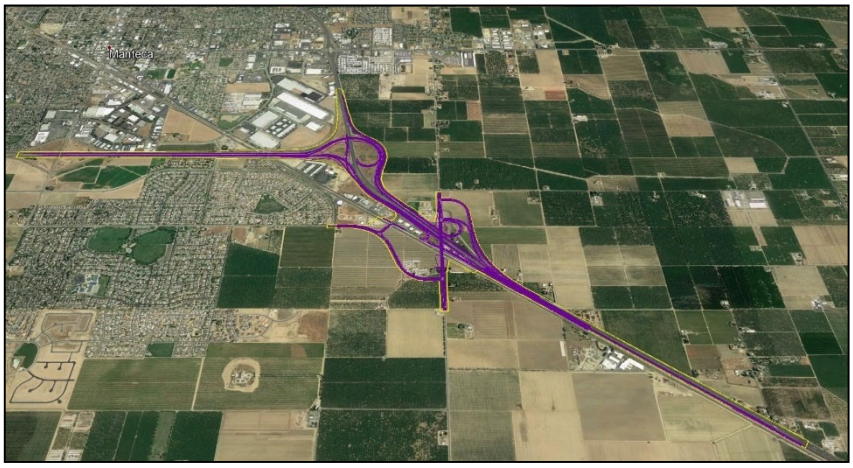
State Route 99/State Route 120
Interchange Improvement Project

City of Manteca, San Joaquin County, California
District 10-SJ-99/120 (PM 3.1/6.2 PM R5.1/T7.2)
EA 10-1E740 Project ID: 1016000038

Initial Study with Proposed Mitigated Negative Declaration



Prepared by the
State of California Department of Transportation
and San Joaquin Council of Governments

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S.C. 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

April 2019

General Information About This Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study with Mitigated Negative Declaration (IS/MND), which examines the potential environmental impacts of alternatives being considered for the proposed project in San Joaquin County in California. Caltrans is the lead agency for the project under the California Environmental Quality Act (CEQA). The document explains why the project is being proposed, the alternatives being considered for the project, the existing environment that could be affected by the project, potential impacts of each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures.

What you should do:

Read the document. Additional copies of the document and the related technical studies are available for review at the Caltrans District 10 office at 1976 East Dr. Martin Luther King Jr. Boulevard, Stockton, California 95205 and at the Manteca Public Library at 320 W. Center Street, Manteca, CA 95336. The document can also be downloaded at the following website: http://www.dot.ca.gov/dist10/d10projects.

Tell us what you think. If you have any comments regarding the proposed project, please send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to: Jennifer Lugo, Senior Environmental Planner, California Department of Transportation, 855 M Street, Suite 200, Fresno, CA 93721.

Submit comments via email to: Jennifer.Lugo@dot.ca.gov.

Submit comments by the deadline: May 25, 2019.

What happens next:

After comments are received from the public and reviewing agencies, Caltrans may 1) give environmental approval to the proposed project, 2) do additional environmental studies, or 3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the project.

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please write to or call Caltrans, Attn: Jennifer Lugo, Senior Environmental Planner, California Department of Transportation, 855 M Street, Suite 200, Fresno, CA 93721; (559) 445-6172 (Voice), or use the California Relay Service 1-800-735-2929 (TTY), 1-800-735-2929 (Voice), or 711.

10-SJ-99/120 (PM 3.1/6.2 PM R5.1/T7.2)
EA 10-1E740/Project ID 1016000038

State Route 99/State Route 120 Interchange
Improvement Project in the City of Manteca

INITIAL STUDY
with Proposed Mitigated Negative Declaration

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C)

THE STATE OF CALIFORNIA
Department of Transportation
and
San Joaquin Council of Governments

4/17/19
Date

Benjamin Broyles
Acting Office Chief
Central Region
Environmental North
California Department of Transportation
CEQA Lead Agency

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D R A F T

Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) in conjunction with the San Joaquin Council of Governments (SJCOG) proposes to construct improvements to the State Route 99/State Route 120 interchange in the City of Manteca in San Joaquin County (PM 3.1/6.2; PM R5.1/T7.2). The project will improve traffic congestion and improve operations of the interchange.

Determination

This proposed Mitigated Negative Declaration is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a Mitigated Negative Declaration for this project. This does not mean that Caltrans' decision on the project is final. This Mitigated Negative Declaration is subject to change based on comments received from interested agencies and the public.

Caltrans has prepared an Initial Study for this project and, pending public review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons.

The project would have no effect on the coastal zone, wild and scenic rivers, parks/recreational facilities, timberlands, growth, hydrology/floodplain, natural communities, and plant species, land use, state regional, and local plans and programs, and community character and cohesion.

In addition, the project would have less than significant effects to farmlands, relocations/real property acquisition, environmental justice, utilities/emergency services, traffic/transportation, visual/aesthetics, cultural resources, geology/soils/seismicity/topography, paleontology, water quality and storm water runoff, hazardous waste/materials, air quality, biological resources, and cumulative impacts. With the following mitigation measure incorporated, the project would have less than significant effects to noise sensitive receptors:

NOI-2 Construction of noise barrier NB-2 (12-feet tall), as shown in **Figures 2-9** and **2-12**, in Areas C, D, and E, shall occur at commencement of Phase 1A Construction (Construction Year 2023). This barrier shall be constructed at the commencement of Phase 1A construction as to be functional during Phases 1B and 1C of the Project to attenuate operational noise at sensitive receptors once the Project is fully operational (Design Year 2043).

_____ _____

Benjamin Broyles Date
Acting Office Chief
Central Division Environmental North
California Department of Transportation
CEQA Lead Agency

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Chapter 1 Proposed Project

1.1 Introduction

Caltrans is the lead agency under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). Caltrans, in conjunction with the San Joaquin Council of Governments (SJCOG), proposes to construct improvements to the existing State Route 99/State Route 120 interchange near the City of Manteca in San Joaquin County. The State Route 99/State Route 120 Interchange Improvement project will herein be referred to as the “project” or the “proposed project” throughout this document.

The proposed project is an improvement on an existing interchange facility. The cost of the project is estimated at $115.3 million. The project is listed in the 2019 Federal Transportation Improvement Program (FTIP) for San Joaquin Council of Governments and is also included in the financially constrained adopted San Joaquin Council of Governments 2018 Regional Transportation Plan/Sustainable Communities Strategy.

1.1.1 NEPA Assignment

California participated in the “Surface Transportation Project Delivery Pilot Program” (Pilot Program) pursuant to 23 USC 327, for more than five years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, the Department entered into a Memorandum of Understanding pursuant to 23 USC 327 (NEPA Assignment MOU) with Federal Highway Administration (FHWA). The NEPA Assignment MOU became effective October 1, 2012, and was renewed on December 23, 2016 for a term of five years. In summary, the Department continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, FHWA assigned and the Department assumed all of the United States (U.S.) Department of Transportation Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to the Department under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to reduce traffic congestion and improve operations of State Route 99 with the State Route 120 and Austin Road interchanges.

1.2.2 Need

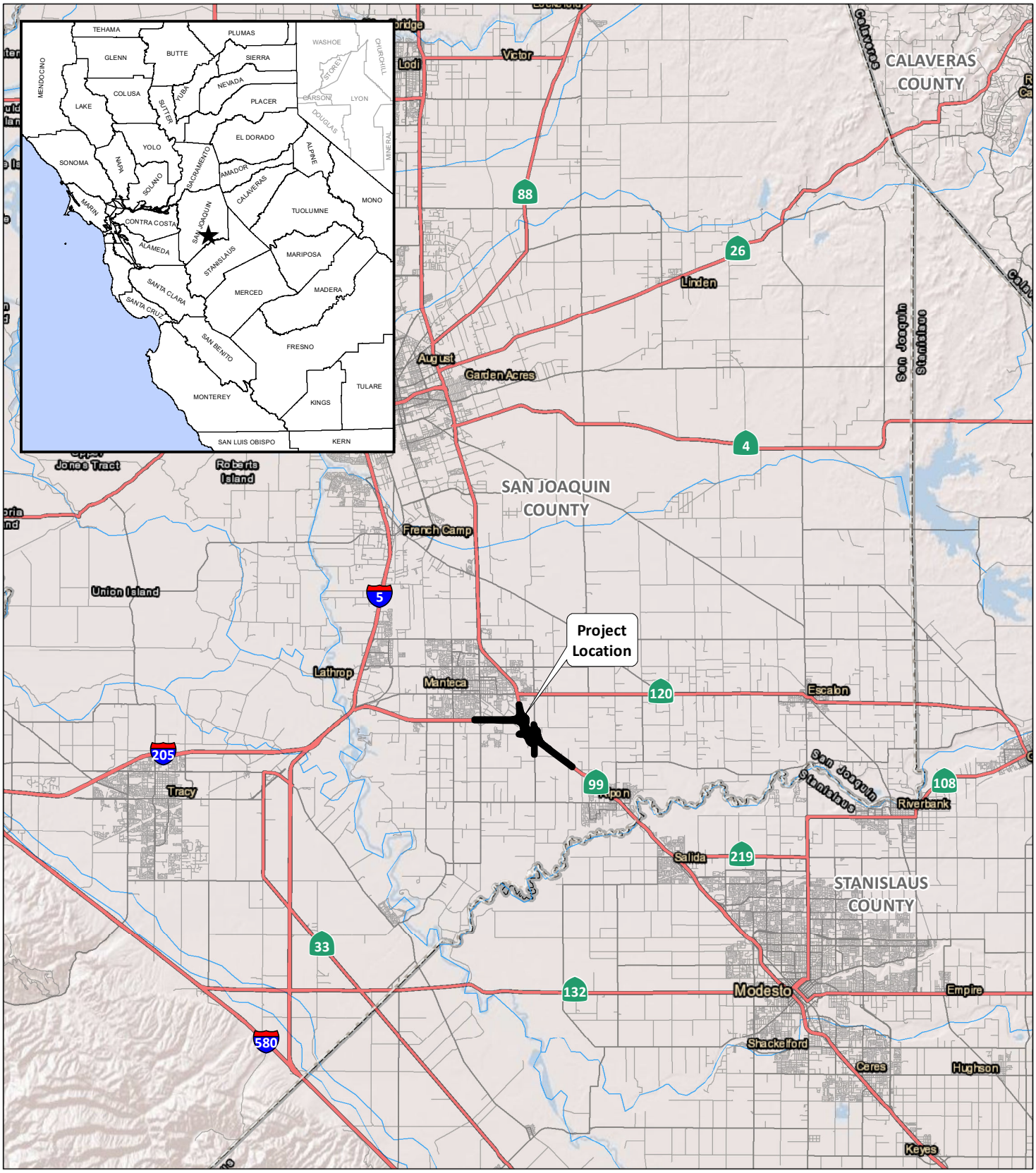
Deficiencies between the State Route 99 and State Route 120 and Austin Road interchanges require improvement to increase the traffic capacity and improve the operation of the roadways and interchanges:

- The eastbound State Route 120 to southbound State Route 99 and the northbound State Route 99 to westbound State Route 120 single-lane connector ramps need to be expanded to two lanes to alleviate backed-up traffic on the mainline freeway lanes during the morning and evening peak hours. These vehicle queues result in traffic congestion and a higher-than-average accident rate due to impatient drivers cutting into the queued travel lane.
- The existing Austin Road overcrossing needs to be removed and replaced with a longer structure because the existing horizontal clearance provides for only three travel lanes in each direction of travel. The restricted horizontal clearance requires the existing State Route 99 number one lane to be dropped prior to the overcrossing; this creates congestion on State Route 99. The existing overcrossing also will not accommodate the eight-lane section recommended in the State Route 99 Concept Facility in the State Route 99 Transportation Concept Report.
- The southbound exit and northbound entrance ramps for the Austin Road interchange overlap the freeway connector ramps causing merging and congestion problems on State Route 99. These ramps need to be braided because the City of Manteca currently does not support their permanent removal.

1.3 Project Description

This section describes the project and the alternatives developed to meet the purpose and need of the project, as outlined above in Section 1.2, while avoiding or minimizing environmental impacts.

The project lies in the City of Manteca and portions of unincorporated San Joaquin County. **Figure 1-1: Project Vicinity Map** and **Figure 1-2: Project Location Map** show the location of the project on a regional and local basis, respectively.



LEGEND

Project Location

FIGURE 1-1

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

Project Vicinity Map

0 2.5 5
Miles

SOURCE: ESRI Imagery (2017)

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LEGEND

Project Boundary

Manteca City Limits

*P.M. (Post Mile)

0 1500 3000
FEET

SOURCE: DigitalGlobe (04/2017); Mapping - San Joaquin County (01/2019)

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FIGURE 1-2

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

Project Location Map

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The project area spans about 326.9 acres, and the permanent impact area of the project totals 107.13 acres. Within this area, State Route 99 is a six-lane facility and State Route 120 is a four-lane facility. State Route 99 and State Route 120 serve as the main routes of travel connecting the City of Manteca with other nearby San Joaquin Valley cities as well as cities within the San Francisco Bay area (PM 3.1/6.2; PM R5.1/T7.2).

The project sits in the southern portion of San Joaquin County, about 12 miles south of Stockton and 2.5 miles south of Lathrop, in the eastern/southeastern portion of Manteca. Portions of the project are in the Manteca Sphere of Influence and unincorporated San Joaquin County.

Although distribution, service, and retail employment exists within the area, Manteca is mostly a residential community for the commercial and industrial employment centers west of the Altamont Pass and the San Francisco Bay Area. The City of Manteca had a population of 67,096 residents in 2010 and an estimated population of 81,345 residents as of January 1, 2018 (a roughly 21.24 percent population increase in eight years).

On a local scale, the project is near the eastern/southeastern border of the City of Manteca on State Route 99 between post miles 3.1 and 6.2 and on State Route 120 between post miles R5.1 and T7.2 in San Joaquin County. Most of the project area is in the City of Manteca and Sphere of Influence of the City of Manteca; however, small portions of the project are in unincorporated San Joaquin County. The project area includes the existing State Route 99/State Route 120 connector interchange, runs south along State Route 99 to the State Route 99/Austin Road interchange, west along State Route 120 to the State Route 120/South Main Street interchange, and north along State Route 99 to the State Route 99/East Yosemite/State Route 120 interchange.

Through the Manteca area, State Route 120 is a four-lane freeway with 12-foot-wide lanes, 10-foot-wide outside shoulders, 5-foot-wide inside shoulders, and a 70-foot-wide median. The interchange where State Route 99 meets State Route 120 includes a route break as State Route 120 joins State Route 99 as it jogs north about one mile and continues along to the east of Manteca on East Yosemite Avenue. Therefore, the State Route 99/State Route 120 West interchange is separated from the State Route 99/State Route East interchange by about a mile.

The existing one-lane connectors from State Route 99 northbound to westbound State Route 120 and the eastbound State Route 120 to southbound State Route 99 currently carry more than 2,000 vehicles per hour in the peak periods. Traffic on eastbound State Route 120 currently backs up more than half a mile in the evening peak hour period. Due to this queuing, impatient drivers use the number one lane until the last moment before they merge into the number two lane to exit the freeway. The speed difference

between the number one and number two lanes and the last minute merging to exit to southbound State Route 99 result in eastbound State Route 120 between Main Street and the State Route 99/State Route 120 connector having an accident rate that is more than six times greater than the statewide average. A two-lane exit from eastbound State Route 120 to southbound State Route 99 would reduce the queue length and eliminate the need for all southbound exiting traffic to queue into the number two lane.

Backed-up traffic also occurs on northbound State Route 99 in the morning peak hours because there is only a single lane exit. The accident rate on northbound State Route 99 between the Austin Road overcrossing and the State Route 99/State Route 120 connector is slightly more than double the statewide average.

A two-lane exit from eastbound State Route 120 to southbound State Route 99 would reduce the queue length and eliminate the need for all southbound exiting traffic to back up into the number two lane. A two-lane exit for the State Route 99 northbound connector to westbound State Route 120 would also reduce queue lengths.

Southbound State Route 99 has a non-standard inside lane drop north of the Austin overcrossing that contributes to operational issues because the lane drops just as the high volume of State Route 120 traffic merges onto State Route 99. The project would eliminate the inside lane drop and provide a standard freeway-to-freeway merge that is normally expected.

The State Route 99/Austin Road interchange also contributes to the queuing because of the lane merging and weaving from these vehicles. Though the space between the State Route 99/State Route 120 and the Austin Road interchanges is almost one mile, the effective merge-weave length between both points is only 0.3 mile for northbound and 0.44 mile for southbound movements. These very short merge-weave lengths contribute to the backed-up lines of traffic. For the project, this merge-weave would be eliminated by braiding the ramps so traffic stays separated through that area.

State Route 99 is functionally classified as a principal arterial through its route and is included in the California Freeway/Expressway System. It is in the Interregional Road System classification, making it eligible for Interregional Improvement Program funding as part of the state's 25 percent share of the State Transportation Improvement Program funds. It is a High Emphasis Focus Route in the Interregional Road System.

State Route 99 is part of the State Network for State Transportation Assistance Act Terminal route system, part of the National Highway System and part of the Strategic Highway Network.

State Route 120 is functionally classified as a principal arterial between Interstate 5 and State Route 99 and is included in the California Freeway/Expressway System. It is in the Interregional Road System classification, making it eligible for Interregional Improvement Program funding as part of the state's 25 percent share of the State Transportation Improvement Program funds. It is a High Emphasis route, but not a Focus route in the Interregional Road System.

State Route 120 is part of the State Network for State Transportation Assistance Act Terminal route system and part of the National Highway System. It is not part of the Strategic Highway Network.

A Transportation Concept Report for State Route 99 in Caltrans District 10 was approved in November 2003. Within San Joaquin County, the existing six-lane freeway was expected to be inadequate for the 20-year planning horizon. The concept facility is an eight-lane freeway with strong consideration of high-occupancy vehicle lanes. The Ultimate Transportation Corridor was also an eight-lane facility. In September 2008, a Corridor System Management Plan for State Route 99 in San Joaquin County was prepared to place greater emphasis on performance assessments and operational strategies that yielded higher benefit-to-cost results. This plan supported the same eight-lane Concept Facility, but recommended the Ultimate Transportation Corridor be reevaluated the next time the Transportation Concept Report is updated.

A Transportation Concept Report for State Route 120 was approved in November 2011. West of State Route 99, the Transportation Concept Report recommended widening State Route 120 from four-lanes to six-lanes by widening into the median. The Ultimate Transportation Corridor recommended State Route 120 be an eight-lane facility, also widened into the median. The Transportation Concept Report was consistent with the current freeway agreement that shows State Route 120 east of State Route 99 extending along Yosemite Avenue as a conventional highway and not being extended east from the interchange as a freeway as was envisioned in the 1950s.

1.4 Project Alternatives

This section describes the project and the different design alternatives that were developed by the Project Development Team to achieve the purpose and need of the project while avoiding and/or minimizing environmental impacts. Two alternatives, the Build Alternative and the No-Build Alternative, are being considered for the project. This section describes the alternatives under consideration.

1.4.1 Build Alternative

The Build Alternative would do the following:

- Add a lane to increase capacity on two connector ramps (eastbound State Route 120 to southbound State Route 99 and northbound State Route 99 to westbound State Route 120)
- Add auxiliary lanes on State Route 99 and State Route 120 to improve merging traffic movements
- Upgrade the existing interchange ramps at Austin Road
- Replace the Austin Road structure over State Route 99 with a four-lane structure over both State Route 99 and Union Pacific Railroad tracks
- Remove the existing at-grade crossing of the Union Pacific Railroad tracks at Austin Road and construct a new connector road from Austin Road to Woodward to Moffat Boulevard and widen the existing Woodward Avenue gated railroad crossing
- Relocate the State Route 99 frontage road along the east side of State Route 99 from Austin Road for about 0.8 mile and install new signing/signals/lighting improvements
- Relocate some existing utility poles, sewer, and water lines

Foundations required for new structures would be driven piles, either steel or concrete. Excavation for structure footings would be up to 5 feet deep. Excavation for new drainage culverts would be up to 6 feet deep. Other roadway excavation would be up to 2 feet deep. No dewatering is expected as part of the project. The project would import fill (extra dirt), and no export would occur.

The project also includes the following design elements:

- Widen the eastbound State Route 120 to southbound State Route 99 connector ramp from one lane to two lanes
- Widen the northbound State Route 99 to westbound State Route 120 connector ramp from one lane to two lanes
- Construct a new structure over State Route 99 to serve eastbound State Route 120 to northbound State Route 99 traffic, and modify the existing structure over State Route 99 to serve westbound State Route 120 traffic
- Add an auxiliary lane in the median in each direction of State Route 120 from Main Street to State Route 99 (this includes widening of the Moffat overhead and Spreckels underpass structures)
- Add an auxiliary lane in each direction on State Route 99 from State Route 120 to about 1 mile south

- Remove the Austin Road overcrossing and replace it with a longer and wider structure spanning State Route 99 and the Union Pacific Railroad tracks (removal consists of removing the structure and the fill located between State Route 99 and Moffat Boulevard)
- Convert the Austin Road on-ramp to northbound State Route 99 and to westbound State Route 120 to a loop ramp that will provide separate traffic movements to State Route 99 and State Route 120
- Replace the southbound exit ramp from State Route 99 to Austin Road with a grade-separated (braided) ramp to eliminate the weaving with State Route 120 merging traffic
- Add a new connector road from Austin Road to Woodward Avenue to Moffat Boulevard, and widen the existing Union Pacific Railroad Woodward Avenue gated crossing
- Relocate the northbound State Route 99 exit ramp to Austin Road to accommodate the loop on-ramp, and relocate the adjacent State Route 99 frontage road for about 0.8 mile

The project would be constructed in Phases (Phase 1A, Phase 1B, and Phase 1C), with Phase 1A being completed by 2023. Funding for Phase 1A is currently available; however, funding for Phases 1B and 1C are not certain at this time. As funding is established and secured, Phases 1B and 1C of the project would be developed.

The Phase 1A portion of the project would do the following:

- Widen the eastbound State Route 120 to southbound State Route 99 connector ramp from one lane to two lanes
- Remove the Austin Road overcrossing, and replace it with a longer structure spanning State Route 99 and the Union Pacific Railroad tracks
- Add a new connecting road from Austin Road to East Woodward Avenue and Moffat Boulevard, and modify the existing Union Pacific Railroad gated crossing at East Woodward Avenue to conform to the new connector road
- Modify the existing northbound Austin Road exit ramp to conform to the higher overcrossing profile grade
- Close the Austin Road northbound entrance and southbound exit ramps on State Route 99. The length of this closure (currently estimated at 9 years) will depend on the availability of funding to commence construction on the Phase 1C portion of the project (discussed below)

The Phase 1B portion of the project would be constructed concurrently or subsequently to the Phase 1A portion of the project and would do the following:

- Widen the northbound State Route 99 to westbound State Route 120 connector ramp from one lane to two lanes
- Convert the existing State Route 99/State Route 120 separation structure to two lanes, and construct a new separation structure to serve the eastbound State Route 120 to northbound State Route 99 connector ramp
- Add an auxiliary lane in the existing median of eastbound State Route 120 from Main Street to State Route 99

The Phase 1C portion of the project would do the following:

- Restore the southbound exit ramp from State Route 99 to Austin Road by constructing a grade-separated braided ramp to eliminate the weaving with State Route 120 merging traffic
- Construct the entrance ramp from Austin Road to northbound State Route 99 and to westbound State Route 120 as a loop ramp that will provide separate traffic movements to State Route 99 and State Route 120
- Relocate the northbound State Route 99 exit ramp to Austin Road to accommodate the loop on-ramp
- Relocate the State Route 99 frontage road for about 0.8 mile
- Add an auxiliary lane in each direction on State Route 99 from State Route 120 to about 1.7 miles south of the Austin Road overhead by shifting the median away from the Union Pacific Railroad right-of-way and relocating the frontage road
- Add an auxiliary lane in the existing median of eastbound State Route 120 from Main Street to State Route 99 to provide a dedicated lane to connect to the new State Route 99/State Route 120 separation structure

Construction of the Build Alternative would start in October 2021 and end in September 2031. Phase 1A would start in October 2021 and end in November 2022; Phase 1B and Phase 1C would start in March 2030 and end in September 2031. The construction schedule for Phases 1B and 1C is an estimate and depends on funding; therefore, the potential exists for a 9-year gap between operation of Phase 1B and construction of Phase 1C.

The project contains many standardized project measures that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the project. These standardized measures are described below. Avoidance, Minimization, and/or Mitigation Measures are identified and discussed in more detail in the Environmental Consequences sections of each resource topic in Chapter 2.

CULT-2 If cultural materials are discovered during construction, all earth-moving activity within 60 feet of the find will be diverted until a qualified archaeologist can assess the nature and significance of the find. If the cultural materials are Native American in origin, Native American groups will be contacted.

CULT-3 If human remains are encountered during project construction activities, the project will comply with the requirements of California Health and Safety Code Section 7050.5. There will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of San Joaquin County has determined the manner and cause of any death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his/her authorized representative. At the same time, an archaeologist will be contacted to assess the situation and consult with agencies as appropriate. Project personnel/construction workers will not collect or move any human remains and associated materials. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. At this time, the person who discovered the remains will contact Ben Elliot, Acting Senior Environmental Planner, Northern San Joaquin Valley Environmental Management Branch, (209) 942-6157, so he may work with the Most Likely Descendant on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed as applicable.

GEO-1 A Geotechnical Report will be prepared by the project which will outline required geologic/geotechnical field investigations and laboratory testing that will be performed. The Geotechnical Report will be prepared to obtain site-specific data appropriate to design Phases 1A, 1B, and 1C of the proposed project.

WQ-1 Preparation and implementation of construction site temporary best management practices by the project will comply with the provisions of the Caltrans Statewide National Pollutant Discharge Elimination System Permit and any subsequent permit as they relate to construction activities for the project. These best management practices will include submission of a Notice of Intention to the Central Valley Regional Water Quality

Control Board at least 30 days before the start of construction and submission of a Notice of Termination to the Regional Water Quality Control Board upon completion of construction and stabilization of the project site. The temporary best management practices will be installed by the project prior to any construction operations and will be in place for the duration of the contract. The removal of these best management practices by the project will be the final operation, along with the project site cleanup.

WQ-2 The project will follow Design Pollution Prevention and Treatment Control best management practices for the project in accordance with the procedures outlines in the Stormwater Quality Handbooks, Project Planning and Design Guide. Compliance with Design Pollution Prevention and Treatment Control best management practices will included coordination with the Regional Water Quality Control Board with respect to feasibility, maintenance, and monitoring of Treatment Control best management practices as set forth in Caltrans' Statewide Stormwater Management Plan. A Water Pollution Control Program will need to be prepared by a Qualified Stormwater Pollution Prevention Plan Practitioner.

WQ-3 The project will be required to comply with the provisions specified in Section 13 "Water Pollution Control," and Section 14-11 "Hazardous Waste and Contamination," of the California State Standard Specifications, regarding spill prevention and control measures. All workers will be informed by the project of the importance of preventing spills and appropriate measures to take should a spill occur.

WQ-4 To control sedimentation during and after project implementation, the project will implement best management practices outlined in any authorizations or permits, issued under the authorities of the Clean Water Act that it receives for the project. If best management practices are ineffective, the project will remedy the situation immediately, in consultation with the regulatory and resource agencies.

TRA-1 The project will be required to prepare and implement a Traffic Management Plan to address short-term disruptions in existing circulation patterns during construction; the Traffic Management Plan will identify the locations of temporary detours and signage to facilitate local traffic patterns and through-traffic requirements. The Traffic Management Plan will also provide access plans for affected businesses and residential units that will be impacted by short-term and long-term road closures to

ensure access to uses are still available during construction activities.

Figure 1-3: Build Alternative Design shows the design of the Build Alternative.

1.4.2 No-Build (No-Action) Alternative

The No-Build Alternative would leave the existing interchange as it is. Through the Manteca area, under existing conditions (2018), State Route 120 is a four-lane freeway with 12-foot-wide lanes, 10-foot-wide outside shoulders, 5-foot-wide inside shoulders, and a 70-foot-wide median. East of the State Route 99/State Route 120 East interchange, East Yosemite Avenue continues as a four-lane arterial road with a center turn lane, bicycle lanes, and sidewalks.

The interchange where State Route 120 meets State Route 99 includes a route break as State Route 120 joins State Route 99 as it jogs north about one mile and continues along to the east of Manteca on East Yosemite Avenue. Therefore, the State Route 99/State Route 120 West interchange is separated from the State Route 99/State Route 120 East interchange by about a mile.

The existing State Route 99/State Route 120 West interchange facility also includes the State Route 99/Austin Road interchange. Austin Road runs north-south to the east of Manteca. The State Route 99/State Route 120 interchange is a trumpet interchange, while the State Route 99/Austin Road interchange is a partial/modified diamond interchange. These two interchanges are separated by about 1,000 feet. Current land uses surrounding the existing interchange include commercial, industrial, residential, and agricultural uses.

Under existing conditions, the northbound State Route 99 to westbound State Route 120 connector operates at level of service (LOS)[1] C/F. Under No-Build Alternative conditions, interchange operations would worsen to level of service D/F by 2023, and level of service F/F by 2043.

[1] The operations of roadways are described with the term “Level of Service” (LOS). LOS is a description of traffic flow based on such factors as speed, travel time, delay, and freedom to maneuver. Six LOS levels are defined, ranging from LOS A (the best operating conditions) to LOS F (the worst operating conditions). LOS E represents “at-capacity” operations when volumes exceed capacity, stop-and-go conditions result and operations are designated as LOS F.

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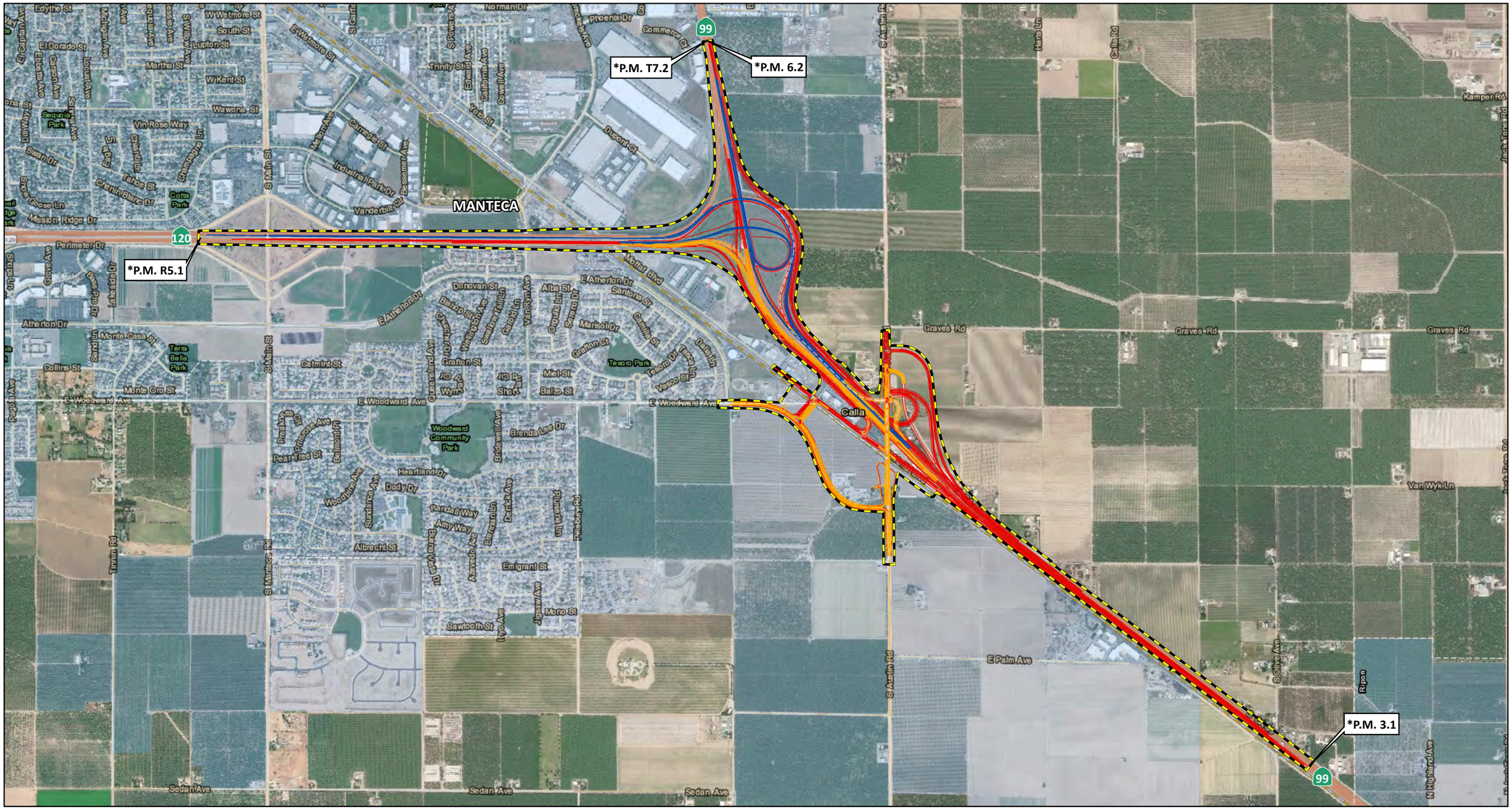

LEGEND

- Project Boundary
- Manteca City Limits

*P.M. (Post Mile)

Project Design

- Phase 1a
- Phase 1b
- Phase 1c

0 800 1600
FEET

SOURCE: DigitalGlobe (04/2017); Project Design - Mark Thomas (02/2019); Mapping - San Joaquin County (01/2019)

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FIGURE 1-3

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, PM 3.10/6.20
EA 10-1E740

Build Alternative Design

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Several effects of the No-Build Alternative can be reasonably expected to occur in the foreseeable future. Increasing traffic demand associated with continued and planned commercial and industrial growth in the City of Manteca would continue to degrade levels of service at project area intersections, which would lead to worsening air quality due to idling at on- and off-ramps and intersections. Also, the No-Build Alternative could potentially lead to greater costs and cumulative environmental impacts due to maintenance and piecemeal improvements.

The purpose of the project is to correct operational deficiencies and provide congestion relief. The No-Build Alternative does not meet the purpose and need of the project because it would result in lower level of service than under existing conditions and would result in operational deficiencies.

1.5 Permits and Approvals Needed

Table 1-1: Permits, Reviews and Approvals Needed for Project Construction shows the permits, reviews and approvals that would be required for project construction.

Table 1-1: Permits, Reviews and Approvals Needed for Project Construction

Agency	Permit/Approval	Status
Central Valley Regional Water Quality Control Board	Water Discharge Requirements (WDRs)	Prior to construction
State Office of Historic Preservation	National Register of Historic Places Eligible Listing Concurrence	Concurrence received January 10, 2019

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Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

This chapter explains the impacts that the project would have on the human, physical, and biological environments in the project area. It describes the existing environment that could be affected by the project and proposed avoidance, minimization, and/or mitigation measures. Any direct impacts are included in the general impacts analyses and discussions that follow.

As part of the scoping and environmental analysis done for the project, the following environmental issues were considered, but no adverse impacts were identified. So, there is no further discussion of these issues in this document.

- **Coastal Zone:** The project site is not located in the Coastal Zone. As a result, the project would not impact the Coastal Zone.
- **Wild and Scenic Rivers:** The project site is not located near a Wild and Scenic River. As a result, the project would not impact Wild and Scenic Rivers.
- **Parks and Recreational Facilities:** A few parks, including Tesoro Park and Manteca BMX Park, sit near the project site, but direct and indirect impacts to such facilities would not occur because most project work will occur within the existing right-of-way. Parcels that would be acquired are not occupied by parks and recreational facilities, so these facilities would not be impacted. In addition, there are no potential Section 4(f) properties in the project vicinity.
- **Timberlands:** The project site is not located in an area where timberland production occurs, and it is not on land that is zoned for timberland or forestland.
- **Growth:** The project includes improvements to an existing connector/ interchange between State Route 99 and State Route 120. The improvements that will occur under the project are being completed to accommodate existing traffic and safety concerns as well as planned future growth in the City of Manteca and surrounding regional areas. Implementation of the project itself would not influence direct or indirect growth as it is an improvement project to accommodate future planned growth and improve existing operations. (*Final Community Impact Assessment Checklist, February 2019*).

- **Community Character and Cohesion:** The project improvements will occur on an existing connector/interchange between State Route 99 and State Route 120. The proposed project will fully and partially acquire parcels that are designated as “Business Industrial Park”, “Urban Reserve”, or “Heavy Industrial”. Implementation of the project would not substantially alter community character and cohesion due to the fact that 1) “Urban Reserve”, “Business Industrial Park”, “General Commercial” land uses would still be the dominant land uses adjacent to the State Route 99/120 connector after project implementation; and 2) the project would not substantially alter the location of the existing State Route 99/120 connector/interchange. The project would not affect the community character and cohesion of the area.
- **Hydrology and Floodplain:** According to the Federal Emergency Management Agency maps, the project lies in the Zone X Area of Minimal Flood Hazard and therefore is not located within the 100-year floodplain. Since the project is not within or near enough to affect a floodplain, no floodplain encroachment impacts or increases to base flood elevations would occur.
- **Water Quality and Storm Water Runoff:** The project site does not include any water features with connectivity to surface water resources in the project vicinity. The project will include three types of Best Management Practices (BMPs): Construction Site BMPs, Design Pollution BMPs and Maintenance BMPs. The project will have a disturbed area in excess of one acre. The existing Design Pollution Prevention infiltration structures and retention basins are being modified to address changes to site geometry and an increase in the impermeable surfaces. Infiltration retention basins are designed with the capacity to contain runoff generated by two 10-year frequency, 24-hour duration storms. All stormwater occurring within Caltrans right-of-way watershed will be retained within the project limits in which no treatment BMPs will be required. The project is not required to implement treatment BMPs as there are no waterbodies within the project limits. No impacts to water quality and from storm water runoff would occur.
- **Geology, Soils, Seismicity, Topography:** No known active faults pass through or near the project alignment, so the potential for surface fault rupture that could directly affect the project improvements is considered negligible. The project would be developed to earthquake standards and codes to reduce potential damage during seismic events. *(Preliminary Geotechnical Report, December 13, 2017)*.
- **Paleontology:** Although excavation may be required development of the proposed Project is unlikely to impact scientific significant paleontological resources and no further paleontological studies are needed. *(Paleontological Identification Report/Paleontological Evaluation Report, F February 2018)*.

