

SUMMARY

INTRODUCTION

The California Department of Transportation (Caltrans), in cooperation with the Solano Transportation Authority (STA) and the Metropolitan Transportation Commission (MTC), proposes to provide High Occupancy Vehicle/High Occupancy Toll lanes (HOV/HOT or express lanes) in both westbound and eastbound directions of Interstate 80 (I-80) from west of Red Top Road to east of Interstate 505 (I-505), within Solano County, California. The I-80 Express Lanes Project (project) would construct approximately 18 miles of express lanes in the I-80 corridor through conversion of existing HOV lanes and highway widening for new express lanes. The project limit is approximately 20 miles because of the need to install express lanes signs and equipment 1 mile in advance of the actual express lane entrance. The general location of the proposed improvements extends along I-80 from post mile (PM) R10.4 to 30.2 and passing through the cities of Fairfield and Vacaville (**Figure S-1**).

The project may be constructed under a single construction contract or in phases depending on available funding. If phasing occurs, the first phase of the project (West Segment) would include the conversion of the existing HOV lane to a new express lane facility along I-80 from the Red Top Road interchange to the Air Base Parkway interchange, including the area around the I-80/I-680 interchange. In the West Segment, existing HOV lanes in both the eastbound and westbound directions would be restriped and repurposed into express lanes. The second phase (East Segment) would construct a new express lane in both the eastbound and westbound directions of I-80 from the Air Base Parkway interchange through the I-80/I-505 interchange. **Figure S-1** illustrates the limits of the two segments.

I-80 Express Lanes Project is currently funded by the Bay Area Toll Authority (BATA) with Regional Measure 2 funds. In 2009, the West Segment Project was identified in MTC's Transportation 2035 Plan (RTP ID # 230660). In 2013, the East Segment Project was added to MTC's Plan Bay Area 2040 (RTP ID# 240581). Later in 2013, MTC updated the Transportation Improvement Program (TIP) to combine the West Segment and East Segment Project now known as "I-80 Express Lanes – Fairfield & Vacaville Phase I & II" with a new RTP ID# 240581 and TIP ID# SOL 110001 under TIP Amendment 2013-16.

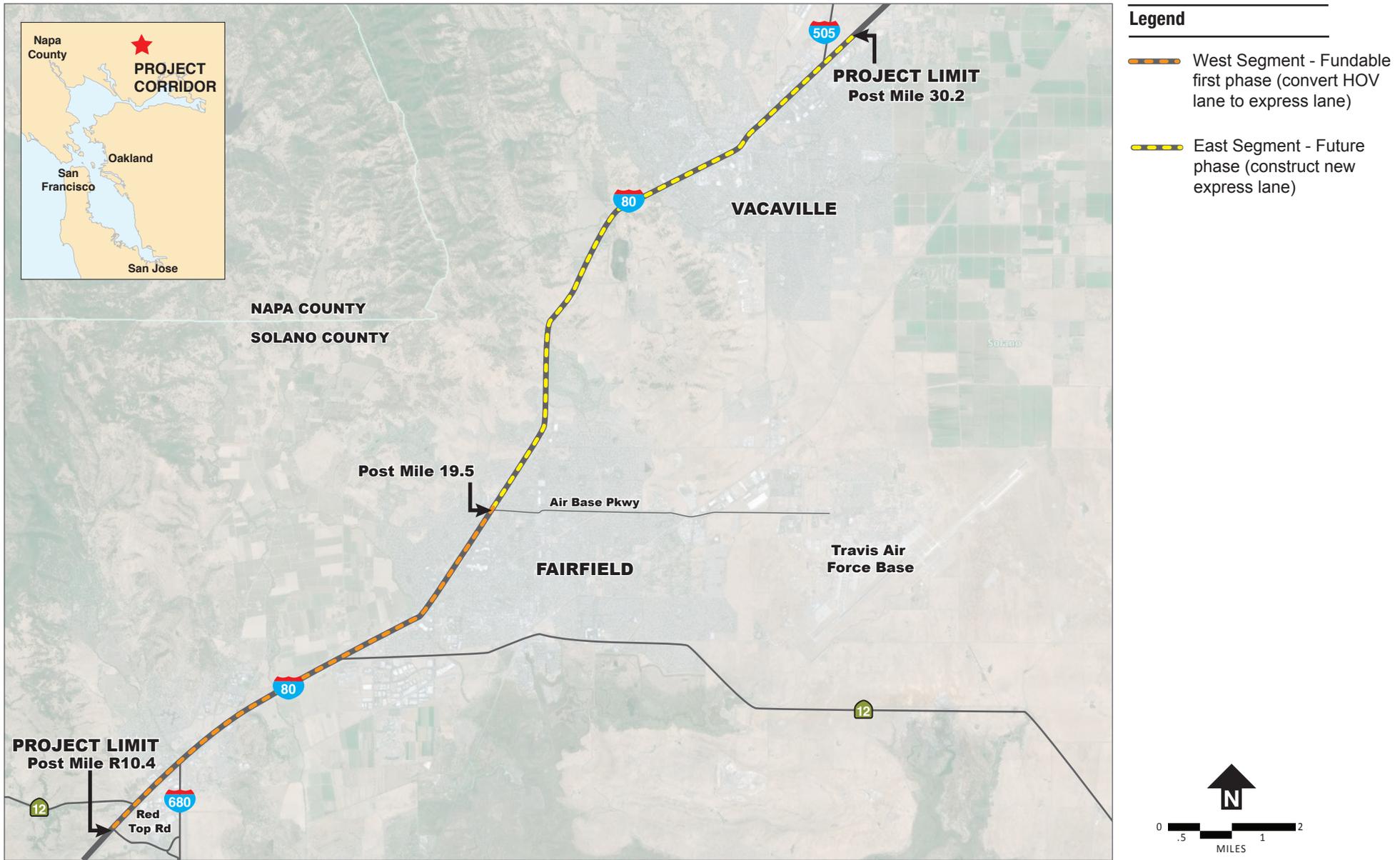
As part of the 2015 TIP update, MTC updated the I-80 Express Lanes Project to identify a full funding program of \$ 236.8 Million for the remaining project phases (Final Design, Right of Way and Construction) with Long Range Plan (LRP) funds (future RM2, STIP and others) and Other Local funds under TIP Amendment 2015-00.

