related recreational resources impacts is the jurisdiction that provides recreational resources in the vicinity of the Valley Link corridor. For construction disruption to recreational resources, projects included within this geographic area are all projects listed in Table 4-3. For operational impacts on recreational resources, cumulative growth projections within this geographic context are summarized in Table 4-2. As shown in Table 4-1, the cumulative analysis for recreational resources relies on both a projection approach (for recreational demand) and on a list approach (for construction disruption).

Impact C-REC-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on recreational resources

Level of Cumulative Impact	<u>Construction and Operation</u> Significant (see below in regard to the Valley Link Project’s contribution)
Mitigation Measures	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 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 NOI-1.1a: Implement a construction noise control plan
Project’s Contribution Considerable?	<u>Construction and Operation</u> No

Construction

Construction of identified projects located on, adjacent to, or in close proximity to existing recreational resources could potentially disrupt use of the resource. Construction activities near recreational resources could result in temporary increases in noise and dust, and visual degradation experienced by users of these recreational resources. Construction of projects that are located on or partially on the site of a recreational resources could also require temporary construction easements within a recreational resource or the temporary closure or disruption to the use of a recreational resource. A cumulative construction-period impact on recreational resources is considered significant if these activities prevent the function of a recreational resource from continuing or would diminish the ability of users to use or access the recreational resource, leading to the increased use of other park areas, such that substantial physical deterioration of those facilities could occur, be accelerated, or require the construction or expansion of recreation resources that would result in an adverse effect on the environment.

Users of recreational resources in the vicinity of the Valley Link Project 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 could result in similar impacts to the recreational resources that would be affected by construction of Valley Link. Table 4-7 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 Valley Link Project 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, 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 Valley Link Project in combination with the construction of other nearby projects, would constitute a potentially significant cumulative impact.

Table 4-7. Parks and Recreational Facilities within 1,000 feet of Identified Projects

Identified Project (Reference Number)	Recreational Resource (Map ID from Figures 3.15-1 to 3.15-9)	Distance from Project	Distance from Valley Link (Project Element)	Potential Overlap in Construction?	Potential Cumulative Impact?
Rail Projects Planned within the Valley Link Corridor					
ACE Extension Lathrop to Ceres/Merced (2)	Woodfield Park (Map ID 26)	760 feet	760 feet (North Lathrop Station)	Potentially, construction is planned between 2020 and 2023	Yes, due to the duration of constructing the North Lathrop Station
	Basin Park (Map ID 27)	10 feet	10 feet (Tracy to Lathrop Alignment) 650 feet (North Lathrop Station)		Yes, due to the duration of constructing the North Lathrop Station
Valley Rail Sacramento Extension Project (3)	Woodfield Park (Map ID 26)	760 feet	760 feet (North Lathrop Station)	Potentially, construction timing unknown but expected to conclude before 2023	No, due to no overlap in time
	Basin Park (Map ID 27)	10 feet	10 feet (Tracy to Lathrop Alignment) 650 feet (North Lathrop Station)		No, due to no overlap in time
Land Development Adjacent to Valley Link Corridor					
Volvo Cars of Dublin (8)	Dublin Sports Ground (Map ID 1)	750 feet	10 feet (Tri-Valley Alignment)	Potentially, construction timing unknown	No, the recreational facility is separated from the cumulative project by a parking lot and building.
Quarry Lane Preschool (9)	Iron Horse Regional Trail (Map ID 2)	180 feet	0 feet (Tri-Valley Alignment and Dublin/Pleasanton Station)	Potentially, construction timing unknown	Yes, due to the duration of constructing the Dublin/Pleasanton Station
Ashton at Dublin Station (10)		90 feet			
Downtown Tracy Specific Plan (38), Mt. Oso/Mt.	South/West Park Elementary	Adjacent	1,000 feet (Tracy to Lathrop Alignment)	Potentially, construction timing unknown	No, the Tracy to Lathrop Alignment is separated from the Mt. Diablo

Identified Project (Reference Number)	Recreational Resource (Map ID from Figures 3.15-1 to 3.15-9)	Distance from Project	Distance from Valley Link (Project Element)	Potential Overlap in Construction?	Potential Cumulative Impact?
Diablo Opportunity Area ^a	School (Map ID 13)				Opportunity Area by existing residences
Downtown Tracy Specific Plan (38), Bowtie Site ^b	Fisher (Jack) Park (Map ID 14)	1,000 feet	0 feet (Downtown Tracy Station)	Potentially, construction timing unknown	No, the recreational facility is separated from the Bowtie site by existing houses.
	McDonald Park (Map ID 15)	950 feet			No, the recreational facility is separated from the Bowtie site by existing houses.
	Downtown Plaza (Map ID 16)	300 feet			Yes, due to the duration of constructing the Downtown Tracy Station
	Lester Huck Park (Map ID 19)	500 feet			No, the recreational facility is separated from the Bowtie site by existing houses.
	Civic Center Plaza (Map ID 20)	800 feet			No, the recreational facility is separated from the Bowtie site by existing houses.
South Lathrop Specific Plan (41)	San Joaquin River (Map ID 23)	Adjacent	0 feet (Tracy to Lathrop Alignment)	Potentially, construction is currently underway	Yes, due to the long duration of constructing the bridge for the Tracy to Lathrop Alignment, variant 2
	Mossdale Crossing Regional Park (Map ID 24)	800 feet			No, the recreational facility is separated from the cumulative project by a major highway (I-5)

Notes:

^a The Downtown Tracy Specific Plan identifies the Bowtie site as an opportunity area for development.

^b The Downtown Tracy Specific Plan identifies the Mt. Oso/Mt. Diablo Opportunity area as an opportunity area for development.

The Valley Link Project would require the implementation of 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, Valley Link's contribution to cumulative impacts on recreational resources because of construction would be less than considerable with mitigation.

Operation

Operation of identified rail and other regional transportation projects would not induce substantial population growth beyond that already projected for the region. These projects alone would not induce substantial population growth, requiring the need for additional recreational resources to sustain the population. Land development projects and general regional growth would increase demands for recreational resources. The cumulative demands for recreational resources could result in the need for additional recreational facilities. Depending on where the new facilities are proposed, this could result in significant impacts on the environment during construction and operation of new recreational facilities.

As described in Sections 3.13, *Population and Housing*, and 3.15, *Recreation*, with the exception of Greenville and Mountain House Stations, substantial unplanned population growth around new stations is not expected because population growth is already planned in the areas where the stations would be located. The Greenville and Mountain House Stations could generate pressure to develop the surrounding area with urban uses that could result in significant impacts on the environment. The analysis and mitigation of such development's impacts would be the responsibility of the local agencies with land use authority, and determination of recreational impacts associated with the Greenville and Mountain House Stations would be speculative. Therefore, Valley Link's contributions to cumulative impacts on recreational resources such that substantial physical deterioration would result or be accelerated a result of operations would be less than considerable.

4.2.5.18 Safety and Security

The geographic context for cumulative safety and security impacts consists of the areas adjacent to and in the vicinity (within 0.25 miles for transportation projects and within 0.15 miles for development projects) of the Valley Link Project. Projects within this geographic context include the projects listed in Tables 4-3, 4-4, and 4-5. The cumulative analysis for safety and security relies on a list approach.

The cumulative construction impact analysis focuses on emergency response and evacuation and wildland fire hazards. The operational analysis of cumulative impacts includes emergency response and evacuation, wildland fire hazards, and rail hazards. Potential cumulative impacts pertaining to hazardous materials are discussed under Hazardous Materials.