- **Natural Communities:** No natural communities occur within the project footprint. Therefore, no impacts are expected to occur to natural communities (*Natural Environment Study, November 2018)*.
- **Plant Species:** No special-status plant species are expected to occur within the project footprint. Therefore, no impacts to special-status plant species are expected to occur (*Natural Environment Study, November 2018)*.
- **Threatened and Endangered Species:** The following special status wildlife species has the potential to occur within the project footprint: Pallid Bat (*Antrozous pallidus*) (California Species of Special Concern); Cooper's hawk (*Accipiter cooperii*) (California State Watch List for species protected under the California Fish and Game Code); Burrowing owl (*Athene cunicularia*) (California Species of Special Concern); Aleutian cackling goose (*Branta hutchinsii leucopareia*) (federally delisted species); Swainson's hawk (*Buteo swainsoni*) (California State Threatened Species); White-tailed kite (*Elanus leucurus*) (Fully Protected under California Fish and Game Code [CFGC]); California horned lark (*Eremophila alpestris actia*) (California Watch List); Merlin (*Falco columbarius*) (California Watch List); and, Loggerhead shrike (*Lanius ludovicianus*)(California Species of Special Concern). None of these species are protected under the federal regulations and no impacts are expected to occur (*Natural Environment Study, November 2018)*.

2.1 Human Environment

2.1.1 Land Use

2.1.1.1 Existing and Future Land Use

Affected Environment

The *Final Community Impact Assessment Checklist* (as listed in the List of Technical Studies at the end of this document), dated February 2019, contributed to the information and analysis in this section.

The City of Manteca adopted a General Plan in October 2003, creating a land use blueprint for long-term growth through 2023. The City of Manteca is now updating its General Plan and will publish the General Plan Update for public review and comment in the summer 2019. The project site, within the boundary of the City of Manteca, consists of land designated as High Density Residential, Medium Density Residential, Park, Business Industrial Park, Low Density Residential, General Commercial, Heavy Industrial, Agriculture/Urban Reserve, and Commercial/Mixed Use, based on the 2003 Manteca General Plan.

San Joaquin County adopted a General Plan in December 2016, creating a land use blueprint for long-term growth in unincorporated portions of the county through 2035. Land in the project area, which is under the jurisdiction of San Joaquin County, is designated as Commercial/General, Residential/Low Density, Agriculture/Urban Reserve, and Industrial/General **Figure 2-1: Existing Land Uses in the Project Vicinity** shows the existing City of Manteca and San Joaquin County land uses in the project vicinity.

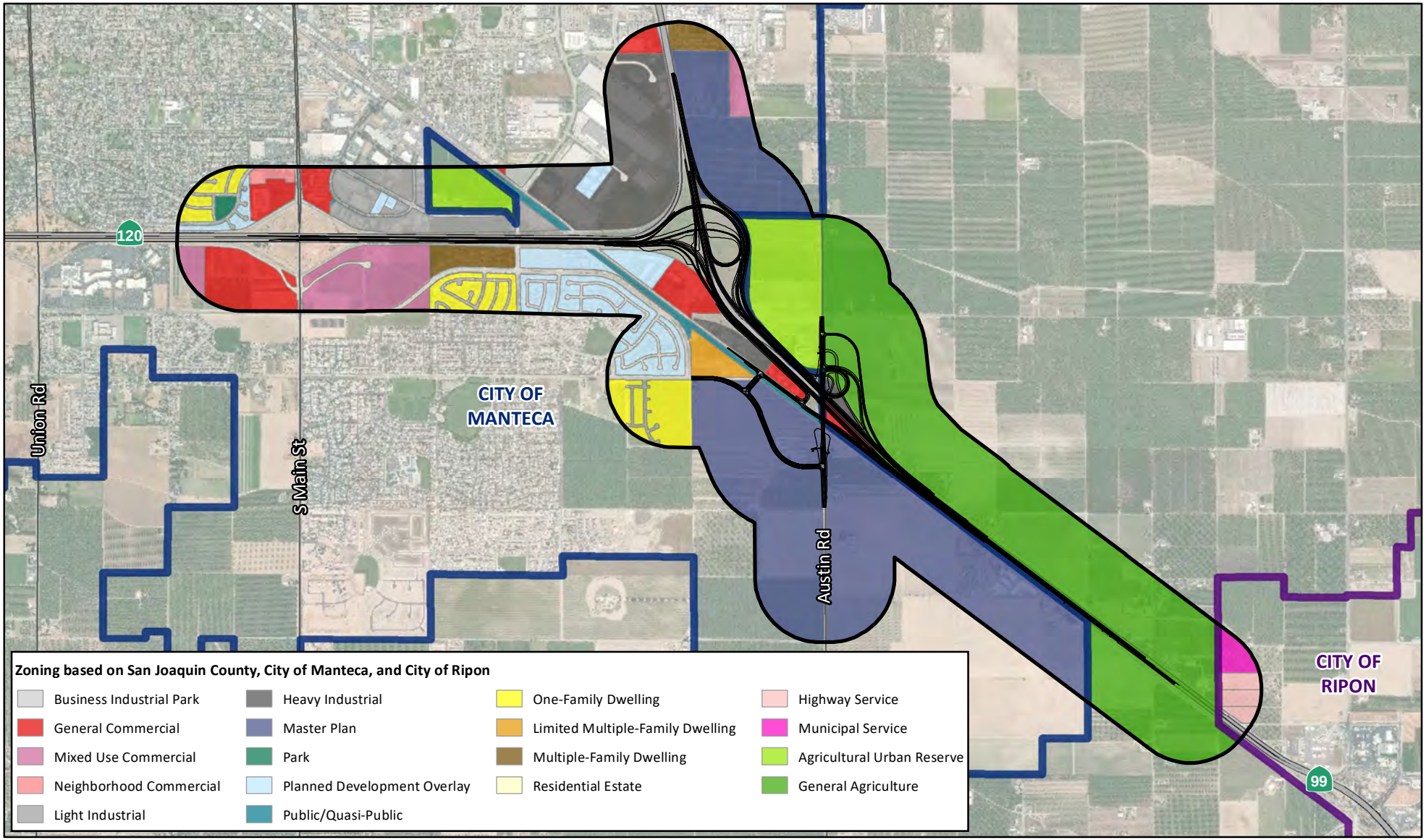
The project site is characterized by relatively flat topography, with little to no change in elevation (elevation between 36 to 78 feet above mean sea level). Land uses in the project vicinity under the jurisdiction of San Joaquin County consist mostly of Urban Reserve Agriculture and General Agriculture. Parcels within the project vicinity are occupied by agricultural uses, commercial and industrial uses, and vacant parcels. Residential uses (single-family and multi-family residential units) are south of the project site in the Woodside neighborhood.

Environmental Consequences

The project would be implemented on an existing facility, and most improvements would occur within the existing right-of-way. The project would partially and fully acquire parcels that are currently designated as “Business Industrial Park,” “Urban Reserve,” and “Heavy Industrial” (please refer to Section 2.1.3.2 below for more information on parcel acquisition for the project). Once acquired, these parcels would be redesignated as transportation-related right-of-way and the change would be processed through local (City of Manteca and County of San Joaquin) land use redesignation requirements. Even with these acquisitions, the land use designations around the project area would continue to be dominated by “Business Industrial Park,” “Urban Reserve,” and “Heavy Industrial.”

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required for project effects involving existing and future land use.



LEGEND

- Project Design
- 0.25-Mile Buffer
- City of Manteca
- City of Ripon

0 1400 2800
FEET

FIGURE 2-1

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

Existing Land Uses in the Project Vicinity

SOURCE: DigitalGlobe (04/2017); Zoning - San Joaquin County (01/2019); City of Manteca (02/2019); City of Ripon General Plan 2040 (04/2010)

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2.1.1.2 Consistency with State, Regional, and Local Plans and Programs

Affected Environment

The *Final Community Impact Assessment Checklist* (as listed in the List of Technical Studies at the end of this document), dated February 2019, contributed to the information and analysis in this section.

The project sits within the City of Manteca and unincorporated portions of San Joaquin County. The City of Manteca General Plan and the County of San Joaquin General Plan were reviewed to determine project consistency. Both have included the proposed project in their growth plans and land use designations *(Draft Community Impact Assessment Checklist, December 2018)*. The project falls within the jurisdiction of the San Joaquin Multi-Species Habitat Conservation and Open Space Plan.

Environmental Consequences

The City of Manteca, San Joaquin County, and the San Joaquin Council of Governments included the project in their land use plans and planning documents. This signified that an improved State Route 99/State Route 120 connector was needed to alleviate existing and future traffic congestion due to an increase in anticipated/planned development trends; it also signified an improved connector was needed to improve vehicle circulation and safety conditions.

The project is a planned improvement to the State Route 99/State Route 120 connector that has been programmed since 2017. The project is listed in the 2019 Federal Transportation Improvement Program (FTIP) for San Joaquin Council of Governments and is also included in the financially constrained adopted San Joaquin Council of Governments 2018 Regional Transportation Plan/Sustainable Communities Strategy. The project was evaluated under the San Joaquin Multi-Species Habitat Conservation and Open Space Plan; however, it was determined that the plan would not expedite or reduce costs of the project. Therefore, the San Joaquin Multi-Species Habitat Conservation and Open Space Plan would not be used. The project will be designed and developed with consistency to local and regional plans and will also be consistent with improvement requirements for State facilities maintained by Caltrans

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required for project effects involving consistency with state, regional, and local plans and programs.

2.1.2 Farmland

Regulatory Setting

The National Environmental Policy Act and the Farmland Protection Policy Act (7 U.S. Code 4201-4209; and its regulations, 7 Code of Federal Regulations Part 658) require federal agencies, such as the Federal Highway Administration, to coordinate with the Natural Resources Conservation Service if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the Farmland Protection Policy Act, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

The California Environmental Quality Act requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to discourage the early conversion of agricultural and open space lands to other uses.

Affected Environment

The *Final Community Impact Assessment Checklist* (as listed in the List of Technical Studies at the end of this document), dated February 2019, contributed to the information and analysis in this section. Appendix D: Farmland Conversion Impact Rating of the *Final Community Impact Assessment Checklist* also contributed farmland loss scoring information for the project.

The Farmland Protection Policy Act (FPPA) sets criteria to identify and minimize impacts of the conversion of farmland to nonagricultural uses. Important Farmland is subject to the provisions of the FPPA, which defines Important Farmland as lands identified with soils that are prime farmland, unique farmland, farmland of statewide importance or farmland of local importance.

As of 2016, San Joaquin County had a total Important Farmland inventory of 615,075 acres. Of the 615,075 acres, 381,634 acres were designated as prime farmland; 82,618 acres were designated as farmland of statewide importance; 81,920 acres were designated as unique farmland; and, 68,903 acres were designated as farmland of local importance. As of 2017, the City of Manteca had a total Important Farmland inventory of 4,944.365 acres, which consisted of 1,095.536 acres of prime farmland; 3,278.122 acres of farmland of statewide importance; and, 570.707 acres of farmland of local importance. Important Farmland in the project site totaled 115.29 acres, of which 1.97 acres is designated as prime farmland; 100.12 acres is designated as farmland of statewide importance; and, 13.2 acres is designated as farmland of local importance.

As of 2015, according to the California Department of Conservation, San Joaquin County had a total Williamson Act contracted land inventory of 499,654 acres. As of 2017, the City of Manteca had 21.5137 acres of land under Williamson Act Contract; however, this acreage is currently going through the non-renewal process. There are two parcels within (or partially within) the project site that are currently under Williamson Act contracts (totaling 107.26 acres).

Environmental Consequences

Implementation of the project would result in approximately 48.95 acres of right-of-way conversions, including both agricultural and urban lands. The proposed right-of-way conversions would result in the loss of 0.93 acre of prime farmland, 35.97 acres of farmland of statewide importance, 3.83 acres of farmland of local importance (3.37 acres which are designated confined animal agriculture; considered as farmland of local importance by the County). As such, the project would require the permanent conversion of 40.73 acres of Important Farmland.

Table 2-1: Farmland Conversion for Alternatives summarizes the proposed important farmland conversion for the No Build and Build Alternatives.

Table 2-1: Farmland Conversion for Alternatives

Alternatives	Land Converted (acres)	Important Farmland (acres)	Percent of Farmland in County	Percent of Farmland in City	Farmland Conversion Rating
No Build	0	N/A	N/A	N/A	N/A
Build Alternative	49.01	40.73	0.0066	0.82	136

Source: LSA, April 2019.
Notes: N/A = not applicable

The loss of important farmland due to implementation of the Build Alternative is negligible when compared to the total Important Farmland inventory of the County and City. The 40.73 acre Important Farmland loss represents 0.0066 and 0.82 percent of the total County and City inventory, respectively. Due to the large amount of land currently supporting agricultural production in the City and County, it is not expected that the small amount of Important Farmland acreage converted to non-agricultural uses would affect total agricultural production in the area. To solidify this conclusion, an NRCS-CPA-106 Farmland Conversion Impact Rating for Corridor Type Projects was completed and sent to the Natural Resources Conservation Service for them to complete scoring on the loss of the Important Farmland. The Natural Resources Conservation Service concluded the total points for the loss of the

Important Farmland was 136. Per Section 523.10(B)(i) Land Covered by the Act of Part 523—Farmland Protection Policy Act, “lands that receive a combined score of less than 160 points from the Land Evaluation and Site Assessment criteria” are not required to do anything more under the Farmland Protection Policy Act.

There are two parcels (Assessor’s Parcel Numbers 228-060-018 and 228-060-021) within (or partially within) the project site that are currently under Williamson Act contracts. Parcel 228-060-021 is currently going through the Williamson Act non-renewal process and once this process is complete this parcel would no longer be bound by a Williamson Act contract (the non-renewal process for this parcel commenced in 2012 and the parcel will be out of the contract in 2021). Project implementation would require the acquisition of 8.46 acres of parcel 228-060-018 and 0.37 acre of parcel 228-060-21; potentially affecting the Williamson Act contracts of these parcels.

Because the project would provide congestion relief and operational improvements for local commuters and improved access for local businesses, it can be considered a public improvement. As public entities, Caltrans and the San Joaquin Council of Governments would be able to acquire portions of the parcels under Williamson Act contract without cancelling the contracts. Instead, the contracts for the portions acquired would be nullified, while remaining land in the parcels would continue under Williamson Act contract and effects would be nominal.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures would further reduce any project effects involving farmland:

AG-1 Final design for the project will be coordinated with neighboring property owners and agricultural operators to incorporate design features to maintain access and operation of adjacent agricultural properties.

AG-2 The project contractor will reconstruct irrigation ditches and install irrigation pipelines on all agriculture parcels impacted during project construction to ensure proper drainage and irrigation.

AG-3 The project will notify the California Department of Conservation prior to making a decision to acquire property under Williamson Act contracts for a public improvement (required per Government Code §§51290-51295, 51296.6).

2.1.3 Community Impacts

2.1.3.1 Relocations and Real Property Acquisition

Regulatory Setting

The Caltrans Relocation Assistance Program is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and Title 49 Code of Federal Regulations Part 24. The purpose of the program is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. See **Appendix B** for a summary of the Caltrans Relocation Assistance Program. All relocation services and benefits are administered without regard to race, color, national origin, persons with disabilities, religion, age, or sex. See **Appendix A** for a copy of the Caltrans Title VI Policy Statement.

Affected Environment

The *Relocation Impact Statement prepared for the project* (as listed in the List of Technical Studies at the end of this document), dated September 2018, contributed to the information and analysis in this section.

The study area related to this resource topic consisted of San Joaquin County, the City of Manteca, thirty-three (33) parcels affected by the project, and right-of-way areas to be acquired by Caltrans within the project footprint.

The project site and surrounding area is characterized by relatively flat land that had been used mostly for agriculture in the past but in the last decade has become more urbanized. The project area is a mix of urbanized and semi-rural uses which includes commercial, industrial, residential neighborhoods, and also includes unincorporated San Joaquin County agriculture and large lot residential uses. Caltrans would require right-of-way acquisition totaling 48.95 acres from thirty-three ownership parcels.

Environmental Consequences

A review of the project site was conducted to determine the potential adverse effects related to residential and nonresidential property acquisition and relocation.

The project would result in two full acquisitions of business properties in the project area (one with a residential structure), one other full acquisition of a residential property, and two full acquisitions of government and agency-owned property. In addition to these five full acquisitions, the Build Alternative would also result in 27 partial acquisitions of residential, agricultural, industrial, and commercial properties next to the project area. Most partial acquisitions would require less than 10 percent of the property, but two partial acquisitions would result in full acquisition of the residences. Therefore, the

project would result in six potential displacements (five residential and one commercial). **Table 2-2: Parcels Acquired by Proposed Project** shows potential acquisitions and displacements.

Table 2-2: Parcels Acquired by the Proposed Project

APN	Full Acquisition	Partial Acquisition	Businesses on Parcel	Residence on Parcel	Agriculture on Parcel	Notes
228-020-40		X			X	
228-020-32		X			X	
228-020-37		X			X	
228-020-36	X				X	Agency Owned
228-020-39		X			X	
228-050-02		X			X	
228-050-18		X			X	
228-050-19	X					Agency Owned
228-060-08		X			X	
228-050-17		X				Church
228-050-15		X	X			
228-050-08		X	X			
224-050-35		X				
228-060-17	X		X – Acquisition of Business			Industrial
228-060-16	X		X – Acquisition of Business	X – Acquisition of Residence		Industrial
228-060-15	X			X – Acquisition of Residence		
228-060-18		X			X	
228-060-19		X		X – Acquisition of Residence		
228-060-20		X		X		
228-060-21		X				

APN	Full Acquisition	Partial Acquisition	Businesses on Parcel	Residence on Parcel	Agriculture on Parcel	Notes
228-060-27		X			X	
228-060-28		X			X	
228-060-29		X			X	
226-140-06		X			X	
228-060-24		X		X – Acquisition of Residence		
224-050-16		X		X – Acquisition of Residence		Probable Acquisition
228-060-26		X			X	
224-050-15		X			X	
228-060-25		X			X	
224-050-17		X			X	
224-050-19		X			X	

Source: Mark Thomas, 2017.
Notes: APN = Assessor's Parcel Number

The *Relocation Impact Statement* (September 2018) prepared for the project (listed in the List of Technical Studies at the end of this document) indicates that there is a current supply of residential and commercial vacancies to accommodate required residential and business relocations. As of September 2018, there were 72 active 3 to 5 bedroom homes available on the market to accommodate the residential displacees. Additionally, there were 44 active commercial properties for sale and 17 additional available for lease. The City of Manteca and Caltrans are committed to providing relocation assistance to each residential and business occupant and will reevaluate the supply of residential and commercial vacancies prior to commencement of the parcel acquisition process. In addition, it is the intent of Caltrans that all activities will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required for project effects involving relocations and real property acquisition.

2.1.3.2 Environmental Justice

Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by President William J. Clinton on February 11, 1994. This order directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2019, this was $25,750 for a family of four.

All considerations under Title VI of the Civil Rights Act of 1964, and related statutes, have also been included in this project. Caltrans' commitment to upholding the mandates of Title VI is demonstrated by its Title VI Policy Statement signed by the Caltrans Director in Appendix A of this document.

Affected Environment

The *Community Impact Assessment Checklist* (as listed in the List of Technical Studies at the end of this document), dated February 2019, contributed to the information and analysis in this section.

The project sits within the boundaries of Census Tracts 50.03, 50.04, 51.06, 51.10, 51.13, 51.14, 51.31, and 51.33. As of 2015, all the above census tracts had a minority population that constituted a lower proportion of the total population of San Joaquin County, and all but one (51.14) had a minority population that constituted a lower proportion of the total population of California. When combined, the census tracts had a minority population that constituted a lower proportion of the total population of both San Joaquin County and California.

The U.S. Census Bureau uses the "poverty thresholds" method to measure the number of people in poverty. In Census Tract 51.31, 21.6 percent of the residents have incomes below poverty level. This is higher than those of San Joaquin County (18.6 percent) and of California (16.3 percent).

Three of the eight census tracts in the project area have average household sizes, which are slightly higher than the average household size of San Joaquin County (3.12), and seven of the eight are higher than California (2.9). All eight census tracts in the project area had median household incomes that were higher than the median household income in San Joaquin County ($53,274), and five of the eight census tracts had median household incomes that were higher than the median household income in California ($61,818).

Six of the eight census tracts in the project area have a higher per capita income than the per capita income of San Joaquin County ($22,645), and two of the eight have a higher per capita income than the per capita income of California ($30,318).

Environmental Consequences

Based on available 2010 Census data and 2015 American Community Survey data, it is not likely that the residential area surrounding the project would include areas with a disproportionately larger low-income population than those of San Joaquin County and California, except for Census Tract 15.31. The project would impact only one parcel within that census tract and therefore would be unlikely to disproportionately impact the population. The residential development in that census tract is outside the project footprint, and this population would experience mostly indirect effects during project Phases 1A and 1B such as traffic detours. Such indirect impacts would impact all residents in the area and therefore would not be disproportional. However, noise and air quality effects could potentially disproportionately impact this population during Phases 1A and 1B. Avoidance and minimization measures would be implemented to reduce such indirect impacts, and minority or low-income populations would not be adversely impacted by the project. Overall, the project would be beneficial to nearby residents and commuters, as traffic congestion would be improved, access to State Route 99 and State Route 120 would be improved from local street access points, and flow/wait time of nearby roadway segments and intersections would be improved.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and minimization measures regarding indirect noise and air quality effects are included under the applicable resource topic sections. Based on the above discussion and analysis, the Build Alternative will not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of EO 12898. No further environmental justice analysis is required.

2.1.4 Utilities and Emergency Services

Affected Environment

Utility information for this section was obtained from the project engineer in 2018 and the City of Manteca General Plan Update Existing Conditions Report October 2017. Emergency services information was obtained from City of Manteca General Plan Update Existing Conditions Report October 2017.

Water, wastewater, electric, natural gas utilities, and telecommunications services are located in the project area. The City of Manteca provides potable water service and wastewater disposal service to the project area. Electricity

and natural gas is provided by the Pacific Gas and Electric Company (PG&E). Verizon, Frontier, and Comcast provide telecommunications service in the project vicinity. Portions of the project site that are located in unincorporated San Joaquin County receive water and wastewater service from the South San Joaquin Irrigation District. Kinder Morgan and Sprint provide gas lines and telecommunication lines, respectively, within the Union Pacific Railroad right-of-way.

Emergency service is provided to the project area via the City of Manteca Police Department, California Highway Patrol, and City of Manteca Fire Department. The City of Manteca Sphere of Influence (areas of unincorporated San Joaquin County) is served by Lathrop-Manteca Fire District and Ripon Consolidated Fire Department. Finally, the San Joaquin County Office of Emergency Services is the single coordinating center for major emergency activities in the project area.

Environmental Consequences

Project construction activities may require relocation of utilities that would be affected by the project. Relocations would not present any unusual situations and are considered routine for roadway construction projects.

The Manteca General Plan outlines the City's commitments to maintaining adequate public services and utilities as new development occurs. Also, the City requires undergrounding of utility lines in new development and in areas that are redeveloped, where feasible (Policy PF-I-17). The San Joaquin County General Plan also outlines the County's commitment to providing and maintaining adequate utilities for land within unincorporated San Joaquin County.

Utility facilities would need to be modified or relocated due to implementation of the project. **Table 2-3: Required Utility Relocation and Modifications** shows the utility owners and their facilities that would be impacted by the project and the anticipated utility modifications that would occur.

Table 2-3: Required Utility Relocation and Modifications

Utility Owner	Utility Facility Affected	Relocation or Modification
South San Joaquin Irrigation District	Irrigation line east of and parallel to SR 99, north of the SR 99/SR 120 connector	Relocate easterly into new easement
South San Joaquin Irrigation District	Irrigation line crossing SR 99 ½-mile north of Austin Road	Potential encasement
South San Joaquin Irrigation District	Irrigation line crossing SR 99 ¼-mile south of Austin Road	Potential encasement
City of Manteca	Water line parallel to and crossing SR 99 north of Austin Road	Relocate easterly into new easement
City of Manteca	Sewer line parallel to and crossing SR 99 north of Austin Road	Relocate easterly into new easement
PG&E (Electricity)	Aerial crossing 0.3 mile south of Austin Road	May require an exception to allow the existing pole to remain within the State right-of-way
PG&E (Electricity)	17 kilovolts aerial crossing 50-feet north of Austin Road	Relocate—may require exception to allow relocated pole(s) to be placed within the State right-of-way
PG&E (Electricity)	Underground service on the east side of SR 99, north of Austin Road serving Caltrans lighting and communication cabinets	Relocate Caltrans service connection
PG&E (Electricity)	Parallel to Moffat Boulevard	Raise to provide vertical clearance to new crossing
PG&E (Electricity)	Joint pole parallel to Austin Road (shared with Frontier and Comcast)	Relocate parallel to widen Austin Road
Frontier (Telephone) and Comcast (Cable)	Joint pole parallel to Austin Road (shared with PG&E)	Relocate parallel to widen Austin Road
Kinder Morgan	High pressure gas line in Union Pacific Railroad right-of-way	Further investigation needed; pothole and avoid
Sprint	Underground Fiber Optic Telephone in Union Pacific Railroad right-of-way	Further investigation needed; verify and avoid
Frontier (Telephone)	Underground in Moffat and E Woodward	Further investigation needed; verify and avoid
City of Manteca (Water and Sewer)	In Moffat and E Woodward	Further investigation needed; verify and avoid

Source: Provided by Mark Thomas 2018.
Notes: SR = State Route
PG&E = Pacific Gas & Electric

Temporary lane, road, and intersection closures are expected during construction. Such closures would result in delays but are not expected to disrupt emergency services since the construction contractor would circulate construction schedules and traffic control information to City of Manteca (and as needed to San Joaquin County) emergency service providers. This would allow emergency service providers to plan for the use of alternate routes during project construction-related road closures. The project would improve traffic congestion at the State Route 99/State Route 120 connection within the project boundary once complete. As a result, the improved interchange and roadway system would provide improved access for emergency vehicles in the immediate vicinity and overall study area.

Once operational, implementation of the project would improve the ability of emergency services to serve the community because the project would reduce congestion in the State Route 99/State Route 120 connector area and thus reduce emergency service response times. Structures occupied by emergency services would not be relocated, and no new facilities would need to be developed due to project implementation.

Avoidance, Minimization, and/or Mitigation Measures

Implementation of the following minimization measures would reduce adverse project effects involving utilities and emergency services:

UT-1 The project will be designed to minimize conflicts with utilities in the project area. The project will include relocation of those utilities that would be inaccessible for maintenance or access purposes as a result of project implementation.

UT-2 The project will be required to notify utility users of any short-term, limited interruptions of service.

UT-3 If unexpected underground utilities are encountered, the project will coordinate with the utility provider to develop plans to address the utility conflict, protect the utility if needed, and limit service interruptions.

UT-4 The project will circulate construction schedules and traffic control information to local emergency service providers at least two weeks before any road closures.

2.1.5 Traffic and Transportation/Pedestrian and Bicycle Facilities

Regulatory Setting

Caltrans, as assigned by the Federal Highway Administration, directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (see 23 Code of Federal Regulations 652). It further directs that the special needs of

the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the U.S. Department of Transportation regulations (49 Code of Federal Regulations 27) implementing Section 504 of the Rehabilitation Act (29 U.S. Code 794). The Federal Highway Administration has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the Americans with Disabilities Act requirements to federal-aid projects, including Transportation Enhancement Activities.

Affected Environment

Information for this section was obtained from the Final Traffic Operations Analysis Report (as listed in the List of Technical Studies at the end of this document) prepared for the project in January 2019.

The project sits in an urbanized portion of the City of Manteca and in unincorporated portions of San Joaquin County. The project includes improvements to the State Route 99/State Route 120 connector as well as local roads adjacent to the mainline facility. The following describes the existing conditions of the roadway system within the project area:

- **State Route 120:** This facility is an east-west four-lane freeway within the study area that connects Interstate 5 and State Route 99 through Lathrop and Manteca. State Route 120 provides interchanges at Yosemite Avenue, Airport Way, Union Road, and Main Street. The facility is grade-separated above McKinley Avenue, and a new interchange will be constructed by 2023. In addition, plans are in progress to widen State Route 120 from four to six lanes by 2034. If funding becomes available sooner, widening of State Route 120 would occur by 2030. State Route 120 has a posted speed limit of 65 miles per hour.
- **Main Street Interchange (Post Mile 5.312):** This facility is in a spread-diamond interchange configuration, where Main Street is elevated above State Route 120. The ramp-end intersections are spaced about 1,400 feet apart and operate with traffic signals. Main Street provides one lane in each direction south of State Route 120. North of State Route 120, Main Street provides two travel lanes in each direction.
- **State Route 99:** This facility is a north-south six-lane freeway within the study area. It connects Lodi and Sacramento to the north and Modesto

and Merced to the south. It provides interchanges at Yosemite Avenue, Austin Road and Jack Tone Road in the study area. The route is grade-separated below State Route 120 at the State Route 120/State Route 99 interchange with single-lane direct ramps. State Route 99 has a posted speed limit of 65 miles per hour.

- **Yosemite Avenue Interchange (Post Mile 6.654):** This facility is in a tight-diamond interchange configuration, where Yosemite Avenue is below State Route 120. The ramp-end intersections are spaced about 500 feet apart and operate with coordinated traffic signals. Yosemite Avenue provides four travel lanes (dual left-turn and two through lanes) underneath State Route 120.
- **Austin Road Interchange (About Post Mile 4.822):** This facility is in a modified spread-diamond configuration on the north side of State Route 99. On the south side of State Route 120, a hook off-ramp onto Moffatt Boulevard and a diagonal on-ramp from Austin Road/Moffatt Boulevard are provided. Austin Road is constructed above State Route 120 with a two-lane bridge connecting Moffatt Boulevard to the south and Yosemite Avenue to the north.

Traffic volume data was collected on the freeway mainline within the project area through the Caltrans Performance Measure System, which provided data for every Tuesday, Wednesday and Thursday for 2015. A 3 percent growth rate was applied to the 2015 volumes to determine the existing (year 2017) morning and evening peak hour freeway mainline volumes. Also, weekday morning (7:00 a.m. to 9:00 a.m.) and evening (4:00 p.m. to 6:00 p.m.) peak period turning movement counts were collected at the 11 study intersections between August and October 2016. The following intersections were studied:

1. State Route 120 Eastbound Ramps/Main Street
2. State Route 120 Westbound Ramps/Main Street
3. State Route 99 Northbound Ramps/Yosemite Avenue
4. State Route 99 Southbound Ramps/Yosemite Avenue
5. State Route 99 Northbound Ramps/Austin Road
6. State Route 99 Southbound Ramps/Moffatt Boulevard
7. Austin Road/Moffatt Boulevard
8. Woodward Avenue/Moffatt Boulevard
9. Austin Road/Frontage road
10. Woodward Avenue/Main Street
11. Austin Road/Yosemite Avenue

The existing morning and evening peak hour volumes for the study intersections represent peak month-peak hour volumes.

Level of Service Standards

The following level of service standards are relevant to the analysis of the project for facilities within the City of Manteca and the County of San Joaquin, under the San Joaquin Council of Governments Regional Congestion Management Program, and in the Caltrans right-of-way:

- **City of Manteca:** The City's General Plan identifies the minimum acceptable operations criteria for signalized intersections and all-way stop-controlled intersections as level of service D.
- **County of San Joaquin:** The County's General Plan identifies the minimum acceptable operations criteria for signalized intersections and all-way stop-controlled intersections as level of service D.
- **San Joaquin Council of Governments Regional Congestion Management Program:** The program, adopted in 2018, identifies the operating standard as level of service D. When an intersection or roadway segment is monitored as operating at level of service E or lower, the county or the city in which the deficient segment or intersection is located must prepare a deficiency plan specific to that location.
- **Caltrans:** Based on Caltrans Traffic Operations guidelines, intersections within the Caltrans right-of-way must operate at level of service D or better for all movements.

Table 2-4: Freeway and Intersection Level of Service Criteria shows the level of service standards for freeway mainline and weaving sections and ramp merge/diverge areas and signalized and unsignalized intersections used in this traffic analysis.

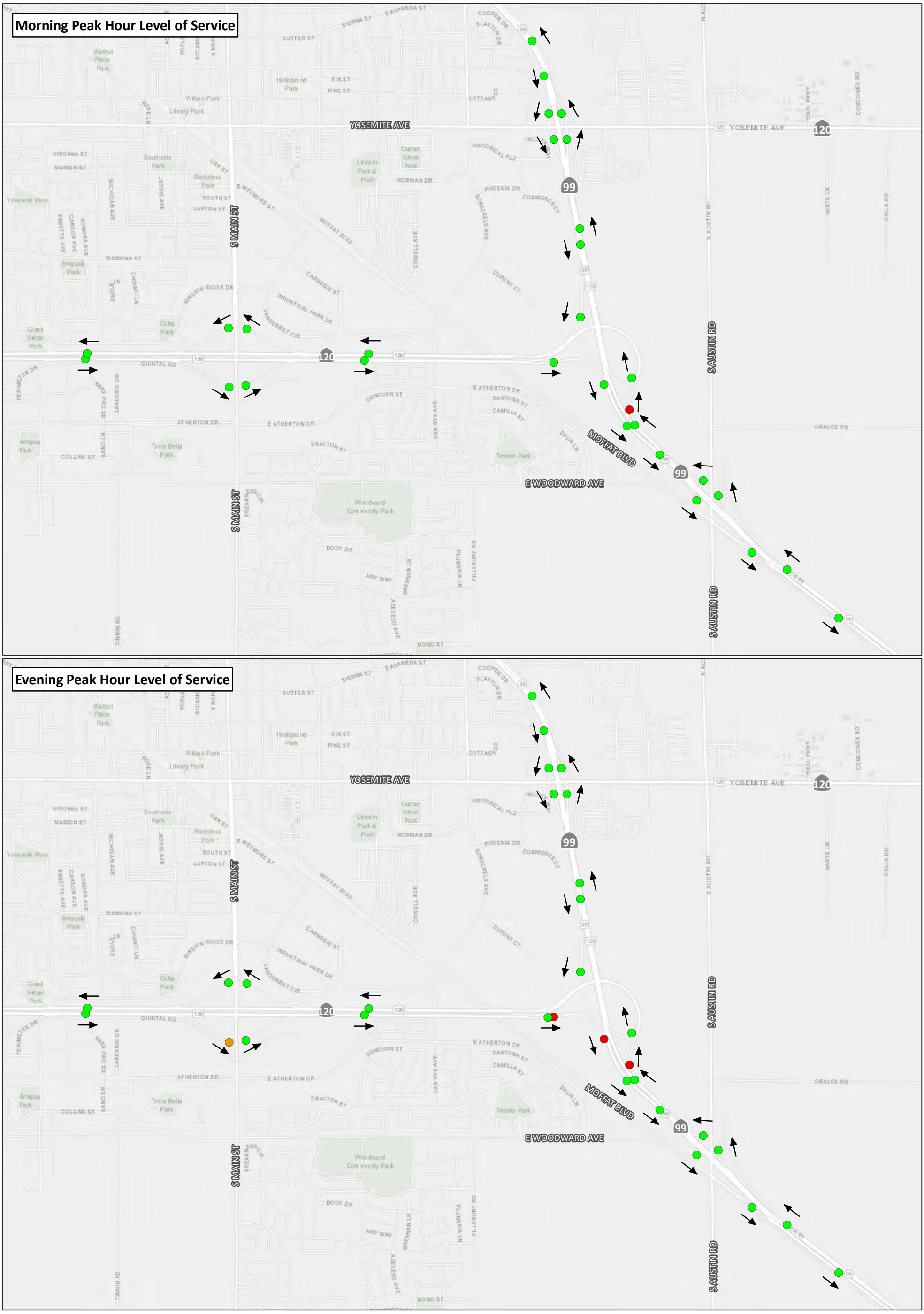
Table 2-4: Freeway and Intersection Level of Service Criteria

LOS	Freeway Criteria		Intersection Criteria[3]	
	Density (Passenger Cars/Mile/Lane)[1]		Average Control Delay (seconds/vehicle)	
	Mainline and Weaving Section	Ramp Merge/ Diverge	Signalized Intersections	Unsignalized Intersections
A	≤ 11	≤ 10	≤ 10	≤ 10
B	> 11 to 18	> 10 to 20	> 10 to 20	> 10 to 15
C	> 18 to 26	> 20 to 28	> 20 to 35	> 15 to 25
D	> 26 to 35	> 28 to 35	> 35 to 55	> 25 to 35
E	> 35 to 45	> 35	> 55 to 80	> 25 to 50
F	> 45 or any v_d/c ratio > 1.00[1]	Demand exceeds capacity[2]	> 80	> 50

Source: Fehr and Peers, *Final Traffic Operations Analysis Report (DFTOAR) for the State Route 120/State Route 99 Improvement* Project, pg. 9, Tables 1 and 2, January 2019.
Notes: [1] v_d/c ratio = demand flow rate divided by the capacity of a given segment.
[2] Occurs when freeway demand exceeds upstream (diverge) or downstream (merge) freeway segment capacity, or if off-ramp demand exceeds off-ramp capacity.
[3] The average delay reported for signalized intersections is for all vehicles passing through the intersection, whereas the average delay reported for unsignalized intersections is for the minor street movement with the greatest delay.

Existing Conditions

Level of service under existing year (2017) conditions, as shown in **Figure 2-2: Morning and Evening Peak Hour Freeway Level of Service – Existing Year 2017 Conditions**, would be acceptable at 29 of 30 study segments during the morning peak hour and 25 of 29 study segments during the evening peak hour.



LEGEND

Freeway Lane Direction

Acceptable Level of Service (A-D)

Unacceptable Level of Service (E)

Unacceptable Level of Service (F)

0 1000 2000
FEET

SOURCE: ESRI World Light Gray Canvas (01/2019); Traffic Data - Based on Fehr & Peers (01/2019)

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FIGURE 2-2

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

AM and PM Peak Hour Freeway Level of Service - Existing Year 2017 Conditions

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The northbound State Route 99 to westbound State Route 120 freeway-to-freeway ramp operates at level of service F during both the morning and evening peak hours. During evening peak hours, severe congestion and slow travel speeds on State Route 120 result in diversion of traffic onto the eastbound State Route 120 off-ramp to Main Street, resulting in level of service E. The eastbound State Route 120 and the southbound State Route 99 merge sections operate at level of service F due to 82 percent of the State Route 120 traffic exiting onto southbound State Route 99. The northbound off-ramp from State Route 99 to westbound State Route 120 operates at level of service F.