Caltrans is the lead agency for preparing the environmental document in compliance with the National Environmental Protection Act (NEPA) and the California Environmental Quality Act (CEQA).

OVERVIEW OF THE PROJECT LIMITS

The proposed project is located within a region that varies from urban to rural development patterns, with a diverse mixture of land uses that are visibly and functionally divided through the cities of Vacaville, Fairfield, and unincorporated Solano County. I-80 runs west-east through the study limits and serves both local and regional traffic in the area.

In the West Segment, from the southern project limit to the SR 12/I-80 interchange, there is a mix of commercial, open space, industrial, agricultural, and residential land uses. From the SR 12/I-80 interchange traveling to the northern limit of the West Segment, land uses consist primarily of residential, with some commercial and open space. From the beginning of the East Segment, to the city limits of Fairfield, land uses consist primarily of residential, with some commercial and agricultural development. Continuing to travel north through unincorporated Solano County, to the southern limits of the City of Vacaville, land uses consist of agricultural, open space, and commercial development. Traveling north, through the City of Vacaville to the northern extent of the East Segment, land uses consist of residential, commercial with some open space, and education/public/semi-public development.



Project Location

Figure S-1

Source: Circlepoint, 2015

PROJECTS IN THE STUDY AREA

There are 70 planned developments within the land use study area (see **Table 2.1-1** in **Section 2.1.1, Land Use**). **Figures 2.4-1a and 2.4-1b** depict the locations of the other planned projects listed in **Table 2.1-1**. The predominant type of planned development in the study area is residential. Other development projects planned in the study area include several commercial and industrial land uses. The following planned and approved transportation improvements along local routes may be implemented by local agencies or under other projects:

- **The I-80/I-680/SR 12 Interchange Project, Initial Construction Package.** Realignment of westbound I-80 from east of the I-80/I-680 IC to SR 12 West connector, relocation of the Green Valley Road IC to the east and reconfiguration of the SR 12 West ramps and Green Valley Road on-ramp, occurring from 0.7 mile west on SR 12 West to SR 12 West/I-80 and on westbound I-80 from SR 12 West/I-80 to I-80/I-680.
- **Freeway Performance Initiative – I-80 Ramp Metering.** Installation of ramp metering equipment, traffic operating systems, metal beam guardrail, and sign structures, and widen ramp along I-80 in Solano County within the cities of Vallejo, Fairfield, and Vacaville from the Contra Costa County line to I-505.
- **Alamo Creek Bridge Widening Project.** Bridge widening and construction drainage on I-80 in Solano County, in and near the city of Vacaville.
- **Local Roadway Widening.** Local roadway widening at Peabody Road, Leisure Town Road, and Foxboro Parkway.
- **Roadway Extensions.** Roadway extensions at Railroad Avenue and Manuel Campos Parkway.
- **Capitol Corridor Station.** A new rail transit station is proposed at the Capitol Corridor Station.