Impact C-SAF-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, would not result in a significant cumulative impact on safety and security

Level of Cumulative Impact	<u>Construction</u> Less than significant
	<u>Operation</u> Potentially significant (see below in regard to the Valley Link Project's contribution)
Mitigation Measures	None
Project's Contribution Considerable?	No

Construction

Emergency Response and Evacuation

Construction activities for projects involving railroad and roadway expansions and improvements; improvements to existing at-grade crossings; and development of new at-grade crossings could temporarily obstruct access and egress to local streets and roadways, which could potentially interfere with emergency response times along these routes. These projects include ACE Extension Lathrop to Ceres/Merced (reference 2), and all other major railroad and highway improvements in the project vicinity (see Tables 4-3 and 4-4). Additionally, construction of these projects, as well as the Valley Link Project, may increase traffic volumes due to the additional presence of construction trucks and equipment on local roadways and streets. Increased traffic volumes and circulation and traffic obstructions could affect the ability of emergency responders to reach their destinations in a timely manner, thereby potentially interfering with evacuation capabilities in constrained areas in the event of an emergency. Where one or more projects has construction activities occurring at the same time and in the same area, impacts to emergency response times and evacuation routes could be significant. However, Valley Link Project construction is not expected to substantially change existing conditions related to traffic. Construction traffic would be short-term and temporary, and in some cases, periodic over multiple seasons. The Valley Link Project would be required to comply with all federal, state, and local regulations and policies regarding roadway safety and detour design and notification during the construction phase. Construction transportation planning for the Valley Link Project would include the development and implementation of site-specific traffic control plans that would address temporary road closures, detour provisions, allowable routes, and alternative access. Traffic control plans would be implemented to maximize roadway safety and ensure that adequate local emergency access would be maintained throughout Valley Link Project construction duration. Additionally, coordination with local jurisdictions on emergency vehicle access would be made to lessen disruptions of emergency vehicles. Thus, the Valley Link Project would not have a considerable contribution to cumulative impacts related to emergency response and evacuation during construction.

Wildland Fire Hazards

There are moderate to high fire hazard severity zones along the Altamont segment and at the Greenville Station. The identified projects within these areas are the Musco Family Olive Company Expansion (reference 38), Cordes Ranch Specific Plan (reference 39), Freight Rail Future Plans (reference 1), and some of the transportation improvements in references 5 and 6. The

construction of these projects may increase fire risk by performing construction activities with the increased potential to ignite wildfires (use of hydrocarbon fuels, operation of combustion engine equipment, etc.). However, it is assumed that all construction activities in high fire hazard severity zones would enact all required and recommended fire safety measures per Cal. Code Regs. Titles 14 and 19, which restrict the use of equipment that may produce a spark, flame, or fire; require the use of spark arrestors on construction equipment that uses an internal combustion engine; specify requirements for the safe use of gasoline-powered tools in fire hazard areas; and specify fire suppression equipment that must be provided on-site for various types of work in fire-prone areas. In addition, it is assumed that construction of these identified projects would be in accordance with all requirements established by the County Fire Marshal's office, as well as local jurisdictions, and all other applicable fire code regulations to reduce the potential for fires. With implementation of these requirements, construction of the identified projects and the Valley Rail Project would not be expected to expose people or structures to a significant wildfire risk and would not exacerbate wildfire risks. Thus, there would not be a significant cumulative impact related to wildfire hazards during construction.

Operation

Emergency Response and Evacuation

The operation of identified projects could affect emergency response or evacuation if a project would restrict an emergency vehicle's ability to reach its destination in a timely manner. The Valley Link Project would result in increased gate-down times at at-grade crossings along the Valley Link Project corridor when trains pass by. Of the identified projects, the Freight Rail Future Plans (reference 1) identified in Table 4-3 has the potential to induce significant traffic delays at at-grade crossings, resulting in a potentially significant cumulative impact. The other rail projects would not overlap the Valley Link Project at any at-grade crossings.

While localized traffic delays may occur at at-grade crossings when railroad gates are down, typical gate-down time would be approximately 1 minute for Valley Link and other passenger trains. This amount of time is not expected to substantially delay emergency response vehicles. An increased downtime of 1 minute at the at-grade crossings would not conflict with adopted emergency response plans and would not result in a significant impact on emergency response services and their overall ability to respond to incidents in a timely manner. Therefore, the Valley Link Project's potential 1-minute contribution to these wait times is not considered significant.

Alameda County Regional Emergency Coordination Plan and the *San Joaquin County Emergency Operations Plan (2019)* have identified emergency routes, primarily I-580, I-205, and I-5, which would not be affected by the Valley Link Project because the Valley Link Project would generally be constructed within the I-580 median and along existing railroad right-of-way that is not located within or adjacent to highways. Additionally, Valley Link Project operation is expected to reduce VMT in the Valley Link corridor by diverting current road users to the railway network, subsequently decreasing the number of people driving personal vehicles. Most VMT reductions would occur during peak hours, which would reduce congestion that has the potential to interfere with emergency response. These reductions are expected to offset localized traffic delays caused by individual at-grade crossings.

Thus, the Valley Link Project's contribution to cumulative impacts related to emergency response or evacuation would be less than significant.

Wildland Fire Hazards

There are moderate to high fire hazard severity zones along the Altamont Segment and at the Greenville Station. The identified projects within these areas are the Musco Family Olive Company Expansion (reference 38), Cordes Ranch Specific Plan (reference 39), and Freight Rail Future Plans (reference 1). Projects adjacent to wildland fire risk areas may increase risk by either performing activities with greater potential to ignite wildfires or by placing increased numbers of people and structures adjacent to wildland fire risk areas. The operation of three evaporative ponds at the Musco Family Olive Company Expansion is not anticipated to increase wildland fire risk. However, development of commercial, office and business park space and park and recreation use at Cordes Ranch and increase in freight rail would increase the number of people and structures within a wildland fire risk area, resulting in a potentially significant cumulative impact.

Valley Link Project operation is not expected to substantially contribute to cumulative impacts related to exposing people or property to wildland fire hazards. The majority of the Valley Link Project would operate in existing railroad rights-of-way or within developed/urbanized areas. Operation of new Valley Link stations and OMFs, as well as all other projects, would be in compliance with applicable building codes and fire code regulations per city, county, and state requirements. Regular track maintenance and vegetation clearing would decrease the likelihood of a fire, and trains would not continue operations in areas where there is a safety risk to the train and its passengers due to wildfire conditions. Thus, the Valley Link Project's contribution to cumulative impacts related to exposing people and property to wildland fires would be less than significant.

Rail Hazards

Rail projects identified in Table 4-3 would result in an increased number of passenger and freight trains along railway corridors, including the Valley Link Project corridor; this increase has the potential to increase railway hazards such as train derailment and collisions at at-grade crossings, resulting in a potentially significant cumulative impact.

The Valley Link Project would include track improvements that would improve existing conditions on tracks. Additionally, positive train control systems would be used to monitor train movements and to automatically stop trains before certain accidents, such as train-to-train collisions, derailments caused by excessive train speeds, and train movements through misaligned track switches, can occur. To prevent accidents caused by failing wheels and brakes, trains would be routinely checked and maintained. To prevent accidents related to compromised tracks, tracks would be routinely inspected for rail failures and to ensure that there are no obstructions on the tracks. Traffic control devices and gates would be utilized at at-grade crossings to prevent accidents with motor vehicles, pedestrians, and bicyclists. In addition, modifications to existing at-grade crossings would be made and new at-grade crossings would be constructed, which would increase safety in these areas. Passenger train service would occur primarily within existing freeway and railroad right-of-way and would not be an incompatible use.