It should be noted that with a density of 20.4 passenger cars per mile per lane, the eastbound State Route 120 off-ramp diverge onto southbound State Route 99 would be level of service C. However, because the capacity of the single-lane off-ramp (2,100 vehicles) is exceeded by the 2,365 vehicles exiting eastbound State Route 120 onto southbound State Route 99, the single-lane off-ramp to southbound State Route 99 operates at level of service F conditions. This is shown in **Figure 2-2** by the two dots showing both level of service conditions.

The existing year (2017) morning and evening peak hour level of service conditions were also determined for the 11 studied intersections in the project area. **Table 2-5: Intersection Analysis – Existing** Morning and Evening **Peak Hour Conditions** shows the existing level of service conditions for each of the study intersections during morning and evening peak hours as well as the delay/movement results in seconds per vehicle.

The table indicates three study intersections operate at unacceptable level of service conditions (LOS E) during the evening peak hours under existing conditions.

Table 2-5: Intersection Analysis – Existing Morning and Evening Peak Hour Conditions

Intersection	Control	Morning Peak Hour Delay/ Movement (seconds per vehicle)	Morning Peak Hour LOS	Evening Peak Hour Delay/ Movement (seconds per vehicle)	Evening Peak Hour LOS
1. Westbound SR 120 Ramps/Main Street	Signal	13.0	B	12.6	B
2. Eastbound SR 120 Ramps/Main Street	Signal	24.0	C	23.5	C
3. Southbound SR 99/Yosemite Avenue	Signal	18.3	B	17.2	B
4. Northbound SR 99 Ramps/ Yosemite Avenue	Signal	23.9	C	32.5	C
5. Northbound SR 99 Ramps/Austin Road	All Way Stop Controlled	8.5	A	9.6	A
6. Southbound SR 99 Off-Ramp/ Moffatt Boulevard	All Way Stop Controlled	1.7	A	40.5	**E**
7. Moffatt Boulevard/Austin Road	All Way Stop Controlled	11.8	B	35.1	**E**
8. Moffatt Boulevard/ Woodward Avenue	All Way Stop Controlled	3.2	A	30.3	**E**
9. Frontage Road/Austin Road	Side-Street Stop Control	6.6 (Westbound Left-Turn)	A	8.8 (Westbound Left-Turn)	A
10. Woodward/ Main Street	All Way Stop Controlled	9.0	A	11.7	B
11. Yosemite Avenue/Austin Road	Signal	9.6	A	10.3	B

Source: Fehr and Peers, *Final Traffic Operations Analysis Report for the State Route 120/State Route 99 Improvement Project*, pg. 21, Table 3, January 2019.
Notes: SR = State Route, LOS = level of service, **Bolded Letters** and gray shaded cells denote unacceptable level of service conditions.

Environmental Consequences

Implementation of the project would improve level of service operations along studied freeway segments and intersections. A Final Traffic Operations Analysis Report (as listed in the List of Technical Studies at the end of this

document) was prepared, documenting the improvements that the project would have on the connector facility. The project would not increase traffic or vehicle miles traveled in itself; it would help alleviate future growth impacts identified in the City of Manteca General Plan, San Joaquin County General Plan, and San Joaquin Council of Governments regional growth estimates. The project would not adversely affect existing pedestrian and bicycle facilities.

Phase 1A of the project is anticipated to be constructed between 2021 and 2023. Phases 1B and 1C would be constructed later, depending on funding, and may be completed concurrently. Therefore, the traffic study analyzed Phases 1B and 1C together under the ultimate project analysis, which includes full buildout conditions of Phases 1A, 1B, and 1C of the project. The Final Traffic Operations Analysis Report prepared for this project includes an Interim Year 2033 Phase 1B scenario as a means to determine when Phase 1A conditions would result in degraded levels of service for the studied freeway segments and intersections and when commencement of the ultimate project (Phases 1A, 1B, and 1C) would be required to improve the degraded conditions.

This section presents the modeling results for freeway mainline and intersection conditions under the following scenarios:

- Construction year 2023 morning and evening peak hour conditions – no build
- Construction year 2023 morning and evening peak hour conditions – with project Phase 1A
- Interim Year 2033 morning and evening peak hour conditions - with project Phase 1B
- Design year 2043 morning and evening peak hour conditions – no build
- Design year 2043 morning and evening peak hour conditions – with project Phase 1A
- Design year 2043 morning and evening peak hour conditions – with ultimate project

Freeway segments and intersections that operate at level of service E and F conditions during morning and evening peak hours are considered unacceptable and are considered acceptable if they operate at level of service A, B, C, or D conditions.

Construction Year 2023 Operations

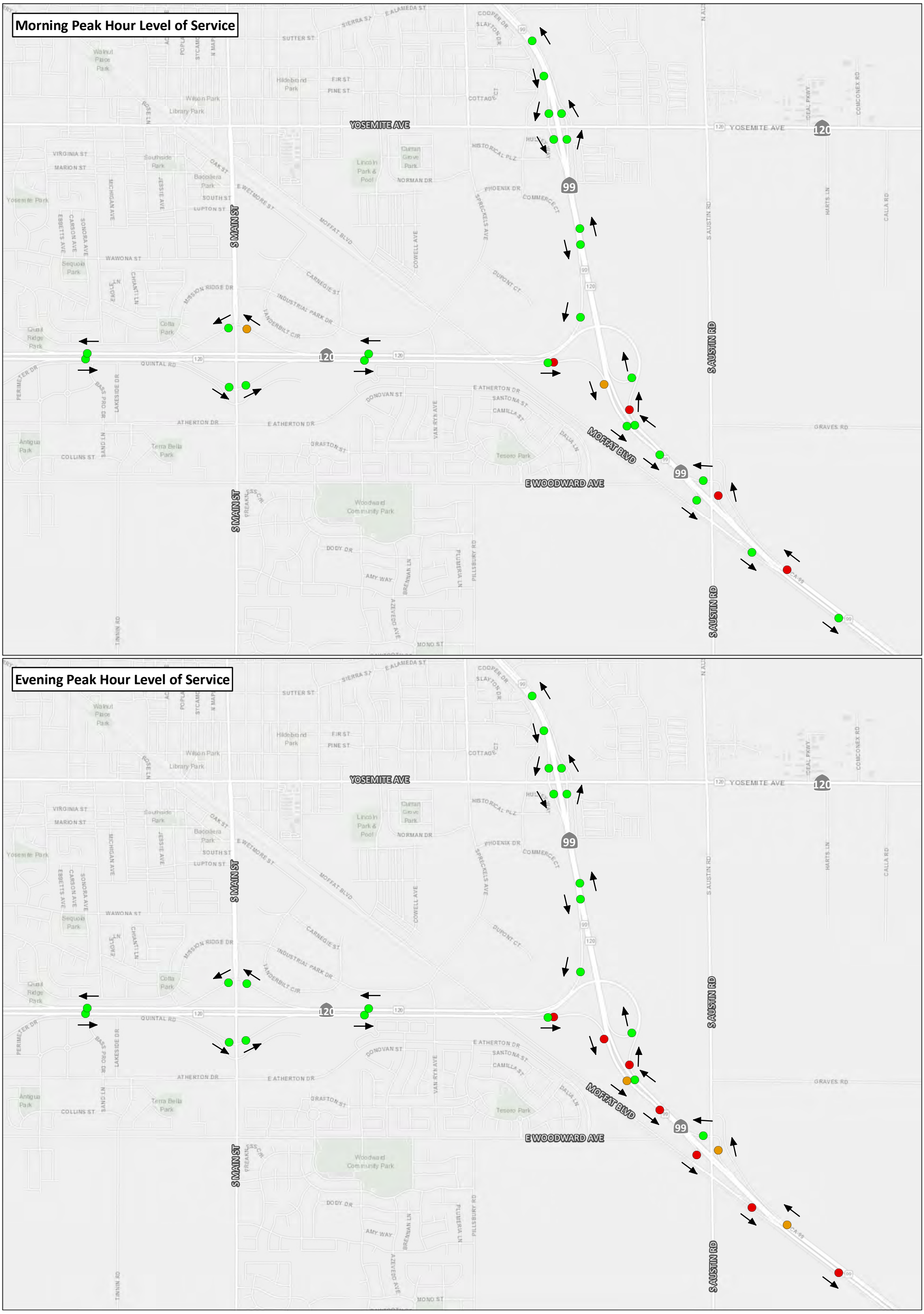
The project is expected to start with construction of Phase 1A in 2021. The level of service conditions were analyzed for the freeway segments and study intersection under Construction Year 2023 No Project and Construction Year

2023 With Phase 1A Project conditions to determine if implementation of the project would degrade level of service conditions.

Figure 2-3: Morning and Evening Peak Hour Freeway Level of Service – Construction Year 2023 No-Project Conditions shows the level of service for freeway segments within the project vicinity under Construction Year 2023 No-Project Conditions for the morning and evening peak hours. As shown in **Figure 2-3,** 24 of the 30 study segments operate at acceptable level of service during the morning peak hour.

The following freeway segments are projected to degrade to level of service F conditions during the morning peak hour: northbound State Route 99 between Jack Tone Road and Austin Road and the northbound State Route 99 off-ramp to Austin Road. In addition, the westbound State Route 120 off-ramp to Main Street is projected to degrade to level of service E conditions. The northbound State Route 99 to westbound State Route 120 freeway-to-freeway ramp would continue to operate at level of service F conditions. Similar to Existing Year 2017 conditions, the off-ramp eastbound State Route 120 onto southbound State Route 99 diverge operates at acceptable level of service B conditions based on density, but the capacity of the single-lane off-ramp would be exceeded, and therefore, operates at level of service F conditions. In addition, with the heavy on-ramp traffic entering southbound State Route 99 from the single-lane eastbound State Route 99 on-ramp, the southbound State Route 99 merge section operates at level of service E conditions.

During the evening peak hour, 20 of the 30 study segments operate at acceptable level of service conditions. As discussed under the Existing Year 2017 and the Construction Year 2023 morning peak hour conditions, the eastbound State Route 120 off-ramp onto southbound State Route 99 would operate at level of service F conditions due to above capacity conditions. All southbound State Route 99 freeway segments located south of the eastbound State Route 120 off-ramp onto southbound State Route 99 would operate at unacceptable level of service conditions. In addition, northbound State Route 99 between Jack Tone Road and Austin Road and northbound State Route 99 off-ramp to Austin Road would operate at level of service E conditions and the northbound State Route 99 off-ramp to westbound State Route 120 would continue to operate at level of service F conditions. Level of service improvements would occur between the State Route 120 Union Road on-ramp and the Main Street off-ramp to acceptable level of service C. The eastbound State Route 120 off-ramp to Main Street would also improve to acceptable level of service D conditions.



LEGEND

Freeway Lane Direction

Acceptable Level of Service (A-D)

Unacceptable Level of Service (E)

Unacceptable Level of Service (F)

0 1000 2000 FEET

FIGURE 2-3

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

AM and PM Peak Hour Freeway Level of Service - Construction Year 2023 No Project Conditions

SOURCE: ESRI World Light Gray Canvas (01/2019); Traffic Data - Based on Fehr & Peers (01/2019)

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Figure 2-4: Morning and Evening Peak Hour Freeway Level of Service – Construction Year 2023 With Phase 1A Project shows 27 of the 29 study segments during the morning peak hour and 24 of the 29 study segments during the evening peak hour would operate at acceptable level of service conditions. Implementation of Phase 1A of the project would result in the improvement of all freeway segments to acceptable level of service conditions during the morning peak hour, except for northbound State Route 99 between Jack Tone Road and Austin Road and the northbound State Route 99 off-ramp to Austin Road. All freeway segments would also improve during the evening peak hour, except for northbound State Route 99 between Jack Tone Road and Austin Road, the northbound State Route 99 off-ramp to Austin Road, and southbound State Route 99 from south of the Austin Road on-ramp to south of the Jack Tone Road interchange.

Table 2-6: Intersection Analysis—Construction Year 2023 No-Build, with Project Phase 1A, and with Improved Phase 1A Project Morning and Evening Peak Hour Conditions shows the level of service conditions for the 11 study intersections during Construction Year 2023 without Project, with Phase 1A Project, and Improved Phase 1A Project conditions. **Table 2-6** shows that, under the Construction Year 2023 No-Project scenario, five intersections would operate at unacceptable level of service conditions during the morning peak hours and five intersections would operate at unacceptable level of service conditions during the evening peak hours. Under the Construction Year 2023 with Project Phase 1A Conditions, two intersections would operate at unacceptable level of service conditions during the morning peak hours and five intersections would operate at unacceptable level of service conditions during the evening peak hours. Under the Construction Year 2023 with Improved Phase 1A Conditions all of the intersections will operate at acceptable levels of service conditions.

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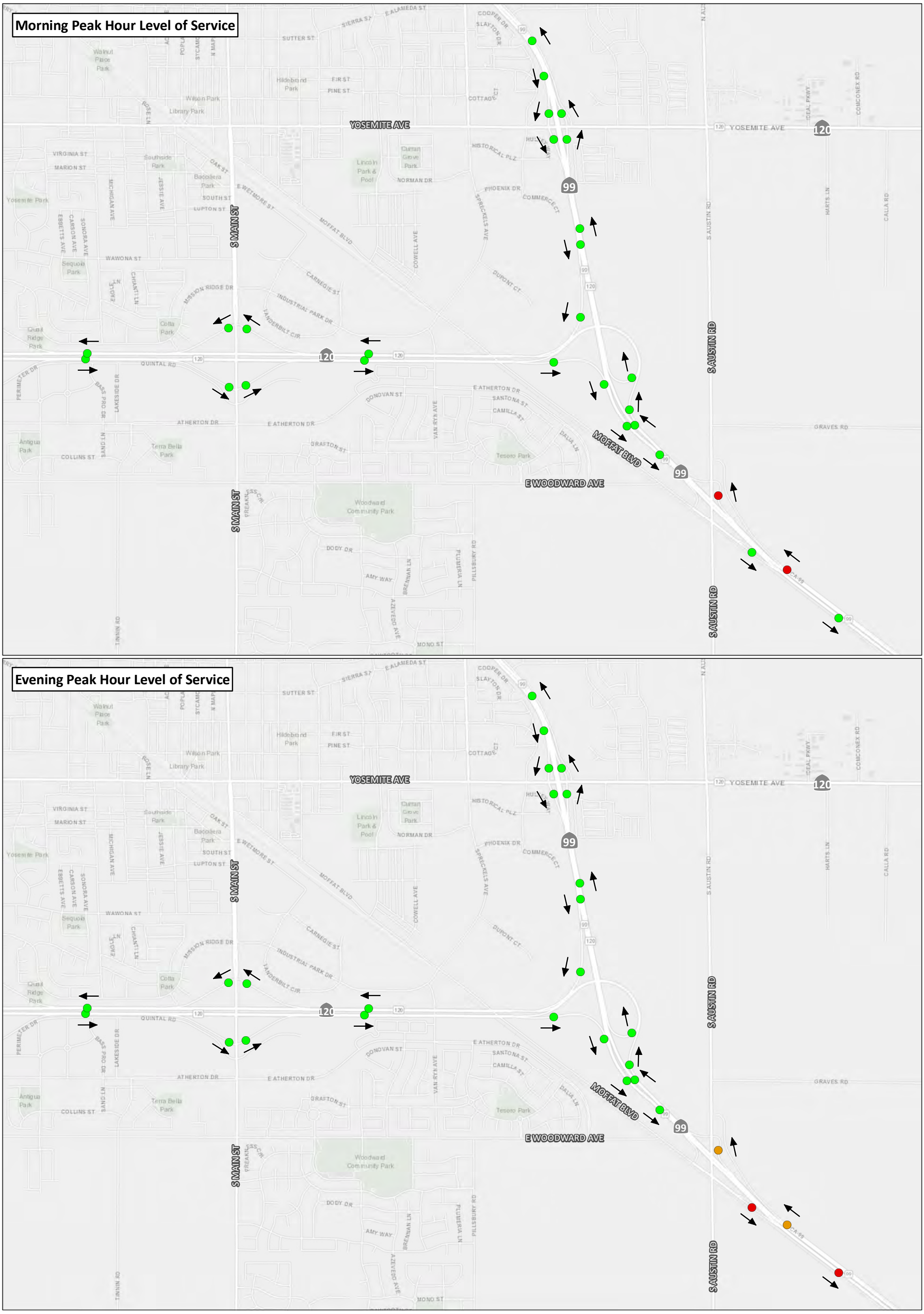

LEGEND

Freeway Lane Direction

Acceptable Level of Service (A-D)

Unacceptable Level of Service (E)

Unacceptable Level of Service (F)

0 1000 2000
FEET

FIGURE 2-4

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

AM and PM Peak Hour Freeway Level of Service - Construction Year 2023 With Phase 1A Project Conditions

SOURCE: ESRI World Light Gray Canvas (01/2019); Traffic Data - Based on Fehr & Peers (01/2019)

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Table 2-6: Intersection Analysis – Construction Year 2023 No-Build and with Project Phase 1A Morning and Evening Peak Hour Conditions

Intersection	Construction Year No-Project Conditions		Construction Year with Project Phase 1A Conditions		Construction Year with Improved Phase 1A Project Conditions	
	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour
	LOS	LOS	LOS	LOS	LOS	LOS
1. Westbound SR 120 Ramps/Main Street **(signal)**	C	B	D	D	D	D
2. Eastbound SR 120 Ramps/Main Street **(signal)**	D	D	**F**	**F**	D	D
3. Southbound SR 99 Ramps/Yosemite Avenue **(signal)**	C	B	C	C	C	C
4. Northbound SR 99 Ramps/Yosemite Avenue **(signal)**	**E**	D	D	**E**	D	D
5. Northbound SR 99 Ramps/Austin Road **(All Way Stop Controlled)**	**F**	**F**	B	D	B	C
6. Southbound SR 99 Off-Ramp/Moffat Boulevard **(All Way Stop Controlled)**	**F**	**F**	B	B	A	B
7. Moffat Boulevard/Austin Road **(All Way Stop Controlled)**	**F**	**F**	C	**E**	C	D
8. Moffat Boulevard/Woodward Avenue **(All Way Stop Controlled)**	**F**	**F**	C	**F**	B	C
9. Frontage Road/Austin Road **(Side-Street Stop Controlled)**	C	A	B	C	A	C
10. Woodward/Main Street **(All Way Stop Controlled)**	C	**F**	**F**	**F**	C	C
11. Yosemite Avenue/Austin Road **(Signal)**	B	B	C	D	C	D

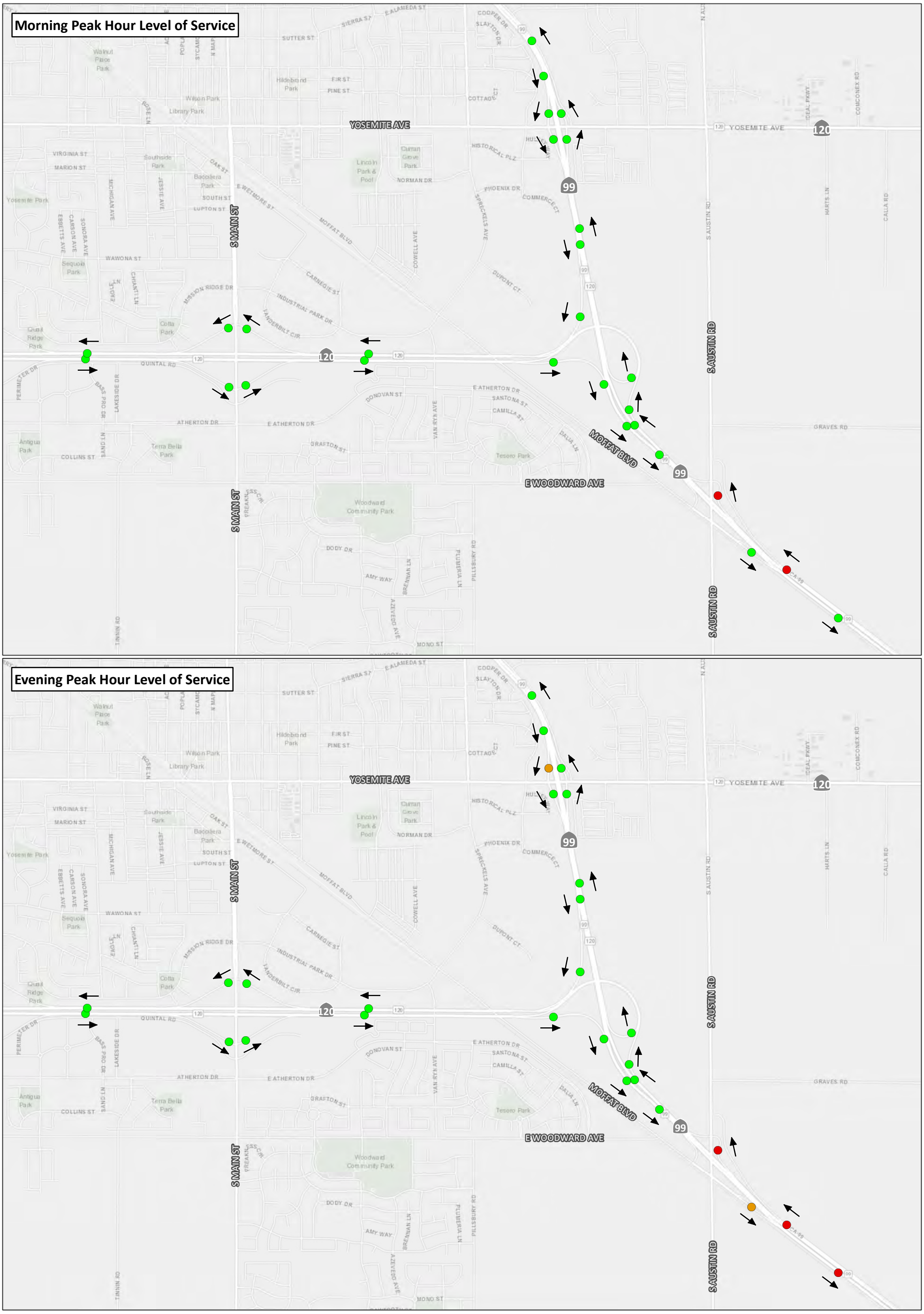
Source: Fehr and Peers, *Final Traffic Operations Analysis Report (DFTOAR) for the State Route 120/State Route 99 Improvement* Project, pgs. 35 and 49, Tables 6 and 8 January 2019.
Notes: **Bolded Letters** and gray shaded cells denote unacceptable level of service conditions. SR = State Route

Interim Year 2033 Operations

This section provides the traffic operations analysis results for the project with Phase 1B scenario under interim year 2033 morning and evening peak hour conditions. Analysis under this condition has been prepared for selected freeway segments and intersections within the project study area. The Final Traffic Operations Analysis Report prepared for this project included this scenario as a means to determine when Phase 1A conditions would result in degraded levels of service for the studied freeway segments and intersections and when commencement of Phase 1C would be required to improve the degraded level of service conditions. This Interim Year 2033 Phase 1B scenario also takes into account the continued closure of the Austin Road ramp until commencement of Phase 1C construction (this could constitute an estimated 9 year closure, dependent on funding availability to commence Phase 1C construction).

Figure 2-5: Morning and Evening Peak Hour Freeway Level of Service – Interim Year 2033 Phase 1B Project Conditions indicates 30 of the 37 freeway study segments would operate at acceptable level of service in the morning peak hours. During the evening peak hour, 17 of the 37 freeway study segments would operate at acceptable level of service.

Table 2-7: Intersection Analysis – Interim Year 2033 with Phase 1B Project Morning and Evening Peak Hour Conditions shows the level of service conditions for the 14 intersection during Interim Year 2033 with Phase 1B project conditions. **Table 2-7** shows that, under the Interim Year 2033 with Phase 1B Project, two intersections would operate at unacceptable levels of service during the morning peak hours and all intersections would operate at acceptable levels of service conditions during the evening peak hours.



LEGEND

Freeway Lane Direction

Acceptable Level of Service (A-D)

Unacceptable Level of Service (E)

Unacceptable Level of Service (F)

0 1000 2000
FEET

FIGURE 2-5

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

AM and PM Peak Hour Freeway Level of Service - Interim Year 2033 With Phase1B Project Conditions

SOURCE: ESRI World Light Gray Canvas (01/2019); Traffic Data - Based on Fehr & Peers (01/2019)

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Table 2-7: Intersection Analysis – Interim Year 2033 with Phase 1B Project Morning and Evening Peak Hour Conditions

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Delay Movement (sec/veh)	LOS	Delay Movement (sec/veh)	LOS
1. WB SR 120 Ramps/Main Street	Signal	15.3	B	14.6	B
2. EB SR 120 Ramps/Main Street	Signal	29.2	C	37.1	D
3. SB SR 99 Ramps/Yosemite Avenue	Signal	41.5	**F**	30.6	C
4. NB SR 99 Ramps/Yosemite Avenue	Signal	62.0	**E**	49.6	D
5. NB SR 99 Ramps/Austin Road	Signal	12.9	B	22.9	C
6. Woodward Avenue/Connector	Signal	23.7	C	44.5	D
7. Austin Road/Moffat Connector	Signal	18.3	B	18.5	B
8. Moffat Boulevard/Woodward Connector	Signal	18.8	B	24.4	C
9. Frontage Road/Austin Road	Side-Street Stop Controlled	11.3 (WB Left-Turn)	B	21.6 (WB Left-Turn)	C
10. Woodward Avenue/Main Street	Signal	39.1	D	33.9	C
11. Yosemite Avenue/Austin Road	Signal	24.3	C	51.9	D
12. NB SR 99 Ramps/Jack Tone Road	Signal	11.3	B	13.3	B
13. SB SR 99 Ramps/Jack Tone Road	Signal	12.6	B	13.6	B
14. NB SR 99 Ramps/Colony Road	Signal	17.4	B	18.1	B

Source: State Route 120/State Route 99 Interchange Project – Final Traffic Operations Analysis Report, January 2019, page 146, Table 25. Notes: **Bolded Letters** and gray shaded cells denote unacceptable level of service conditions. SR = State Route, EB = eastbound, NB = northbound, SB = southbound, WB = westbound, sec/veh = seconds per vehicle

Design Year 2043 Operations

This section provides the traffic operations analysis results for the no-project, with phase 1A and with ultimate project (Phases 1A, 1B, and 1C buildout) scenarios under design year 2043 morning and evening peak hour conditions.

Figure 2-6: Morning and Evening Peak Hour Freeway Level of Service – Design Year 2043 No-Project Conditions indicates 20 of the 30 study segments would operate at acceptable level of service.

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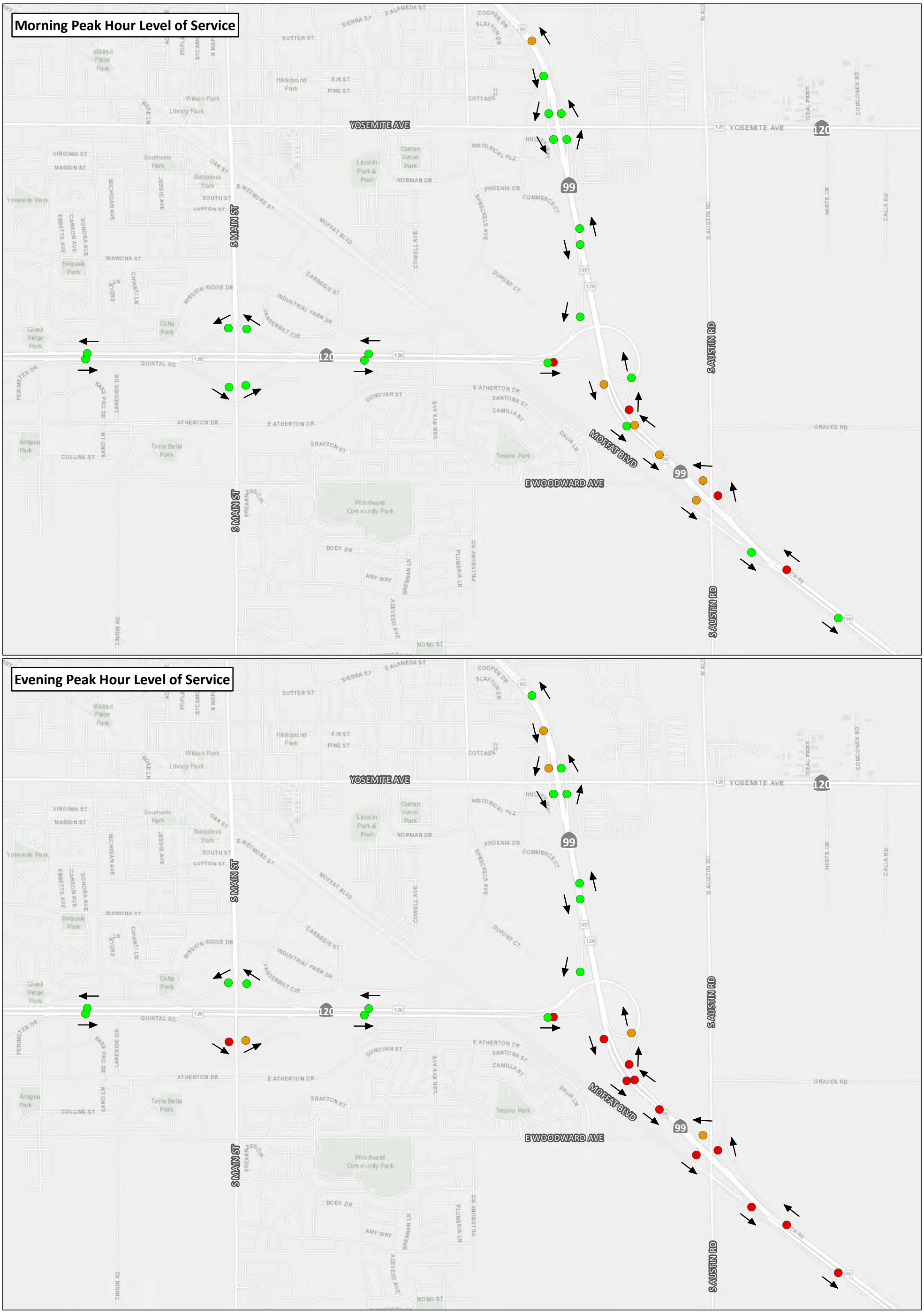

LEGEND

Freeway Lane Direction

Acceptable Level of Service (A-D)

Unacceptable Level of Service (E)

Unacceptable Level of Service (F)

0 1000 2000
FEET

FIGURE 2-6

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

AM and PM Peak Hour Freeway Level of Service - Design Year 2043 No Project Conditions

SOURCE: ESRI World Light Gray Canvas (01/2019); Traffic Data - Based on Fehr & Peers (01/2019)

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Northbound State Route 99 between Jack Tone Road and Austin Road and the northbound State Route 99 off-ramp to Austin Road would operate at level of service F conditions. The northbound State Route 99 on-ramp from Austin Road is projected to degrade to level of service E conditions, and the northbound State Route 99 to westbound State Route 120 freeway-to-freeway ramp would continue to operate at level of service F, as experienced under construction year 2023 no-project conditions and existing year (2017) conditions. As seen under construction year 2023 no-project conditions, the off-ramp from eastbound State Route 120 onto southbound State Route 99 diverge would have acceptable level of service based on density, but the capacity of the single-lane off-ramp would be exceeded and therefore would operate at level of service F conditions.

In addition, with the heavy on-ramp traffic entering southbound State Route 99 from the single-lane eastbound State Route 99 on-ramp, the southbound State Route 99 merge section operates at level of service E conditions. Both the southbound State Route 99 mainline segment before the Austin Road off-ramp and the southbound State Route 99 off-ramp to Austin Road are projected to degrade to level of service E conditions.

During evening conditions, 13 of the 30 study segments would operate at acceptable level of service conditions. The eastbound State Route 120 off-ramp to Main Street would degrade to unacceptable level of service F conditions, and the eastbound State Route 120 on-ramp from Main Street would degrade to unacceptable level of service E conditions. Southbound State Route 99 between the Lathrop Road on-ramp to and including the Yosemite Avenue off-ramp would degrade to level of service E conditions. The eastbound State Route 120 off-ramp onto southbound State Route 99 diverge would operate at level of service F because of capacity. All other southbound freeway segments between the eastbound State Route 120 onto southbound State Route 99 diverge and the Jack Tone Road intersection, including the Austin Road southbound off-ramp and on-ramp, would operate at unacceptable level of service F conditions.

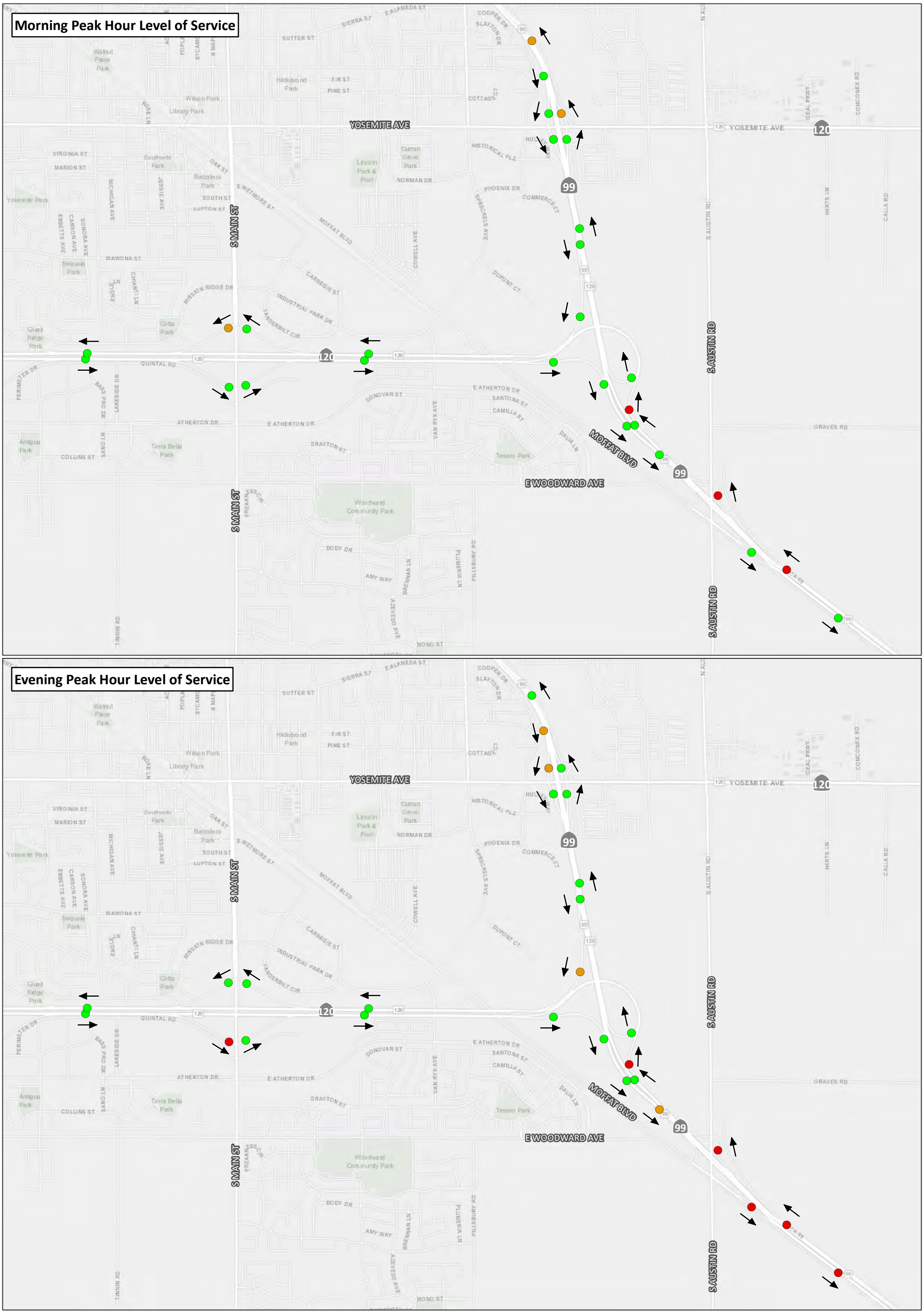
Northbound State Route 99 between Jack Tone Road and the westbound State Route 120 off-ramp, northbound State Route 99 off-ramp to Austin Road, and the northbound State Route 99 off-ramp to westbound State Route 120 are projected to degrade to level of service F conditions. The northbound State Route 99 on-ramp from Austin Road and the northbound State Route 99 on-ramp from eastbound State Route 120 would both operate at level of service E conditions.

Figure 2-7: Morning and Evening Peak Hour Freeway Level of Service – Design Year 2043 With Phase 1A Project Conditions indicates 23 of the 28 study segments are projected to operate at acceptable level of service conditions during the morning peak hour. Northbound State Route 99 between Jack Tone Road and Austin Road would continue to operate at level of service F conditions. The northbound State Route 99 off-ramp to Austin Road is projected to degrade to level of service F conditions. In addition, the northbound State Route 99 to westbound State Route 120 freeway-to-freeway ramp is projected to continue to operate at level of service F conditions. Implementation of Phase 1A of the project would improve the eastbound State Route 120 to southbound State Route 99 freeway-to-freeway ramp conditions from level of service E, under the no-project conditions, to level of service D. Closure of the southbound State Route 99 off-ramp to Austin Road, during Phase 1A, would also improve southbound State Route 99 from level of service E, under the no-project conditions, to level of service C. In addition, the construction of the two-lane eastbound State Route 120 to southbound State Route 99 freeway-to-freeway ramp would improve operations.

During the evening peak hour, 18 of the 28 study segments are project to operate at acceptable level of service conditions. With the closure of the southbound State Route 99 off-ramp to Austin Road, additional traffic would use the eastbound State Route 120 off-ramp to Main Street, resulting in the off-ramp continuing to operate at level of service F conditions. As seen during the morning peak hour design year 2043 with Phase 1A project conditions, construction of the two-lane eastbound State Route 120 to southbound State Route 99 freeway-to-freeway ramp would improve operations to acceptable level of service conditions.