PURPOSE AND NEED

PURPOSE

The purpose of the project is to provide an immediate benefit to the traveling public by maximizing the use of the existing freeway infrastructure and expanding capacity in a limited/constrained right-of-way (ROW) to move vehicles through the corridor efficiently. See **Section 1.3, Purpose and Need** for a more detailed description of the project need. The project would strive to meet the following objectives:

- Offer non-carpool eligible drivers a reliable travel time option;
- Improve public transit utilization by reducing public transit travel times in the corridor; and
- Increase vehicle and passenger throughput and decrease congestion by:
 - Better utilization of existing HOV lane capacity from Red Top Road to east of Air Base Parkway; and
 - Increasing capacity to meet existing and future travel demand from east of Air Base Parkway to I-505.

NEED

- **Capacity and Travel Demand:** Congestion currently exists in the general purpose lanes during peak periods on the I-80 corridor in Solano County and will continue to worsen as traffic demand increases. During the weekday morning and evening peak commute hours, slowing occurs on both eastbound and westbound I-80.
- **Underutilized HOV Lanes:** The existing HOV lanes between Red Top Road and Air Base Parkway are underutilized during peak commute periods. During 2011, passenger occupancy counts were performed. Utilization in the existing HOV lanes ranged from 12 to 24 percent during the morning peak hours and 18 to 34 percent during the evening peak hours.¹ These numbers indicate an unused capacity in the HOV lane where the potential exists to “sell” the available capacity to toll-paying drive-alone users. This underutilized capacity in the HOV lanes results in increased congestion and slower speeds in the general purpose lanes during peak commute periods. Available unused capacity in the existing HOV lane system needs to be utilized to increase vehicle throughput and decrease congestion.
- **Future Conditions:** Projections of future conditions on the I-80 corridor within the project limits indicate that the demand for travel is expected to far exceed the available capacity during peak periods, adversely affecting travel speeds and creating bottlenecks at constrained locations. It is projected that the number of vehicles using this segment of I-80 will increase by up to 35 percent by the year 2040. The forecasted conditions indicate a

¹ Utilization was based on HOV lane capacity of 1,650 vehicles per hour per lane (vphpl), which is the typical acceptable flow rate for an HOV lane.

level of congestion that is also expected to cause substantial increases in the amount of diversion of through traffic onto local streets, degrade air quality, reduce public transit service reliability, and increase the potential for congestion-related collisions.

- **Public Transit Utilization.** Fairfield and Suisun Transit, Rio Vista Delta Breeze, Vallejo Transit and Yolo Bus operate public bus systems within the project limits. In addition, Fairfield and Suisun Transit operates Solano Express regional routes, Americans with Disabilities Act paratransit service and reduced fare taxi program. Additionally, private transit services, such as recreational buses to the Lake Tahoe region and the University of California Intercampus Bus between Davis and Berkeley, must also travel in the general purpose lanes along the I-80 corridor between Fairfield and Vacaville. By having to travel in the general purpose lanes of the East Segment, transit vehicles do not provide a significant travel time savings over single-occupant vehicles in this portion of the corridor. This reduces the incentive for commuters and other travelers to utilize transit options along the I-80 corridor.

PROPOSED ACTION

This section describes the proposed action and the design alternatives that were developed to meet the previously identified project purpose and need, while avoiding or minimizing environmental impacts. The alternatives are the “Build Alternative” and the “No-Build Alternative”.

The Preliminary Study Report was prepared and approved for this project in 2012. Two build alternatives were considered:

- Alternative A would implement continuous access express lanes with minimal improvements to the existing facility; and
- Alternative B would implement 12-foot express lanes with ingress and egress access locations, 4-foot buffer, and improvements to the existing facility to meet current design standards. Improvements to meet current design standards included 36-foot paved median, concrete median barrier, correction for existing nonstandard sight distances, new auxiliary lanes, modification/relocation of 25 roadway and creek bridges, and the modification and construction of soundwalls and retaining walls.

Alternative B was determined to be not viable because it required significant impacts to over 100 urban and rural parcels including displacement of persons/businesses and major relocations of both high and low risks facilities. The project cost was estimated at \$1.4 billion in 2015 dollars which included \$990 million for construction capital, \$75 million for right of way capital and \$335 million for capital outlay support.

Alternative A was carried forward as the current Build Alternative evaluated in this environmental document, and was ultimately chosen as the Preferred Alternative.