Train station platforms could expose commuters to safety risks due to the presence of moving trains near pedestrians waiting to board trains. New stations would be designed to meet all applicable city and county standards for safety, and would include Americans with Disabilities Act-compliant truncated dome pads clearly indicating the platform edge; a yellow line delineating safe areas and unsafe areas; rails and fences; signage; and audible announcements. Additionally, operation of the new stations would comply with applicable building and fire code regulations, per city, county, and

state requirements. All station platforms associated with identified projects would also be required to comply with these safety standards.

Given the safety standards and features that would be included within the Valley Link Project, the Valley Link Project would not have a considerable operational contribution to cumulative impacts related to exposing people and property to rail hazards.

4.2.5.19 Transportation and Traffic

The geographic context for the analysis of cumulative impacts on transportation and traffic varies by subject area. For construction impacts, the geographical area is the Valley Link corridor and vicinity. For operations impacts, the geographic focus of the analysis is the transportation network at and near grade crossings and proposed stations, but may also include components of the circulation system at specific locations outside of this area that may be affected by the project, such as BART stations.

The cumulative analysis for transportation and traffic primarily relies on a list approach, and considers the projects listed in Tables 4-3, 4-4, and 4-5. The analysis of cumulative impacts due to project construction, for example, considers the subset of those projects in Tables 4-3, 4-4, and 4-5 within the geographic context for construction impacts (i.e., the Valley Link corridor and vicinity). However, a projection-based approach is applied for some components of the analysis of cumulative impacts due to project operation. In these cases, the analysis relies on travel demand and ridership forecasting models to characterize and quantify specific effects of the project (e.g., added ridership on BART, reductions in annual VMT, etc.).

Impact C-TRA-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on transportation and traffic

Level of Impact	<u>Construction and Operation</u> Significant (see below in regard to the Valley Link Project's contribution)
Mitigation Measures	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
Project's Contribution Considerable?	<u>Construction and Operation</u> No

Construction

During construction, identified projects could disrupt transit, roadway, bicycle, or pedestrian facilities, which could conflict with programs, plans, ordinances, or policies addressing the circulation system; substantially increase hazards; and/or result in inadequate emergency access. In general, potential effects would be more substantial for transportation projects, which may require substantial, if temporary, changes to the circulation system to accommodate construction activities. However, land use development and other identified non-transportation projects could also result in effects in cases where such projects similarly propose substantial changes to the circulation system to facilitate construction (e.g., roadway closures, transit stop relocations, etc.).

Considering the Valley Link Project in conjunction with identified projects, potential effects on transportation and traffic may be amplified where construction activities are in close 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.

As discussed in Section 3.17, *Transportation and Traffic*, the impacts of project construction on transportation and traffic were conservatively deemed significant, in recognition of potential disruptions during project construction to the circulation system, to mainline (freight and passenger) rail operations along UPRR-owned right-of-way, and to BART operations. Therefore, the project's contribution to the aforementioned significant cumulative construction impacts would be considerable.

Implementation of Mitigation Measures TRA-1.1, TRA-1.2, and TRA-1.3, as described in Section 3.17, *Transportation and Traffic*, involves measures to be implemented by the Authority to mitigate project-specific construction impacts to less than significant. While these mitigation measures would not be sufficient to reduce the aforementioned significant construction impact to less than significant, they would reduce the project's contribution to the impact to less than considerable, for both the Proposed Project and all project alternatives and variants.

Operation

Forecast ridership and the estimated reduction in average weekday VMT for the Proposed Project and alternatives in 2040 are summarized in Table 4-8 and Table 4-9, respectively. Additional information on ridership forecasts for the Proposed Project is provided in Appendix F, *Valley Link Ridership Technical Memorandum—Revised*.

Table 4-8. Forecast Ridership for Proposed Project and Alternatives (2040 Build)

Station	Average Weekday Boardings (2040 Build), Full Build	
	Proposed Project (Greenville Station)	Southfront Road Station Alternative
Dublin/Pleasanton	15,160	16,051
<i>Transfers from BART</i>	<i>14,070</i>	<i>14,830</i>
Isabel	3,532	3,561
Southfront Road	--	1,926
Greenville	1,814	--
<i>Transfers from ACE</i>	<i>540</i>	<i>--</i>
Mountain House*	1,392	1,460
Downtown Tracy	3,006	3,095
River Islands	2,100	2,108
North Lathrop	4,707	4,793
<i>Transfers from ACE</i>	<i>360</i>	<i>480</i>
Total	31,710	32,993

Notes:

* Ridership forecasts conducted for Mountain House Station only. Ridership would be similar for the Mountain House Station Alternative in lieu of the Mountain House Station.

Table 4-9. Average Weekday VMT Reduction for Proposed Project and Alternatives (2040 Build)

Scenario (Full Build)	Average Weekday VMT		Average Weekday VMT Reduction
	No Build	Build	
Proposed Project (Greenville Station)	198,537,000	197,981,000	556,500
Proposed Project (Southfront Road Station Alternative)	198,537,000	197,959,000	578,500

As shown in Table 4-8, average weekday ridership would reach approximately 31,710 passengers under the Proposed Project and 32,990 passengers under the Valley Link Project with the Southfront Road Station Alternative. Transfers with BART on an average weekday would be approximately 14,070 boardings (28,140 total passengers) under the Proposed Project and 14,830 boardings (29,660 total passengers) under the Valley Link Project with the Southfront Road Station Alternative. Transfers with ACE on an average weekday would be approximately 540 boardings (1,080 total passengers) at Greenville Station and 360 boardings (720 total passengers) at North Lathrop Station under the Proposed Project, and 480 boardings (960 total passengers) at North Lathrop Station under the Valley Link Project with the Southfront Road Station Alternative.

As shown in Table 4-9, the estimated reduction in VMT on an average weekday would range from 556,500 vehicle miles under the Proposed Project to 578,500 vehicle miles under the Valley Link Project with the Southfront Road Station Alternative.

Circulation System Impacts

The Valley Link Project, in combination with other identified projects, would result in physical changes to transit, roadway, bicycle, and pedestrian facilities, and would likely result in other indirect effects on the circulation system, such as increasing demand for these facilities. However, the Valley Link Project and other identified transportation projects would generally improve or enhance the quality of these facilities. Active transportation, for example, would generally improve through the ongoing implementation of bicycle and pedestrian plans, enhancing the geographical extent, safety, and attractiveness of bicycle and pedestrian facilities, even if increased automobile traffic or other cumulative effects may increase potential sources of conflict for bicyclists and pedestrians.

The Authority Board has also adopted a transit-oriented development (TOD) policy that requires local jurisdictions to complete station area plans prior to completion of final design for the Valley Link Project. These area plans would incorporate goals for station area access, including promotion of bicycle and pedestrian access within 0.5 mile of each station. The policy also establishes a corridor-level threshold of 2,200 households for stations, which would concentrate development around the stations and facilitate biking and walking (as opposed to driving) for station access.

For other 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.

As described in Section 3.17, *Transportation and Traffic*, however, operation of Valley Link, on its own, would generally conform to these programs, plans, ordinances, and policies. The Valley Link Project, including all alternatives and variants, would provide substantive benefits in expanding the geographic reach and connectivity of the transit network and would result in substantive mode shifts and reductions in VMT.