The closure of the southbound State Route 99 off-ramp to Moffat Boulevard/Austin Road would result in southbound State Route 99 between the State Route 120 on-ramp and the Austin Road on-ramp to improve from level of service F (no project) to level of service C (with Phase 1A) conditions.

At the southbound State Route 99 Austin Road on-ramp, the freeway mainline would improve marginally from level of service F to level of service E conditions. Under design year 2043 with Phase 1A of the project, southbound State Route 99 would continue to operate at level of service F conditions between south of the Austin Road on-ramp to south of the Jack Tone Road interchange. Northbound State Route 99 would continue to operate at level of service F conditions from north of the Jack Tone Road interchange to and including the Austin Road off-ramp.



LEGEND

Freeway Lane Direction

Acceptable Level of Service (A-D)

Unacceptable Level of Service (E)

Unacceptable Level of Service (F)

0 1000 2000
FEET

FIGURE 2-7

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

AM and PM Peak Hour Freeway Level of Service - Design Year 2043 With Phase1A Project Conditions

SOURCE: ESRI World Light Gray Canvas (01/2019); Traffic Data - Based on Fehr & Peers (01/2019)

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Figure 2-8: Morning and Evening Peak Hour Freeway Level of Service – Design Year 2043 With Ultimate Project Conditions shows 27 of the 30 study segments are projected to operate at acceptable level of service conditions during the morning peak hour. The northbound State Route 99 off-ramp to Austin Road is projected to improve marginally from level of service F (no project) to level of service E (with ultimate project) conditions. Northbound State Route 99 between Jack Tone Road and the Austin Road off-ramp would continue to operate at level of service F conditions. Based on the results of the morning peak hour freeway mainline, off-ramp diverge, on-ramp merge and weaving sections analysis, the ultimate project (Phases 1A, 1B, and 1C buildout) meets the purpose and need of the project.

During the evening peak hour, 23 of the 30 study segments are projected to operate at acceptable level of service conditions. Northbound State Route 99 between Jack Tone Road and the Austin Road off-ramp would continue to operate at level of service F conditions. All other northbound State Route 99 study segments would operate at acceptable level of service conditions. No improvement from the design year 2043 no-project conditions would occur to the eastbound State Route 120 off-ramp to Main Street and the eastbound State Route 120 on-ramp from Main Street; both would continue to operate at level of service F and E conditions, respectively.

With construction of the southbound State Route 99 braided ramps and additional lanes on southbound State Route 99 between State Route 120 and the Austin Road overcrossing, southbound State Route 99 and the southbound State Route 99 on-ramp from Austin Road would marginally improve from unacceptable level of service F (no project) to level of service E (with ultimate project). Southbound State Route 99 is projected to continue to operate at level of service F conditions from south of the Austin Road on-ramp to south of the Jack Tone Road interchange. All other freeway study segments would operate at acceptable level of service conditions. Under the design year 2043 conditions, the ultimate project (Phases 1A, 1B, and 1C buildout) would construct enough capacity to serve projected demand volumes for the northbound State Route 99 off-ramp to westbound State Route 120.

Table 2-8: Intersection Analysis—Design Year No-Project, With Project Phase 1A, with Ultimate Project Morning/Evening Peak Hour Conditions shows the level of service conditions for the 12 study intersections during morning and evening peak hours for the design year no-project, design year with project Phase 1A, and design year with ultimate project buildout conditions (Phases 1A, 1B, and 1C buildout). Under the design year no-project scenario, seven intersections would operate at unacceptable level of service conditions during the morning peak hours, and seven intersections would operate at unacceptable level of service conditions during the evening peak hours.

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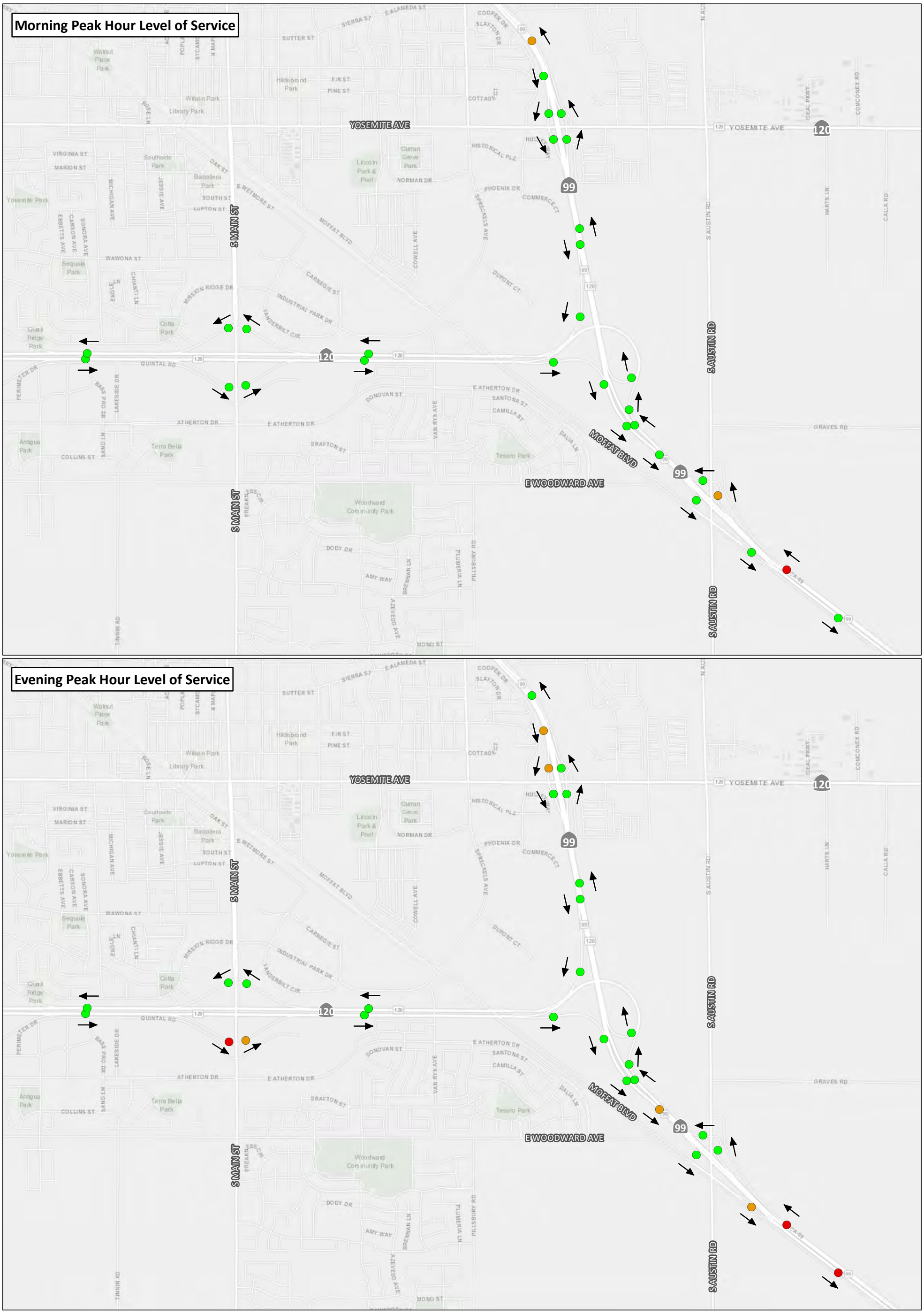

LEGEND

Freeway Lane Direction

Acceptable Level of Service (A-D)

Unacceptable Level of Service (E)

Unacceptable Level of Service (F)

0 1000 2000
FEET

FIGURE 2-8

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

AM and PM Peak Hour Freeway Level of Service - Design Year 2043 With Ultimate Project Conditions

SOURCE: ESRI World Light Gray Canvas (01/2019); Traffic Data - Based on Fehr & Peers (01/2019)

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Table 2-8: Intersection Analysis Design Year No-Project, with Project Phase 1A, with Ultimate Project Morning/Evening Peak Hour Conditions

Intersection	Design Year No-Project		Design Year with Project Phase 1A Conditions		Design Year with Ultimate Project Buildout	
	Morning Peak Hours LOS	Evening Peak Hours LOS	Morning Peak Hours LOS	Evening Peak Hours LOS	Morning Peak Hours LOS	Evening Peak Hours LOS
1. Westbound SR 120 Ramps/Main Street	**F**	**F**	**F (D)[1]**	**F (D)[1]**	**F (D)[1]**	**F(D)[1]**
2. Eastbound SR 120 Ramps/Main Street	**F**	**F**	**F (D)[1]**	**F (D)[1]**	**F (D)[1]**	**F(D)[1]**
3. Southbound SR 99 Ramps/Yosemite Avenue	C	C	D	**F**	C	C
4. Northbound SR 99 Ramps/Yosemite Avenue	D	D	**F**	**F**	D	D
5. Northbound SR 99 Ramps/Austin Road	**F**	**F**	**F[2]**	**F[2]**	C	C
6. Southbound SR 99 Off-Ramp/Moffat Boulevard	**F**	**F**	**F[2]**	**F[2]**	A	A
7. Moffat Boulevard/Austin Road	**F**	**F**	**F**	**F**	C	D
8. Moffat Boulevard/ Woodward Avenue	**F**	**F**	D	C	C	B
9. Frontage Road/Austin Road	**F**	**F**	**F**	**F**	B	C
10. Woodward/Main Street	B	C	**F**	**F**	B	C
11. Yosemite Avenue/Austin Road	C	D	**F**	**F**	C	**E**
15. Woodward Avenue/Moffat Boulevard	N/A	N/A	N/A	N/A	B	B

Source: Fehr and Peers, *Final Traffic Operations Analysis Report (DFTOAR) for the State Route 120/State Route 99 Improvement* Project, pgs. 35, 49, and 93 Tables 10 12, and 14 January 2019.

Notes: [1] Implementation of measures TRA-8 and TRA-9 would result in operational improvements at these two intersections during morning and evening peak hours, from level of service F to level of service D. If these measures are not implemented by the City, then these two intersections will continue to operate at unacceptable level of service F conditions.

[2] It should be noted that although these two intersections are showing a level of service F during this scenario, it is more than likely these intersections will be closed. If these intersections are not closed, than both of these intersections would operate at unacceptable level of service F conditions.

Bolded Letters and gray shaded cells denote unacceptable level of service conditions.

LOS = level of service

N/A = Not Applicable because intersection 15 does not exist under these scenarios.

SR = State Route

Under the design year with project Phase 1A scenario, nine intersections would operate at unacceptable level of service conditions during the morning peak hours and 10 intersections would operate at unacceptable level of service conditions during the evening peak hours. Under the design year with ultimate project buildout, two intersections would operate at unacceptable level of service conditions during the morning peak hours and three intersections would operate at unacceptable level of service conditions during the evening peak hours.

The following standard measure will be implemented during general construction activities:

TRA-1 The project will be required to prepare and implement a Traffic Management Plan to address short-term disruptions in existing circulation patterns during construction. The Traffic Management Plan will identify the locations of temporary detours and signage to facilitate local traffic patterns and through-traffic requirements. The Traffic Management Plan will also provide access plans for affected businesses and residential units that will be impacted by short-term and long-term road closures to ensure access to uses are still available during construction activities.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimizations measures were designed to avoid and minimize any potential impacts as a result of project construction or operation activities:

TRA-2 The project's special provisions of the highway contract will require that emergency service providers (i.e., law enforcement, fire protection, and ambulance services) be given adequate advance notice of any road closures during the construction phases of the project.

TRA-3 Construction activities will be coordinated by the project to avoid blocking or limiting access to residential units and businesses to the extent possible as applicable. Residents and business owners will be notified by the project in advance about potential access or parking effects prior to start of construction activities.

Construction Year 2023 with Phase 1A Project

TRA-4 To improve morning and evening peak hour operations at the eastbound State Route 120 off-ramp/Main Street intersection, the ramp will be widened by the City of Manteca to provide the following:

- A 400-foot eastbound State Route 120 off-ramp right-turn lane
- A 300-foot northbound Main Street right-turn

With these improvements, the eastbound State Route 120 off-ramp/Main Street intersection would improve from level of service E to level of service D conditions during the morning peak hour and improve from level of service F to level of service D conditions during the evening peak hour.

TRA-5 To improve morning peak hour operations at the Moffat Boulevard/Woodward Avenue intersection, the intersection will be improved by the project with the installation of a signal. With this improvement, the Moffat Boulevard/Woodward Avenue intersection would improve from level of service F to level of service C conditions during the morning peak hour.

TRA-6 To improve evening peak hour operations at the northbound State Route 99 ramps/Yosemite Avenue intersection, the intersection signal timings will be optimized and coordinated by the City of Manteca to provide additional green time for the eastbound Yosemite Avenue right-turn volume onto northbound State Route 99. With this improvement, the northbound State Route 99 ramps/Yosemite Avenue intersection would improve from level of service E to level of service D conditions during the evening peak hour under the construction year 2023.

TRA-7 To improve evening peak hour operations, the Moffat Boulevard connector/Austin Road, Moffat Boulevard/Woodward Avenue connector, and Woodward Avenue/Main Street will be improved by the City of Manteca with the installation of a signal. With this improvement, the Moffat Boulevard connector/Austin Road intersection would improve from level of service E to level of service C conditions during the evening peak hour; the Moffat Boulevard/Woodward Avenue connector intersection would improve from level of service F to level of service D conditions during the evening peak hour; and, the Woodward Avenue/Main Street intersection would improve from level of service F to level of service D conditions during the evening peak hour.

Design Year 2043 with Phase 1A Project

TRA-8 To improve the morning/evening peak hour operations at the eastbound State Route 120 off-ramp/Main Street intersection, the interchange will need to be reconstructed by the City of Manteca based on San Joaquin Council of Governments Regional Transportation Plan/Sustainable Communities Strategy Interchange Project List. This improvement would need

to be constructed by the City of Manteca prior to design year 2043 conditions. With this improvement, the eastbound State Route 120 off-ramp/Main Street intersection would improve from level of service F to level of service D conditions during the morning/evening peak hours.

Design Year 2043 with Ultimate Project (Phase 1A, Phase 1B, and Phase 1C buildout)

TRA-9 To improve the morning/evening peak hour operations at the State Route 120/Main Street intersections, the interchange would need to be reconstructed by the City of Manteca based on San Joaquin Council of Governments Regional Transportation Plan/Sustainable Communities Strategy Interchange Project List, see Section 1.3 Project Description. This improvement would be constructed by the City of Manteca before design year 2043 conditions. With the improvements, the State Route 120/Main Street intersections would improve from unacceptable level of service F to acceptable level of service D conditions during the morning/evening peak hours.

2.1.6 Visual/Aesthetics

Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and aesthetically (emphasis added) and culturally pleasing surroundings (42 U.S. Code 4331[b][2]). To further emphasize this point, the Federal Highway Administration, in its implementation of NEPA (23 USC 109[h]), directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state “with…enjoyment of aesthetic, natural, scenic and historic environmental qualities” (California Public Resources Code Section 21001[b]).

Affected Environment

The *Visual Impact Assessment* (as listed in the List of Technical Studies at the end of this document), dated April 2018, contributed to the information and analysis in this section.

The following neighbors were considered for the evaluation of the project:

- Residential units in neighborhoods to the south of State Route 120
- Rural residential units surrounding the project site in unincorporated San Joaquin County

The following highway users were considered for the evaluation of the project:

- Travelers along State Route 120 within and approaching the project
- Travelers along State Route 99 within and approaching the project

The project is located on State Route 99 between postmiles 3.1 to 6.2 and on State Route 120 between postmiles 5.1 to 7.2 in the County of San Joaquin, California near the City of Manteca. With the exception of elevated highway overpasses that provide sweeping, yet brief, panoramic views of the surrounding landscape, the proximate City of Manteca and San Joaquin County land is flat. The aesthetic qualities of the distant Sierra Nevada Mountains, Coast Range, Mount Boardman and Eagle Mountain provide a sense of enclosure among the vastness of the immediate flatlands that surround the project boundary. The landscape is characterized by agricultural production, primarily consisting of orchards and field crops, to the northeast, southeast and southwest. Urban land uses in the City of Manteca characterize the project vicinity to the northwest. State Route 99/120 is the physical dividing line between the City of Manteca's urbanity and the City's southeastern suburban and agricultural frontiers.

The project corridor is defined as the area of land that is visible from, adjacent to, and outside the highway right-of-way, and is determined by topography, vegetation, and viewing distance. General commercial and industrial land uses outline the urbanized portion of the project corridor west of State Route 99, while agriculture land uses surround the eastern edge of the State Route 99 project corridor and the southwest portion of the project corridor. Some residential units that border commercial and industrial land uses have distant views of the project site.

Environmental Consequences

The Build Alternative would result in minor changes to visual resources as measured by changes in visual character and visual quality. The Build Alternative would be slightly larger in scale than the roadway's existing conditions; however, overall visual character and visual quality will remain the same or improve slightly compared to existing conditions.

Most of the Build Alternative would be constructed within existing highway structures, including roadway widening and the addition of auxiliary lanes for on- and off-ramps. It is expected that the changes to the existing structures will go largely unnoticed by sensitive receptors in the area, including highway users and local residents.

Areas that would result in noticeable visual resource changes would be the State Route 99/Austin Road off-ramp, which would be larger than the existing ramp, and the Moffat Boulevard off-ramp from southbound State Route 99 to meet the extension of East Woodward Avenue. The changes to views as a result of the new elevated off-ramp and roadway would be minimal and located away from most area residences and businesses. There would not be a significant change to the vividness, intactness, and unity of the project area as a result of the State Route 99/Austin Road off-ramp, the extension of East Woodward Avenue, or the Moffat Boulevard elevated off-ramp.

Visual impacts are determined by assessing changes to the visual resources and predicting viewer response to those changes. The biggest view change would be the lengthening and increased elevation of Austin Road over the Union Pacific Railroad tracks. All roads except for Austin Road would remain at essentially the same elevation as in the existing conditions. Austin Road would be about 30 feet taller than the existing at-grade railroad crossing. The proposed Austin Road overpass would not return to the existing grade until 800 feet south of the Union Pacific Railroad tracks. Implementation of the project would result in the acquisition of two homes and relocation of residents along Austin Road south of the Union Pacific Railroad tracks.

On the north side of the freeway, Austin road is raised about 3 feet and returns to original grade at the intersection of the existing frontage road. This change would impact the views of neighbors living in the southwestern quadrant of the project's vicinity, as the increased height of the overcrossing could place the structure within the sightlines of some neighbors. This change would benefit neighbors by removing the existing at-grade crossing of Union Pacific Railroad tracks.

While the proposed lengthening and increased elevation of Austin Road poses a visual change, this slight visual change is a trade-off to designing a safer above-grade crossing for the Union Pacific Railroad tracks at Moffat Boulevard. To construct the new connector road between Austin Road and Woodrow Boulevard, a portion of an existing orchard would be removed. Most of the orchard would not be affected by the project and is anticipated to remain as orchard. Since land uses in the immediate vicinity of Austin Road would remain largely the same, scenic resources in view of the road would not be affected.

The project would require minor tree removal. Because the project site has few trees, this minor tree removal would not change the visual character of the area.

The project would require avoidance and minimization for potential noise impacts that would consist of a noise barrier along the south side of State Route 120 near an existing apartment complex. Existing views from these apartments toward the north, where noise barriers would be constructed, are

limited to State Route 120 in the foreground, agriculture and industrial in the middle ground, and urban development in the background. Installation of a noise barrier would obstruct these views for first-story residences in the complex. The noise barriers would be designed consistent with the City of Manteca and Federal Highway Administration design standards and would be only as tall as required to mitigate potential noise impacts. Because the visual quality for these residents is already low, installation of a noise barrier would not further impact the visual quality for the residents of the apartment complex.

In the context of low anticipated viewer response to the project, the minor level of visual changes resulting from the project would represent a low level of overall visual impact.

The *Visual Impact Assessment* concluded that the project would not substantially alter the aesthetics and character of the surrounding community as improvements are occurring on an existing facility. The project would be compatible with existing and planned land uses and would be similar in line, color, and texture as the existing structure. City and County participation in the project will ensure that acceptable architectural features and landscape design are incorporated into the design, consistent with related portions of the 2003 City of Manteca General Plan and San Joaquin County Wide General Plan 2035. Minimization measure AES-1 would ensure landscape improvements and planting are included in the project to reduce aesthetic impacts.

The City of Manteca does not identify or designate scenic routes within its jurisdiction. San Joaquin County designates Interstate 5 from the Sacramento County line south to Stockton as a designated scenic route; however, the City of Manteca is south of Stockton, and Interstate 5 is not visible from the project site. The project would not substantially damage scenic resources, trees, rock outcroppings, or historic buildings within a state scenic highway, as no scenic highways exist within the project area.

Exterior lighting and illuminated signage exist near the project area, and vehicular headlights from vehicles traveling on State Route 99, State Route 120 and nearby roads also serve as near-constant sources of light and glare. The project would not include new lighting elements in an area in which there is currently no lighting. Minimization measure AES-2 would help avoid or minimize any introduced light and glare during Phases 1A, 1B and 1C construction activities.

Avoidance, Minimization, and/or Mitigation Measures

Implementation of the following minimization measures would reduce adverse effects involving visual/aesthetic resources:

AES-1 The project will provide replacement highway planting, landscape improvements, and maintenance using recycled wastewater within the highway right-of-way at the Austin Road/State Route 99 interchange. These landscape improvements would be for a gateway feature at the Austin Road/State Route 99 interchange in accordance with the 2023 Manteca General Plan's Community Design Element. This would lessen aesthetic impacts of the project by providing a distinct, attractive gateway for the Austin Road/State Route 99 interchange, particularly in its position at the southeastern entrances to the City. Any highway planting will follow the Caltrans Highway Design Manual's Highway Planting Standards and Guidelines (Caltrans 2016).

AES-2 The project will limit all construction lighting to within the area of work and avoid light trespass through directional lighting, shielding, and other measures as needed.

2.1.7 Cultural Resources

Regulatory Setting

The term "cultural resources," as used in this document, refers to the "built environment" (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms including "historic properties," "historic sites," "historical resources," and "tribal cultural resources." Laws and regulations dealing with cultural resources include the following:

The National Historic Preservation Act of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 Code of Federal Regulations 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement (PA) among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer (SHPO), and Caltrans went into

effect for Caltrans projects, both state and local, with Federal Highway Administration involvement. The PA implements the Advisory Council on Historic Preservation's regulations, 36 Coder of Federal Regulations 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The Federal Highway Administration's responsibilities under the PA have been assigned to the Caltrans as part of the Surface Transportation Project Delivery Program (23 U.S. Code 327).

The California Environmental Quality Act (CEQA) requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as "unique" archaeological resources. California Public Resources Code Section 5024.1 established the California Register of Historical Resources and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the California Register of Historical Resources and, therefore, a historical resource. Historical resources are defined in Public Resources Code Section 5020.1(j). In 2014, Assembly Bill 52 (AB 52) added the term "tribal cultural resources" to CEQA, and AB 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in Public Resources Code Section 21074(a), a tribal cultural resource is a California Register of Historical Resources or local register eligible site, feature, place, cultural landscape, or object which has a cultural value to a California Native American tribe. Tribal cultural resources must also meet the definition of a historical resource. Unique archaeological resources are referenced in Public Resources Code Section 21083.2.

Public Resources Code Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the National Register of Historic Places listing criteria. It further requires Caltrans to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the National Register of Historic Places or are registered or eligible for registration as California Historical Landmarks. Procedures for compliance with Public Resources Code Section 5024 are outlined in a Memorandum of Understanding (MOU)[1] between Caltrans and California State Historic Preservation Officer, effective January 1, 2015. For most federal-aid projects on the State Highway System, compliance with the Section 106 PA will satisfy the requirements of Public Resources Code Section 5024.

[1] The MOU is on the Caltrans Standard Environmental Reference at http://www.dot.ca.gov/ser/vol2/5024mou_15.pdf

Affected Environment

The following information on cultural resources was obtained from the following reports that were prepared for the project: *State Route State Route 99/State Route 120 Interchange Improvements Project Historic Property Survey Report*; *State Route 99/State Route 120 Interchange Improvements Project Historical Resources Evaluation Report*, and the *State Route 99/State Route 120 Interchange Improvements Archaeological Survey Report* (as listed in the List of Technical Studies at the end of this document).

Two areas of potential effect were delineated for purposes of this project: an Archaeological area of potential effect and a Built Environment area of potential effect. The Archaeological area of potential effect was established as all areas that will be directly affected by the project's proposed ground-disturbing activities, while the Built Environment area of potential effect was established as including all built environment resources constructed over 45 years ago that were not exempt per the Section 106 PA and that have the potential to be directly affected or indirectly affected by the project.

One previously recorded built environment cultural resource in the Built Environment area of potential effect was identified as the Southern Pacific San Joaquin Valley Mainline (P-39-000002/CA-SJO-250H). Segments of this railroad, including a segment within the area of potential effect, have been evaluated as not eligible for listing in the National Register of Historic Places or the California Register of Historical Resources in the past; the State Historic Preservation Office concurred with these findings on January 10, 2019. This resource as a whole, which stretches from Lathrop to Ripon, would not be adversely affected by the project. Removing and widening the at-grade crossings would not result in a substantial change to this resource.

During area of potential effect delineation, 19 parcels containing built environment cultural resources over 45 years old were identified adjacent to or within the project footprint. Coordination with the Project Design Team concluded that 11 of the 19 built environment cultural resources would not be adversely affected by the project because they were set back far enough from the footprint, and/or they were screened by vegetation or other development; therefore, these parcels were excluded from the area of potential effect. Consistent with the Section 106 PA, two of the remaining eight parcels in the area of potential effect did not require evaluation.

The Built Environment area of potential effect contains the project footprint and the six parcels that contain built environment cultural resources over 45 years old that were evaluated for listing in the National Register of Historic Places and the California Register of Historical Resources. Of the six built environment resources evaluated, none appear eligible for listing in the National Register of Historic Places or the California Register of Historical Resources under any qualifying criteria.

Regarding archaeological resources, during the field survey of the area of potential effect, field staff found one piece of white improved earthenware, fragments of large mammal cancellous bone, and a refuse scatter of modern glass and ceramic dishes found in Assessor's Parcel Number (APN) 228-060-08. Eleven water conveyance features associated with agricultural use within APN 224-050-15 were found and documented. The field staff identified water standpipes associated with agricultural use within APN 224-050-15 and a single piece of white improved earthenware in isolated context within a recently harvested and disked wheat field in APN 228-060-08.

The area of potential effect contains soils classified as moderate to high in sensitivity for encountering buried precontact archaeological deposits; however, this potential has been affected by decades of ranching and farming activities.

No potential Section 4(f) properties were identified within the project vicinity.

Environmental Consequences

Nineteen parcels containing built environment cultural resources over 45 years old were identified adjacent to or within the project footprint. Based on the design of the proposed project, it was determined that 11 of the 19 built environment cultural resources would not be adversely affected by the project because they were set back far enough from the footprint, and/or they were screened by vegetation or other development. Two of the remaining eight parcels in the area of potential effect did not require evaluation because they met the Section 106 exemption criteria as Property Type 3: Buildings so altered as to appear less than 30 years old, or Property Type 1: Minor, ubiquitous, or fragmentary infrastructure elements (mobile homes).

The remaining six parcels contained built environment cultural resources over 45 years old that were evaluated for listing in the National Register of Historic Places and California Register of Historical Resources to determine if implementation of the project would affect these resources. The analysis results concluded that of the six built environment resources evaluated, none appear eligible for listing in the National Register of Historic Places or the California Register of Historical Resources under any qualifying criteria. SHPO has concurred with these findings and documentation of SHPO concurrence is provided in Appendix E. Therefore, implementation of the project would not impact built environment cultural resources during construction Phases 1A, 1B, and 1C and project operation.

The following standard measures would avoid impacts to cultural resources within the area of potential effect:

CULT-1 Prior to any ground disturbance, a qualified archaeologist will conduct a preconstruction meeting to orient the construction crew to the potential for encountering prehistoric archaeological

deposits during construction. This instructional meeting will also include a discussion of the types of artifacts that could be encountered and the steps to take upon discovery to avoid inadvertent impacts to such finds.

CULT-2 If cultural materials are discovered during construction, all earth-moving activity within 60 feet of the find will be diverted until a qualified archaeologist can assess the nature and significance of the find. If the cultural materials are Native American in origin, Native American groups would be contacted.

CULT-3 If human remains are encountered during project construction activities, the project will comply with the requirements of California Health and Safety Code Section 7050.50. There will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of San Joaquin County has determined the manner and cause of any death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his/her authorized representative. At the same time an archaeologist will be contacted to assess the situation and consult with agencies as appropriate. Project personnel/construction workers will not collect or move any human remains and associated materials. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendent to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. At this time, the person who discovered the remains will contact Ben Elliot, Acting Senior Environmental Planner, Northern San Joaquin Valley Cultural Resources Branch, (209) 942-6191, so he may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed as applicable.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance, minimization, and/or mitigation measure is required for project effects involving cultural resources.

CULT-1 Prior to any ground disturbance, a qualified archaeologist will conduct a preconstruction meeting to orient the construction crew to the potential for encountering prehistoric archaeological deposits during construction. This instructional meeting will also include a discussion of the types of artifacts that could be

encountered and the steps to take upon discovery to avoid inadvertent impacts to such finds.

2.2 Physical Environment

2.2.1 Hazardous Waste and Materials

Regulatory Setting

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, and the Resource Conservation and Recovery Act (RCRA) of 1976. The purpose of the Comprehensive Environmental Response, Compensation and Liability Act, often referred to as “Superfund,” is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. The Resource Conservation and Recovery Act provides for “cradle to grave” regulation of hazardous waste generated by operating entities. Other federal laws include the following:

- Community Environmental Response Facilitation Act of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act
- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition to the acts above, Executive Order 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the California Health and Safety Code and is also authorized by the federal government to implement the Resource Conservation and Recovery Act in the state. California law also addresses specific handling,

storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.

Affected Environment

An *Initial Environmental Site Assessment,* dated December 10, 2018, and an *Aerially Deposited Lead Assessment*, dated February 2018, (both listed in the List of Technical Studies at the end of this document) were prepared for the project and contribute to the following analysis.

Historical uses of the project site and existing structures indicate the potential presence of site contamination by aerially deposited lead (ADL), asbestos-containing material, and lead-based paint. Most of the project site was occupied by agricultural uses in the past, so on-site soils are likely impacted with hazardous levels of pesticides, herbicides, and arsenic. The project site has also been historically occupied (since the early 20th century) by railroad tracks. Soils surrounding railroad tracks are often impacted with elevated levels of metals, petroleum hydrocarbons, and polyaromatic hydrocarbons.

The Phase I report prepared for the project identified four recognized environmental conditions (REC) that could potentially result in the release of hazardous materials during project construction.

The REC-1 identified as part of the Phase 1 report indicated that State Route 99, Moffat Boulevard, and Austin Road have supported vehicular activity since the early 20th century, so it is likely that the surface soils around these roads could potentially be contaminated with aerially deposited lead. An aerially deposited lead site investigation occurred in January 2017 and concluded that soil in this area is Soil Type “X-Non-hazardous Waste.” This type of soil will not be subject to management under the conditions of the Caltrans Variance; however, construction contractor notification will be required and preparation of a Lead Compliance Plan for worker safety will be required.

The REC-2 identified that the Austin Road overpass structure and surrounding areas may have surface markings and signs that contain asbestos-containing materials and lead-based paint. These materials will

need to be surveyed for asbestos-containing materials and lead-based paint as necessary prior to demolition or renovation to ensure the safety of construction workers.

The REC-3 identified that properties along the project right-of-way have been in agricultural use since the 1930s, so it is likely the soil in these areas have been impacted with hazardous levels of pesticides, herbicides, and arsenic.

REC-4 identified the presence of railroad tracks in the project area since the early 20th century. Soils surrounding rail tracks often have elevated levels of metals, petroleum hydrocarbons and polyaromatic hydrocarbons; all of which could be hazardous to construction workers who are exposed to these chemicals.

A follow-up investigation for REC-3 and REC-4 occurred in July 2018 to determine potential effects to soils from agricultural and railroad use in the project area. The investigation concluded that most of the soils within the project site can be used in an unrestricted manner except in two places. Soils at the intersection of the Woodward Avenue/Railroad right-of-way and the Austin Road/Railroad right-of-way exceed the residential limit for unrestricted land use; however, the soils in this area meet the commercial/industrial thresholds associated with lead and petroleum hydrocarbons.

Environmental Consequences

The project area may have soil affected by deposition of aerially deposited lead, pesticides, herbicides and arsenic (from past agricultural uses); they may have surface markings and signs that contain asbestos-containing materials and lead-based paint. The Initial Site Assessment indicated that if surface soils are disturbed, testing should be done to determine the levels of these hazardous materials and a work plan would be prepared in the event testing determines levels exceed standards. The project site has been occupied by railroad tracks; soils near such facilities have the potential to have elevated levels of metals petroleum hydrocarbons and polyaromatic hydrocarbons. If work encroaches on railroad right-of-way, a work plan will be developed to characterize the soils in the disturbance areas and the soils will be managed based on findings in accordance with state and federal regulations. Other than the findings noted above, environmental areas of concern regarding hazardous waste and materials were not identified.

As excavation during construction could reveal unknown hazardous materials or contamination (asbestos-containing materials, lead-based paint, pesticides, herbicides, and arsenic) of soils, implementation of avoidance and minimization measures **HAZ-1** through **HAZ-4** would be necessary.

Federal and state agency regulatory lists were reviewed to identify the presence of hazardous waste sites near the project. Most of the hazardous waste sites identified were either closed, down- or cross-gradient, or too far

up-gradient to pose an impact to the project site or construction workers on the project site.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures are required for project effects involving hazardous waste and materials.

HAZ-1 Structures/Buildings constructed prior to 1989 may have been constructed using asbestos-containing materials. The project will conduct asbestos surveys using a certified consultant prior to any modification to or demolition to accommodate the planned construction.

HAZ-2 Structures/Buildings constructed prior to 1978 are presumed to contain lead-based paints. The project will conduct lead-based paint surveys using a certified consultant prior to modifications/ demolition of structures that may be altered or demolished to accommodate the planned construction.

HAZ-3 Wood guardrail posts may have been treated with a chemical preservative to protect the wood from decay. Per Department of Toxic Substances Control Board regulations, Treated Wood Waste may be handled as a solid waste and testing and sampling of Treated Wood Waste is not required. The project will follow this guidance along with Caltrans specifications in the disposal of Treated Wood Waste.

HAZ-4 To avoid impacts from pavement striping during construction, it is recommended that testing and removal requirements for yellow striping and pavement marking materials be performed by the project in accordance with Caltrans Standard Special Provision 14-11.12 - Remove Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue.

2.2.2 Air Quality

Regulatory Setting

The Federal Clean Air Act, as amended, is the main federal law that governs air quality; the California Clean Air Act is its companion state law. These laws, and related regulations by the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board, set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM)—which is broken down for regulatory purposes into particles of 10

micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$)—and sulfur dioxide (SO_2). In addition, national and state standards exist for lead (PB), and state standards exist for visibility-reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under NEPA. In addition to this environmental analysis, a parallel "conformity" requirement under the Federal Clean Air Act also applies.

Conformity

The conformity requirement is based on Federal Clean Air Act Section 176(c), which prohibits the U.S. Department of Transportation and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to State Implementation Plan for attaining the NAAQS. "Transportation conformity" applies to highway and transit projects and takes place on two levels: the regional (or planning and programming) level and the project level. The project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and "maintenance" (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. U.S. EPA regulations at 40 Code of Federal Regulations 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas (though not in California), sulfur dioxide (SO_2). California has nonattainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO_2, and also has a nonattainment area for lead (Pb); however, lead is not currently required by the Federal Clean Air Act to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans and FTIPs that include all transportation projects planned for a region over a period of at least 20 years (for the Regional Transportation Plan) and 4 years (for the Federal Transportation Improvement Program). Regional Transportation Plan and Federal Transportation Improvement Program conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the Federal

Clean Air Act and the State Implementation Plan are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration, and Federal Transit Administration (FTA) make the determinations that the Regional Transportation Plan and Federal Transportation Improvement Program are in conformity with the State Implementation Plan for achieving the goals of the Federal Clean Air Act. Otherwise, the projects in the Regional Transportation Plan and/or Federal Transportation Improvement Program must be modified until conformity is attained. If the design concept and scope and the "open-to-traffic" schedule of a proposed transportation project are the same as described in the Regional Transportation Plan and Federal Transportation Improvement Program, then the project meets regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that the project comes from a conforming Regional Transportation Plan and FTIP; the project has a design concept and scope that has not changed significantly from those in the Regional Transportation Plan and FTIP; project analyses have used the latest planning assumptions and EPA-approved emissions models; and in particulate matter areas, the project complies with any control measures in the State Implementation Plan. Furthermore, additional analyses (known as hot-spot analyses) may be required for projects located in carbon monoxide and particulate matter nonattainment or maintenance areas to examine localized air quality impacts.

California Environmental Quality Act

CEQA is a statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. CEQA documents address California Clean Air Act requirements for transportation projects. While state standards are often more strict than federal standards, the state has no conformity process.

Local

The EPA has delegated responsibility to air districts to establish local rules to protect air quality. Caltrans' Standard Specification 14-9.02 (Caltrans, 2018) requires compliance with all applicable air quality laws and regulations including local and air district ordinances and rules.

The San Joaquin Valley Air Pollution Control District jurisdiction covers an eight-county area of California's Central Valley consisting of San Joaquin County, Stanislaus County, Merced County, Madera County, Fresno County, Kings County, Tulare County, and the San Joaquin Valley Air Basin portion of Kern County. The San Joaquin Valley Air Pollution Control District prepares regional strategies to attain and maintain air quality conditions though a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The

district has prepared the following plans to address regional nonattainment of criteria pollutant standards. **Table 2-9: San Joaquin Valley Air Pollution Control District Air Quality Plans** show the plans of the district.