Other express lane access configurations were also evaluated for the Build Alternative. These access alternative configurations are discussed in detail in **Section 1.4.3, Alternatives Considered but Eliminated from Further Discussion.**

BUILD ALTERNATIVE

The Build Alternative proposes to construct express lanes in both westbound and eastbound directions of I-80 from west of Red Top Road to east of I-505, a distance of approximately 18 miles, through conversion of existing HOV lanes and highway widening for new express lanes. The project limit is approximately 20 miles because of the need to install express lanes signs and equipment 1 mile in advance of the actual express lane entrance. The Build Alternative would consist of the following primary improvements, discussed in detail in **Section 1.4.1, Alternatives:**

- Installation of static or dynamic signs, electronic tolling equipment, and toll collection
- Retrofit of existing California Highway Patrol (CHP) observation areas
- Mainline restriping and widening
- Installation of ancillary components such as electrical power and communication conduits and any Caltrans required traffic control devices.

West Segment – Fundable First Phase

The Build Alternative may be constructed under a single construction contract or in phases depending on available funding. If phasing occurs, the first phase of the project (West Segment) would include the conversion of existing HOV lanes into new express lanes along I-80 from Red Top Road to Air Base Parkway, including the area around the I-80/I-680 interchange. In the West Segment, existing HOV lanes in both the eastbound and westbound directions would be restriped and repurposed into express lanes. For the West Segment, additional work includes the extension of the existing auxiliary lane along eastbound I-80 between Beck Avenue on-ramp and Travis Boulevard off-ramp. This improvement would increase the weaving area between the auxiliary lane and general purpose lanes. The existing off-ramp would be modified into two separate off-ramps. This work would require pavement widening, re-striping, sign and lighting installation, and drainage system improvements.

East Segment – Future Phase

The future phase (East Segment) would construct new express lanes in both the eastbound and westbound directions of I-80, from the Air Base Parkway through the I-80/I-505 interchange. The new express lanes require new pavement; concrete barriers; retaining walls; bridge widening at Ulatis and Horse Creeks; median widening at Davis Street and Mason Street undercrossings; new tie-back retaining walls at the eastbound I-80 and northbound I-505 Connector and Cherry Glen overcrossing; drainage culvert extensions; parcel acquisition; and utility/temporary construction easements.

Appendix D includes detailed exhibits of the improvements that would be constructed under the Build Alternative. **Chapter 2.0, Affected Environmental Consequences, Avoidance, Minimization, and/or Mitigation Measures** of this environmental document evaluates the potential effects of the full Build Alternative, including the initial phase of construction. The environmental consequences and avoidance, minimization and/or mitigation measures specific to the West Segment are identified where appropriate.

CONSTRUCTION COST

The estimated construction cost of the proposed improvements, in 2014 dollars, for the Build Alternative is \$166,600,000. Construction of the West Segment is \$41,700,000. The breakdown of the cost is provided in **Table S-1**.

Table S-1 Construction Cost Estimate Summary

	Full Build Alternative (West and East Segments)	West Segment (Fundable First Phase)
Construction	\$107,500,000	\$24,700,000
Right of Way	\$1,500,000	\$100,000
Tolling System Integration (design, installation, and maintenance)	\$21,100,000	\$9,100,000
Capital Outlay Support	\$35,000,000	\$7,200,000
Utility Service	\$1,500,000	\$600,000
Total Cost	\$166,600,000	\$41,700,000

Note: Cost estimates are in 2014 dollars.
Source: Draft Project Report, 2015

NO-BUILD (NO ACTION) ALTERNATIVE

Under the No-Build Alternative, none of the project features described above would be constructed. The freeway travel lanes along the I-80 corridor would remain as they currently exist. No bridge structures would be widened. Traffic volumes within the project corridor would continue to increase under the No-Build Alternative. Other planned and approved transportation improvements along local routes may be implemented by local agencies or under other projects. **Table S-2** lists the projects assumed to be completed prior to construction of the project. The No-Build includes the potential for these improvements to be implemented through design year 2040. The No-Build Alternative is considered the environmental baseline for comparing environmental impacts under the National Environmental Policy Act (NEPA).²

² Under the California Environmental Quality Act (CEQA), the baseline for environmental impact analysis consists of the existing conditions at the time the Notice of Preparation (NOP) is issued or at the time the environmental studies began. Near-term (2020) and long-term (2040) impacts are also considered under CEQA; similar to the No-Build baseline used for NEPA.

The No-Build Alternative would not achieve the project purpose of increasing the efficiency of the transportation system by adding express lanes on eastbound and westbound I-80 between Red Top Road and I-505 to accommodate current and future traffic demand. In addition, the increased traffic volumes without capacity improvements would worsen the traffic congestion and slow traffic flow on the highway and local roadway network, resulting in increased potential for traffic congestion-related collisions.