Cumulative Impacts on BART

The estimated incremental increase in peak-period ridership at each BART station in 2040 attributable to Valley Link is summarized below in Table 4-10. The reported ridership values represent a four-hour peak period.

Table 4-10. Incremental Peak-Period Ridership at BART Stations (2040)^aError! Bookmark not defined.

West Bay	PP^b	SFA^c	Northwest East Bay	PP	SFA	Northeast East Bay	PP	SFA
Embarcadero	1,480	1,550	Ashby	20	20	Rockridge	10	10
Montgomery	1,400	1,470	Downtown Berkeley	370	390	Orinda	0	0
Powell	360	370	North Berkeley	10	10	Lafayette	0	0
Civic Ctr./UN Plaza	570	600	El Cerrito Plaza	10	10	Walnut Creek	10	10
16th Street/Mission	140	150	El Cerrito del Norte	10	10	Pleasant Hill	10	10
24th Street/Mission	70	60	Richmond	0	10	Concord	0	0
Glen Park	70	70	South East Bay	PP	SFA	N. Concord/Martinez	0	0
Balboa Park	70	70	Fruitvale	120	120	Pittsburg/Bay Point	0	0
Daly City	70	80	Coliseum + OAK Air.	190	190	Pittsburg Center	0	0
Colma	0	0	San Leandro	170	190	Antioch	0	0
South San Francisco	10	10	Bay Fair	120	130	South Bay	PP	SFA
San Bruno	60	60	Castro Valley	130	150	Irvington	10	10
SFO Airport	10	10	W. Dub./Pleasanton	50	60	Wm. Spr./S. Fremont	20	30
Millbrae	50	50	Hayward	50	50	Milpitas	20	110
Oakland Core	PP	SFA	South Hayward	10	10	Berryessa	10	10
Lake Merritt	740	770	Union City	40	50	Alum Rock ^d	0	0
12th St./Oak. City Ctr.	620	640	Fremont	20	40	Downtown San Jose ^d	80	110
19th St./Oakland	350	360				Diridon/Arena ^d	10	10
MacArthur	50	50				Santa Clara ^d	0	60
West Oakland	70	70						
Total							7,690	8,250

Notes:

^a Represents Full Build Project, for a four-hour peak period (i.e., weekday morning or evening peak period).

^b PP = Proposed Project (Greenville Station)

^c SFA = Southfront Road Station Alternative

^d Included in Phase II of the BART Silicon Valley Extension. Service originally anticipated to start in late 2026, but currently delayed to 2029–2030.

As indicated in Table 4-10, the systemwide incremental increase in BART ridership due to the Valley Link Project during a given four-hour peak period (e.g., the weekday morning peak period) in 2040 would be up to approximately 7,690 passengers under the Proposed Project (with the proposed Greenville Station) and 8,250 passengers under the Valley Link Project with the Southfront Road Station Alternative. The largest incremental increases would be at BART stations in Downtown San Francisco and Downtown Oakland, reaching as high as 1,480 passengers under the Proposed Project and 1,550 passengers under the Proposed Project with the Southfront Road Station Alternative at Embarcadero Station for a given four-hour peak period.

While the values summarized in Table 4-10 represent the incremental increase in (peak-period) ridership due to Valley Link, other sources would also contribute to increased BART ridership in 2040, including general ridership growth and increased ridership demand attributable to land use development and other (both BART and non-BART) transit improvements, such as Phase II of the Silicon Valley Extension from Berryessa to Downtown San Jose and Santa Clara. While overall BART ridership in 2040 may warrant improvements beyond what is currently provided at those stations, Valley Link is unlikely to represent a substantial contribution to total ridership at any station based on the incremental ridership increases in Table 4-10. Even at Embarcadero Station, where the incremental increase in ridership due to the Proposed Project would be highest, this incremental increase would only represent a small percentage of the total ridership in 2040.

At a systemwide level, the incremental increase in BART ridership due to the Proposed Project on an average weekday would be on the order of approximately 15,920 passengers under the Proposed Project and 17,220 passengers under the Valley Link Project with the Southfront Road Station Alternative. This would represent no more than 2.5 and 2.7 percent, respectively, of BART's total future systemwide ridership.⁴

In terms of train scheduling and operations, BART has determined that the additional ridership due to Valley Link would require that one 10-car train be added to the schedule each hour during the four-hour weekday morning peak period (with similar results for the weekday evening peak period) to meet BART's standards for crowding inside trains. This could be accomplished with two 10-car trainsets in revenue service, translating to a net fleet requirement of 25 railcars (i.e., two full 10-car trainsets, or 20 railcars, plus five spares).⁵

BART's preliminary analysis has determined that existing storage and maintenance yards, such as the Hayward Maintenance Complex (and the associated expansion currently under construction there), would have sufficient capacity to accommodate these 25 additional railcars, and that no additional facilities would be needed to store and maintain the additional rolling stock.

With completion of the BART Train Control Modernization Project already underway, throughput through BART's Transbay Tube would increase from the current 23–24 trains per hour per direction to approximately 30 trains per hour per direction. This would be sufficient to handle the additional one train per hour needed to accommodate the added ridership on BART, even when accounting for

⁴ Based on a total future capacity-constrained systemwide ridership of approximately 639,000 passengers on an average weekday, after implementation of the Core Capacity Program. Referenced from BART's 2018 Transit and Intercity Rail Capital Program grant application for the Core Capacity Program, available online at https://www.bart.gov/sites/default/files/docs/BART%20Core%20Capacity_2018%20TIRCP%20App.pdf.

⁵ In terms of actual operations on the Blue Line, the two 10-car trainsets would provide four additional westbound runs and two additional eastbound runs to the schedule during the weekday morning peak period, and vice versa during the weekday evening peak period.

other separate planned improvements that would provide 12-minute base headways and supplemental peak-period service on lines through the Transbay Tube (i.e., the Yellow, Red, Blue, and Green lines).

As described in Chapter 2, *Project Description*, the Proposed Project would also include construction of an approximately 1,730-foot extension of the existing BART tail track, which would provide a substantial net benefit to BART service and operations by securing additional train staging and storage at the Dublin/Pleasanton Station to help accommodate both increased ridership due to the project and general ridership growth.

Conclusion

Given these considerations, the Proposed Project (including all project alternatives and variants) would not represent a considerable contribution to the significant cumulative impact identified above.

VMT Impacts

Like the discussion of circulation system impacts, the significance of cumulative VMT impacts cannot be known with full certainty. As shown in Table 4-9, however, the Valley Link Project is expected to result in an average weekday VMT reduction in 2040 of approximately 556,500 vehicle-miles under the Proposed Project and 578,500 vehicle-miles under the Valley Link Project with the Southfront Road Station Alternative. Even if an IOS becomes the final, completed project, the project would still result in a reduction in VMT over the No Build alternative, as discussed under Impact TRA-2 in Section 3.17, *Transportation and Traffic*. Therefore, the Proposed Project would not represent a considerable contribution to any cumulative VMT impact.

Hazard Impacts

The design and function of each identified project and its interface with the circulation system would be governed by applicable standards from Caltrans and local city and county agencies. Land use development, for example, would be subject to applicable site access and design standards, including on-site transit, roadway, bicycle, and pedestrian facilities and any interface with corresponding off-site components of the circulation system. In addition, some transportation-related projects may specifically include components to address deficiencies in the existing circulation system or would otherwise reduce or eliminate hazards. The Valley Link Project, for example, would include railroad signal and train control system upgrades that would generally improve safety at grade crossings. Given these considerations, cumulative impacts related to transportation hazards would be less than significant.