Table 2-9: San Joaquin Valley Air Pollution Control District Air Quality Plans

Plan Title	Applicable Standard
2005 CO Redesignation Request and Maintenance Plan	8-Hour CO NAAQS (1971)
2007 PM_{10} Maintenance Plan	24-Hour PM_{10} NAAQS (2006)
2012 $PM_{2.5}$ Plan	24-Hour $PM_{2.5}$ NAAQS (2006)
2013 Plan for the Revoked 1-Hour Ozone Standard	1-Hour O_3 NAAQS (Revoked 2005)
2015 Plan for the 1997 $PM_{2.5}$ Standard	24-Hour and Annual $PM_{2.5}$ NAAQS (1997)
2016 Ozone Plan for the 2008 8-Hour Ozone Standard	8-Hour O_3 NAAQS (2008)
2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard	24-Hour and Annual $PM_{2.5}$ NAAQS (2012)

Source: *Air Quality Report State Route 99/State Route 120 Interchange Connector Project*, prepared by Terry A. Hayes Associates Inc., Caltrans, March 2019.

In addition to the regional air quality plans supporting the State Implementation Plan, the San Joaquin Valley Air Pollution Control District has published a book of Rules and Regulations that control activities involving various sources of air pollution. The district's rule book is topically divided into nine regulations; the most relevant for the proposed project is Regulation VIII – Fugitive PM_{10} Prohibition. Regulation VIII outlines fugitive dust emission control techniques and strategies to reduce ambient concentrations of PM_{10} by requiring actions to prevent, reduce, or mitigate fugitive dust emission sources such as construction, demolition, excavation, other earthmoving activities, bulk materials, carryout and trackout, open areas, paved and unpaved roads, unpaved vehicle/equipment traffic areas, and agricultural sources. Construction of the project will be subject to compliance with all applicable provisions of Regulation VIII.

Construction of the project will also be subject to Rule 9510 Indirect Source Review (ISR), under Regulation IX – Mobile and Indirect Sources. The Indirect Source Review rule applies to residential, commercial, and industrial land use projects, as well as transportation and transit projects whose construction exhaust emissions will result in a total of two tons per year of Nitrogen oxides (NO_X) or PM_{10}. The Indirect Source Review rule seeks to reduce the growth in NO_X and PM_{10} emissions associated with construction and operation of new development, transportation and transit projects in the San Joaquin Valley.

Rule 9510 requires implementation of control measures to mitigate construction-related NO_X and PM_{10} emissions from roadway projects in excess of 2.0 tons of annual exhaust emissions. Transportation or transit projects exceeding 2.0 tons of construction-related exhaust NO_X or PM_{10} emissions are required to reduce NO_X emissions by 20 percent and PM_{10} exhaust emissions by 45 percent compared to the statewide fleet average.

Affected Environment

The Air Quality Report (as listed in the List of Technical Studies at the end of this document), dated March 2019, contributed to the information and analysis in this section.

The project lies in and near the City of Manteca in San Joaquin County, an area within the San Joaquin Valley Air Basin, which includes San Joaquin County, Stanislaus County, Merced County, Madera County, Fresno County, Kings County, Tulare County, and the San Joaquin Valley Air Basin portion of Kern County. Air quality regulation in the San Joaquin Valley Air Basin is administered by the San Joaquin Valley Air Pollution Control District.

The current population of San Joaquin County is 746,868. The population is projected to reach 1,050,000 in 2042. The county's economy is largely driven by manufacturing, healthcare, transportation, warehousing, agriculture, the Port of Stockton, and educational and government services.

The topography and meteorology of the San Joaquin Valley provide ideal conditions for trapping air pollution for long periods of time and producing harmful levels of air pollutants, including O_3 and particulate matter. Low precipitation levels, cloudless days, high temperatures, and light winds during the summer in the San Joaquin Valley are conducive to high O_3 levels resulting from the photochemical reaction of NO_X and volatile organic compounds (VOC). Inversion layers in the atmosphere during the winter can trap emissions of directly emitted $PM_{2.5}$ and $PM_{2.5}$ precursors (such as NO_X and SO_2) within the San Joaquin Valley for several days, accumulating to unhealthy levels.

Table 2-10: State and Federal Attainment Status lists the state and federal attainment status for all regulated pollutants. Under the federal standards, the project area is designated nonattainment-extreme for the 8-hour O_3 standard and nonattainment-moderate for the $PM_{2.5}$ standard. The project area is designated attainment for the PM_{10} standard and attainment/unclassified for CO, NO_2, and SO_2. Under the state standards, the project area is designated nonattainment for the 1-hour O_3 standard, the 8-hour O_3 standard, the PM_{10} standards and the $PM_{2.5}$ standards. Under the state standards, the project area is designated attainment for the standards for CO, NO_2, SO_2, Pb, sulfates, and vinyl chloride, and the project area is designated unclassified for the Visibility-Reducing Particles (VRP) and Hydrogen Sulfide (H_2S) standards.

Table 2-10: State and Federal Attainment Status

Pollutant	State Attainment Status	Federal Attainment Status
Ozone (O_3)	1 Hour: Nonattainment-Severe 8-Hour: Nonattainment	1-Hour: Revoked in 2005 8-Hour: Nonattainment-Extreme
Respirable Particulate Matter (PM_{10})	Nonattainment	Attainment
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Nonattainment-Moderate
Carbon Monoxide (CO)	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide (NO_2)	Attainment	Attainment/Unclassified
Sulfur Dioxide (SO_2)	Attainment	Attainment/Unclassified
Lead (Pb)	Attainment	No Designation/Classification
Visibility-Reducing Particles	Unclassified	N/A
Sulfates	Attainment	N/A
Hydrogen Sulfide	Unclassified	N/A
Vinyl Chloride	Attainment	N/A

Source: Air Quality Report State Route 99/State Route 120 Interchange Connector Project, prepared by Terry A. Hayes Associates Inc., Caltrans, March 2019.
N/A = Not Applicable

Air quality conditions in the project area are most accurately characterized by ambient pollutant concentrations measured at monitoring stations in Manteca (PM_{10} and $PM_{2.5}$) and Stockton (O_3, CO, NO_2). The Manteca air quality monitor sits about 3 miles northwest of the project area and is the closest monitoring station, but it is equipped to monitor concentrations only of PM_{10} and $PM_{2.5}$. Concentrations of O_3, CO, and NO_2 are supplemented using data from the Stockton monitor, which is about 12 miles north of the project area.

Table 2-11: Air Quality Concentrations for the Past Five Years Measured at Manteca lists air quality trends in data collected at Manteca for the past five years and **Table 2-12: Air Quality Concentrations for the Past Five Years Measured at Stockton** lists air quality trends in data collected at Stockton for the past five years. Data from 2017 was not available at the time of report preparation. The air quality monitoring data presented in these tables is consistent with the nonattainment designations for O_3 and particulate matter.

Table 2-11: Air Quality Concentrations for the Past Five Years Measured at Manteca

Pollutant	Standard	2012	2013	2014	2015	2016
PM_{10}						
Max 24-hr concentration ($\mu g/m^3$)		138.6	140.1	109.0	107.3	71.7
No. days exceeded: State Federal	50 $\mu g/m^3$ 150 $\mu g/m^3$	N/A 0	N/A 0	N/A 0	N/A 0	N/A 0
Annual Average concentration $\mu g/m^3$		25.8	32.9	29.6	28.9	24.8
Exceed State Standard?	20 $\mu g/m^3$	Yes	Yes	Yes	Yes	Yes
$PM_{2.5}$						
Max 24-hr concentration ($\mu g/m^3$)		48.3	53.5	51.7	62.1	50.8
No. days exceeded: Federal	35 $\mu g/m^3$	4	15	10	16	5
Annual average concentration ($\mu g/m^3$)		8.2	11.6	9.8	12.6	9.8
Standard Exceeded? State Federal	12 $\mu g/m^3$ 12.0 $\mu g/m^3$	No No	No No	No No	Yes Yes	No No

Source: Air Quality Report State Route 99/State Route 120 Interchange Connector Project, prepared by Terry A. Hayes Associates Inc., Caltrans, March 2019.
Notes: $\mu g/m^3$ = micrograms
N/A = Not Applicable

Table 2-12: Air Quality Concentrations for the Past Five Years Measured at Stockton

Pollutant	Standard	2012	2013	2014	2015	2016
Ozone						
Max 1-hr concentration (ppm)		0.097	0.080	0.090	0.094	0.102
No. days exceeded: State	0.09 ppm	1	0	0	1	2
Max 8-hr concentration (ppm)		0.083	0.067	0.077	0.078	0.078
No. days Exceeded: State Federal	0.070 ppm 0.070 ppm	5 5	0 0	4 4	2 2	2 2
Carbon Monoxide						
Max 1-hr concentration (ppm)_		3.0	2.7	2.9	2.4	1.8
No. days exceeded: State Federal	20 ppm 35 ppm	0 0	0 0	0 0	0 0	0 0
Max 8-hr concentration (ppm)		1.8	1.8	2.1	1.5	1.3
No. days exceeded: State Federal	9.0 ppm 9.0 ppm	0 0	0 0	0 0	0 0	0 0
Nitrogen Dioxide						
Max 1-hr concentration (ppm)		0.078	0.062	0.067	0.058	0.064
No. days exceeded: State Federal	0.18 ppm 0.10 ppm	0 0	0 0	0 0	0 0	0 0
Annual average concentration (ppm)		0.014	0.015	0.013	0.011	0.012
Standard Exceeded? State Federal	0.030 ppm 0.053 ppm	No No	No No	No No	No No	No No

Source: Air Quality Report State Route 99/State Route 120 Interchange Connector Project, prepared by Terry A. Hayes Associates Inc., Caltrans, March 2019.
Notes: ppm = parts per million

Sensitive receptors that could be exposed to air quality emissions during project construction and operation are located nearby. The land uses where these sensitive receptors are located have been grouped into subareas (Areas A through I) and their distances from the project site range from as close as 40 feet to as far as 670 feet.

Environmental Consequences

SJCOG adopted the Final 2019 Federal Transportation Improvement Program (FTIP) Amendment 4 (2019 FTIP Amendment 4) and 2018 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) Amendment 1 (2018 RTP/SCS Amendment 1) and 2015 Ozone Conformity Analysis for the 2018 RTP/2019 FTIP as amended on June 28, 2018. The proposed project is listed in the SJCOG's 2018 financially constrained RTP/SCS Amendment 1 which was found to conform by SJCOG on September 20, 2018 and FHWA and FTA made a regional conformity determination finding on December 17, 2018. The project is included in the financially constrained 2019 FTIP Amendment 4, under RTP MPO IDs SJ14-1004, SJ18-1002, and SJ18-1003. The 2019 FTIP Amendment 4 is anticipated to be determined to conform by FHWA and FTA by May 29, 2019. The design concept and scope of the proposed project is consistent with the project description in the 2018 RTP/SCS Amendment 1, 2019 FTIP Amendment 4, and the "open to traffic" assumptions of the SJCOG's regional emissions analysis.

Air pollution emissions associated with the project would occur over the short term from construction activities. **Table 2-13: Construction Emissions Estimates** shows the daily and total construction emissions estimates during different construction activities while the project is being developed.

Table 2-13: Construction Emissions Estimates

Phase	PM_{10}	$PM_{2.5}$	CO	NO_x
Daily Emissions (pounds per day, tons per day CO_2)				
Land Clearing/Grubbing	101.5	21.8	17.7	27.7
Excavation/Grading	103.7	23.4	39.5	65.3
Subgrade/Drainage/Utilities	101.5	22.1	31.6	27.0
Structures	1.5	1.4	40.4	32.1
Paving	1.6	1.2	23.8	27.1
Maximum Daily (pounds, tons CO_2)	**103.7**	**23.4**	**40.4**	**65.3**
Total Exhaust Emissions (tons, metric tons CO_2)				
Land Clearing/Grubbing	< 0.1	<0.1	0.2	0.3
Excavation/Grading	0.2	0.1	2.2	3.6
Subgrade/Drainage/Utilities	< 0.1	<0.1	0.7	0.6
Structures	0.4	0.4	10.1	8.5
Paving	0.1	0.1	2.1	2.4
Project Total (tons, metric tons CO_2)	**0.8**	**0.7**	**15.30**	**15.40**

Source: Air Quality Report State Route 99/State Route 120 Interchange Connector Project, prepared by Terry A. Hayes Associates Inc., Caltrans, March 2019.
Notes: CO_2 = carbon dioxide

Table 2-13 indicates that implementation of the project would exceed the requirements of San Joaquin Valley Air Pollution Control District's Rule 9510, Indirect Source Review, as construction emissions of NO_x resulting from excavation/grading and paving are in excess of 2.0 tons per year. Under the San Joaquin Valley Air Pollution Control District's Rule 9510, transportation or transit projects where construction exhaust emissions equal or exceed 2.0 tons of NO_x or PM_{10} emissions are required to reduce NO_x emissions by 20 percent and PM_{10} emissions by 45 percent, compared to the statewide fleet average. Minimization measures described below will be included as part of the project design to reduce or minimize air pollutant emissions associated with construction during Phases 1A, 1B and 1C.

Operational emissions were calculated for the project using CT-EMFAC2014, which contains a comprehensive emissions inventory of motor vehicles that provides estimated emissions rates for air pollutants. **Table 2-14: Summary of Comparative Emissions Analysis** shows emissions under existing conditions and 2023 and 2043 for the no-build project and proposed project. Emissions decrease in 2023 and 2043 with the project compared to the existing conditions mostly due to fleet turnover and improvements in exhaust controls. When the project is compared with the no-build project, the project would result in slight reductions in daily criteria pollutant emissions because of improved traffic flow, except for CO and particulate matter in 2043. The minor increase in daily CO emissions is associated with the overall increase in vehicle miles traveled (VMT) throughout the project area resulting from

reconfiguration of the State Route 99/State Route 120 connector. The marginal increase in daily particulate matter emissions in 2043 is attributed to increases in brake and tire wear associated with the expanded capacity and annual average daily traffic count.

Table 2-14: Summary of Comparative Emissions Analysis

Scenario/ Analysis Year	CO (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)	NO_x (surrogate for NO_2) (lbs/day)
Existing Conditions – 2017	1,149.1	63.7	30.0	706.6
No-Build Alternative – 2023	808.9	74.8	31.3	308.7
Project – 2023	759.6	70.5	29.5	289.1
No-Build Alternative – 2043	434.9	81.6	33.0	100.5
Project	440.8	82.8	33.5	98.4

Source: Air Quality Report State Route 99/State Route 120 Interchange Connector Project, prepared by Terry A. Hayes Associates Inc., Caltrans, March 2019, pg. 38.
Notes: lbs/day = pounds per day

The results provided in **Table 2-14** indicate that the project would not affect long-term emissions because emissions generated by the project would not exceed emissions standards.

The project was analyzed for CO hot-spots according to the Caltrans CO protocol, which complies with Section 176(c) of the 1990 Federal Clean Air Act Amendments, federal conformity rules, state and local adoptions of the federal conformity rules, and CEQA requirements (California Code of Regulations Title 21 Section 1509.3(25)). According to the CO protocol results, the project is satisfactory, and no further quantitative analysis is needed. The project would not be expected to create a CO hot-spot, so the project has demonstrated project-level conformity for CO.

The project was analyzed for particulate matter hot-spots based on the *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas* released by the EPA in November 2015. The project has undergone interagency consultation regarding a project of air quality concern (POAQC) determination and the interagency consultation participants concurred that the project is not a project of air quality concern on October 12, 2018. The project is not a project of air quality concern because it does not meet the definition stated in the EPA's Transportation Conformity Guidance; therefore, particulate matter hot-spot analysis is not warranted.

In October 2016, the Federal Highway Administration released updated guidance for determining when and how to address mobile source air toxics (MSAT) analysis under NEPA. As the 2043 with project conditions would have an annual average daily traffic count above 140,000, the project has the potential for meaningful differences in mobile source air toxics emissions when compared to the No-Build Alternative. Therefore, the level of emissions for the highest priority mobile source air toxics was evaluated. **Table 2-15: Summary of Comparative MSAT Emissions Analysis** provides the results of the modeling for mobile source air toxics emissions during existing conditions, no-build and project in 2023 conditions, and no-build and project in 2043 conditions.

Table 2-15: Summary of Comparative MSAT Emissions Analysis

Scenario/Analysis Year	1,3-butadiene (pounds per day)	Acetaldehyde (pounds per day)	Acrolein (pounds per day)	Benzene (pounds per day)	Diesel PM ((pounds per day)	Formaldehyde (pounds per day)	Naphthalene (pounds per day)	Polycyclic Organic Matter (pounds per day)
Existing Conditions (2017)	0.33	1.42	0.07	1.61	7.36	3.33	0.05	0.08
No-Build (2023)	0.22	0.79	0.05	1.06	1.54	1.92	0.03	0.05
Project (2023)	0.21	0.74	0.04	0.99	1.45	1.79	0.03	0.04
No-Build (2043)	0.14	0.57	0.03	0.68	0.87	1.35	0.02	0.03
Project (2043)	0.14	0.56	0.03	0.68	0.87	1.32	0.02	0.03

Source: Air Quality Report State Route 99/State Route 120 Interchange Connector Project, prepared by Terry A. Hayes Associates Inc., Caltrans, March 2019, pg. 42.

The project would marginally reduce daily emissions for all mobile source air toxic compounds relative to existing conditions and the No-Build Alternative (in 2023 and 2043); therefore, the project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in mobile source air toxics impacts based on vehicle miles traveled, vehicle mix, and speed. Construction activities will last for more than 5 years. Construction-related emissions have been included in any hot spot analysis performed for conformity purposes, and have been included in the regional conformity analysis (40 CFR 93.123(c)(5)).

The project is included in the San Joaquin Council of Governments Year 2018 Regional Transportation Plan, and the associated Air Quality Conformity Analysis verifies that the Regional Transportation Plan and the 2019 Transportation Improvement Plan conform with the latest EPA transportation conformity regulations and the conformity State Implementation Plan. There is no potential for the project to interfere with air quality plans that are designed to reduce cumulative air quality impacts in the project area.

Avoidance, Minimization, and/or Mitigation Measures

Implementation of the following minimization measures would reduce adverse effects involving air quality:

AQ-1 The following measures will be implemented by the project during construction activities:

- The construction contractor must comply with Caltrans' Standard Specifications in Section 14-9 (2018).
  - Section 14-9-02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.
- Water or a dust palliative will be applied to the site and equipment as often as necessary to control fugitive dust emissions.
- Soil binder will be spread on any unpaved roads used for construction purposes, and on all project construction parking areas.
- Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions.
- Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by Code of Regulations Title 17, Section 93114.
- A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely re-vegetation of disturbed slopes as needed to minimize construction impacts to existing communities.
- Equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly.
- Environmentally sensitive areas will be established near sensitive air receptors. Within these areas, construction

activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible.

- Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, will be used.
- All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust during transportation.
- Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to reduce particulate matter emissions.
- To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.
- Mulch will be installed or vegetation planted as soon as practical after grading to reduce windblown particulate matter in the area.

AQ-2 Prepare and implement a dust control plan to comply with San Joaquin Valley Air Pollution Control District's Regulation VIII requirements to control construction emissions of PM_{10}. To control the generation of construction-related PM_{10} emissions, the project construction contractors will prepare and submit for approval a dust control plan to the San Joaquin Valley Air Pollution Control District at least 30 days prior to any earthmoving or construction activities.

AQ-3 The project will enter into a developer agreement with the San Joaquin Valley Air Pollution Control District and conduct an air impact assessment as required by San Joaquin Valley Air Pollution Control District Rule 9510. Off-site emission reduction fees will be calculated, as dictated by Rule 9510, to reduce construction-related NO_x emissions by 20 percent and PM_{10} exhaust emissions by 45 percent to the statewide fleet average.

Climate Change

Neither the U.S. Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration has issued explicit guidance or methods to conduct project-level greenhouse gas analysis. The Federal Highway Administration emphasizes concepts of resilience and sustainability in highway planning, project development, design, operations, and maintenance. Because there have been requirements set forth in California legislation and executive orders on climate change, the issue is addressed in the California

Environmental Quality Act (CEQA) chapter of this document. The CEQA analysis may be used to inform the National Environmental Policy Act (NEPA) determination for the project.

2.2.3 Noise (and Vibration)

Regulatory Setting

The California Environmental Quality Act and the National Environmental Policy Act of 1969 provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between CEQA and NEPA.

California Environmental Quality Act

CEQA requires a strictly baseline-versus-build analysis to assess whether a proposed project will have a noise impact. If a project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section will focus on the NEPA/23 Code of Federal Regulations Part 772 (23 CFR 772) noise analysis. See Chapter 3 of this document for further information on noise analysis under CEQA.

National Environmental Policy Act and 23 CFR 772

For highway transportation projects with Federal Highway Administration involvement (and Caltrans, as assigned), the Federal-Aid Highway Act of 1970 and its implementing regulations (23 Code of Federal Regulations 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The noise abatement criteria differ depending on the type of land use under analysis. For example, the noise abatement criterion for residences 67 A-weighted decibels (dBA) is lower than the noise abatement criterion for commercial areas (72 dBA). **Table 2-16: Noise Abatement Criteria** shows the noise abatement criteria for use in the NEPA/23 CFR 772 analysis.

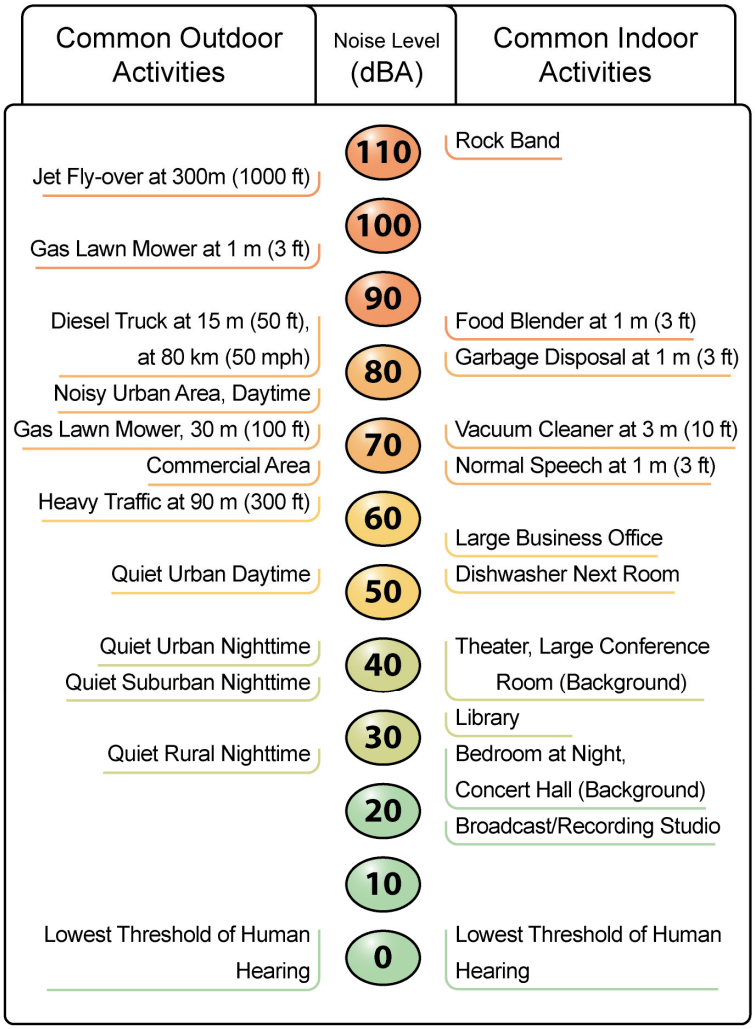
Table 2-16: Noise Abatement Criteria

Activity Category	Noise Abatement Criteria Hourly A-Weighted Noise Level, $L_{eq}(h)$	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67 (Exterior)	Residential
C[1]	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A-D or F.
F	No noise abatement criteria – reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.) and warehousing.
G	No noise abatement criteria – reporting only	Undeveloped lands that are not permitted.

Notes:[1] Includes undeveloped lands permitted for this activity category.

Figure 2-9: Noise Levels of Common Activities lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

Figure 2-9: Noise Levels of Common Activities



According to the Caltrans 2011 Noise Protocol Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA or more increase) or when the future noise level with the project approaches or exceeds the noise abatement criteria. Approaching the noise abatement criteria is defined as coming within 1 dBA of the noise abatement criteria.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

The Caltrans Traffic Noise Analysis Protocol sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5 dBA reduction for all impacted receptors in the future noise levels must be achieved for an abatement to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations. Also, a noise reduction of at least 7 dBA must be achieved at one or more benefited receptors for an abatement measure to be considered reasonable.

The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents' acceptance and the cost per benefited residence. In addition, the noise reduction design goal is also used to determine the overall reasonableness of noise abatement. Caltrans' noise reduction design goal is that a barrier must be predicted to provide at least 7 dB of noise reduction at one or more benefited receptors. The cost reasonableness of abatement is determined by calculating a cost allowance that is considered to be a reasonable amount of money to spend on abatement. This reasonable allowance is then compared to the engineer's cost estimate for the abatement. If the engineer's cost estimate is less than the allowance and the abatement will provide at least 7 dB of noise reduction at one or more benefited receptors, then the preliminary determination is that the abatement is reasonable. If the cost estimate is higher than the allowance or if the design goal cannot be achieved, the preliminary determination is that abatement is not reasonable.

Affected Environment

The following analysis is based on the *Noise Study Report* and *Noise Abatement Decision Report, both* dated October 2018 (as listed in the List of Technical Studies at the end of this document) prepared for the project.

Sensitive Land Uses

The project area and surrounding parcels are occupied by a variety of urban uses, agricultural uses and some vacant land. The following land uses were identified in the project area:

- Single-family and multi-family residential units
- Places of worship
- Parks and recreational areas
- Commercial retail uses, industrial uses, warehousing uses and agricultural uses

These land uses were identified through land use maps, aerial photography, and site inspection. Within each land use category, existing sensitive receptors were identified. The land uses and sensitive receptors in the project

area that have been analyzed for potential noise impacts have been grouped into a series of lettered analysis areas. A description of these areas and the sensitive receptors in each area are described as follows:

- **Area A:** Area A is on the north side of State Route 120 between Van Ryn Avenue and Main Street. Single-family residences (Activity Category B) and agricultural uses (Activity Category F) are in this area. This area is generally flat. No sound barrier or topographical shielding occurs between State Route 120 and this area.
- **Area B:** Area B is on the north side of State Route 120 next to Van Ryn Avenue. Several single-family residences (Activity Category B) are in this area. This area is generally flat, except for a steep grade descending from State Route 120. Residences are lower than the highway in this area. The first row of buildings may be topographically shielded from highway noise.
- **Area C:** Area C is on the south side of State Route 120 west of Van Run Avenue. Paseo Villas Apartments, multi-family residential units (Activity Category B) and a park (Activity Category C) are in this area. This area is generally flat, except for a steep grade descending from State Route 120. Residences are lower than the highway. A sound barrier with a nominal height of 10 to 15 feet is between State Route 120 and the residential area.
- **Area D:** Area D is on the south side of State Route 120 at the corner of Van Ryn Avenue and Atherton Drive. The Tesoro Apartments development, multi-family residences (Activity Category B), several outdoor recreation areas (Activity Category C), and a fitness center (Activity Category C) are in this area. This area is generally flat, except for a steep grade descending from State Route 120. Residences are lower than the highway.
- **Area E:** Area E is on the south side of State Route 120 east of Van Ryn Avenue and bordered to the south by Atherton Drive. The Juniper Apartments, multi-family residences (Activity Category B), are in this area. This area is generally flat, except for a steep grade descending from State Route 120. Residences are lower than the highway. A sound barrier with a nominal height of 13 feet stands between State Route 120 and the residential area.
- **Area F:** Area F is on the south side of the State Route 99 southbound on-ramp, northeast of Moffat Boulevard. Commercial uses (Activity Category E) and Crossroads Grace Community Church, a place of worship (Activity Category C), and a small playground (Activity Category C) are in this area. This area is generally flat. There is a gradual grade descending from the on-ramp. No sound barrier or topographical shielding occurs between the State Route 99 and this area.
- **Area G:** Area G is on the northeastern side of the State Route 99 northbound on-ramp and west of Austin Road. Agricultural uses (Activity

Category E) and isolated single-family residences (Activity Category B) are in this area. This area is generally flat. No sound barrier or topographical shielding occurs between the State Route 99 and this area.

- **Area H:** Area H is on the northeastern side of the State Route 99 northbound off-ramp and east of Austin Road. Agricultural uses (Activity Category E) and isolated single-family residences (Activity Category B) are in this area. This area is generally flat. No sound barrier or topographical shielding occurs between the highway and this area.
- **Area I:** Area I is south of State Route 99 next to Austin Road. Agricultural uses (Activity Category E) and isolated single-family residences (Activity Category B) are in this area. This area is generally flat. No sound barrier or topographical shielding occurs between the highway and this area.
- **Area J:** Area J is east of State Route 99 next to the frontage road. Agricultural uses (Activity Category E) and isolated single-family residences (Activity Category B) are in this area. This area is generally flat. No sound barrier or topographical shielding occurs between the highway and this area.

Figures 2-10 through **2-12: Analysis Areas, Noise Monitoring Positions, Sensitive Receptor Locations, and Location of Evaluated Noise Barriers (2023)** show the analysis areas, long- and short-term noise monitoring positions, sensitive receptor locations, and potential locations of noise barriers under 2023 conditions. **Figures 2-13** through **2-15: Analysis Areas, Noise Monitoring Positions, Sensitive Receptor Locations, and Location of Evaluated Noise Barriers (2043)** show the analysis areas, long- and short-term noise monitoring positions, sensitive receptor locations, and potential locations of noise barriers under 2043 conditions.

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FIGURE 2-10

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

Analysis Areas, Noise Monitoring Positions, Sensitive Receptor Locations, and Location of Evaluated Noise Barrier (2023)

SOURCE: Terry A. Hayes Associates (TAHA) (2018)

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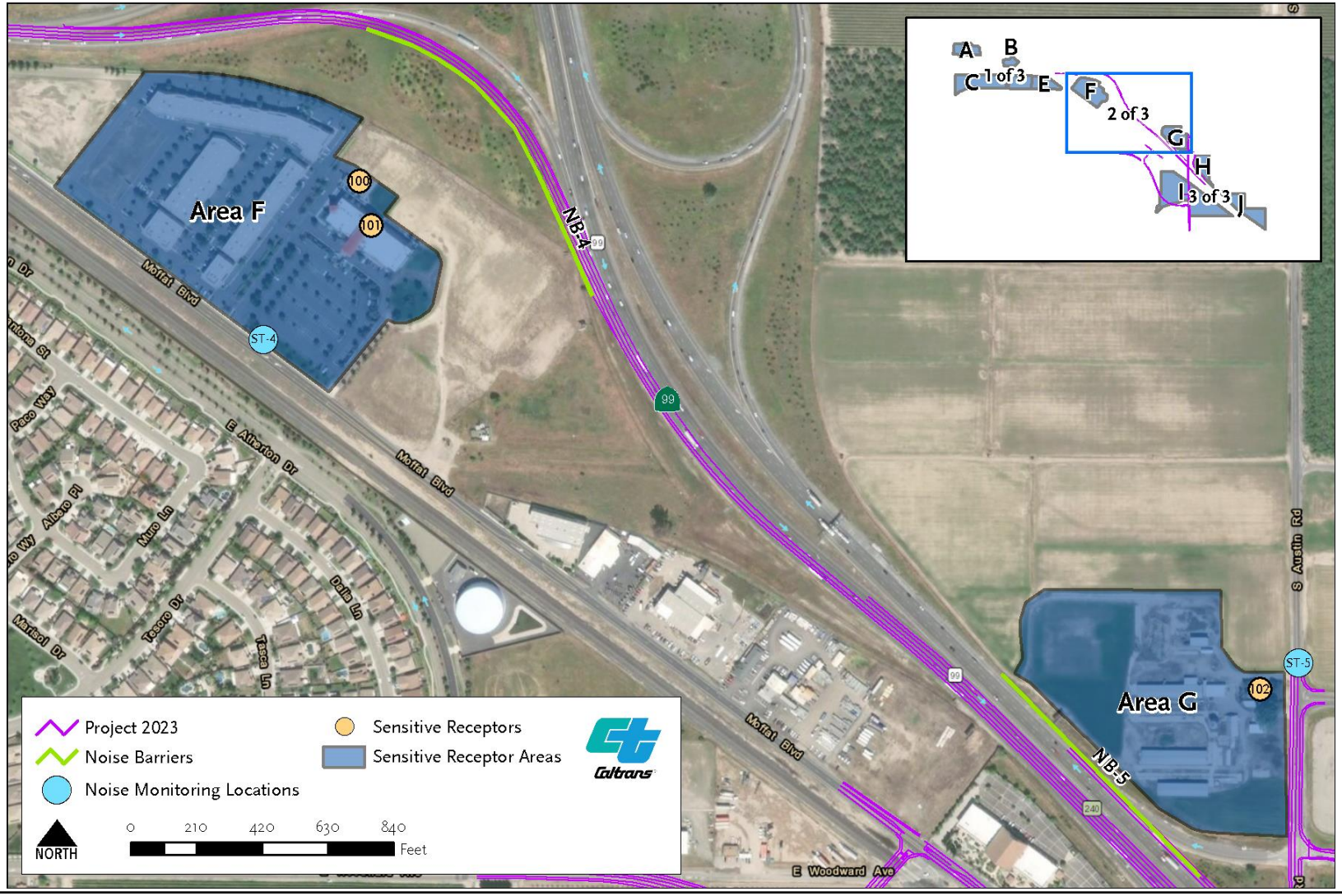

FIGURE 2-11

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

Analysis Areas, Noise Monitoring Positions, Sensitive Receptor Locations, and Location of Evaulated Noise Barrier (2023)

SOURCE: Terry A. Hayes Associates (TAHA) (2018)
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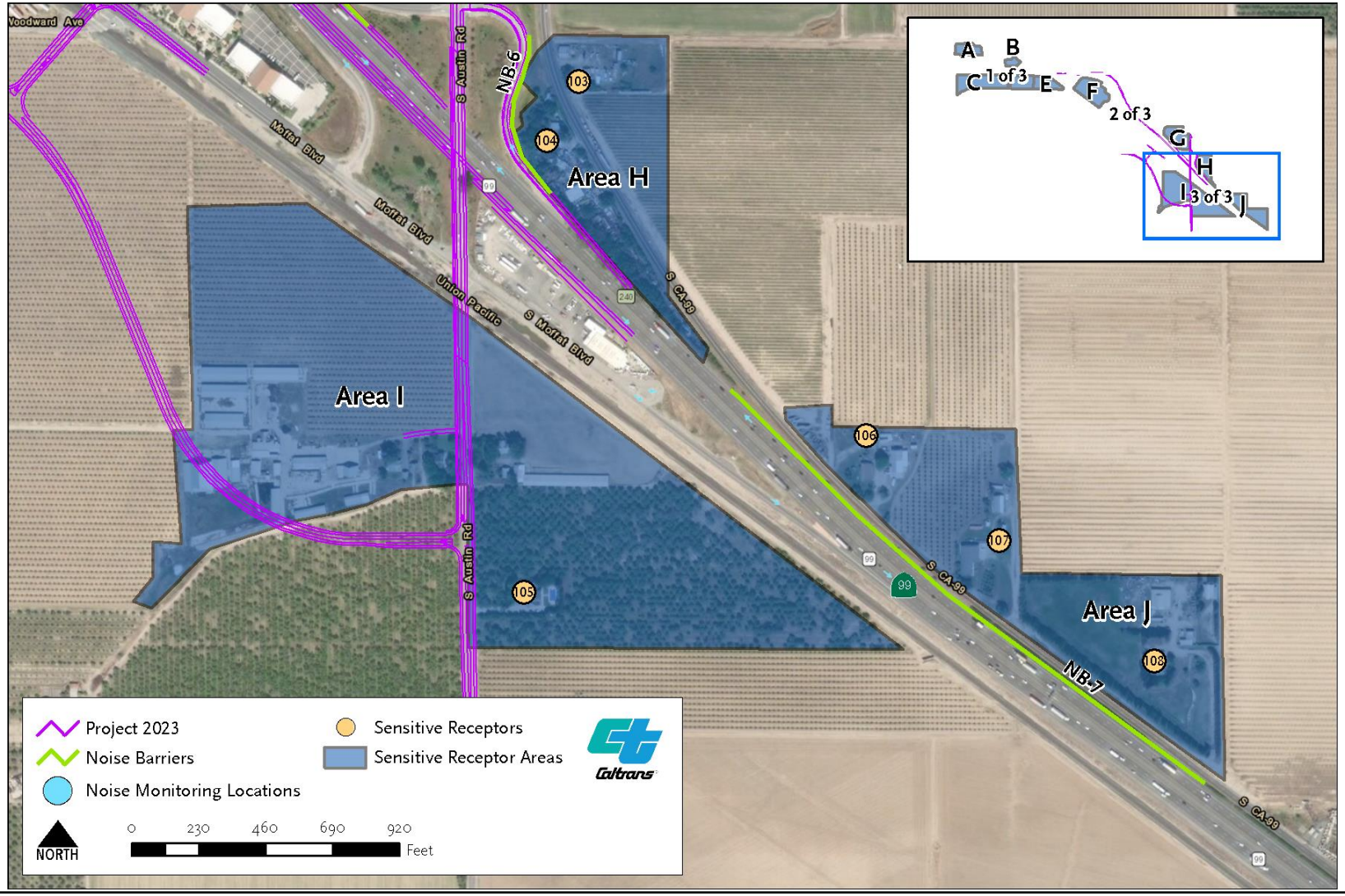

FIGURE 2-12

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

Analysis Areas, Noise Monitoring Positions, Sensitive Receptor Locations, and Location of Evaluated Barrier (2023)