Table S-2 Planned Improvements to be Completed Prior to Project Construction

Project Name (EA No.)	Project Limits and Description	Status
I-80/I-680/SR 12 Interchange Project Phase 1, Initial Construction Package (EA 04-0A5344)	<p>Limits: From 0.7 mile west on SR 12 West to SR 12 West/I-80 and on westbound I-80 from SR 12 West/I-80 to I-80/I-680.</p> <p>Description: Realignment of westbound I-80 from east of the I-80/I-680 IC to SR 12 West connector, relocation of the Green Valley Road IC to the east and reconfiguration of the SR 12 West ramps and Green Valley Road on-ramp. The westbound I-80 realignment to the north will provide for a wider median to accommodate the future I-680/I-80 HOV Lanes Connector (Package 6 of the I-80/I-680/SR 12 IC Project) and correct the nonstandard typical section on westbound I-80 between the relocated Green Valley Road IC and the SR 12 West.</p>	Anticipated Construction Completion 2016
I-80 Ramp Metering (EA 04-153504)	<p>Limits: Along I-80 in Solano County, within the cities of Vallejo, Fairfield and Vacaville; from the Contra Costa County Line to I-505.</p> <p>Description: Install ramp metering, traffic operating systems, metal beam guardrail, and sign structures, and widen ramp</p>	Completed 2014
Bridge Widening (EA 04-0A0904)	<p>Limits: On I-80 in Solano County, in and near Vacaville from 0.2 mile west of Alamo Creek Bridge to 0.2 mile east of Alamo Creek Bridge.</p> <p>Description: Widen bridge and construction drainage</p>	Completed 2014

The largest planned improvement project within the project limits is the I-80/I-680/SR 12 Interchange (ICP) – Phase 1 Project, which will be constructed with seven individual construction packages. The project report for the preferred alternative and the corresponding Phase 1, Initial Construction Package for the ICP was approved in October 2012. The Phase 1 of the ICP will include numerous improvements to address existing and future traffic operations and congestion, including relocation of the Cordelia Westbound Truck Inspection Facility. Proposed improvements are intended to add freeway capacity, reduce cut through traffic on local roads, improve local access to and from the freeway, accommodate current and future truck volumes, improve safety and increase the use of HOV lanes and ridesharing. The existing highway geometry on I-80, within the limits of the West Segment, has been adjusted in the design of this I-80 Express Lanes Project to include proposed improvements from Phase 1 of the ICP.

JOINT CEQA/NEPA DOCUMENT

The proposed project is a joint project by the Caltrans and the Federal Highway Administration (FHWA), and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the CEQA and the NEPA. Caltrans is the lead agency under NEPA and CEQA. In addition, FHWA's responsibility for environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried-out by Caltrans under its assumption of responsibility pursuant to 23 United States Code (USC) 327.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project as a whole, quite often a "lower level" document is prepared for NEPA. The joint document prepared for this project is an IS/EA.

Following receipt of comments from the public reviewing agencies, this IS/EA was prepared. This IS/EA includes responses to comments received on the draft IS/EA and identifies the preferred alternative. Two comments on the project were received during the public review period and are included this IS/EA in **Chapter 3.0 Comments and Coordination**.

Caltrans has determined that the IS/EA adequately and accurately discusses the need, environmental issues, and impacts of the proposed project and appropriate mitigation measures. If the decision is made to approve the project, a Notice of Determination (NOD) will be published for compliance with CEQA, and Caltrans will decide whether to issue a Finding of No Significant Impact (FONSI) or require an Environmental Impact Statement (EIS) for compliance with NEPA. A Notice of Availability (NOA) of the FONSI will be sent to the affected units of federal, state, and local government, and to the State Clearinghouse in compliance with Executive Order 12372.

PROJECT IMPACTS

Table S-3 summarizes the adverse effects of the Build Alternative in comparison with the No-Build Alternative. The proposed avoidance, minimization, and/or mitigation measures to reduce the effects of the Build Alternative are also presented. This environmental document evaluates the potential effects of the full Build Alternative, including the initial phase of construction (West Segment). Where appropriate, the environmental consequences and avoidance, minimization and/or mitigation measures specific to the West Segment are identified. For a complete description of potential adverse effects and recommended measures, please refer to the specific sections within **Chapter 2.0, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures**.