Emergency Access Impacts

Physical changes and other effects on the circulation system due to identified projects—including increased demand on transit, roadway, bicycle, and pedestrian facilities—could affect emergency access. Changes to the roadway network, for example, may affect the preferred routes that emergency vehicles choose to take, while increased automobile traffic and other activity may result in a slight increase in response times for emergency vehicles. It is unlikely, however, that these changes would rise to the level of a significant impact by precluding emergency access to, from, or through specific areas or by substantially increasing travel times for emergency vehicles.

As mentioned in Section 3.17, *Transportation and Traffic*, emergency vehicles are permitted to use transit-only lanes or other vehicle-restricted lanes and are generally not subject to traffic control devices, and would therefore be able to bypass other vehicles, including any localized traffic congestion. California Vehicle Code section 21806 also requires that other vehicles yield right-of-way to emergency vehicles. Given these considerations, cumulative impacts related to emergency access would be less than significant.

4.2.5.20 Utilities and Service Systems

The geographic context for cumulative construction impacts on utilities and service systems is the Valley Link Project corridor, within 0.25 mile for transportation projects, and within 0.15 mile for development projects. The geographic context for the cumulative analysis of operational utilities and service systems impacts includes the service area of the utilities and service system providers to the Valley Link corridor.

For construction disruption to utilities and service systems, projects included within this geographic area are all projects listed in Tables 4-3, 4-4, and 4-5; this analysis focuses on the potential for utility disruption, temporary utility and service system demands, and impacts on landfill capacity. For operational impacts on utilities and service systems, population growth projections within this geographic context are summarized in Table 4-2; analysis focuses on utility and service system demands (relative to the potential need for new utility infrastructure) and impacts on landfill capacity. The cumulative analysis for utilities and service systems relies on both a projection approach (for operations) and on a list approach (for construction disruption).

Impact C-USS-1: Implementation of the Valley Link Project, in combination with other foreseeable projects in the surrounding area, could result in a significant cumulative impact on utilities and service systems

Level of Cumulative Impact	<u>Construction</u> Less than significant <u>Operation</u> Potentially significant (see below in regard to the Valley Link Project's contribution)
Mitigation Measures	USS-1.1: Implement a Utility Relocation Plan HAZ-2.2: Implement Construction Risk Management Plan
Project's Contribution Considerable?	<u>Construction</u> No

Construction

Disruption to Utilities

Construction of both the Valley Link Project and identified projects, such as the ACE Extension Lathrop to Ceres/Merced (reference 2) and California High-Speed Rail (Merced to Sacramento Section) (reference 4), 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.

Projects identified in Tables 4-3, 4-4, and 4-5 that would also potentially interrupt utility operation during construction would also be required to comply with all noticing and coordination

requirements pertaining to utility services. Owing to these requirements, there would not be a significant cumulative impact related to utility disruption.

Demand for Utilities Infrastructure

Construction of the Valley Link Project, as well as the projects listed in Tables 4-3, 4-4, and 4-5 would require water and electric power and would generate wastewater and stormwater runoff. The specific amount of water use during Valley Link Project construction is unknown at this phase; however, construction of the Valley Link Project including parking lots, stations, sidings, and track improvements is not expected to require a substantial amount of water. Local water providers have available capacity to serve the temporary, incremental demands associated with construction of the Valley Link Project. The electric power required for construction would be minimal and would not be expected to require the construction of new or expanded electric power facilities. Wastewater generated during construction would be accommodated at existing wastewater treatment facilities and would not require new or expanded water or wastewater treatment facilities. These increases, as well as water and power service needs anticipated for identified project construction, are not expected to be substantial, would often be served locally by water tanks and generators, and would be temporary in nature. Thus, there would not be a significant cumulative impact related to demand for utilities infrastructure during construction.

Stormwater runoff generation for construction of the Valley Link Project and identified projects would be managed through compliance with site-specific SWPPPs, as required by the NPDES program, and is not expected to be substantial during construction activities. As such, Valley Link Project construction, in combination with construction of identified projects, would not result in a significant cumulative impact related to stormwater generation.

Landfill Capacity

Construction activities generate construction and demolition waste such as concrete, rubble, fill, and different types of building materials. State and local standards require that contractors divert construction and demolition waste from landfills by reusing or recycling construction and demolition materials. Per CALGreen (Cal. Code Regs. Title 24, Part 11, Section 5.408.1, Construction Waste Diversion) requires that 65 percent of construction and demolition waste generated during construction be recycled or diverted from the waste stream (International Code Council 2017). Compliance with CALGreen requirements would assist in the attainment of solid waste reduction goals, and would reduce the amount of solid waste that would be disposed of in landfills during both Valley Link Project construction and the construction of identified projects subject to the same regulatory requirements. Furthermore, landfill facilities in the project vicinity, including the Vasco Road Landfill and Foothill Sanitary Landfill, have sufficient remaining capacity (or a throughput) that would accommodate the demand for waste disposal. Therefore, there would not be a significant cumulative impact related to landfill capacity.

Operation

Demand for Utilities Infrastructure

Operation of the Valley Link Project and the projects listed in Tables 4-3, 4-4, and 4-5, including a variety of residential, industrial, and land use projects, would result in increased electricity, natural gas, and water demands, as well as increased wastewater and stormwater generation.

Water demand and wastewater generation from the rail projects identified in Table 4-3 would likely be from use of restrooms at stations; landscape irrigation at stations; and water use at OMFs for operational activities such as train washing, restrooms, and toilet sewage disposal. While the Valley Link Project is expected to increase the amount of ridership, and thus, increase the use of restrooms facilities at existing stations, these increases are not expected to substantially increase existing water use at these stations. Furthermore, because new Valley Link stations would not include restrooms, such stations are not expected to generate substantial wastewater that would require conveyance and treatment. Some OMFs would require construction of septic systems, but these systems would generally be small in scale, and users would be restricted to Valley Link operational staff.

Landscaping and maintenance for the Valley Link Project would not contribute to a substantial increase in water demand, as proposed stations would be served by recycled water systems, as required by the municipalities pursuant to statewide Green Building Standards and water-efficient landscape ordinances. Local water providers and wastewater treatment plants would have available capacity to serve the incremental demands associated with landscape irrigation at new stations.

The identified rail projects would be expected to have similarly low water demand and wastewater generation, which could be accommodated by local water providers and wastewater treatment plants. There are, however, several identified development projects that would require water for drinking and irrigation and would generate wastewater, potentially resulting in a significant cumulative impact related to demand for water and wastewater infrastructure. Given the low water demand and wastewater generation as described above for the Valley Link Project, the Valley Link Project would not have a cumulatively considerable operational contribution to demand for water and wastewater infrastructure.

At this time, the total amount of electrical power and natural gas needed for all of the identified projects is unknown. Nor is it known if the power and natural gas facilities in the area can meet future demands. Therefore, there could be a potentially significant cumulative impact related to demand for electric power and natural gas infrastructure. Valley Link is estimated to result in only a slight increase in electricity demand resulting from new Valley Link stations (night lighting) and OMFs. The amount of natural gas needed to heat the Interim OMF, Tracy OMF, or West Tracy OMF Alternative is anticipated to be very minor as the on-site buildings (maintenance and operations buildings) are not anticipated to be very large. Therefore, the Valley Link Project would not have a cumulatively considerable operational contribution to demand for electric power or natural gas infrastructure.