SOURCE: Terry A. Hayes Associates (TAHA) (2018)
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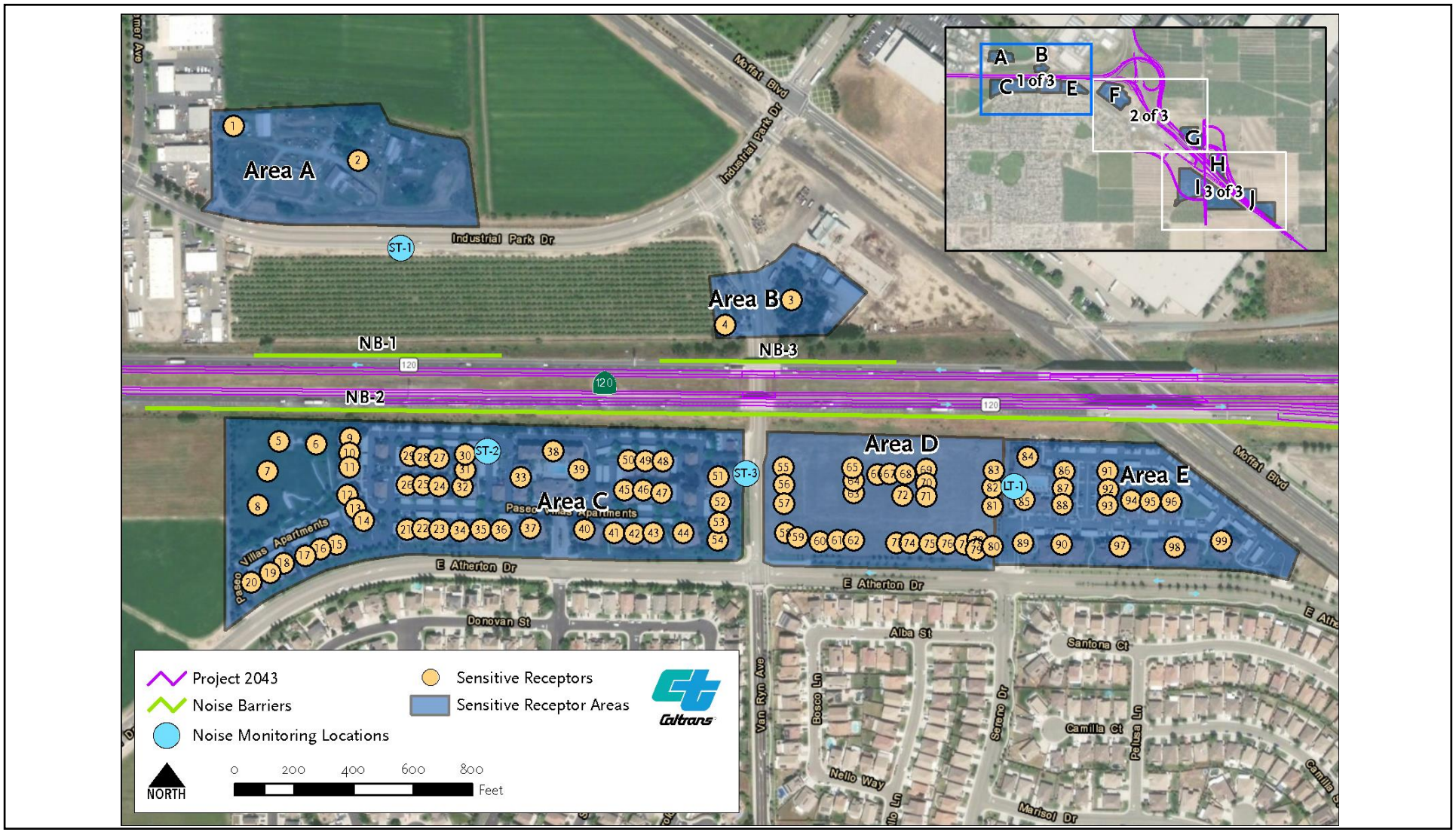

FIGURE 2-13

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

Analysis Areas, Noise Monitoring Positions, Sensitive Receptor Locations, and Location of Evaluated Noise Barrier (2043)

SOURCE: Terry A. Hayes Associates (TAHA) (2018)

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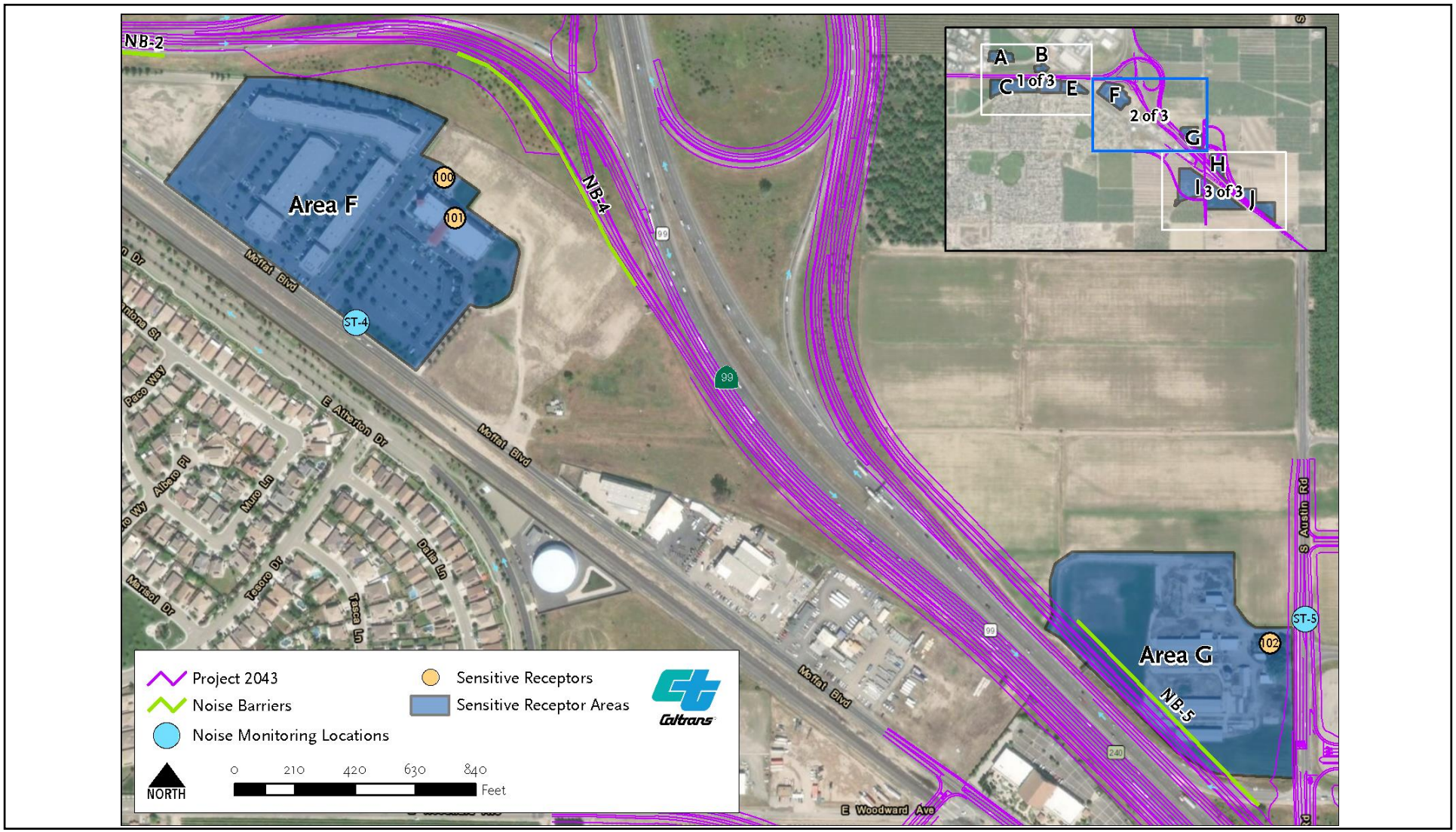

FIGURE 2-14

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

Analysis Areas, Noise Monitoring Positions, Sensitive Receptor Locations, and Location of Evaluated Noise Barrier (2043)

SOURCE: Terry A. Hayes Associates (TAHA) (2018)
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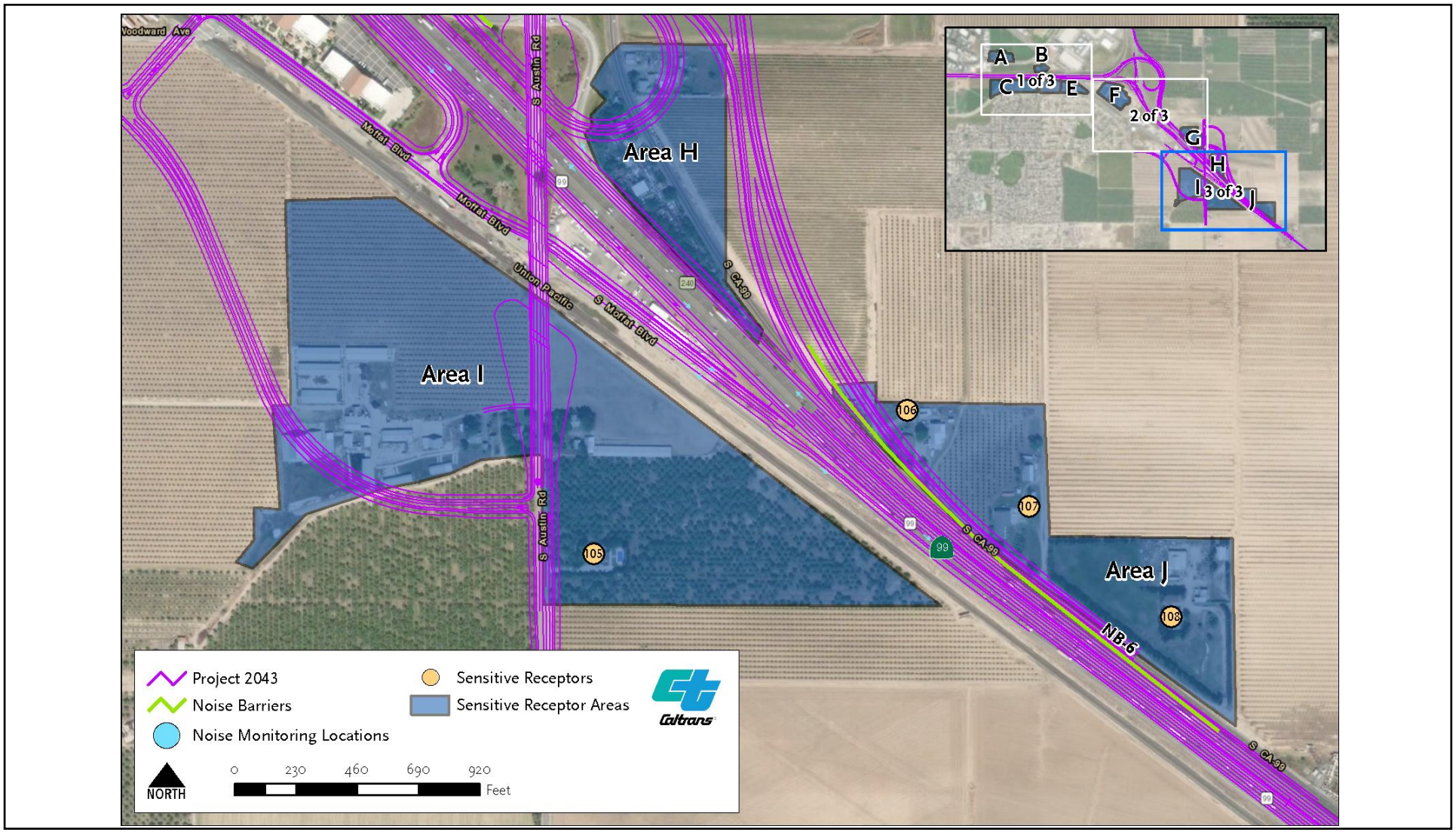

FIGURE 2-15

State Route 99/120 Interchange Connector
in Manteca, San Joaquin County, California
Caltrans District 10, P.M. 3.1/6.2
EA 10-1E740

Analysis Areas, Noise Monitoring Positions, Sensitive Receptor Locations, and Location of Evaluated Noise Barrier (2043)

SOURCE: Terry A. Hayes Associates (TAHA) (2018)

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Existing Ambient Noise Levels in the Project Vicinity

Short-term and long-term 24-hour traffic noise levels were measured to document the existing ambient noise level in the vicinity of the project site.

Short-term noise levels were measured on January 10, 2018 by a qualified noise technician using a SoundPro DL Type 2 Sound Level Meter. **Table 2-17: Summary of Short-Term Measurements** shows the short-term noise measurements at five locations within the project area.

Table 2-17: Summary of Short-Term Measurements

Measurement Number	Measurement Location	Area	Land Use Type	Measured L_{eq}
ST-1	Single-Family Residence (713 Industrial Park Drive)	A	Residential/ Agricultural	70.5
ST-2	Paseo Villas Apartments (801 Atherton Drive)	C	Residential	66.5
ST-3	Paseo Vilas Apartments (801 Atherton Drive) on Van Ryn Avenue	C/B	Residential	71.2
ST-4	Crossroads Grace Community Church (1505 Moffat Boulevard)	E	Church/ Commercial	70
ST-5	Single-Family Residence (20179 Austin Road)	F/G/H	Residential/ Agricultural	70.7

Source: Caltrans, *Noise Study Report, State Route 99/State Route 120 Interchange Project*, September 2018, Table 6-1, pg. 31.
Notes: L_{eq} = equivalent continuous noise level over a specified period of time (acoustical energy of a given measurement)

Table 2-17 shows that the existing ambient noise levels in the project area based on short-term noise monitoring range from a 66.5 to 70.7 dBA equivalent continuous noise level over a specified period of time (acoustical energy of a given measurement) (L_{eq}). The short-term noise measurements were used to calibrate the noise model and predict the noise levels at all 108 modeled receptors in the project area.

Long-term ambient noise monitoring was done with a SoundPro DL Type 2 Sound Level Meter at one location within the project site. Long-term monitoring location LT-1 sat on a landing of an apartment unit at Juniper Apartments at 1201 Atherton Drive in Manteca on the south side of State Route 120, about 235 feet from the State Route 120 edge-of-pavement. The purpose of the long-term monitoring was to gather sound level data over a 24-hour period to determine the ambient daytime and nighttime noise levels within the project site and vicinity and to determine the loudest ambient noise level over a 1-hour period. The long-term noise level was measured over a

24-hour period starting at 1:00 p.m. on Wednesday, January 10, 2018 and ending at 1:00 p.m. on Thursday, January 11, 2018. **Table 2-18: Summary of Long-Term Monitoring Location at LT-1** shows the hourly L_{eq} noise levels of a 24-hour period during the long-term noise monitoring session.

Table 2-18: Summary of Long-Term Monitoring Location at LT-1

Hours	Start Time	Noise Level (dB(A) L_{eq})
1	2:00 p.m.	61.9
2	3:00 p.m.	62.2
3	4:00 p.m.	62.2
4	5:00 p.m.	61.1
5	6:00 p.m.	60.2
6	7:00 p.m.	60.1
7	8:00 p.m.	60.9
8	9:00 p.m.	60
9	10:00 p.m.	59.2
10	11:00 p.m.	58.3
11	12:00 a.m.	58.7
12	1:00 a.m.	57.6
13	2:00 a.m.	57.3
14	3:00 a.m.	57
15	4:00 a.m.	58.6
16	5:00 a.m.	59.9
17	6:00 a.m.	61.2
18	7:00 a.m.	61.6
19	8:00 a.m.	63.2
20	9:00 a.m.	65.2
21	10:00 a.m.	64.7
22	11:00 a.m.	**71.1**
23	12:00 p.m.	69.3
24	1:00 p.m.	64.1

Source: Caltrans, Noise Study Report, State Route 99/State Route 120 Interchange Project, September 2018, Table 6-2, pg. 32.
Notes: Worst noise hour level is bolded. As shown above in **Table 2-18**, the long-term noise levels ranged from a low of 57.0 dB(A) to a high of 71.1 dB(A) L_{eq}.

Existing Noise Levels at Modeled Receptor Locations

As described above, the project site is in an area with the following uses: residential, agricultural, outdoor recreation areas, parks, places of worship, and playgrounds. The existing noise levels were determined at 108 modeled receptor locations around the project site. Existing noise levels at the 108 modeled receptor locations range from a low of 61 dBA L_{eq}(h) (hourly A-

weighted noise level at receptors 8, 79, 80, and 105) to a high of 75 dBA L_{eq}(h) (at receptors 106 and 107).

Environmental Consequences

As defined by 23 CFR 772, the proposed project is considered a Type I project as the Build Alternative would add an additional lane to each of the connectors and replace the Austin Road Overcrossing.

Short-term Construction Noise Analysis

Short-term noise impacts are related to noise generated during each phase of construction. Development of the project would include distinct construction activities where different types of construction equipment would be used, and the location of such equipment would change daily at the project site. **Table 2-19: Construction Equipment Noise** shows the different types of construction equipment that are commonly used on similar roadway projects and the estimated maximum noise level as measured from 50 feet away.

Table 2-19: Construction Equipment Noise

Equipment	Maximum Noise Level (dBA, L_{eq} at 50 feet)
Auger Drill	77.4
Backhoe	73.6
Compressor (air)	73.7
Concrete Mixer Truck	74.8
Concrete Pump Truck	74.4
Concrete Saw	82.6
Crane	72.6
Dump Truck	72.5
Excavator	76.7
Front End Loader	75.1
Generator	77.6
Gradall	79.4
Grader	81
Impact Pile Driver	94.3
Man Lift	67.7
Mounted Impact Hammer (hoe ram)	83.3
Paver	74.2
Pneumatic Tools	82.2
Roller	73
Scraper	79.6
Tractor	80
Vacuum Street Sweeper	71.6

Source: Caltrans, Noise Study Report, State Route 99/State Route 120 Interchange Project, September 2018, Table 8-1, pg. 65.

Construction equipment is expected to generate noise levels ranging from 67.7 to 94.3 dB at a distance of 50 feet, and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance.

Construction noise at off-site receptor locations would depend on the loudest piece of equipment operating. Most noise sensitive receptors (single-family residential units) identified for the project and those most affected by construction noise are south of State Route 120 and west of State Route 99, or near the frontage road. Due to the proximity of these receptors to both State Route 99 and State Route 120, construction noise is anticipated to be overshadowed by traffic noise.

Construction activities would be temporary and occur mostly during normal daytime hours. The City of Manteca's noise ordinance allows construction activities during the hours of 7:00 a.m. to 7:00 p.m. If construction activities occur outside of these hours, coordination with the City, including potential measures to reduce noise levels, would be required. Some construction activities may require limited work during nighttime hours. A variance or waiver would be required from the City prior to the start of construction activities during nighttime hours. Impact pile driving would occur only during daytime hours, which would reduce the potential for impacts at sensitive receptors.

Construction noise would be short term, intermittent, and overshadowed by local traffic noise. Implementing the standard measure **NOI-1** would avoid and/or minimize construction noise impacts. Implementation of the standard measure **NOI-1** and Caltrans Standard Specification Section 14.8-02 would ensure that sensitive receptors near project construction would not be adversely affected by construction noise.

Operational

A Noise Study Report was prepared for the project to determine the future traffic noise impacts predicted at the 108 modeled receptor locations of the project. **Table 2-20: Operational Noise Levels at Modeled Receptor Locations (Construction Year 2023)** summarizes the traffic noise modeling results for existing conditions and construction year 2023 (Phase 1A) conditions with and without the project. **Table 2-21: Operational Noise Levels at Modeled Receptor Locations (Design Year 2043)** summarizes the traffic noise modeling results for existing conditions and design year 2043 (Phases 1A, 1B, and 1C) conditions with and without the project. Predicted construction year 2023 and design year 2043 traffic noise levels with the project are compared to existing conditions and to construction year and design year no-project conditions. The comparison to existing conditions is included in the analysis to identify traffic noise impacts as defined under 23 CFR 772.

Table 2-20: Operational Noise Levels at Modeled Receptor Locations (Construction Year 2023)

Receptor I.D.	Area	Number of Dwelling Units	Location	Land Use	Impact Type	Existing Noise Level dB(A) L_{eq}(h)	2023 Noise Level without Project dB(A) L_{eq}(h)	2023 Noise Level with Project dB(A) L_{eq}(h)	2023 Noise Level with Project minus No Project Conditions	2023 Noise Level with Project Minus Existing Conditions
1	A	1	711 Industrial Park Dr.	Residential	None	64	64	64	0	0
2		1	713 Industrial Park Dr.	Residential	A/E	66	66	66	0	0
3	B	1	1252 Van Ryn Ave.	Residential	A/E	66	66	66	0	0
4		1	1255 Van Ryn Ave.	Residential	A/E	68	68	68	0	0
5	C	None	801 Atherton Dr.	Park	A/E	65	65	66	1	1
6		None	801 Atherton Dr.	Park	A/E	65	66	66	0	1
7		None	801 Atherton Dr.	Park	None	63	63	64	1	1
8		None	801 Atherton Dr.	Park	None	61	61	61	0	0
9		6	801 Atherton Dr.	Residential	A/E	72	72	73	1	1
10		12	801 Atherton Dr.	Residential	A/E	71	71	71	0	0
11		6	801 Atherton Dr.	Residential	A/E	70	70	70	0	0
12		4	801 Atherton Dr.	Residential	A/E	67	67	68	1	1
13		8	801 Atherton Dr.	Residential	A/E	66	66	67	1	1
14		4	801 Atherton Dr.	Residential	A/E	65	66	66	0	1
15		4	801 Atherton Dr.	Residential	None	64	64	64	0	0
16		8	801 Atherton Dr.	Residential	None	63	64	64	0	1
17		4	801 Atherton Dr.	Residential	None	63	63	64	1	1
18		4	801 Atherton Dr.	Residential	None	63	63	63	0	0
19		8	801 Atherton Dr.	Residential	None	62	62	63	1	1
20		4	801 Atherton Dr.	Residential	None	62	62	62	0	0
21		4	801 Atherton Dr.	Residential	A/E	65	65	66	1	1
22		8	801 Atherton Dr.	Residential	A/E	65	65	66	1	1
23		4	801 Atherton Dr.	Residential	A/E	65	65	66	1	1
24		4	801 Atherton Dr.	Residential	A/E	68	68	69	1	1
25		8	801 Atherton Dr.	Residential	A/E	68	68	69	1	1
26		4	801 Atherton Dr.	Residential	A/E	68	68	69	1	1

Receptor I.D.	Area	Number of Dwelling Units	Location	Land Use	Impact Type	Existing Noise Level dB(A) L_{eq}(h)	2023 Noise Level without Project dB(A) L_{eq}(h)	2023 Noise Level with Project dB(A) L_{eq}(h)	2023 Noise Level with Project minus No Project Conditions	2023 Noise Level with Project Minus Existing Conditions
27		6	801 Atherton Dr.	Residential	A/E	70	71	71	0	1
28		12	801 Atherton Dr.	Residential	A/E	70	71	71	0	1
29		6	801 Atherton Dr.	Residential	A/E	70	70	71	1	1
30		6	801 Atherton Dr.	Residential	A/E	71	71	71	0	0
31		12	801 Atherton Dr.	Residential	A/E	70	70	70	0	0
32		6	801 Atherton Dr.	Residential	A/E	69	69	69	0	0
33		8	801 Atherton Dr.	Residential	A/E	69	69	70	1	1
34		4	801 Atherton Dr.	Residential	A/E	65	65	66	1	1
35		8	801 Atherton Dr.	Residential	A/E	65	65	66	1	1
36		4	801 Atherton Dr.	Residential	A/E	65	66	66	0	1
37		6	801 Atherton Dr.	Residential	A/E	66	66	66	0	0
38		14	801 Atherton Dr.	Residential	A/E	71	71	72	1	1
39		3	801 Atherton Dr.	Residential	A/E	70	70	70	0	0
40		6	801 Atherton Dr.	Residential	A/E	66	66	66	0	0
41		4	801 Atherton Dr.	Residential	A/E	65	65	66	1	1
42		8	801 Atherton Dr.	Residential	A/E	65	65	66	1	1
43		4	801 Atherton Dr.	Residential	A/E	65	65	66	1	1
44		8	801 Atherton Dr.	Residential	A/E	65	65	66	1	1
45		4	801 Atherton Dr.	Residential	A/E	68	68	69	1	1
46		8	801 Atherton Dr.	Residential	A/E	67	68	68	0	1
47		4	801 Atherton Dr.	Residential	A/E	67	67	68	1	1
48		6	801 Atherton Dr.	Residential	A/E	70	70	71	1	1
49		12	801 Atherton Dr.	Residential	A/E	70	70	71	1	1
50		6	801 Atherton Dr.	Residential	A/E	70	70	71	1	1
51		8	801 Atherton Dr.	Residential	A/E	73	74	75	1	2
52		4	801 Atherton Dr.	Residential	A/E	72	72	73	1	1
53		8	801 Atherton Dr.	Residential	A/E	71	71	72	1	1
54		4	801 Atherton Dr.	Residential	A/E	70	70	71	1	1
55	**D**	6	1005 Atherton Dr.	Residential	A/E	70	70	71	1	1

Receptor I.D.	Area	Number of Dwelling Units	Location	Land Use	Impact Type	Existing Noise Level dB(A) $L_{eq}(h)$	2023 Noise Level without Project dB(A) $L_{eq}(h)$	2023 Noise Level with Project dB(A) $L_{eq}(h)$	2023 Noise Level with Project minus No Project Conditions	2023 Noise Level with Project Minus Existing Conditions
56		14	1005 Atherton Dr.	Residential	A/E	69	69	70	1	1
57		6	1005 Atherton Dr.	Residential	A/E	68	68	69	1	1
58		4	1005 Atherton Dr.	Residential	A/E	65	66	67	1	2
59		4	1005 Atherton Dr.	Residential	A/E	65	65	66	1	1
60		4	1005 Atherton Dr.	Residential	A/E	65	65	66	1	1
61		8	1005 Atherton Dr.	Residential	A/E	65	65	66	1	1
62		4	1005 Atherton Dr.	Residential	A/E	65	65	66	1	1
63		6	1005 Atherton Dr.	Residential	A/E	69	69	69	0	0
64		6	1005 Atherton Dr.	Residential	A/E	70	70	70	0	0
65		6	1005 Atherton Dr.	Residential	A/E	71	71	71	0	0
66		6	1005 Atherton Dr.	Residential	A/E	71	71	71	0	0
67		6	1005 Atherton Dr.	Residential	A/E	71	71	71	0	0
68		6	1005 Atherton Dr.	Residential	A/E	71	71	71	0	0
69		6	1005 Atherton Dr.	Residential	A/E	71	71	71	0	0
70		6	1005 Atherton Dr.	Residential	A/E	70	70	70	0	0
71		6	1005 Atherton Dr.	Residential	A/E	69	69	69	0	0
72		1	1005 Atherton Dr.	Pool	None	63	64	64	0	1
73		4	1005 Atherton Dr.	Residential	A/E	65	65	66	1	1
74		4	1005 Atherton Dr.	Residential	A/E	65	65	66	1	1
75		4	1005 Atherton Dr.	Residential	A/E	65	65	66	1	1
76		8	1005 Atherton Dr.	Residential	A/E	65	65	66	1	1
77		4	1005 Atherton Dr.	Residential	A/E	65	65	66	1	1
78		1	1005 Atherton Dr.	Playground	None	62	62	63	1	1
79		1	1005 Atherton Dr.	Playground	None	61	62	62	0	1
80		1	1005 Atherton Dr.	Fitness Center	None	61	62	62	0	1
81		6	1005 Atherton Dr.	Residential	A/E	68	68	69	1	1
82		14	1005 Atherton Dr.	Residential	A/E	69	69	70	1	1
83		6	1005 Atherton Dr.	Residential	A/E	70	71	71	0	1
84	**E**	8	120 Atherton Dr.	Residential	A/E	67	67	68	1	1

Receptor I.D.	Area	Number of Dwelling Units	Location	Land Use	Impact Type	Existing Noise Level dB(A) L_{eq}(h)	2023 Noise Level without Project dB(A) L_{eq}(h)	2023 Noise Level with Project dB(A) L_{eq}(h)	2023 Noise Level with Project minus No Project Conditions	2023 Noise Level with Project Minus Existing Conditions
85		1	120 Atherton Dr.	Residential	A/E	66	66	67	1	1
86		9	120 Atherton Dr.	Residential	A/E	70	70	71	1	1
87		9	120 Atherton Dr.	Residential	A/E	69	69	70	1	1
88		9	120 Atherton Dr.	Residential	A/E	68	68	69	1	1
89		2	120 Atherton Dr.	Residential	A/E	65	65	66	1	1
90		18	120 Atherton Dr.	Residential	A/E	66	66	67	1	1
91		8	120 Atherton Dr.	Residential	A/E	70	71	71	0	1
92		9	120 Atherton Dr.	Residential	A/E	69	69	70	1	1
93		9	120 Atherton Dr.	Residential	A/E	68	68	69	1	1
94		9	120 Atherton Dr.	Residential	A/E	68	69	69	0	1
95		9	120 Atherton Dr.	Residential	A/E	69	69	69	0	0
96		9	120 Atherton Dr.	Residential	A/E	69	69	69	0	0
97		18	120 Atherton Dr.	Residential	A/E	66	66	67	1	1
98		18	120 Atherton Dr.	Residential	A/E	67	67	67	0	0
99		8	120 Atherton Dr.	Residential	A/E	65	65	66	1	1
100	F	None	1505 Moffat Blvd.	Playground	None	62	63	63	0	1
101		None	1505 Moffat Blvd.	Church	A/E	66	66	67	1	1
102	**G**	1	20179 Austin Rd.	Residential	A/E	64	65	67	2	3
103	**H**	1	20270 99 Frontage Rd.	Residential	A/E	72	72	73	1	1
104		1	20405 99 Frontage Rd.	Residential	A/E	66	66	67	1	1
105	I	1	20700 Austin Rd.	Residential	None	61	62	63	1	2
106	**J**	1	20782 99 Frontage Rd.	Residential	A/E	75	75	75	0	0
107		1	20782 99 Frontage Rd.	Residential	A/E	75	75	75	0	0
108		1	20900 99 Frontage Rd.	Residential	A/E	69	69	69	0	0

Source: Noise Study Report, State Route 99/State Route 120 Interchange Project, September 2018, Table B-1 and B-2, pgs. 65 to 89.
Notes: All noise abatement criteria are exterior unless noted. N/A = sensitive receptor has been removed. **Bold** indicates noise level approaches or exceeds noise abatement criteria. Blvd. = Boulevard, Dr. = Drive, Rd. = Road

Table 2-21: Operational Noise Levels at Modeled Receptor Locations (Design Year 2043)

Receptor I.D.	Area	Number of Dwelling Units	Location	Land Use	Impact Type	Existing Noise Level dB(A) L_{eq}(h)	2043 Noise Level without Project dB(A) L_{eq}(h)	2043 Noise Level with Project dB(A) L_{eq}(h)	2043 Level with Project minus No Project Conditions	2043 Level with Project Minus Existing Conditions
1	A	1	711 Industrial Park Dr.	Residential	A/E	64	65	67	2	3
2		1	713 Industrial Park Dr.	Residential	A/E	66	67	69	2	3
3	B	1	1252 Van Ryn Ave.	Residential	A/E	66	67	68	1	2
4		1	1255 Van Ryn Ave.	Residential	A/E	68	69	69	0	1
5	C	None	801 Atherton Dr.	Park	A/E	65	65	66	1	1
6		None	801 Atherton Dr.	Park	A/E	65	66	68	2	3
7		None	801 Atherton Dr.	Park	A/E	63	64	66	2	3
8		None	801 Atherton Dr.	Park	None	61	62	63	1	2
9		6	801 Atherton Dr.	Residential	A/E	72	73	74	1	2
10		12	801 Atherton Dr.	Residential	A/E	71	72	73	1	2
11		6	801 Atherton Dr.	Residential	A/E	70	71	72	1	2
12		4	801 Atherton Dr.	Residential	A/E	67	68	69	1	2
13		8	801 Atherton Dr.	Residential	A/E	66	67	69	2	3
14		4	801 Atherton Dr.	Residential	A/E	65	67	68	1	3
15		4	801 Atherton Dr.	Residential	A/E	64	65	67	2	3
16		8	801 Atherton Dr.	Residential	A/E	63	65	67	2	4
17		4	801 Atherton Dr.	Residential	A/E	63	64	66	2	3
18		4	801 Atherton Dr.	Residential	A/E	63	64	66	2	3
19		8	801 Atherton Dr.	Residential	A/E	62	63	66	3	4
20		4	801 Atherton Dr.	Residential	None	62	63	65	2	3
21		4	801 Atherton Dr.	Residential	A/E	65	66	68	2	3
22		8	801 Atherton Dr.	Residential	A/E	65	66	68	2	3
23		4	801 Atherton Dr.	Residential	A/E	65	66	68	2	3
24		4	801 Atherton Dr.	Residential	A/E	68	69	70	1	2
25		8	801 Atherton Dr.	Residential	A/E	68	69	70	1	2
26		4	801 Atherton Dr.	Residential	A/E	68	69	70	1	2
27		6	801 Atherton Dr.	Residential	A/E	70	72	73	1	3
28		12	801 Atherton Dr.	Residential	A/E	70	72	73	1	3

Receptor I.D.	Area	Number of Dwelling Units	Location	Land Use	Impact Type	Existing Noise Level dB(A) L_{eq}(h)	2043 Noise Level without Project dB(A) L_{eq}(h)	2043 Noise Level with Project dB(A) L_{eq}(h)	2043 Level with Project minus No Project Conditions	2043 Level with Project Minus Existing Conditions
29		6	801 Atherton Dr.	Residential	A/E	70	71	73	2	3
30		6	801 Atherton Dr.	Residential	A/E	71	72	73	1	2
31		12	801 Atherton Dr.	Residential	A/E	70	71	72	1	2
32		6	801 Atherton Dr.	Residential	A/E	69	70	71	1	2
33		8	801 Atherton Dr.	Residential	A/E	69	70	71	1	2
34		4	801 Atherton Dr.	Residential	A/E	65	66	68	2	3
35		8	801 Atherton Dr.	Residential	A/E	65	67	68	1	3
36		4	801 Atherton Dr.	Residential	A/E	65	67	68	1	3
37		6	801 Atherton Dr.	Residential	A/E	66	67	68	1	2
38		14	801 Atherton Dr.	Residential	A/E	71	72	73	1	2
39		3	801 Atherton Dr.	Residential	A/E	70	71	72	1	2
40		6	801 Atherton Dr.	Residential	A/E	66	67	68	1	2
41		4	801 Atherton Dr.	Residential	A/E	65	67	68	1	3
42		8	801 Atherton Dr.	Residential	A/E	65	67	68	1	3
43		4	801 Atherton Dr.	Residential	A/E	65	66	68	2	3
44		8	801 Atherton Dr.	Residential	A/E	65	66	68	2	3
45		4	801 Atherton Dr.	Residential	A/E	68	69	70	1	2
46		8	801 Atherton Dr.	Residential	A/E	67	69	70	1	3
47		4	801 Atherton Dr.	Residential	A/E	67	68	70	2	3
48		6	801 Atherton Dr.	Residential	A/E	70	72	73	1	3
49		12	801 Atherton Dr.	Residential	A/E	70	72	72	0	2
50		6	801 Atherton Dr.	Residential	A/E	70	72	73	1	3
51		8	801 Atherton Dr.	Residential	A/E	73	75	75	0	2
52		4	801 Atherton Dr.	Residential	A/E	72	73	74	1	2
53		8	801 Atherton Dr.	Residential	A/E	71	72	73	1	2
54		4	801 Atherton Dr.	Residential	A/E	70	71	73	2	3
55		6	1005 Atherton Dr.	Residential	A/E	70	71	72	1	2
56	D	14	1005 Atherton Dr.	Residential	A/E	69	71	71	0	2
57		6	1005 Atherton Dr.	Residential	A/E	68	69	70	1	2
58		4	1005 Atherton Dr.	Residential	A/E	65	67	68	1	3

Receptor I.D.	Area	Number of Dwelling Units	Location	Land Use	Impact Type	Existing Noise Level dB(A) L_{eq}(h)	2043 Noise Level without Project dB(A) L_{eq}(h)	2043 Noise Level with Project dB(A) L_{eq}(h)	2043 Level with Project minus No Project Conditions	2043 Level with Project Minus Existing Conditions
59		4	1005 Atherton Dr.	Residential	A/E	65	66	68	2	3
60		4	1005 Atherton Dr.	Residential	A/E	65	66	67	1	2
61		8	1005 Atherton Dr.	Residential	A/E	65	66	67	1	2
62		4	1005 Atherton Dr.	Residential	A/E	65	66	67	1	2
63		6	1005 Atherton Dr.	Residential	A/E	69	70	71	1	2
64		6	1005 Atherton Dr.	Residential	A/E	70	71	72	1	2
65		6	1005 Atherton Dr.	Residential	A/E	71	72	73	1	2
66		6	1005 Atherton Dr.	Residential	A/E	71	72	73	1	2
67		6	1005 Atherton Dr.	Residential	A/E	71	72	73	1	2
68		6	1005 Atherton Dr.	Residential	A/E	71	72	73	1	2
69		6	1005 Atherton Dr.	Residential	A/E	71	72	73	1	2
70		6	1005 Atherton Dr.	Residential	A/E	70	71	72	1	2
71		6	1005 Atherton Dr.	Residential	A/E	69	70	71	1	2
72		1	1005 Atherton Dr.	Pool	A/E	63	64	66	2	3
73		4	1005 Atherton Dr.	Residential	A/E	65	66	67	1	2
74		4	1005 Atherton Dr.	Residential	A/E	65	66	67	1	2
75		4	1005 Atherton Dr.	Residential	A/E	65	66	67	1	2
76		8	1005 Atherton Dr.	Residential	A/E	65	66	67	1	2
77		4	1005 Atherton Dr.	Residential	A/E	65	66	67	1	2
78		1	1005 Atherton Dr.	Playground	None	62	63	64	1	2
79		1	1005 Atherton Dr.	Playground	None	61	62	63	1	2
80		1	1005 Atherton Dr.	Fitness Center	None	61	63	64	1	3
81		6	1005 Atherton Dr.	Residential	A/E	68	69	70	1	2
82		14	1005 Atherton Dr.	Residential	A/E	69	70	71	1	2
83		6	1005 Atherton Dr.	Residential	A/E	70	72	72	0	2
84		8	120 Atherton Dr.	Residential	A/E	67	68	69	1	2
85		1	120 Atherton Dr.	Residential	A/E	66	67	67	0	1
86	E	9	120 Atherton Dr.	Residential	A/E	70	71	72	1	2
87		9	120 Atherton Dr.	Residential	A/E	69	70	71	1	2
88		9	120 Atherton Dr.	Residential	A/E	68	69	70	1	2

Receptor I.D.	Area	Number of Dwelling Units	Location	Land Use	Impact Type	Existing Noise Level dB(A) L_{eq}(h)	2043 Noise Level without Project dB(A) L_{eq}(h)	2043 Noise Level with Project dB(A) L_{eq}(h)	2043 Level with Project minus No Project Conditions	2043 Level with Project Minus Existing Conditions
89		2	120 Atherton Dr.	Residential	A/E	65	66	66	0	1
90		18	120 Atherton Dr.	Residential	A/E	66	67	68	1	2
91		8	120 Atherton Dr.	Residential	A/E	70	72	72	0	2
92		9	120 Atherton Dr.	Residential	A/E	69	70	71	1	2
93		9	120 Atherton Dr.	Residential	A/E	68	69	70	1	2
94		9	120 Atherton Dr.	Residential	A/E	68	70	70	0	2
95		9	120 Atherton Dr.	Residential	A/E	69	70	71	1	2
96		9	120 Atherton Dr.	Residential	A/E	69	70	71	1	2
97		18	120 Atherton Dr.	Residential	A/E	66	67	68	1	2
98		18	120 Atherton Dr.	Residential	A/E	67	68	68	0	1
99		8	120 Atherton Dr.	Residential	A/E	65	66	66	0	1
100	F	None	1505 Moffat Blvd.	Playground	None	62	63	62	-1	0
101		None	1505 Moffat Blvd.	Church	A/E	66	66	67	1	1
102	G	1	20179 Austin Rd.	Residential	A/E	64	66	69	3	5
103	H	1	20270 99 Frontage Rd.	Residential	N/A	72	N/A	N/A	N/A	N/A
104		1	20405 99 Frontage Rd.	Residential	N/A	66	N/A	N/A	N/A	N/A
105	I	1	20700 Austin Rd.	Residential	None	61	63	63	0	2
106	J	1	20782 99 Frontage Rd.	Residential	A/E	75	74	70	-4	-5
107		1	20782 99 Frontage Rd.	Residential	A/E	75	74	68	-6	-7
108		1	20900 99 Frontage Rd.	Residential	A/E	69	68	68	0	-1

Notes: All noise abatement criteria are exterior unless noted. A/E = Future noise conditions approach or exceed the Noise Abatement Criteria; N/A = sensitive receptor has been removed. Bold = Receptor I.D.'s that are approaching or exceeding noise abatement criteria. Ave. = Avenue, Blvd. = Boulevard, Dr. = Drive, Rd. = Road

The modeled future noise levels with the project were compared to the modeled existing noise levels to determine whether a substantial noise increase would occur (a noise increase above 12 dBA is considered substantial). The modeled future noise levels for the project were also compared to the noise abatement criteria for Activity Category B (Residential not to exceed an exterior noise level of 67 L_{eq}[h]); Activity Category E (retail not to exceed an exterior noise level of 72 L_{eq}[h]); and, Activity Categories F and G (Agricultural and Vacant where there is No Noise Abatement Criteria-Reporting Only).