Table S-3 Project Impacts

Environmental Topic	No-Build Alternative	Build Alternative (West and East Segments)	West Segment (Phase 1)	Avoidance, Minimization, and/or Mitigation Measures
Land Use				
Division of and established community	None expected	None expected	None expected	None
Consistency with State, Regional, and Local Plans and Programs	Low	High consistency	High consistency	None
Compatibility with habitat conservation plan	No Conflict	No Conflict	No Conflict	None
Located in a Coastal Zone	No	No	No	None
Located near Wild and Scenic Rivers	No	No	No	None
Parks and Recreation Facilities				
No Effect				
Growth				
Growth-inducing	No	Indirectly, but within planned and forecasted growth	Same as Build Alternative	None
Farmlands				
Farmland acquisition	None expected	Low (0.01 acres of Unique Farmland)	Same as Build Alternative	None
Williamson Act Property Acquisition	None expected	Low (0.01 acres of land under a Williamson Act contract)	Same as Build Alternative	Measure FRM-1: Comply with Government Code Section 51293(d); land surface disturbed for the relocation of utilities would be restored to its original conditions

Environmental Topic	No-Build Alternative	Build Alternative (West and East Segments)	West Segment (Phase 1)	Avoidance, Minimization, and/or Mitigation Measures
Community Impacts				
Community Character and Cohesion	None expected	None expected	None expected	None
Relocations and Real Property Acquisition	None expected	No relocations; Acquisition of portions (or slivers) of 27 parcels	No relocations; Acquisition of portions (or slivers) of 10 parcels	Measure TRA-1: a Transportation Management Plan (TMP) will be given one to two weeks in advance to emergency response services to address detours and roadway/street closures
Environmental Justice	None expected	None expected	Same as Build Alternative	None
Utilities/Emergency Services				
Utilities	None expected	Some relocations of existing gas and electric transmission lines	Same as Build Alternative	Measure UTL-1: Coordination and verification with the affected utility service providers
Emergency Services	None expected	Short-term operational effects to police, fire, and emergency service during construction	Same as Build Alternative	Measure TRA-1: Implement TMP with notifications of delays and/or detours during construction
Traffic and Transportation/Pedestrian and Bicycle Facilities				
Conflict with applicable plans, ordinances, policies, or programs	Yes	None	None	None
Increase traffic congestion	Yes	Will reduce traffic congestion	Same as Build Alternative	Measure TRA-1: Implement TMP with notifications of delays and/or detours during construction
Increase hazards as a result of a design feature	None expected	None	None	None
Visual/Aesthetics				
Adverse effect on scenic	None expected	None	None	None

Environmental Topic	No-Build Alternative	Build Alternative (West and East Segments)	West Segment (Phase 1)	Avoidance, Minimization, and/or Mitigation Measures
views/damage scenic resources				
Degradation of existing visual character or quality	None expected	Potential visual quality lost	Same as Build Alternative	Measures VIS-1 through VIS-5: Roadway design would adhere to Caltrans final design requirements in cooperation with the Caltrans District Landscape Architect
Create a new source of light or glare	None expected	New nighttime lighting; temporary construction lighting	Same as Build Alternative	Measure VIS-6: Lighting would adhere to Caltrans Standard Specifications Implement construction light and glare screening measures
Cultural Resources				
Create an adverse change in the significance of a historical resource	None expected	No effect	No effect	None
Create an adverse change in the significance of an archaeological resource	None expected	Potential due to excavation and construction activities	None expected	Measure CUL-1: If unidentified cultural materials are unearthed during construction work shall be halted in that area. Measure CUL-3: An ESA Action Plan has been prepared to specify avoidance areas and areas requiring monitoring during construction to avoid all impacts to known archaeological resources in the East Segment Measure CUL-4: A Testing/Treatment Plan will be implemented to avoid impacts to potential archaeological resources in the East Segment.

Environmental Topic	No-Build Alternative	Build Alternative (West and East Segments)	West Segment (Phase 1)	Avoidance, Minimization, and/or Mitigation Measures
Disturbance to human remains	None expected	None expected	Same as Build Alternative	Measure CUL-2: If human remains discovered, activity will stop (State Health and Safety Code Section 7050.5). If the remains are thought to be Native American, the Native American Heritage Commission will be contacted (Public Resources Code Section 5097.98)
Hydrology and Floodplain				
Within a 100-year floodplain	Yes	Yes	Yes	Measure HYDR-1: Implement re-vegetation, storm water treatment, or other requirements as designated by the relevant permits
Expose people/structures to a significant risk of loss	None expected	Low risk; minimal increases in storm water runoff and no changes in the 100-year water surface elevations	Similar to Build Alternative; minimal increases in storm water runoff and no changes in the 100-year water surface elevations	None
Water Quality and Storm Water Runoff				
Result in substantial drainage pattern alteration	None expected	Modification/removal of existing drainage structures	Same as Build Alternative	Measure WQ-1: Comply with Caltrans National Pollutant Discharge Elimination System permit and Storm Water Management Plan
Violation of water quality standards	None expected	Potential due to excavation and construction activities	Same as Build Alternative	Measure WQ-1: Implement Storm Water Pollution Prevention Plan
Change to groundwater supply or groundwater recharge	None expected	None Expected	Same as Build Alternative	None