For the Valley Link Project and all identified projects, stormwater treatment facility design would be required to comply with all state and local requirements for storm drain design, including integration of site-specific post-construction stormwater controls. The Valley Link Project would include such control strategies as part of the final operational design and as part of compliance with Mitigation Measure HAZ-2.2. Because all identified projects would be required to meet stormwater requirements, there would not be a significant cumulative impact related to stormwater generation.

Landfill Capacity

As described in Section 3.18, *Utilities*, the amount of solid waste that the Valley Link Project would generate would be a small percentage of the remaining capacity of local landfill facilities. Solid waste facilities that serve the new stations would have capacity to accommodate projected increases in solid waste disposal, and the additional solid waste generated by Valley Link Project operations on trains and at stations and OMFs would be within the capacity of local landfills. Operation of the

development projects identified in Table 4-5 could substantially increase the amount of solid waste going to landfills. However, Integrated Waste Management Act diversion strategies that would be implemented at qualifying projects, including development projects, would reduce the amount of waste being transferred to landfills below levels anticipated without such waste diversion strategies. Thus, Valley Link Project operation would have a less than significant cumulative impact related to solid waste.

4.3 Significant and Unavoidable Environmental Impacts of the Proposed Project

The Proposed Project and the alternatives analyzed at an equal level of detail would have significant and unavoidable environmental impacts in the resource areas noted below even following the implementation of mitigation measures.

4.3.1 Construction

- **Air Quality:** Construction would contribute diesel particulate matter and PM_{2.5} emissions to a significant and unavoidable cumulative health risk impact in the Tri-Valley segment (including proposed and alternative facilities) due to ambient conditions exceeding cumulative thresholds after mitigation. Construction would also result in significant and unavoidable impact in the San Joaquin Valley portions of the project (including proposed and alternative facilities) due to the effect on localized PM₁₀ ambient air quality conditions after mitigation.
- **Agricultural Resources:** Portions of the Valley Link Project corridor span urban/developed lands, but other portions span agricultural resources, including Important Farmland. Permanent conversion of Important Farmland to nonagricultural uses would occur where the Valley Link Project would be constructed on such agricultural resources. The Proposed Project (due to the proposed alignments and stations listed below) would result in significant and unavoidable impacts to agricultural resources resulting from the conversion of Important Farmland. In addition, the West Tracy OMF Alternative would result in significant and unavoidable impacts to agricultural resources from the conversion of Important Farmland. Additionally, the Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track) would result in additional construction impacts resulting from parcel severance and/or the creation of remnant agricultural parcels; these impacts would be significant and unavoidable. Additionally, because other identified projects that would convert Important Farmland would be constructed within the Valley Link Project vicinity, the Valley Link Project would result in a cumulatively considerable contribution to agricultural resources impacts.
 - Isabel Station would result in the permanent conversion of Prime Farmland and Unique Farmland to nonagricultural uses.
 - The Altamont Alignment (including the Owens-Illinois Industrial Lead Variant 1, Single Track and the Owens-Illinois Industrial Lead Variant 2, Double Track) would result in the permanent conversion of Prime Farmland and Farmland of Local Importance to nonagricultural uses.

- Mountain House Station would result in the conversion of Farmland of Local Importance to nonagricultural uses.
- Tracy OMF would result in the conversion of Prime Farmland and Farmland of Local Importance to nonagricultural uses.
- The Tracy to Lathrop Alignment Variant 1, Single Track and Tracy to Lathrop Alignment Variant 2, Double Track would result in the permanent conversion of Prime Farmland, Farmland of Statewide Important, Unique Farmland, and Farmland of Local Importance to nonagricultural uses.
- River Islands Station would result in the conversion of Prime Farmland to nonagricultural uses.
- West Tracy OMF Alternative would result in conversion of Farmland of Local Importance to nonagricultural uses.
- **Noise and Vibration:** The Valley Link Project would require intensive construction activities including rail work, station and OMF construction, and pile driving. In locations where these construction activities would occur near sensitive receptors, noise impacts could occur. As displayed in Table 3.12-10, site work, rail work, and structure construction all have the potential to exceed 8-hour equivalent continuous sound level levels at 50 feet (in A-weighted decibels).⁶ Sensitive receptors within 135 feet of site work, 150 feet of rail work, and 270 feet of structure work would be subject to excessive construction noise. While mitigation would be implemented to reduce these noise levels, noise emissions would not necessarily be reduced to less than significant thresholds. Therefore, construction noise impacts would remain significant and unavoidable wherever construction activities would occur near sensitive receptors. Because additional identified rail projects would be constructed in the Valley Link Project vicinity, often emitting similar construction noise levels, sensitive receptors near any of these rail projects could be subject to noise impacts if concurrent construction activities were to occur. Therefore, the Valley Link Project would also present a cumulatively considerable contribution to construction noise impacts in the vicinity.

4.3.2 Operation

- *Air Quality:* Operation of the DMU, HBMU, or DLH 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. It should be noted that the Proposed Project (and alternative facilities in the Tri-Valley segment) with the BEMU technology variant would not contribute to cumulative health risks due to train operations.
- *Biological Resources:* Where operations and maintenance activities would occur along most of the Valley Link Project corridor and at supporting stations and OMFs, potential impacts to special-status species, including wildlife injury or death, could occur. At most facilities, mitigation would reduce these impacts to less than significant levels. At the Greenville Station, operation of the station, including station operations, parking areas, and the connection to the ACE platform would increase disturbance over existing periodic ACE and freight train activity

⁶ Leq or *equivalent sound level* is the level of a constant sound for a specified period of time (such as 8 hours) that has the same sound energy as an actual fluctuating noise over the same period of time.

relative to the I-580 undercrossing, which is one of the few remaining wildlife movement crossings of I-580 in the Altamont area. Even with mitigation to provide wildlife movement improvements and a redesign of part of the Greenville Station, the increased train and human activity at this location would further hinder wildlife movement. The Mountain House Station and the West Tracy OMF Alternative would be located 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 Mountain House Station and/or the West Tracy OMF Alternative may deter normal wildlife use of the area and contribute to wildlife dispersal. These impacts relative to the Greenville Station, the Mountain House Station and the West Tracy OMF Alternative would be significant and unavoidable, even with mitigation. Additionally, because other identified projects would occur within the general vicinity of these facilities, in areas that also support habitat for sensitive species, the Valley Link Project would result in a cumulatively considerable contribution to biological resources impacts relative to these specific proposed stations (Greenville Station and Mountain House Station) and the West Tracy OMF Alternative.