Following is the analysis for the sensitive receptors in each area under the construction year 2023 scenario and the design year 2043 scenario.

Construction Year 2023 (Phase 1A) Analysis

This section provides an assessment of the changes in noise levels within the project vicinity from existing conditions to construction year 2023. This section compares the impacts of construction year 2023 with the project versus construction year 2023 without the project. The Noise Study Report and the Noise Abatement Decision Report (as listed in the List of Technical Studies at the end of this document), dated October 2018, contributed to the information and analysis in this section.

Modeling results indicated that predicted traffic noise levels under construction year 2023 (Phase 1A) would approach or exceed the noise abatement criterion of 67 dBA-L_{eq}(h) (A-weighted equivalent sound level) for Activity Category B (residential) and Activity Category C (parks and places of worship) land uses. Noise levels at these land uses are predicted to range from 61 to 75 dBA-L_{eq}(h) during construction year 2023 (Phase 1A). None of the sensitive receptors in Areas A, B, C, D, E, F, G H, I, and J would be exposed to a noise increase at or exceeding 12 dBA when compared under existing conditions versus construction year 2023 (Phase 1A) conditions.

Residential land uses in Areas A (Receptor ID #2), B (Receptor IDs #3, #4), C (Receptor IDs #5, 6, 9-14; 21-54), D (Receptor IDs #55-71; 73-77; 81, 82, 83), E (Receptor IDs #84-99), G (Receptor ID #102), H (Receptor IDs #103, 104) and J (Receptor IDs #106, 107, 108) as well as the exterior of the church in Area F (Receptor ID #101) would be exposed to noise levels approaching or exceeding the noise abatement criterion of 67 dBA-L_{eq}(h) under construction year 2023 with project (Phase 1A) conditions. Noise abatement measures would be considered for the sensitive receptors in Areas A, B, C, D, E, G, H, and J as well as the church in Area F.

Residential land uses in Area I and the playground in Area F would not be exposed to noise levels approaching or exceeding the noise abatement criterion of 67 dBA-L_{eq}(h) under construction year 2023 with project (Phase 1A) conditions, so noise abatement would not be considered for the residential uses in Area I and the playground in Area F. The interior noise

level at the church in Area F is predicted to be below the noise abatement criterion of 52 dBA L_{eq}(h) under construction year 2023 with project (Phase 1A) conditions, so no noise abatement measures to reduce interior noise levels at the church would be required.

Design Year 2043 (Phases 1A, 1B, and 1C) Analysis

This section provides an assessment of the changes in noise levels within the project vicinity from existing conditions to design year 2043. This section analyzes the impacts of Phase 1A, Phase 1B, and Phase 1C of the project. The Noise Study Report and the Noise Abatement Decision Report (as listed in the List of Technical Studies at the end of this document), dated October 2018, contributed to the information and analysis in this section.

Modeling results indicated that predicted traffic noise levels under design year 2043 (Phases 1A, 1B, and 1C) would approach or exceed the noise abatement criterion of 67 dBA-L_{eq}(h) (A-weighted equivalent sound level) for Activity Category B (residential) and Activity Category C (parks and places of worship) land uses. Noise levels at these land uses are predicted to range from 62 to 72 dBA-L_{eq}(h) during design year 2043 (Phases 1A, 1B, and 1C). None of the sensitive receptors in Areas A, B, C, D, E, F, G, H, I, and J would be exposed to noise increases at or exceeding 12 dBA when compared under existing conditions versus design year 2043 (Phases 1A, 1B, and 1C) conditions.

Residential land uses in Area I and the playground in Area F would not be exposed to noise levels approaching or exceeding the noise abatement criterion of 67 dBA-L_{eq}(h) under design year 2043 with project (Phases 1A, 1B, and 1C) conditions, so noise abatement would not be considered for the residential uses in Area I or the playground in Area F. The interior noise level at the church in Area F is predicted to be below the noise abatement criterion of 52 dBA L_{eq}(h) under design year 2043 with project (Phases 1A, 1B, and 1C) conditions, so no noise abatement measures to reduce interior noise levels at the church would be required. The uses in Area H (Receptor IDs #103 and #104) would be fully acquired as part of the project in the design year, so they would not be subject to noise impacts.

Residential land uses in Areas A (Receptor IDs #1 and 2), B (Receptor IDs #3 and 4), C (Receptor IDs #5-19; 21-54), D (Receptor IDs #55-77; 81, 82, 83), E (Receptor IDs #84-99), G (Receptor ID #102), and J (Receptor IDs #106, 107, and 108) as well as the exterior of the church and the playground in Area F (Receptor IDs #100 and 101) would be exposed to noise levels approaching or exceeding the noise abatement criterion of 67 dBA-L_{eq}(h) under design year 2043 with project (Phase 1A) conditions. Noise abatement measures would be considered for the sensitive receptors in Areas A, B, C, D, E, G, and J as well as the exterior of the church in Area F.

Noise Abatement Consideration for Construction Year 2023 and Design Year 2043 Conditions

Noise abatement measures such as noise barriers were considered to shield receivers in the project area, where receptors would be or would continue to be exposed to traffic noise levels approaching or exceeding the noise abatement criteria. Modeling results indicated that predicted traffic noise levels under construction year 2023 and design year 2043 conditions would approach or exceed the noise abatement criterion of 67 dBA-L_{eq}(h) for Activity Category B land uses and for Activity Category C land uses at parks and places of worship. Noise barriers were analyzed for receptor locations in Areas B, C, D, E, F, G, H and J under construction year 2023 with project conditions and Areas A, B, C, D, E, F, and G under design year 2043 with project conditions. Depending on the location of the potential receptor and existing barrier height, noise barriers from 6 to 16 feet high were analyzed. Locations of the noise barriers are shown in **Figures 2-10 to 2-15**.

The following noise barriers were analyzed to shield receptor locations that would be exposed to traffic and noise levels approaching or exceeding the 67 dBA L_{eq} noise abatement criteria under Activity Category B and Activity Category C for the project:

- **NB-1:** An 832-foot-long barrier for construction year 2023 and design year 2043 was analyzed to shield Receptors 1 and 2 in Area A at 711 and 713 Industrial Park Drive.
- **NB-2:** A 4,043-foot-long barrier for construction year 2023 and a 4,218-foot-long barrier for design year 2043 were analyzed to shield Receptors 5 through 99 in Areas C, D, and E, at 801 Atherton Drive, 1005 Atherton Drive, and 120 Atherton Drive.
- **NB-3:** A 797-foot barrier was analyzed to shield Receptors 3 and 4 in Area B at 1252 and 1255 Van Ryn Avenue.
- **NB-4:** A 1,176-foot barrier for construction year 2023 and 1,051-foot barrier for design year 2043 were analyzed to shield Receptors 100 and 101 in Area F at 1505 Moffat Boulevard.
- **NB-5:** A 904-foot barrier was analyzed to shield Receptor 102 in Area G at 20179 Austin Road.
- **NB-6:** A 593-foot barrier for construction year 2023 and a 2,131-foot barrier for design year 2043 were analyzed to shield Receptors 103 and 104 in Area H at 20270 and 20405 99 Frontage Road. Under the design year 2043 conditions, these receptors would be acquired and therefore would not require noise barrier attenuation.
- **NB-7:** A 2,125-foot barrier was analyzed to shield Receptors 106, 107, and 108 in Area J at 20782 and 20900 99 Frontage Road.

Noise Barrier Feasibility

A minimum noise reduction of 5 dBA must be achieved at impacted receptors for the proposed noise abatement measures (noise barriers) to be considered feasible. In addition, barriers should be designed to intercept the line-of-sight from the exhaust stack of a truck to the first tier of receptors, as required by the Highway Design Manual, Chapter 1100. Other factors that affect feasibility include topography, access requirements for driveways and ramps, presence of local cross streets, utility conflicts, other noise sources in the area, and safety considerations. Greater noise reductions are encouraged if they can be reasonably achieved. Feasibility may be restricted by the following factors:

- Geometric standards
- Safety
- Maintenance contracts with private property
- Security
- Underground utilities
- Drainage
- Geotechnical considerations
- Cost

Noise Barrier Reasonableness

The overall reasonableness of noise abatement is determined by considering the noise reduction goal combined with the construction cost of the barrier. For a noise barrier to be considered reasonable, the noise level reduction design goal of 7 dbA must be achieved at one or more of the benefited receptors. For any noise barrier to be considered reasonable from a cost perspective, the estimated construction cost of the noise barrier would be equal to or less than the total cost allowance calculated for the barrier. The total reasonable allowance was determined based on the number of benefited receptors multiplied by the reasonable allowance per residence. The reasonable allowance per residence is based on a 2018 allowance of $95,000 per benefited unit/receptor. If the estimated noise barrier construction cost exceeds the total reasonable allowance, the noise barrier is determined to be not reasonable.

The key information for the noise abatement decision, including number of benefitted receptors, total reasonable allowance, and estimated construction cost of each barrier, is shown in **Table 2-22: Summary of Abatement Key Information.**

Table 2-22: Summary of Abatement Key Information

Noise Barrier No.	Area	Height (feet)	Approximate Length (feet)	Noise Attenuation (dBA)	Number of Benefitted Receptors	Acoustically Feasible?	Design Goal Achieved?	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance (Reasonable)?
Construction Year 2023										
NB-1	Area A	6	832	1	0	No	No	$0	N/A	N/A
		8	832	1	0	No	No	$0	N/A	N/A
		10	832	1	0	No	No	$0	N/A	N/A
		12	832	2	0	No	No	$0	N/A	N/A
		14	832	3	0	No	No	$0	N/A	N/A
		16	832	3	0	No	No	$0	N/A	N/A
NB-2	Areas C, D, E	6	4,043	5 - 6	105	Yes	No	$9,975,000	$1,836,700	Yes
		8	4,043	5 - 7	261	Yes	Yes	$24,795,000	$2,038,900	Yes
		10	4,043	6 - 7	405	Yes	Yes	$38,475,000	$2,373,100	Yes
		12	4,043	9 -11	528	Yes	Yes	$50,160,000	$2,831,900	Yes
		14	4,043	10 - 12	581	Yes	Yes	$55,195,000	$3,183,500	Yes
		16	4,043	10 - 13	587	Yes	Yes	$55,765,000	$3,763,500	Yes
NB-3	Area B	6	797	3	0	-	-	-	-	-
		8	797	7	1	Yes	Yes	$95,000	$403,600	No
		10	797	8	2	Yes	Yes	$190,000	$468,400	No
		12	797	9	2	Yes	Yes	$190,000	$565,000	No
		14	797	9	2	Yes	Yes	$190,000	$633,100	No
		16	797	10	2	Yes	Yes	$190,000	$760,700	No
NB-4	Area F	6	1,176	1	0	-	-	-	-	-
		8	1,176	1	0	-	-	-	-	-
		10	1,176	2	0	-	-	-	-	-

Noise Barrier No.	Area	Height (feet)	Approximate Length (feet)	Noise Attenuation (dBA)	Number of Benefitted Receptors	Acoustically Feasible?	Design Goal Achieved?	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance (Reasonable)?
		12	1,176	2	0	-	-	-	-	-
		14	1,176	2	0	-	-	-	-	-
		16	1,176	3	0	No	No	$0	N/A	N/A
NB-5	Area G	6	904	1	0	-	-	-	-	-
		8	904	1	0	-	-	-	-	-
		10	904	1	0	-	-	-	-	-
		12	904	2	0	-	-	-	-	-
		14	904	2	0	-	-	-	-	-
		16	904	2	0	No	No	$0	N/A	N/A
NB-6	Area H	6	593	3	0	-	-	-	-	-
		8	593	3	0	-	-	-	-	-
		10	593	6	1	Yes	No	$95,000	$346,400	No
		12	593	6	1	Yes	No	$95,000	$395,600	No
		14	593	7	1	Yes	Yes	$95,000	$450,700	No
		16	593	7	2	Yes	Yes	$190,000	$496,400	No
NB-7	Area J	6	2,125	4	1	Yes	No	$95,000	$947,800	No
		8	2,125	5	2	Yes	No	$190,000	$1,054,000	No
		10	2,125	6	2	Yes	No	$190,000	$1,241,000	No
		12	2,125	9	3	Yes	Yes	$285,000	$1,417,400	No
		14	2,125	9	3	Yes	Yes	$285,000	$1,615,000	No
		16	2,125	10	3	Yes	Yes	$285,000	$1,778,700	No
Design Year 2043										
NB-1	Area A	6	832	1	0	-	-	-	-	-
		8	832	2	0	-	-	-	-	-
		10	832	2	0	-	-	-	-	-

Noise Barrier No.	Area	Height (feet)	Approximate Length (feet)	Noise Attenuation (dBA)	Number of Benefitted Receptors	Acoustically Feasible?	Design Goal Achieved?	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance (Reasonable)?
		12	832	3	0	-	-	-	-	-
		14	832	3	0	-	-	-	-	-
		16	832	3	0	No	No	$0	N/A	N/A
NB-2	Areas C, D, E	6	4,218	4 - 6	76	Yes	No	$7,220,000	$1,914,800	Yes
		8	4,218	5 - 9	257	Yes	Yes	$24,415,000	$2,125,700	Yes
		10	4,218	6 - 10	374	Yes	Yes	$35,530,000	$2,475,300	Yes
		12	4,218	8 - 11	515	Yes	Yes	$48,925,000	$2,948,600	Yes
		14	4,218	9 - 12	545	Yes	Yes	$51,775,000	$3,316,500	Yes
		16	4,218	9 - 12	555	Yes	Yes	$52,725,000	$3,909,900	Yes
NB-3	Area B	6	797	3	0	-	-	-	-	-
		8	797	6	1	Yes	No	$95,000	$403,600	No
		10	797	7	2	Yes	Yes	$190,000	$468,400	No
		12	797	8	2	Yes	Yes	$190,000	$565,000	No
		14	797	8	2	Yes	Yes	$190,000	$633,100	No
		16	797	8	2	Yes	Yes	$190,000	$760,700	No
NB-4	Area F	6	1,051	1	0	-	-	-	-	-
		8	1,051	1	0	-	-	-	-	-
		10	1,051	1	0	-	-	-	-	-
		12	1,051	1	0	-	-	-	-	-
		14	1,051	2	0	-	-	-	-	-
		16	1,051	2	0	No	No	$0	N/A	N/A
NB-5	Area G	6	904	3	0	-	-	-	-	-
		8	904	3	0	-	-	-	-	-
		10	904	3	0	-	-	-	-	-
		12	904	4	0	-	-	-	-	-

Noise Barrier No.	Area	Height (feet)	Approximate Length (feet)	Noise Attenuation (dBA)	Number of Benefitted Receptors	Acoustically Feasible?	Design Goal Achieved?	Total Reasonable Allowance	Estimated Construction Cost	Cost Less than Allowance (Reasonable)?
		14	904	4	0	-	-	-	-	-
		16	904	4	0	No	No	$0	N/A	N/A
NB-6	Area J	6	2,131	2	0	-	-	-	-	-
		8	2,131	2	0	-	-	-	-	-
		10	2,131	4	0	-	-	-	-	-
		12	2,131	6	3	Yes	No	$285,000	$1,421,400	No
		14	2,131	7	3	Yes	Yes	$285,000	$1,619,600	No
		16	2,131	7	3	Yes	Yes	$285,000	$1,783,700	No

Source: Noise Study Report, State Route 99/State Route 120 Interchange Project, September 2018, Tables 7-1 through 7-17, pgs. 49 to 59.
Notes: Bolded Noise Barrier No. indicates the barrier that is both reasonable and feasible.

Table 2-22 shows the key information for the noise abatement decision including feasibility/reasonability criterion.

Noise barriers NB-1 (in Area A), NB-4 (in Area F), and NB-5 (in Area G) would not be acoustically feasible during construction year 2023 and design year 2043 because the barrier does not provide a 5 dBA reduction or more for any impacted receptors. Therefore, these barriers are not recommended for further consideration.

Noise barrier NB-3 in Area B would be feasible at heights of 8 feet to 16 feet; however, only a 10-foot wall would meet the feasible criteria if implemented during construction year 2023 and design year 2043. The reasonable cost allowance ($190,000) to benefit the two receptors would be less than the estimated construction cost ($403,600) of the 10-foot tall noise barrier, so noise barrier NB-3 is not recommended for further consideration because it does not meet the reasonable criteria based on reasonable cost allowance of benefited receptors versus the barrier construction cost.

Noise barrier NB-6 (in Area H) would be feasible (during construction year 2023) at heights of 10 to 16 feet; at 14 feet, it would result in a line-of-sight break between receptors and an 11.5-foot-tall truck exhaust stack. The 14-foot wall would be the least expensive wall that would meet the feasible criteria; however, this wall height would only provide a 5 dBA or greater reduction to one receptor. The reasonable cost allowance ($95,000) would be less than the estimated construction for a 14-foot barrier ($450,000), so noise barrier NB-6 is not recommended for further consideration because it does not meet the reasonable criteria based on reasonable cost allowance of benefited receptors versus the barrier construction cost.

During design year 2043, noise barrier NB-6 (in Area J) would be acoustically feasible at heights of 12 feet to 16 feet; however, a 14-foot barrier would be the least expensive and still meet the feasible criteria. Since the 14-foot barrier would benefit three receptors with a reasonable allowance of $285,000 and an estimated construction cost of $1,619,000, noise barrier NB-6 is not recommended for further consideration because it does not meet the reasonable criteria based on reasonable cost allowance of benefited receptors versus the barrier construction cost.

During construction year 2023, noise barrier NB-7 (in Area J) would be acoustically feasible at all barrier heights, providing at least a 5 dBA or greater noise reduction. A 12-foot tall barrier would be the least expensive and still meet the feasible criteria. Since the 12-foot barrier would benefit three receptors with a reasonable allowance of $285,000 and an estimated construction cost of $1,417,400, noise barrier NB-7 (in Area J during construction year 2023) is not recommended for further consideration because it does not meet the reasonable criteria based on reasonable cost allowance of benefited receptors versus the barrier construction cost.

Noise barrier NB-2 was found to be feasible and would provide at least a 5 dBA or greater reduction for receptors in Areas C, D and E during construction year 2023 and design year 2043. The design goal of a 7 dBA reduction would be achieved starting at a barrier height of 8 feet for receptors in Area C and 12 feet for receptors in Areas D and E. However, the line-of-sight of an 11.5-foot-tall truck exhaust stack would not be blocked for all receptors in Area C with an 8-foot-tall barrier. A 12-foot-tall barrier would be the least expensive wall that would meet both the reasonable and feasible criteria for Areas C, D, and E.

In construction year 2023, a 12-foot barrier (in Areas C, D, and E) would benefit 528 receptors with a reasonable allowance of $50,160,000 and an estimated construction cost of $2,831,900, which is less than the reasonable cost allowance. In design year 2043, a 12-foot barrier (in Areas C, D, and E) would benefit 515 receptors with a reasonable allowance of $48,925,000 and an estimated construction cost of $2,948,600, which is less than the reasonable cost allowance. Therefore, noise barrier NB-2 is recommended at a height of 12 feet in Areas C, D, and E.

Avoidance, Minimization, and/or Noise Abatement Measures

Short-term Construction

The following measure would avoid and/or minimize short-term construction noise impacts:

NOI-1 The project will implement appropriate measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and/or installing acoustic barriers around construction noise sources if deemed excessive stationary noise levels by local noise ordinance standards.

Operation

Based on the studies completed to date, including the Noise Survey Report (2018), Caltrans intends to incorporate noise abatement in the form of a barrier in one location within the project site. Noise barrier NB-2 (12 feet tall) in Areas C, D, and E will be placed along the southern side of the eastbound lanes of State Route 120 within the Caltrans right-of-way, starting just east of the Main Street/State Route 120 eastbound on-ramp and ending just east of Moffat Boulevard. A 12-foot-tall barrier would be the least expensive wall that would meet both the reasonable and feasible criteria and would come closest to meeting the Caltrans barrier development guidelines.

Noise barrier NB-2 (12 feet tall) in Areas C, D, and E would benefit 528 receptors with a reasonable allowance of $50,160,000 and an estimated construction cost of $2,831,900, which is less than the reasonable cost allowance. Therefore, noise barrier NB-2 at a height of 12 feet is

recommended for Areas C, D, and E for construction year 2023 (Phase 1A) and design year 2043 (Phases 1A, 1B, and 1C).

If, during final design, conditions have substantially changed, noise abatement may not be necessary. The final decision on noise abatement will be made at completion of the project design and public involvement processes.

The following abatement measure would avoid and/or minimize operational noise impacts of the project:

NOI-2 Construction of noise barrier NB-2 (12 feet tall), as shown in **Figures 2-10** and **2-13**, in Areas C, D, and E will occur at the start of Phase 1A construction (construction year 2023). This barrier will be constructed at the start of Phase 1A construction so it will be functional during Phases 1B and 1C of the project to attenuate operational noise at sensitive receptors once the project is fully operational (design year 2043).

2.3 Biological Environment

2.3.1 Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (33 U.S. Code 1344), is the main law regulating wetlands and surface waters. One purpose of the Clean Water Act is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark, in the absence of adjacent wetlands. When adjacent wetlands are present, Clean Water Act jurisdiction extends beyond the ordinary high water mark to the limits of the adjacent wetlands. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes: the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404

permit program is run by the U.S. Army Corps of Engineers with oversight by the U.S. Environmental Protection Agency (U.S. EPA).

The U.S. Army Corps of Engineers issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of U.S. Army Corps of Engineers' Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the U.S. Army Corps of Engineers' decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (40 Code of Federal Regulations 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines were developed by the U.S. EPA in conjunction with the U.S. Army Corps of Engineers and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The guidelines state that the U.S. Army Corps of Engineers may not issue a permit if there is a "least environmentally damaging practicable alternative" to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (Executive Order 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, Executive Order 11990 states that a federal agency, such as Federal Highway Administration and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Alternative Finding must be made.

At the state level, wetlands and waters are regulated mainly by the State Water Resources Control Board, the Regional Water Quality Control Boards and the California Department of Fish and Wildlife. In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify California Department of Fish and Wildlife before beginning construction. If California Department of Fish and Wildlife determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or

Streambed Alteration Agreement will be required. California Department of Fish and Wildlife jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the U.S. Army Corps of Engineers may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the California Department of Fish and Wildlife.

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements and may be required even when the discharge is already permitted or exempt under the Clean Water Act. In compliance with Section 401 of the Clean Water Act, the Regional Water Quality Control Boards also issue water quality certifications for activities that may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. See the Water Quality section for more details.

Affected Environment

The *Natural Environment Study* (as listed in the List of Technical Studies at the end of this document), dated November 2018, contributed to the information and analysis in this section.

A biological study area was established to determine potential biological resource impacts associated with the project. The biological study area totals approximately 326.94 acres and includes portions of State Route 99 and State Route 120 and associated on- and off-ramps, Austin Road, East Woodward Avenue, and 99 Frontage Road. The biological study area also includes the project footprint, access and staging areas, and lands beyond the footprint to the edge of the road right-of-way that could potentially be affected by project construction and/or were determined necessary to inventory to perform an adequate analysis of the project impacts.

Aquatic resources within the biological study area are limited to roadside runoff ditches and agricultural or urban runoff detention basins. Aquatic features in the general vicinity of the biological study area include the Stanislaus River, about 2.5 miles to the south, and the San Joaquin River, about 4.5 miles to the west.

Aquatic resources within the biological study area consist of shallow basins and ephemeral ditches generally located in the central portion of the biological study area along the State Route 99 corridor and the State Route 120 and Austin Road interchanges, within the ruderal/disturbed habitat type. No wetlands were identified within any of these features.

Environmental Consequences

The non-wetland aquatic features within the project site do not appear to connect to any tributary waters of a significant nexus to interstate waters, and so are not regulated by the U.S. Army Corps of Engineers. Therefore, it is expected that the U.S. Army Corps of Engineers will concur that no jurisdictional waters of the U.S. are present in the project site and no permit pursuant to Section 404 of the Clean Water Act would be required. Also, these aquatic features do not fall under the definition of the California Department of Fish and Wildlife waters (i.e., California Department of Fish and Wildlife regulates wetland area only to the extent that those wetlands are part of a river, stream, or lake as defined by California Department of Fish and Wildlife). Therefore, a Lake or Streambed Alteration Agreement, pursuant to Sections 1600-1616 of the CFGC would not be required. Waters of the State, totaling 0.712 acre, include ephemeral ditches and shallow basins within the project site; however, there are no wetlands within the project site. The project would result in 0.20 acre of permanent impacts and 0.02 acre of temporary impacts to waters of the State. Construction BMPs will be implemented and in place prior to, during and after construction to ensure water runoff is contained onsite within Caltrans and City of Manteca right-of-way and impacts to the identified waters minimized.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required for project effects involving wetlands and other waters of the United States.

2.3.2 Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service), and the California Department of Fish and Wildlife are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed below. All other special-status animal species are discussed here, including California Department of Fish and Wildlife fully protected species and species of special concern, and U.S. Fish and Wildlife Service or NOAA Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

Affected Environment

The *Natural Environment Study* (as listed in the List of Technical Studies at the end of this document), dated November 2018, contributed to the information and analysis in this section.

Common animal species (please refer to the **Appendix D: Species List**) observed or likely to occur within the biological study area include the following:

- Mammal species observed in the biological study area during field surveys include the California ground squirrel (*Otospermophilus beecheyi*), brown rat (*Rattus norvegicus*), and coyote (*Canis latrans*). In addition, dirt mounds most likely constructed by Botta's pocket gopher (*Thomomys bottae*) were observed in the biological study area. Common mammal species that may also occur in the biological study area include the Virginia opossum (*Didelphis virginiana*), black-tailed jackrabbit (*Lepus californicus*), and striped skunk (*Mephitis mephitis*).
- Birds observed in the biological study area during field surveys include the red-tailed hawk (*Buteo jamaicensis*), killdeer (*Charadrius vociferus*), Eurasian collared-dove (*Streptopelia decaocto*), yellow-billed magpie (*Pica nuttalli*), Brewer's blackbird (*Euphagus cyanocephalus*), and house sparrow (*Passer domesticus*). Common bird species that may also occur in the biological study area include the red-shouldered hawk (*Buteo lineatus*), ring-necked pheasant (*Phasianus colchicus*), western kingbird (*Tyrannus verticalis*), cliff swallow (*Petrochelidon pyrrhonata*), chipping sparrow (*Spizella passerina*), and great-tailed grackle (*Quiscalus mexicanus*).
- No amphibian or reptile species were observed during the field surveys. Common amphibian species likely to occur in the biological study area include the Pacific chorus frog (*Pseudacris sierra*) and western toad (*Anaxyrus boreas*). Common reptile species likely to occur in the biological study area include the gopher snake (*Pituophis catenifer*), common kingsnake (*Lampropeltis getulus*), and western fence lizard (*Sceloporus occidentalis*).

After evaluation, the special-status wildlife species with potential to occur in the biological study area include the pallid bat (*Antrozour pallidus*), Cooper's hawk (*Accipiter cooperii*), burrowing owl (*Athene cunicularia*), Aleutian cackling goose *(Branta hutchinsii leucopareia*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), California horned lark *(Eremophila alpestris actia*), merlin (*Falco columbarius*) and, loggerhead shrike (*Lanius ludovicianus*).

Pallid Bat

The pallid bat (*Antrozous pallidus*) is a California Species of Special Concern and a locally common species at low elevations. The bat is a yearlong resident through most of its range. It uses a wide variety of habitats from sea level up through mixed conifer forests, but is most common in open dry habitats with rocky areas for roosting. This bat forages among trees and shrubs and over open ground, and often takes prey on the ground. Its diet consists of a variety of insects and spiders, including large hard-shelled prey, which are often carried to a perch or night roost for consumption. Caves, crevices, and sometimes hollow trees and buildings are used for day roosts. Roosts must protect bats from high temperatures. Night roosts may be in more open sites, such as porches and open buildings. Pallid bats are social, and most roost in groups of 20 or more. Maternity colonies form in early April and may have 10 to 100 individuals. Males may roost separately or in the nursery colony.

No pallid bats or sign of the presence of any bat species (e.g., urine staining, droppings, etc.) was observed anywhere in the biological study area during the biological survey. However, the weep holes on the underside of the Austin Road overcrossing provide potential day roost habitat for the pallid bat. While no sign of bat use was observed on any structures in the biological study area during the biological survey, the underside of the Austin Road overcrossing could not adequately be accessed to determine with certainty that bats were not present there. The row crops, orchards, and vineyards, as well as the ruderal areas in and adjacent to the biological study area, provide potential foraging habitat for the pallid bat.

Cooper's Hawk and White-Tailed Kite

The Cooper's hawk (*Accipiter cooperii*) is a State Watch List species protected under the CFGC. Cooper's hawks are a woodland dwelling hawk species that specializes in hunting small to medium birds that they pursue through the air. They are fairly common and range over much of the continent from southern Canada south through Mexico. In California, Cooper's hawks are yearlong residents throughout much of the state (except for the desert regions), and many other individuals arrive to spend the winter from more northern regions or migrate through the state to winter farther south.

A pair of Cooper's hawks was observed in a courtship flight over an almond orchard in the biological study area during the biological survey on November 21, 2017. One individual of the pair was also observed perched and occasionally vocalizing in an ornamental pine tree near the orchard property about 250 feet west of Austin Road and about 650 feet southwest of its intersection with Moffat Boulevard. An inactive nest that may have been used by these hawks in the recent past was observed in this same pine tree.

Roadside landscape and windbreak trees, orchards, as well as the edges of agricultural fields in and adjacent to the biological study area, provide potential foraging habitat for Cooper's hawks, and while the species typically prefers denser stands of trees than those that occur within the biological study area to nest in, the roadside landscape, windbreak and ornamental trees provide potential nesting habitat for the species within the biological study area.

The white-tailed kite (*Elanus leucurus*) is fully protected under the CFCG. This bird occurs from western Oregon south to northern Baja California. In California, white-tailed kites range throughout the Central Valley, west of the Sierra, and through the coast and coastal valleys from Humboldt County south. White-tailed kites nest and forage in a variety of settings. They build stick nests in the tops of trees, and eggs are laid from January to June. They forage for small rodents over grassland and open savanna.

No white-tailed kites were observed in the biological study area during the field surveys. The nearest California Natural Diversity Database record of a white-tailed kite (dated 2002) is from the Kennedy neighborhood of Stockton about 10.4 miles north of the biological study area. This record is of one adult nesting in a cottonwood tree.

There are numerous trees within and in the vicinity of the biological study area that are potential nesting trees for white-tailed kites. The row crops and ruderal/disturbed areas in the biological study area provide potential foraging habitat for the species. Since suitable foraging and nesting habitat is present, and the biological study area is within the known range of the species, this species has the potential to occur in the biological study area.

Burrowing Owl

The burrowing owl (*Athene cunicularia*) is a California Species of Special Concern with no federal status. Burrowing owls occur in warm valleys, open dry grasslands, deserts, and scrublands associated with agriculture and urban areas that support populations of California ground squirrels. Burrowing owls nest below ground, using abandoned burrows of other species (usually ground squirrel) and feed on insects and small mammals.

The burrowing owl is well documented near the biological study area. The California Natural Diversity Database shows 10 records for this species within

10 miles of the biological study area. The closest occurrence, dated 2000, is from about 2.5 miles northwest of the biological study area in a detention basin near the San Joaquin Rail Station parking lot. The row crops and ruderal habitats within the biological study area provide potential foraging and nesting habitat for burrowing owl. Burrows of suitable size were seen at various locations along the State Route 99 and State Route 120 embankments and in the largest expanses of ruderal habitat between the on-ramps of the State Route 99/State Route 120 interchange, but no sign of owl presence (whitewash, prey remains, etc.) was observed during the biological survey. However, this species could occur in the biological study area.

Aleutian Cackling Goose

The Aleutian cackling goose (*Branta hutchinsii leucopareia*) is a federally delisted species. This species nests in the Aleutian Islands off Alaska and winters along much of the West Coast and in the Central Valley where it forages in flooded, disced, cut, or irrigated fields. Cackling geese are highly mobile while foraging and can relocate to nearby foraging habitat if they are disturbed.

The California Natural Diversity Database contains two records of the Aleutian cackling goose within 10 miles of the biological study area, both about 6.5 miles south of the biological study area near the San Joaquin River National Wildlife Refuge.

The row crops in the biological study area provide potential foraging habitat for this species. Since potential foraging habitat is present, this species could occur in the biological study area during its nonbreeding (wintering) season (October through March).

Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) is a State threatened species. It has no formal federal status. Most Swainson's hawks are long-distance migrants, leaving California by the end of October to winter in South America and returning north to nest by the end of March. Some individuals overwinter in the Sacramento-San Joaquin Delta region. In California, Swainson's hawks nest on the Modoc Plateau and the Great Basin, and throughout the Central Valley from about the Red Bluff area south to Kern County. Nests are built in the tops of large trees, often those associated with riparian habitats, or isolated trees in agricultural areas. They are known to forage up to 10 miles from their nest sites.

Swainson's hawks are well documented in the area; there are 99 records of Swainson's hawks within a 10-mile radius of the biological study area. The closest occurrence, dated 2011, is a nest about 1.1 miles north of the biological study area in a eucalyptus tree near State Route 99.

Numerous trees within and in the vicinity of the biological study area are potential nest trees for Swainson's hawks, and the row crops and ruderal/disturbed areas in the biological study area provide potential foraging habitat for the species. Since suitable foraging habitat is present and there are numerous records of Swainson's hawks nesting nearby, this species is highly likely to occur in the biological study area.

California Horned Lark and Loggerhead Shrike

The California horned lark (*Eremophila alpestris actia*) is a California Watch List species. This species is known from coastal regions and the Central Valley, inhabiting short-grass prairie, bald hills, mountain meadows, and fallow grain fields. These birds nest on the ground in grass-lined cup-shaped depressions in open grassy areas.

A flock of California horned larks was observed foraging in the fallow fields east of Austin Road and 99 Frontage Road during the biological survey on November 22, 2017.

The row and field crop lands and ruderal habitats in the biological study area provide suitable foraging and nesting habitat for this species. The California horned lark is known to be present within the biological study area.

The loggerhead shrike (*Lanius ludovicianus*) is a California Species of Special Concern; it has no federal status. Loggerhead shrikes are predatory songbirds that feed on insects, lizards, rodents, and smaller birds. They often impale their prey on barbwire fences or thorny vegetation, so they require habitats with at least one or the other. Nests tend to be built in dense trees or shrubs where the nests can be above ground and well hidden.

No loggerhead shrikes were seen during the field surveys. The California Natural Diversity Database contains a single record for the loggerhead shrike, dated 2016, within the 9-quad search area about 3.75 miles west of the biological study area in an empty parcel at the corner of Nestle Way and Christopher Way; a pair of adults was seen feeding four fledglings.

The row crops in the biological study area provide suitable foraging habitat for the loggerhead shrike, and the orchard and vineyard habitats as well as shrubs and trees in the ruderal/disturbed areas provide potential nesting habitat. This species was not seen during the field visits, but it could occur in the biological study area.

Merlin

The merlin (*Falco columbarius*) is a State Watch List species. This small falcon nests in spruce forests in Alaska, across most of Canada, and south into the northernmost United States, northern Rocky Mountains, and northern Great Plains. The merlin is an uncommon winter visitor to the rest of the United States, including California, where single individuals will forage by

ambushing small birds in low-level attack flights through open country such as grasslands, farmland, and ranchland. Open woodlands at the edges of grasslands or stands of trees in open areas (such as windbreaks) are often used for roosting.

A merlin was seen soaring over the open area between the westbound State Route 120 on-ramp and the industrial area to the north during the biological survey on November 22, 2017. It then flew west and northwest toward Spreckels Avenue.

The orchard, row crop, vineyard, and ruderal/disturbed habitats in the biological study area provide suitable winter foraging habitat for merlins, and the ornamental trees and windbreaks in various locations in the biological study area provide shelter for them to roost. This species is known to occur within the biological study area.