Environmental Topic	No-Build Alternative	Build Alternative (West and East Segments)	West Segment (Phase 1)	Avoidance, Minimization, and/or Mitigation Measures
Substantially degrade water quality	None expected	Potential minor construction and operational effects	Same as Build Alternative	Measure WQ-2 and WQ-3: Implement Design Pollution Prevention and Treatment Best Management Practices
Geology/Soils/Seismic/Topography				
Expected likelihood of seismic related issues, including ground shaking and liquefaction	High potential for ground shaking, liquefaction potential varies	Same as No-Build Alternative	Same as No-Build Alternative	Measure GEO-1: Implement Caltrans' seismic design standards, and preparation of geotechnical design reports
Expose people or structures to potential adverse effects	None expected	Worker safety	Same as Build Alternative	Measure GEO-2: Comply with Occupational Safety and Health Act Section 5(a)(1)
Mineral Resources	None expected	None expected	None expected	None
Paleontology				
Destruction of paleontological resources (i.e., fossil remains and sites) as a result of ground disturbance	None expected	Potential due to excavation and construction activities in previously undisturbed fossiliferous geologic formations	Same as Build Alternative	Mitigation Measure PAL-A: Preparation and implementation of a Caltrans-approved paleontological monitoring and mitigation program.
Hazardous Waste/Materials				
Create a hazard to the environment	None expected	None expected, but potential due to excavation and construction activities	Same as Build Alternative	Measures HAZ-1 through HAZ-5: Additional subsurface sampling and proper management of soil/groundwater contaminants; Site Safety Plan; Lead Compliance Plan Follow regulations requiring abatement of asbestos-containing materials and lead-based paint.

Environmental Topic	No-Build Alternative	Build Alternative (West and East Segments)	West Segment (Phase 1)	Avoidance, Minimization, and/or Mitigation Measures
Create a hazard to the public	None expected	None expected	Same as Build Alternative	Measures HAZ-1 through HAZ-5: Additional subsurface sampling and proper management of soil/groundwater contaminants; Site Safety Plan; Lead Compliance Plan Follow regulations requiring abatement of asbestos-containing materials and lead-based paint
Be located on a site which is included on a list of hazardous materials sites, and, as a result, would create a hazard to the public or environment	Same as Build Alternative	Varies throughout project limits, sites on several lists	Same as Build Alternative	Measures HAZ-1 through HAZ-5: Additional subsurface sampling and proper management of soil/groundwater contaminants; Site Safety Plan; Lead Compliance Plan Follow regulations requiring abatement of asbestos-containing materials and lead-based paint
Air Quality				
Operational Emissions	Greater than Build Alternative	Regional and project-level conformity achieved, No considerable net increase of any criteria pollutant	Same as Build Alternative	None

Environmental Topic	No-Build Alternative	Build Alternative (West and East Segments)	West Segment (Phase 1)	Avoidance, Minimization, and/or Mitigation Measures
Emissions from construction equipment	Unknown	Temporary increases in daily maximum construction emissions	Same as Build Alternative	Measures AIR-1 though AIR-3: Implement Caltrans Standard Specifications and control measures for construction emissions
Noise				
A substantial increase in permanent noise levels	None expected	Potential permanent noise level increases ranging from 0 to 2 dBA (varies throughout project limits)	Same as Build Alternative	Mitigation Measure NOI-A: Potential noise abatement measures
A substantial increase in temporary noise levels	None	Potential due to construction activities	Same as Build Alternative	Measure NOI-1: Compliance with Caltrans Standard Specifications for construction equipment; restricted construction hours
Energy				
No Effect				
Biological Resources				
Effects to habitat or sensitive natural communities	None	Potential effects to oak woodland habitat (1.35 acres) during and post construction activities	Same as Build Alternative	Mitigation Measures BIO-A and BIO-B: Compensatory mitigation for oak woodlands and Oak Woodland Habitat Mitigation & Monitoring Plan

Environmental Topic	No-Build Alternative	Build Alternative (West and East Segments)	West Segment (Phase 1)	Avoidance, Minimization, and/or Mitigation Measures
Effects to wetlands and other waters	None	Potential impacts (1.41 acres) and indirect water quality effects to wetlands and other waters.	Potential impacts (0.33 acres) and indirect water quality effects to wetlands and other waters.	<p>Measures WQ-1 through WQ-3: Temporary and permanent best management practices to protect water quality</p> <p>Mitigation Measure BIO-C: Compensatory Mitigation for Jurisdictional Water Features</p>
Effects to sensitive or special status species	None	Direct impacts to habitat types with the potential to support chinook salmon, Western burrowing owl, Western pond turtle, American badger, dusky-footed woodrat, migratory birds, and bat species	Similar to Build Alternative	<p>Measures WQ-1 through WQ-3: See above</p> <p>Measures BIO-1 through BIO-32 and BIO-E: Fencing environmental sensitive areas (ESAs), work restriction in aquatic habitat, worker awareness training, cease work orders in the event of special-status species presence, pre-construction surveys for special-status species, seasonal work restrictions, prohibiting the use of insecticides, herbicides, fertilizers, or other chemicals near special-status plants, dust control measures, qualified biological monitors, complying with the Executive Order on Invasive Species (EO 13112), complying with Biological Opinion, compensatory mitigation for burrowing owl.</p>