- *Land Use:* The Valley Link Project spans numerous jurisdictions and planning areas. Some of these planning areas are currently developed, some have plans for future development, and others do not yet have future development plans. The Greenville Station is potentially inconsistent with the *Metropolitan Transportation Commission and Association of Bay Area Governments Plan Bay Area (2017)* and the *City of Livermore General Plan 2003-2025 (2004)*, which direct all non-agricultural developed within existing urban footprints. Similarly, the *Alameda County Open Space Element (1973)* states that agricultural areas should be free of non-agricultural development and *East County Area Plan (1994)* discourages development on prime soils and Important Farmland (numerous Project features would be constructed on Important Farmland). However, the Greenville Station is proposed within unincorporated Alameda County in a Large Parcel Agriculture land use designation, outside of the Urban Growth Boundary, and, as described in Section 3.13, *Population and Housing*, could potentially contribute to population growth in the area. Additionally, the *San Joaquin County General Plan (2016)* promotes development within existing urban areas, in a manner that does not affect agricultural land resources. The Mountain House Station, Tracy OMF, and West Tracy OMF Alternative are potentially inconsistent with this plan because they would not be located in existing developed areas and would be located near agricultural resources. The West Tracy OMF Alternative would also be potentially inconsistent with the *Delta Plan (2013)* and the *City of Tracy General Plan (2011)*, which encourage development within incorporated City spheres of influence. Because the Mountain House Station and West Tracy OMF Alternative would be located in unincorporated San Joaquin County, outside of an urban sphere of influence, the Mountain House Station and West Tracy OMF Alternative are potentially inconsistent with these plans. These impacts would be significant and unavoidable. In summary, the Proposed Project (due to the Greenville Station, Mountain House Station, and Tracy OMF) would result in significant and unavoidable impact, and the West Tracy OMF Alternative and Mountain House Station Alternative would result in significant and unavoidable impact.
- *Noise and Vibration:* Operation along the Tri-Valley Alignment, including Isabel Station and Greenville Station; Altamont Alignment, including the Owens-Illinois Industrial Lead Variant 1, Single Track; Owens-Illinois Industrial Lead Variant 2, Double Track; Tracy to Lathrop Alignment Variant 1, Single Track; Tracy to Lathrop Alignment Variant 2, Double Track; Downtown Tracy Station; Downtown Tracy Station Parking Alternative 1; and Downtown Tracy Station Parking Alternative 2 would expose sensitive receptors to operational train noises,

including speed-induced noise, horns, station announcements, etc. While mitigation measures would require noise attenuation strategies such as sound insulation, quiet zones, noise barriers, wayside horns, and noise-reducing operational strategies, these strategies may not be feasible at all locations near sensitive receptors. Therefore, Valley Link operation near sensitive receptors, especially at sites with current train operation by other providers, would result in a significant and unavoidable impact. Because additional rail projects would operate in the Valley Link Project vicinity, often utilizing the same or nearby track features, sensitive receptors near any of these rail projects could be subject to operational train noise impacts. Therefore, the Valley Link Project would also present a cumulatively considerable contribution to noise impacts in the vicinity.

- *Population and Housing*: Stations have the potential to induce population growth, as development will be likely to occur near transit hubs. Some stations would be in areas of planned population growth, and therefore would not have impacts associated with unplanned population growth. The Greenville and Mountain House Stations could substantially induce, either directly or indirectly, population growth in their surrounding areas; however, these stations are not located in areas of planned population growth. Therefore, the unplanned growth that could occur at these stations during the operational phase would result in a significant and unavoidable impact.

4.4 Significant and Irreversible Environmental Changes

The following text applies to the Proposed Project and the alternatives analyzed at an equal level of detail.

The Authority proposes to establish passenger rail service between Dublin/Pleasanton and Lathrop by constructing and upgrading tracks. New stations and OMFs would also be constructed along the proposed rail corridor. Valley Link Project construction would require the use of raw materials such as metals and concrete, as well as fossil fuels, during construction. The source metals used, unless they come from recycled materials, would represent an irreversible use of resources. Fossil fuels used during construction would also represent an irreversible use of oil and natural gas.

Valley Link Project operation would require diesel fuel for propelling the trains (for the DMU, HBMU, and DLH technology variants). New stations and maintenance facilities would also use electricity. But the Valley Link Project would also result in a reduction in vehicle fuel use due to anticipated transportation modal shift from private automobiles to passenger rail. Table 3.6-1 in Section 3.6, *Energy*, displays passenger travel mode and energy use; rail travel overall has a much lower energy usage per passenger than does personal automobile travel. Therefore, the continued use of diesel for Valley Link Project operations would be a continuance of non-renewable fossil fuel usage, which would represent an irreversible use of those resources. However, because the Valley Link Project would result in an overall reduction in fossil fuel use as passengers are diverted from personal automobiles on roads onto the train system, Valley Link Project implementation would have a net reduction in the irreversible use of fossil fuels. It should be noted that no diesel fuel would be used for the BEMU technology variant. If the BEMU technology variant were selected, the Valley Link Project would not continue the use of non-renewable fossil fuels.

Permanent visual alterations would result from new stations, OMFs, and associated railroad features such as new railroad bridges, modifications to at-grade crossings, and the OCS (under the BEMU technology variant). As documented in Section 3.1, *Aesthetics*, these physical changes would alter views from residential viewers, roadway travelers, and recreationists and would also result in new sources of lighting in various locations along the Valley Link corridor. These changes would be significant and irreversibly alter current landscapes and viewsheds.

Multiple Valley Link Project facilities would be constructed within or adjacent to Important Farmland, including Prime Farmland, Unique Farmland, and Farmland of Statewide or Local Importance. Where Project facilities would be constructed within Important Farmland, such agricultural resources would be permanently converted to a nonagricultural use. These impacts would be significant and irreversible.

4.5 Growth-Inducing Impacts

Growth inducement would occur if the population or employment growth projected to take place as a result of the Valley Link Project were to exceed planned levels. Increased development and growth in an area are dependent on a variety of factors, including employment and other opportunities; availability of developable land; and availability of infrastructure, water, and power resources.

A growth inducement analysis was conducted for the Project, as described in Section 3.13, *Population and Housing*. This analysis determined that improvements to existing stations (Dublin/Pleasanton Station) would have little to no effect on the overall growth pressures in the Project corridor because the improvements proposed are not of a scale to attract substantial population growth and are in large part intended to serve areas already developed or approved for further development. Most new stations would be constructed in areas where local land use policies support the siting of such facilities and would thus not induce unprecedented growth beyond the plans of the local jurisdiction. To the extent that improved transit systems encourage development by removing obstacles to mobility or improving access in the region, the Valley Link Project could support planned growth including transit-oriented development. For example, the Isabel Neighborhood Plan, which would allow for the development of 4,095 new housing units; approximately 2.1 million square feet of net new office, business park, and commercial development; and neighborhood amenities is proposed around the Valley Link Isabel Station. The Valley Link Project could help to achieve goals set forth by the California Sustainable Communities and Climate Protection Act of 2008 (SB 375). This law requires many of California's metropolitan areas, including the Bay Area, to create sustainable strategies that promote smart growth principles such as compact, mixed-use commercial and residential development and transit-oriented development to reduce GHG emissions

Nonetheless, the Greenville and Mountain House Stations are located outside the areas planned for growth by local land use plans. These stations have the potential to induce growth within the vicinity of the station location, which is located outside the areas planned for growth, and could increase development in the area leading to significant environmental impacts.

4.6 Public Agency Involvement

4.6.1 Scoping Meetings and Noticing

As described in Section 1.6, *Scope and Content of this Environmental Impact Report*, the scoping process for this EIR was formally initiated on September 13, 2018, when the Authority submitted a Notice of Preparation to the California State Clearinghouse; federal, regional, and local elected officials; and federal, state, and local agencies, including the planning and community development directors in Alameda and San Joaquin Counties; and the interested public. The purpose of the Notice of Preparation was to solicit participation from relevant agencies and from the public in determining the scope of the EIR. The scoping period ended October 15, 2018.

Public scoping meetings were held on October 2, 2018 (Livermore) and October 3, 2018 (Tracy) to provide the public with an opportunity to be informed about the project and to comment on environmental issues of concern. Appendix A, *Scoping Report*, contains a summary of the scoping process, including the notification and scoping activities undertaken, scoping meeting materials, and scoping comments received.

4.6.2 Agency Consultation and Coordination

As described in Section 1.2, *Project History*, the Authority was formed through Assembly Bill 758 in October 2017. With a governing board made up of representatives from fifteen cities, counties, and agencies in the region, the Authority was empowered by the State Legislature to plan, design, procure, and construct facilities to achieve “transit connectivity” between the Tri Valley and San Joaquin Valley through the Valley Link Project.

The Valley Link Project development and environmental review process began in early 2018. Since then, the Authority has conducted ongoing consultation and coordination activities with local agencies, jurisdictions, organizations, and other stakeholders identified along the Valley Link corridor. A comprehensive stakeholder database was created and maintained, and stakeholders received email updates throughout the entirety of the planning process regarding project milestones, public meetings, and opportunities for input. Appendix H, *Public and Agency Coordination*, provides a list of the organizations and individuals with whom the Authority has consulted and when these meetings took place.

4.6.2.1 Local Agency, Community, and Stakeholder Meetings

Numerous meetings and presentations have been conducted with local agencies, jurisdictions, community organizations, and stakeholders since the start of the Valley Link planning process in 2018. This includes meetings with cities and counties along the Valley Link corridor; Metropolitan Transportation Commission and San Joaquin Council of Governments; the Authority Board of Directors; BART planning staff; San Joaquin County Regional Rail Commission; and other local organizations, such as community groups and professional networks.

Refinements to the Valley Link alignment and station options were developed through communication with stakeholders, local governments, and the public. Meetings with stakeholders were conducted to provide planning concept updates, obtain input on the planning process, and collaborate with other transportation agencies for Valley Link. Appendix H, *Public and Agency Involvement* presents a complete list of these meetings.

4.6.2.2 Resource Agency Meetings

The Authority will be consulting with federal and state resource agencies as the Valley Link Project progresses through environmental review. Table 2-7 in Chapter 2 provides a list of resource agencies permits and approvals that could be required for the Valley Link improvements and with whom the Authority will consult regarding potential impacts on resources of concern.

4.6.2.3 Outreach to Disadvantaged Communities

According to the California Public Utilities Commission, “Disadvantaged Communities refers to the areas throughout California which most suffer from a combination of economic, health, and environmental burdens. These burdens include poverty, high unemployment, health conditions like asthma and heart disease, as well as air and water pollution, and hazardous wastes.” These communities are defined by SB 535 as follows.

- Disadvantaged Communities fall within a census tract within the top 25 percentile of the pollution burden.
- Low-Income Communities fall within a census tract at or below 80 percent of the statewide median income.

Several proposed Valley Link stations are located in areas considered by SB 535 as disadvantaged and/or low-income communities, including the proposed stations at Mountain House, Downtown Tracy, River Islands, and North Lathrop. Outreach to these communities was prioritized throughout the Valley Link Project planning process.

To prioritize outreach to communities identified as disadvantaged, outreach activities were strategically located and timed with the goal of bringing outreach activities to areas that residents already frequent in their day-to-day lives to provide a variety of opportunities for them to learn about Valley Link and provide input. Outreach events included attendance at community fairs, festivals, farmers markets, meetings of local organizations, and setting up informational booths at park-and-ride locations and community colleges. Appendix H, *Public and Agency Involvement* presents a complete list of these meetings.

4.6.2.4 Notification and Circulation of Draft EIR

CEQA requires the lead agency (for the Proposed Project, the Authority) to prepare an EIR that reflects the independent judgment of the agency regarding the impacts of a project, the level of significance of the impacts both before and after mitigation, and mitigation measures proposed to reduce the impacts. A Draft EIR is circulated to responsible agencies, trustee agencies with resources affected by the project, and interested agencies and individuals. The purposes of public and agency review of a Draft EIR include sharing expertise, disclosing agency analyses, checking accuracy, detecting omissions, discovering public concerns, and soliciting counterproposals.

This Draft EIR has been released for a 50-day public review period. The public will be advised of the availability of this Draft EIR through advertisement placed in local newspapers, sent by email and direct mailing, and announced through the project webpage and Facebook page.

A Notice of Availability will be posted on the Authority's website⁷, with the California State Clearinghouse, and at county clerks/recorders offices for Alameda and San Joaquin Counties. In addition, notices will be published in the following newspapers.

- *Livermore Independent*
- *Pleasanton Weekly*
- *East Bay Times*
- *Tracy Press*
- *Manteca Bulletin*
- *Stockton Record*
- *El Observador*

The Draft EIR is available on the Authority's website.⁸ Because of current COVID-19 social distancing requirements, including the order from Alameda County to adhere to social distancing requirements, a printed copy of the Draft EIR is available for public viewing by appointment only at the Tri-Valley–San Joaquin Valley Regional Rail Authority office at 1362 Rutan Court, Suite 100, 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.

Reviewers of this Draft EIR should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate significant environmental effects.

The public review period will be from December 2, 2020 to January 21, 2021. Comments on this Draft EIR must be received by the Authority no later than 5:00 p.m. on the last day of the Draft EIR public review period, and can be submitted by any of the following methods:

- **Mail:** Tri-Valley–San Joaquin Valley Regional Rail Authority
Attn: Valley Link Draft EIR
1362 Rutan Court #100
Livermore, CA 94551
- **Email:** drafteircomments@valleylinkrail.com

4.7 List of Preparers

The CEQA Lead Agency for this EIR is the Tri-Valley–San Joaquin Valley Regional Rail Authority.

This EIR was prepared for the Tri-Valley–San Joaquin Valley Regional Rail Authority by the following entities.

⁷ Website: <https://www.valleylinkrail.com/environmental-ceqa>

⁸ Website: <https://www.valleylinkrail.com/environmental-ceqa>

- ICF (all sections not listed for other firms).
- AECOM (engineering; historic architectural resources, geology and soils, land use and planning, public services, safety and security, and utilities and service systems analysis; graphics; geographic information systems)

KSN and Pennino Management Group provided technical advice concerning this EIR. This chapter lists the primary individuals who supported the preparation of the report.

4.7.1 Lead Agency: Tri-Valley—San Joaquin Valley Regional Rail Authority

The Tri-Valley–San Joaquin Valley Regional Rail Authority is the Lead Agency on the Valley Link Project and is responsible for implementing all mitigation measures and project design strategies. The following individuals lead Authority efforts for the Proposed Project.

- Michael Tree, Executive Director
- Marianne Payne, Strategic Development Director

4.7.2 List of Key EIR Preparers

4.7.2.1 ICF Preparers

Project Management Team

Rich Walter, Project Director

John Cook, AICP, Project Manager

Leo Mena, Deputy Project Manager

Aileen Cole, Deputy Project Manager

Technical Specialists

Jennifer Ban, MLA, Aesthetics

Keith Cooper, Air Quality, Greenhouse Gas Emissions, Energy

Sandy Lin, Air Quality, Greenhouse Gas Emissions

Matthew McFalls, Air Quality, Greenhouse Gas Emissions

Laura Yoon, Air Quality, Greenhouse Gas Emissions

Diana Roberts, Agriculture and Paleontology

Danielle Tannourji, Biological Resources

Amy Poopatanapong, Biological Resources

Donna Maniscalco, Biological Resources (Fish Resources)

Lily Arias, Cultural Resources (Archeological Resources)

Mathew Sisneros, Cultural Resources (Archeological Resources)

Patrick Reed, Cultural Resources (Archeological Resources)

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4.7.2.2 AECOM Preparers

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Lisa Clement, GIS Specialist

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