Environmental Topic	No-Build Alternative	Build Alternative (West and East Segments)	West Segment (Phase 1)	Avoidance, Minimization, and/or Mitigation Measures
Effects to threatened and endangered species	None	Potential effects to the Valley elderberry longhorn beetle, California red-legged frog, Swainson's hawk	Similar to Build Alternative	<p>Measures WQ-1 through WQ-3: See above</p> <p>Measures BIO-1 through BIO-32: See above</p> <p>Measures BIO-1 through BIO-3 and BIO-29: Fencing environmental sensitive areas (ESAs), work restriction in aquatic habitat, worker awareness training, pre-construction nesting surveys</p> <p>Mitigation Measure BIO-F: Compensatory mitigation for impacts to California red-legged frog</p>

COORDINATION WITH PUBLIC AND OTHER AGENCIES

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process. It helps Caltrans determine the necessary scope of environmental documentation, the level of analysis required, potential impacts, and mitigation measures as a result of project implementation, and related environmental requirements. Agency consultation for the proposed project has been accomplished through a variety of formal and informal methods, including Project Development Team (PDT) meetings and interagency coordination meetings. **Chapter 3.0, Comments and Coordination**, summarizes the results of Caltrans' efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

In addition to the PDT meetings, there are several other public agencies involved in environmental clearance and permitting of the Build Alternative. These agencies include the U.S. Army Corps of Engineer (USACE), U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), State Water Resources Control Board (SWRCB), State Historic Preservation Officer (SHPO), and the Metropolitan Transportation Commission (MTC) Air Quality Conformity Task Force/Federal Highway Administration (FHWA). See **Section 3.1.1, Consultation and Coordination with Public Agencies**, for a complete discussion of the agency consultation efforts completed and/or planned for the Build Alternative.

Additionally, a public open forum hearing was held from 6:00 pm to 8:00 pm on August 4, 2015 during the 30-day review period of the draft IS/EA. The intent of the public hearing was to solicit comments and receive input from the public and agencies on the environmental analyses and conclusions presented in the draft IS/EA, including the noise study report. The public open forum hearing was held in Conference Room B of the Solano County Events Center at 601 Texas Street, Fairfield, California. The hearing utilized an open forum format, and six members of the public attended. One comment was submitted in writing during the hearing. Comments were taken into consideration during preparation of this final IS/EA document. Public participation is further described in **Chapter 3.0 Comments and Coordination**.

NECESSARY PERMITS AND APPROVALS

Table S-4 identifies the permits/approvals that would be required for project construction.

Table S-4 Permits and Approvals

Agency	Permit/Approval	Status
United States Army Corps of Engineers	Section 404 Permit – Nationwide	Issued during the Final Design Phase
United States Fish and Wildlife Service (USFWS)	Biological Opinion/ Concurrence with “no effect” determination	Biological Opinion issued August 17, 2015

Agency	Permit/Approval	Status
National Marine Fisheries Service (NMFS)	Concurrence with “no effect” determination	Concurred that project is covered under Category 3 of the Programmatic Biological Opinion on May 26, 2015
California Department of Fish and Game	1602 Agreement	Issued during the Final Design Phase
State Water Resources Control Board	NPDES Permit	Statewide general permit adopted September 19, 2012; effective July 1, 2013
Regional Water Quality Control Board	Section 401 Certification	Issued during the Final Design Phase
Metropolitan Transportation Commission (MTC) Air Quality Conformity Task Force/ Federal Highway Administration (FHWA)	Regional Air Quality Conformity	MTC Determination September 24, 2014 FHWA Determination August 12, 2013
	Project-Level Air Quality Conformity	MTC Determination September 25, 2012/ FHWA Determination September 22, 2015
State Historic Preservation Officer (SHPO)	Concurrence on Eligibility Determinations/Finding of No Adverse Effect with Standard Conditions – Environmentally Sensitive Area (ESA)	Concurrence Requested January, 2015 Concurrence Received July 2, 2015

Source: Circlepoint, 2014

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