Environmental Consequences

Table 2-23: Impacts of Suitable Habitat for Special-Status Animals Species shows the impacts of the project on suitable habitat for species identified as candidate, sensitive or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife.

Table 2-23: Impacts of Suitable Habitat for Special-Status Animal Species

Species	Permanent Impacts (acres)	Temporary Impacts (acres)	Total Impacts (acres)	Vegetation Community	Habitat Type
Pallid Bat	57.96	117.20	175.16	Row crops, orchard, vineyard, ruderal/disturbed	Foraging
Cooper's Hawk	45.39	103.35	148.74	Orchard, ruderal/disturbed	Nesting and foraging
White-Tailed Kite	42.60	86.78	129.38	Row crops, ruderal/disturbed	Foraging
Burrowing Owl	42.60	86.78	129.38	Row crops, ruderal/disturbed	Nesting and foraging
Aleutian Cackling Goose	7.75	9.92	17.67	Row crops	Wintering and foraging
Swainson's Hawk	42.60	86.78	129.38	Row crops, ruderal/disturbed	Foraging
California Horned Lark	42.60	86.78	129.38	Row crops, ruderal/disturbed	Nesting and foraging
Loggerhead Shrike	57.96	117.20	175.16	Row crops, orchard, vineyard, ruderal/disturbed	Potential habitat
Merlin	57.96	117.20	175.16	Row crops, orchard, vineyard, ruderal/disturbed	Foraging and roosting

Source: State Route 99/State Route 120 Interchange Connector, Natural Environment Study, prepared by LSA November 2018.

Temporary and permanent changes due to project implementation have the potential to result in take of the following special-status species: pallid bat, Cooper's hawk, white-tailed kite, burrowing owl, Aleutian cackling goose, Swainson's hawk, California horned lark, loggerhead shrike, and merlin.

Permanent impacts would occur as a result of project cut-and-fill activities; temporary impacts would occur as a result of project access and staging during construction activities. Considering the amount of habitat available for these species in the region relative to the amount of habitat in the biological study area and implementation of the measures detailed below, the project would not substantially contribute to cumulative effects on animal species.

Avoidance, Minimization, and/or Mitigation Measures

Implementation of the avoidance and minimization measures outlined below would reduce impacts to the following special-status species: pallid bat, Cooper's hawk, white-tailed kite, burrowing owl, Swainson's hawk, California horned lark, and loggerhead shrike.

The risk of killing or harming the Aleutian cackling goose or merlin during project construction is very low because the Aleutian cackling goose is highly mobile while foraging and the merlin is highly mobile during the winter season and does not nest in California. Therefore, avoidance measures for these species are not included.

BIO-1 The following measures will be implemented by the project to reduce the potential for take of the pallid bat:

- Focused bat surveys will be conducted in the biological study area by a qualified bat biologist to determine if nursery or roost sites are present. Focused surveys will be the responsibility of the project. If pallid bats are roosting in the biological study area, the following measures will be implemented:
  - Prior to the nursery season for pallid bat (April through September) sites will be sealed or otherwise rendered unusable to bats (e.g., install grating).
  - Seal hibernation sites, prior to the hibernation season (November through March) when hibernation sites are identified in the biological study area. Alternatively, grating may be installed.
  - When colonial roosting sites in trees or structures must be removed, removal will occur outside of the nursery and/or hibernation seasons and will occur during dusk and/or evening hours after bats have left the roosting site.

BIO-2 The following measures will be implemented by the project to reduce the potential for take of the Cooper's hawk and white-tailed kite:

- If possible, all trees that will be impacted by the project construction will be removed during the non-nesting season (between September 1 and January 31), to avoid take of a nest or bird. If this is not possible, a survey for nesting Cooper's hawks and white-tailed kites will be conducted in the biological study area and within a 300-foot radius by a qualified biologist. The survey will be conducted to a maximum of 10 days prior to the start of construction. The survey area may be decreased due to property access constraints, etc.
- If nesting Cooper's hawks or white-tailed kites are found within 300 feet of the biological study area, a qualified biologist will evaluate the potential for the project to disturb nesting activities. The evaluation criteria will include, but are

not limited to, the location/orientation of the nest in the nest tree, the distance of the nest from the biological study area, and line of sight between the nest and the biological study area.

- The California Department of Fish and Wildlife will be contacted to review the evaluation and determine if the project can proceed without adversely affecting nesting activities.
- If work is allowed to proceed, a qualified biologist will be on-site weekly during construction activities that occur in breeding season to monitor nesting activity. The biologist will have the authority to stop work if it is determined the project is adversely affecting nesting activities.
- If the qualified biologist determines that the setback can be reduced, initial construction activities in the vicinity of the nest will be monitored by a qualified biologist. If the biologist determines nesting is not affected by construction activities with the reduced setback, work can proceed. If it is determined that construction activities are adversely affecting the nesting birds with the reduced setback, all construction within 300 feet of a nest will be halted until the biologist can establish an appropriate setback.
- Worker environmental awareness training will be conducted by a qualified biologist for all construction personnel. The training will instruct workers on the purpose of Environmentally Sensitive Area (ESA) fencing and the resources being protected.

BIO-3 The following measures will be implemented by the project to reduce the potential for impacts to the burrowing owl:

- Preconstruction surveys for the burrowing owl will be conducted by a qualified biologist in accordance with California Department of Fish and Wildlife's 2012 Staff Report on Burrowing Owl Mitigation.
- If burrowing owls are identified during the preconstruction survey, passive exclusion will be implemented per California Department of Fish and Wildlife's 2012 Staff Report on Burrowing Owl Mitigation (including avoidance of occupied burrows during the breeding season from February 1 to August 31).
- Following construction, all fill slopes, temporary impacts and/or otherwise disturbed areas will be restored to preconstruction contours (if necessary) and revegetated with

the native seed mix specified in **Table 2-24: Native Species Mix**. Invasive exotic plants will be controlled pursuant to the following:

- All earthmoving equipment to be used during project construction will be cleaned thoroughly before arrival on the project site.
- All seeding equipment (i.e., hydroseed trucks) will be thoroughly rinsed at least three times prior to beginning seeding work.
- To avoid spreading any non-native invasive species already existing on-site to off-site areas, all equipment will be thoroughly cleaned before leaving the site.
- To avoid introduction of additional non-native species to the site, all fill dirt brought onto the site must be weed-free.

Table 2-24: Native Species Mix

Scientific Name	Common Name	Rate (pounds per acre)	Minimum Percentage Germination
Artemisia douglasiana	Mugwort	2.0	50
Bromus carinatuscarinatus	California brome	5.0	85
Elymus trachycaulus	Slender wheatgrass	2.0	60
Elymus X triticum	Regreen	10.0	80
Eschsolzia californica	California poppy	2.0	70
Hordeum brachyantherum	California barley	2.0	80
Lupinus bicolor	Bicolored lupine	4.0	80

BIO-4 The following measures will be implemented by the project to reduce the potential take of the Swainson's hawk:

- If work begins between February 1 and August 31, an early season preconstruction survey for nesting Swainson's hawks will be conducted between January and March in the biological study area and immediate vicinity (an approximately 0.25-mile radius) by a qualified biologist when tree foliage is relatively sparse and nests are easy to identify. A second preconstruction survey for nesting Swainson's hawks will be conducted in the biological study area and immediate vicinity (an approximately 0.25-mile radius) by a qualified biologist no more than 10 days prior to initiation of earthmoving activities.

- If nesting Swainson's hawks are found within the survey area, a qualified biologist will evaluate the potential for the project to disturb nesting activities. The California Department of Fish and Wildlife will be contacted to review the evaluation and determine if the project can proceed without adversely affecting nesting activities. The California Department of Fish and Wildlife will also be consulted to establish protection measures such as buffers. Disturbance of active nests will be avoided until it is determined by a qualified biologist that nesting is complete and the young have fledged, or that the nest has failed. If work is allowed to proceed, at a minimum, a qualified biologist will be on-site during the start of construction activities during the nesting season to monitor nesting activity. The monitor will have the authority to stop work if it is determined the project is adversely affecting nesting activities.
- Worker environmental awareness training will be conducted by a qualified biologist for all construction personnel. This training instructs workers to recognize Swainson's hawks and their habitat(s).
- Brightly colored Environmentally Sensitive Area (ESA) fencing will be placed along the limits of work to prevent unnecessary encroachment into adjacent areas. Fencing will be maintained in good condition for the duration of construction activities.
- Following construction, all fill slopes, temporary impact and/or otherwise disturbed areas will be restored to preconstruction contours (if necessary) and revegetated with the native seed mix specified above in **Table 2-24**. Invasive exotic plants will be controlled pursuant to the measures presented in Section 5.7 of the Draft Natural Environment Study.

BIO-5 The following measures will be implemented by the project to reduce the potential for take of the California horned lark and loggerhead shrike:

- If construction begins during the nesting season (February 1 to August 31), a survey for nesting California horned larks and loggerhead shrikes will be conducted in the biological study area and within a 100-foot radius by a qualified biologist. The survey will be conducted a maximum of 10 days prior to the start of construction.
- If nesting California horned larks or loggerhead shrikes are found within 100 feet of the project footprint during the

survey, an initial setback of 100 feet from nesting areas will be established and protected with Environmentally Sensitive Area (ESA) fencing. Environmentally Sensitive Area fencing will be maintained during the nesting season until construction is complete or the young have fledged, as determined by a qualified biologist.

- A qualified biologist will evaluate the potential for the proposed work to disturb nesting activities considering the 100-foot setback. The evaluation criteria will include, but are not limited to, the location/orientation of the nest, the distance of the nest to the work limits, the line of sight between the nest and the work limits, and the description of the proposed work.
- If work is allowed to proceed, a qualified biologist will be on-site weekly during construction activities that occur in breeding season to monitor nesting activity. The biologist will have the authority to stop work if it is determined the project is adversely affecting nesting activities.
- If the qualified biologist determines that the setback can be reduced, initial construction activities in the vicinity of the nest will be monitored by a qualified biologist. If the biologist determines nesting is not affected by construction activities with the reduced setback, work can proceed. If it is determined that construction activities are adversely affecting the nesting birds with the reduced setback, all construction within 100 feet of a nest will be halted until the biologist can establish an appropriate setback.
- Worker environmental awareness training will be conducted by a qualified biologist for all construction personnel. The training will instruct workers about the purpose of Environmentally Sensitive Area fencing and the resources being protected.

2.3.3 Invasive Species

Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.” Federal Highway Administration guidance issued August 10, 1999 directs the use of the State’s invasive species list,

maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a project.

Affected Environment

The *Natural Environment Study* (as listed in the List of Technical Studies at the end of this document), dated November 2018, contributed to the information and analysis in this section.

Many non-native plant species have been part of the California landscape for the past 150 years and are considered naturalized in the wild. Some examples of these introduced plant species observed during surveys include common oats (*Avena sativa*), black mustard (*Brassica nigra*), ripgut brome (*Bromus diandrus*), Italian thistle (*Carduus pycnocephalus*), and foxtail barley (*Hordeum murinum*), among others. These species are mostly annual or biennial and considered to be moderately invasive at worst.

Environmental Consequences

Two species of concern were observed in the biological study area during surveys: yellow star thistle (*Centaurea solstitalis*) and broadleaved pepperweed (*Lepidium latifolium*). These species have an invasive rating of "high" according to the California Invasive Plant Council Invasive Plant Inventory Online Database (http://www.cal-ipc.org/paf/).

Avoidance, Minimization, and/or Mitigation Measures

Implementation of the avoidance and minimization measure outlined below would reduce impacts related to invasive species.

BIO-6 To avoid the introduction of invasive species into the biological study area during project construction, contract specifications will include, at a minimum, the following measures:

- All earthmoving equipment to be used during project construction will be cleaned thoroughly before arrival on the project site.
- All seeding equipment (i.e., hydroseed trucks) will be thoroughly rinsed at least three times prior to beginning seeding work.
- To avoid spreading any non-native invasive species already existing on-site to off-site areas, all equipment will be thoroughly cleaned before leaving the site.
- To avoid introduction of additional non-native species to the site, all fill dirt brought onto the site must be weed-free.

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Chapter 3 CEQA Evaluation

3.1 Determining Significance under CEQA

The project is a joint project by Caltrans and the Federal Highway Administration and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The Federal Highway Administration's responsibility for environmental review, consultation, and any other actions required by applicable federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S. Code Section 327 (23 USC 327) and the Memorandum of Understanding dated December 23, 2016 and executed by the Federal Highway Administration and Caltrans. Caltrans is the lead agency under NEPA and CEQA.

One of the main differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an Environmental Impact Statement, or a lower level of documentation, will be required. NEPA requires that an Environmental Impact Statement be prepared when the proposed federal action (project) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an Environmental Impact Statement, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an Environmental Impact Report must be prepared. Each and every significant effect on the environment must be disclosed in the Environmental Impact Report and mitigated if feasible. In addition, the CEQA Guidelines list a number of "mandatory findings of significance," which also require the preparation of an Environmental Impact Report. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

3.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the project. In many cases, background studies performed in connection with the project will indicate that there are no impacts to a particular resource. A “no impact” answer in the last column reflects this determination. The words “significant” and “significance” used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects such as best management practices and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 to provide you with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

AESTHETICS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

CEQA Significance Determinations for Aesthetics

a) No Impact

The project area does not contain any designated scenic vistas. The area is topographically flat and consists of urban and agricultural areas, with distant views of the coastal range and Sierra Nevada Mountains. Design features associated with the project would not impact scenic vistas because none exist in the project area. **No impacts** would occur during Phase 1A, Phase 1B or Phase 1C of the project. CEQA-related mitigation measures would not be required.

b) No Impact

The City of Manteca does not identify or designate scenic routes within its jurisdiction. San Joaquin County designates Interstate 5 from the Sacramento County line south to Stockton as a designated scenic route; however, the City of Manteca is south of Stockton, and Interstate 5 is not visible from the project site. The project would not substantially damage scenic resources, trees, rock outcroppings, and historic buildings within a state scenic highway because no scenic highways exist within the project area. **No impacts** would occur during Phase 1A, Phase 1B or Phase 1C of the project. CEQA-related mitigation measures would not be required.

c) Less Than Significant Impact

The project would result in minor changes to visual resources as measured by changes in visual character and visual quality. The project would be slightly larger in scale than the roadway's existing conditions; however, overall visual character and visual quality would remain the same or improve

slightly compared to existing conditions. Minimization measure **AES-1** (described in Chapter 2) would further avoid or minimize construction impacts. Phase 1A, Phase 1B or Phase 1C of the project would not substantially degrade the visual quality and character of the site and its surroundings; a **less than significant impact** would occur. CEQA-related mitigation measures would not be required.

d) No Impact

Exterior lighting and illuminated signage exist in the vicinity of the project area, and headlights from vehicles traveling on State Route 99, State Route 120 and nearby roads also serve as near-constant sources of light and glare. The project would not include new lighting elements in an area in which there is currently no lighting. Minimization measure **AES-2** (described in Chapter 2) would help avoid or minimize any introduced light and glare during construction of Phases 1A, 1B and 1C. **No impact** would occur. CEQA-related mitigation measures would not be required.

AGRICULTURE AND FOREST RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

CEQA Significance Determinations for Agriculture and Forest Resources

a) Less Than Significant Impact

Impacts to farmlands are discussed in detail in Section 2.1.2 Farmland. Implementation of the project would result in approximately 48.95 acres of right-of-way conversions, including both agriculture and urban lands. The proposed right-of-way conversions would result in the loss of 0.93 acre of Prime Farmland and 35.97 acres of Farmland of Statewide Importance. The

project would result in a total loss of 36.9 acres of Important Farmland, as defined by CEQA.

As of 2016, San Joaquin County had a total Important Farmland inventory of 615,075 acres. Of the 615,075 acres, 381,634 acres were designated as Prime Farmland; 82,618 acres were designated as Farmland of Statewide Importance; 81,920 acres were designated as Unique Farmland; and, 68,903 acres were designated as Farmland of Local Importance. As of 2017, the City of Manteca had a total Important Farmland inventory of 4,944.365 acres, which consisted of 1,095.536 acres of Prime Farmland; 3,278.122 acres of Farmland of Statewide Importance; and, 570.707 acres of Farmland of Local Importance. The project would result in a 0.08 percent decrease of the Manteca Prime Farmland inventory and a 0.000244 percent decrease of the County Prime Farmland inventory. The project would result in a 1.09 percent decrease of the Manteca Farmland of Statewide Importance inventory and a 0.043 percent decrease of the County Farmland of Statewide Importance inventory.

It should be noted, the areas that would be converted due to project implementation have already been designated as urban uses in the Manteca and County General Plans, so conversion of such land to urbanized uses is already planned for the area.

The project would result in a comparatively low proportion of Important Farmland conversion; the proposed conversion areas are not designated for future agricultural use, and the project would not be required to consider further protection under the Farmland Protection Policy Act. Based on this, impacts to Important Farmland, as defined by CEQA (Prime Farmland and Farmland of Statewide Importance), would be **less than significant** with implementation of the project. CEQA-related mitigation measures would not be required.

b) Less Than Significant Impact

Two parcels under Williamson Act contract sit within the boundary of the project:

- **APN 228-060-180-000:** This parcel is approximately 33.85 acres. The project would acquire 8.46 acres of that total.
- **APN 228-060-210-000:** This parcel is approximately 73.41 acres. The project would acquire 0.37 acre of that total. This parcel commenced with the non-renewal process in 2012 and will be out of the Williamson Act contact in 2021.

The project would relieve congestion and improve roadway operations for local commuters and improve access for local businesses, so the project could be considered a public improvement. As public entities, Caltrans and

the San Joaquin Council of Governments would be able to acquire portions of the parcels under Williamson Act contract without cancelling the contracts. Instead, the contracts for the portions acquired would be nullified, while the remaining land in the parcels would continue to be under the existing Williamson Act contract. To publicly acquire the portions of the parcels under Williamson Act contracts, the project would follow the notification procedures required by the California Department of Conservation Division of Land Resource Protection. To ensure this is done properly, avoidance and minimization measure **AG-3** (described in Chapter 2) would be applied to the project.

The portions of the project within the City of Manteca are not zoned as agricultural land. Portions of the project that are in unincorporated San Joaquin County areas are zoned as Agricultural Urban Reserve and General Agriculture. **Table 3-1: Agriculturally Zoned Parcels to be Acquired** shows the parcels that are agriculturally zoned and the amount of acreage of each parcel that would be acquired for the project.

Table 3-1: Agriculturally Zoned Parcels to be Acquired

Assessor Parcel Number	Zoning Designation	Total Parcel Acreage	Acreage to be Acquired	Percentage of Parcel to be Acquired
228-020-39	AU-20	23.15	1.19	5.1
228-050-02	AU-20	23.13	0.44	1.9
228-050-18	AU-20	47.86	4.65	9.7
228-050-19	AU-20	0.46	0.46	100.0
228-060-08	AG-40	35.64	5.66	15.9
228-060-15	AG-40	1.26	1.26	100.0
228-060-18	AG-40	33.85	8.46	24.9
228-060-19	AG-40	8.28	0.80	9.7
228-060-20	AG-40	8.68	0.26	2.9
228-060-21	AG-40	73.41	0.37	0.5
Total		255.72	23.55	0.09

Source: Draft Community Impact Assessment Checklist, February 2018.
Notes: AU-20 = Agriculture-Urban Reserve Zone; AG-40 = General Agricultural Zone

The project is considered a public improvement. It would result in a minimal conversion of agricultural land (less than 0.1 percent). Project proponents would work with local jurisdictions to request zoning amendments for the agriculturally zoned partial parcel acreages that will be rezoned to right-of-way and will acquire portions of the parcels under Williamson Act contract. Therefore, the project would result in a **less than significant impact**. CEQA-related mitigation measures would not be required.

c) No Impact

The project would not conflict with the zoning for or cause rezoning of forestland and timberland. No forest land or timberland is located within the project vicinity. **No impact** would occur. CEQA-related mitigation measures would not be required.

d) No Impact

The project site sits in an urbanized setting. No forestland resources occur within or adjacent to the project site; parcels within and adjacent to the project site are not zoned forestland, so **no impact** would occur. CEQA-related mitigation measures would not be required.

e) Less Than Significant Impact

Implementation of the project has the potential to indirectly affect portions of parcels that are currently under agricultural production. During construction, the project has the potential to damage crops outside of the project boundary due to dust generation or access requirements (i.e., accessing the project site from parcels that are currently under agricultural production). Construction and operation of the project may also require detours or road closures that could limit access to surrounding parcels under agricultural production. Finally, construction of the project has the potential to disrupt water flow to nearby parcels under agricultural production because irrigation ditches and pipelines may temporarily need to be shut off/blocked and/or removed or relocated. All of these potential situations could result in indirect effects to nearby agricultural land causing farmland to be converted to urban uses if not properly avoided or mitigated.

Avoidance and minimization measures **AG-1** and **AG-2** discussed in Chapter 2 would be implemented to avoid potential agricultural conversion and damage to existing nearby agricultural operations. Impacts would be **less than significant**.

AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.				
Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

CEQA Significance Determinations for Air Quality

a) No Impact

The project would not obstruct implementation of or conflict with any applicable air quality plans. The project would have **no impacts** during Phases 1A, 1B, 1C and operation. CEQA-related mitigation measures would not be required.

b) Less Than Significant Impact

The project is included in the San Joaquin Council of Governments Year 2018 Regional Transportation Plan. The associated Air Quality Conformity Analysis verifies that the Regional Transportation Plan and the 2019 Transportation Improvement Plan conform with the latest EPA transportation conformity regulations and the conformity State Implementation Plan. Therefore, there is no potential for the project to interfere with air quality plans that are designed to reduce cumulative air quality impacts in the project area. Impacts would be **less than significant** during Phases 1A, 1B, 1C and project operation. CEQA-related mitigation measures would not be required.

c) Less Than Significant Impact

Implementation of the project during Phases 1A, 1B and 1C could generate construction-related emissions, resulting in the short-term degradation of air quality. This would be caused by the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction activities. The project proponent will implement minimization and avoidance measures **AQ-1**, **AQ-2,** and **AQ-3** (described in Chapter 2) to ensure that such emissions would not exceed existing emissions standards. Implementation of these minimization and avoidance measures would reduce impacts to **less than significant** during Phases 1A, 1B and 1C. CEQA-related mitigation measures would not be required.

d) Less Than Significant

The project is anticipated to generate lesser emissions of VOC, NO_x and mobile source air toxics in 2023 and 2043 compared to the No-Build Alternative and existing conditions. (Sellers comment: Spell out yellow items.) Emissions decrease in 2023 and 2043 compared to the existing conditions mostly due to fleet turnover and improvements in exhaust controls. When compared to the No-Build Alternative, the project would result in slight reductions in daily criteria pollutant emissions due to improved traffic flow, except for particulate matter and CO in 2043. Marginal increases in daily emissions of these pollutants are attributed to increases in vehicle miles traveled associated with the interchange reconfiguration and expanded capacity. These nominal increases would not result in the exceedance of standards for these specific emissions.

The project would result in marginal reductions in particulate matter emissions in 2023 and marginal increases in particulate matter emissions in 2043 when compared to the No-Build Alternative. The increases are associated mostly with increased vehicle miles traveled and brake and tire wear. The marginal increases would not conflict with or obstruct timely attainment of the particulate matter standards. During 2023 and 2043 with project conditions, NO_x emissions will decrease when compared to existing conditions mostly due to fleet turnover and improvements in exhaust controls. When compared to the No-Build Alternative, the project would result in slight reductions in daily criteria pollutant emissions due to improved traffic flow. The project has not been linked with any special mobile source air toxics concerns and has been determined (through modeling) to generate minimal air quality impacts for criteria pollutants. The project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in mobile source air toxics impacts. Therefore, impacts from air quality emissions generated during operation of the project would be **less than significant.** CEQA-related mitigation measures would not be required.

e) Less Than Significant

During construction activities, operation of construction equipment may generate exhaust that could expose nearby sensitive receptors to objectionable odors. Such odors would be temporary and would dissipate quickly. Operation of the project is not anticipated to generate odors above and beyond those that are already generated by existing traffic. Impacts would be **less than significant** during construction Phases 1A, 1B, 1C and project operation. CEQA-related mitigation measures would not be required.

BIOLOGICAL RESOURCES

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

CEQA Significance Determinations for Biological Resources

a) Less Than Significant Impact

As discussed in Section 2.3.2 Animal Species, a Natural Environment Study was done for the project. The following analysis is taken from the results of the study.

The project could affect the following special-status species: pallid bat, Cooper's hawk, white-tailed kite, burrowing owl, Aleutian cackling goose,

Swainson's hawk, California horned lark, loggerhead shrike, and merlin. Permanent and temporary impacts would occur as a result of project cut-and-fill activities and project access and staging during construction activities.

The Cooper's hawk, California horned lark, and merlin were observed within the biological study area during field surveys. In addition, the following were identified within the biological study area: potential roosting habitat for the pallid bat; foraging and nesting habitat for the white-tailed kite, burrowing owl, Swainson's hawk and loggerhead shrike; and potential foraging habitat for the Aleutian cackling goose.

The risk of killing or harming the Aleutian cackling goose or merlin during project construction is very low because the Aleutian cackling goose is highly mobile while foraging and the merlin is highly mobile during the winter season and does not nest in California. In addition, considering the amount of habitat available in the region relative to the amount of habitat in the biological study area, and implementation of the avoidance and minimization measures **BIO-1** through **BIO-5** (described in Chapter 2), the project would result in a **less than significant impact**. CEQA-related mitigation measures would not be required.

b) No Impact

The project is not in an area with riparian habitat or sensitive natural communities, so the project would have **no impact** on riparian habitats or sensitive natural communities. CEQA-related mitigation measures would not be required.

c) Less Than Significant Impact

The non-wetland aquatic features within the project site do not appear to connect to any tributary waters of a significant nexus to interstate waters and, as such, are not regulated by the U.S. Army Corps of Engineers. Therefore, it is expected that the U.S. Army Corps of Engineers will concur that no jurisdictional waters of the U.S. are present in the project site and no permit pursuant to Section 404 of the Clean Water Act would be required. Furthermore, these aquatic features do not fall under the definition of California Department of Fish and Wildlife waters (the California Department of Fish and Wildlife regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by California Department of Fish and Wildlife). Therefore, a Lake or Streambed Alteration Agreement, pursuant to Sections 1600-1616 of the CFGC would not be required.

Waters of the State, totaling 0.712 acre, include ephemeral ditches and shallow basins within the project site, but no wetlands occur within the project site. The project would result in 0.20 acre of permanent impacts and 0.02 acre of temporary impacts to waters of the State. Therefore, the project would be subject to Waste Discharge Requirements from the Regional Water

Quality Control Board under the Porter-Cologne Act. The project would comply with all applicable Regional Water Quality Control Board requirements through implementation of standard measures **WQ-1** through **WQ-4 Less than significant impacts** would occur to non-wetland aquatic features or wetlands during project construction of Phases 1A, 1B, and 1C or during operation. CEQA-related mitigation measures would not be required.

d) No Impact

During field surveys within the project site, no substantial evidence was found indicating that any portion of the project area is used as a wildlife migration corridor. The project site is composed of multiple roads, a patchwork of agricultural parcels, industrial areas, and residential developments that are all impediments to wildlife movement. **No impacts** would occur to wildlife migration during project construction of Phases 1A, 1B, and 1C or during operation. CEQA-related mitigation measures would not be required.

e) No Impact

The project would be consistent with local policies or ordinances protecting biological resources. Minor tree removal would be required as part of the project. Trees within the existing right-of-way at the State Route 99/State Route 120 interchange and the Austin Road interchange, and orchard trees as part of the realigned Woodward Avenue connection to Austin Road, would be removed. Tree ordinances set forth by the City of Manteca and San Joaquin County will be followed by the project. Therefore, **no impact** would occur during project construction of Phases 1A, 1B, and 1C or during operation. CEQA-related mitigation measures would not be required.

f) No Impact

The project sits within the jurisdiction of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan. The plan was evaluated, and it was determined that the plan would not expedite or reduce the costs of the project; therefore, the plan was not used. The project would not conflict with any adopted Habitat Conservation Plan or other approved local, regional, or state habitat conservation plan. Therefore, **no impact** would occur during project construction of Phases 1A, 1B, and 1C or during operation. CEQA-related mitigation measures would not be required.

CULTURAL RESOURCES

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

CEQA Significance Determinations for Cultural Resources

a) No Impact

Nineteen parcels containing built environment cultural resources over 45 years old were identified adjacent to or within the project footprint. Based on the design of the project, it was determined that 11 of the 19 built environment cultural resources would not be adversely affected by the project because they were set back far enough from the footprint, and/or they were screened by vegetation or other development.

Two of the remaining eight parcels in the area of potential effect did not require evaluation because they met the Section 106 exemption criteria as Property Type 3: Buildings so altered as to appear less than 30 years old, or Property Type 1: Minor, ubiquitous, or fragmentary infrastructure elements (mobile homes).

The remaining six parcels contained built environment cultural resources over 45 years old that were evaluated for listing in the National Register of Historic Places and California Register of Historical Resources to determine if implementation of the project would affect these resources. The analysis concluded that of the six built environment resources evaluated, none appear eligible for listing in the National Register of Historic Places or the California Register of Historical Resources under any qualifying criteria. Therefore, the project would not impact built environment cultural resources during construction of Phases 1A, 1B, and 1C and project operation. **No impact** would occur. CEQA-related mitigation measures would not be required.

b) Less Than Significant Impact

During field surveys, staff identified one piece of white improved earthenware, fragments of large mammal cancellous bone, and a refuse scatter of modern glass and ceramic dishes, all of which were found within the area of potential effect. The area of potential effect contains soils classified as moderate to high in sensitivity for encountering buried precontact archaeological deposits; however, this potential has been affected by decades of ranching and farming activities. The potential still exists that previously unknown buried historical and archaeological deposits could be discovered during grading and excavation work associated with construction activities. If such cultural resources are discovered, avoidance measures identified below would be implemented to ensure the sensitive cultural resources are not adversely affected by project implementation. With implementation of avoidance and minimization measure **CULT-1** and standardized measure **CULT-3** (described in Chapter 2), impacts to archaeological and cultural resources would be **less than significant** during construction of Phases 1A, 1B, and 1C. CEQA-related mitigation measures would not be required.

c) Less Than Significant Impact

No special paleontological situations that would require project design to avoid critical fossil localities or deposits are anticipated for the project. The project would include some degree of ground disturbance in paleontologically sensitive sediments and therefore has the potential to inadvertently unearth scientifically significant, nonrenewable paleontological resources. If such resources are discovered, ground-disturbing activities would be halted and the resources would be evaluated by a qualified paleontologist. Therefore, impacts to paleontological resources would be **less than significant** during construction of Phases 1A, 1B, and 1C. CEQA-related mitigation measures would not be required.

d) Less Than Significant Impact

No human remains, including those of Native American descent, are known to exist within the area of potential effect. If during construction of the project, undocumented human remains are uncovered, standardized measure **CULT-3** (described in Chapter 2) would ensure that potential impacts are reduced to **less than significant** during construction of Phases 1A, 1B, and 1C. CEQA-related mitigation measures would not be required.

GEOLOGY AND SOILS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

CEQA Significance Determinations for Geology and Soils

a) No Impact

The project would not expose people or structures to potential adverse effects including the risk of loss, injury, or death involving seismically induced events such as earthquakes, liquefaction, seismically induced settlement, or seismically induced slope failure. **No impact** would occur. CEQA-related mitigation measures would not be required.

i) No Impact

The project area is not within a designated Alquist-Priolo Earthquake Fault Zone. There would be **no impact**. CEQA-related mitigation measures would not be required.

ii) No Impact

Because of the distance from the project site to active faults, it is estimated that light ground shaking (based on a calculated Peak Ground Acceleration of 0.37 gravity (g)) would occur at the site during a seismic event and there is a very low probability of surface rupture at the project site. Implementation of the project would result in **no impact**. CEQA-related mitigation measures would not be required.

iii) Less Than Significant Impact

Because of the soil conditions and level of groundwater at the project site, liquefaction potential exists at the site and post-liquefaction settlement of the ground up to 7 inches could occur. Implementation of standard measure **GEO-1**would obtain site-specific data appropriate to design the project to reduce impacts to potential liquefaction events. Implementation of the project would result in a **less than significant impact**. CEQA-related mitigation measures would not be required.

iv) No Impact

No steep slopes exist within the project site, so seismically induced landslide potential does not exist within the project site. The new human-made slopes would be designed to meet the Caltrans Seismic Design Criteria and, therefore, would reduce the risk of slope failure during a seismic event. Implementation of the project would result in **no impact**. CEQA-related mitigation measures would not be required.

b) Less Than Significant Impact

Construction activities occurring on-site have the potential to cause severe soil erosion or loss of topsoil; however, best management practices in compliance with Caltrans standards for soil erosion control would be incorporated into construction activities to reduce erosion. A **less than significant impact** would occur. CEQA-related mitigation measures would not be required.

c) No Impact

The project site is in a topographically flat area and is not near any steep slopes that would present the risk of landslides. The potential of liquefaction exists due to soil conditions and level of groundwater; however, such risks would be reduced through the implementation of standard measure **GEO-1**. There are no expansive soils that would present the risk of lateral spreading within the project vicinity. Implementation of the project would result in **no impact**. CEQA-related mitigation measures would not be required.

d) No Impact

Expansive soil (shrink-swell capacity) was not encountered near the surface of the project; however, it should be verified prior to the start of construction that expansive soils are not located in subsurface areas of the project site. If expansive soil is encountered in subsurface areas, standardized measures and best management practices would be implemented. **No impact** would occur. CEQA-related mitigation measures would not be required.

e) No Impact

The project would not require septic tanks or alternative waste water disposal systems. Implementation of the project would result in **no impact**. CEQA-related mitigation measures would not be required.

GREENHOUSE GAS EMISSIONS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Caltrans has used the best available information based to the extent possible on scientific and factual information, to describe, calculate, or estimate the amount of greenhouse gas emissions that may occur related to the proposed project. The analysis included in the climate change section of this document provides the public and decision-makers as much information about the proposed project as possible. It is Caltrans' determination that in the absence of statewide-adopted thresholds or greenhouse gas emissions limits, it is too speculative to make a significance determination regarding an individual project's direct and indirect impacts with respect to global climate change. Caltrans remains committed to implementing measures to reduce the potential effects of the proposed project. These measures are outlined in the climate change section that follows the CEQA checklist and related discussions.			
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				

HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

CEQA Significance Determinations for Hazards and Hazardous Materials

a) Less Than Significant

The historical uses of the project site and existing structures indicate the potential presence of site contamination by aerially deposited lead, asbestos-containing materials, and lead-based paint. Most of the project site was occupied by agricultural uses in the past, so on-site soils likely contain some

amount of pesticides, herbicides, and arsenic. The project site has also been historically occupied (since the early 20th century) by railroad tracks. Soils surrounding railroad tracks are often impacted with elevated levels of metals, petroleum hydrocarbons, and polyaromatic hydrocarbons. Please refer to the analysis provided in Section 2.2.1 Hazardous Waste and Materials.

As excavation during construction could reveal unknown hazardous materials or contamination (asbestos-containing materials, lead-based paint, pesticides, herbicides, and arsenic) of soils, implementation of avoidance and minimization measures **HAZ-1** through **HAZ-4** (described in Chapter 2) would be necessary, to reduce impacts to **less than significant**. CEQA-related mitigation measures would not be required.

b) Less Than Significant

As discussed under threshold *a* above, hazardous materials may exist within the project site. However, implementation of avoidance and minimization measures **HAZ-1** through **HAZ-4** (described in Chapter 2) would reduce any potential impacts to **less than significant**. CEQA-related mitigation measures would not be required.

c) No Impact

There are no existing or proposed schools within a quarter mile of the project site, so **no impact** would occur. CEQA-related mitigation measures would not be required.

d) Less Than Significant

Federal and state agency regulatory lists were reviewed to identify the presence of hazardous waste sites in the vicinity of the project pursuant to Government Code Section 65962.5. Most of the hazardous waste sites that were identified were either closed, down- or cross-gradient, or too far up-gradient to pose an impact to the project site or construction workers on the project site. Several Leaking Underground Storage Tanks sites were identified but they were all closed sites and were too far up or cross gradient to pose a potential impact to the Project. As no hazardous sites were identified on or near the Project site, a significant hazard to the public or the environment would not occur; as such, **no impact** would occur under CEQA. CEQA-related mitigation measures would not be required.

e) No Impact

There are no private or public use airports within 2,000 feet of the project, so the project would not result in hazards associated with such transportation uses and **no impact** would occur. CEQA-related mitigation measures would not be required.

f) No Impact

There are no private airstrips within the project vicinity. **No impact** would occur. CEQA-related mitigation measures would not be required.

g) No Impact

The City of Manteca's and San Joaquin County's emergency response plans are designed to be compatible with projected buildout, including the improved interchange at State Route 99/State Route 120. With implementation of standard measure **TRA-1** and the avoidance and minimization measures **TRA-2** and **TRA-3** (described in Chapter 2) listed below under Traffic and Transportation in Section 3.2 CEQA Environmental Checklist, the project would have **no impact** to Manteca's and San Joaquin County's emergency response plans. CEQA-related mitigation measures would not be required.

h) No Impact

Review of CalFire's Fire Hazard Severity Zones Maps for the project area indicates that the project is not located in a wildland fire area. **No impact** would occur. CEQA-related mitigation measures would not be required.

HYDROLOGY AND WATER QUALITY

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow	☐	☐	☐	☒

CEQA Significance Determinations for Hydrology and Water Quality

a) Less Than Significant Impact

During construction of the project, equipment would be used, increasing the chance that accidental spills or releases of fuels, oils, or other potentially toxic materials could occur within the site boundary. There are no wetlands or waterways on the project site or within close proximity of the project site; however, accidental spills have the potential to contaminate on-site soils, which could leach into groundwater. The project would also disturb more than 1 acre of soil during construction. With implementation of standard measures **WQ-1** through **WQ-4** (described below), impacts to water quality standards and waste discharge requirements would be **less than significant** during project Phases 1A, 1B, and 1C and during project operation. CEQA-related mitigation measures would not be required.

WQ-1 Preparation and implementation of construction site temporary best management practices by the project will comply with the provisions of the Caltrans Statewide National Pollutant Discharge Elimination System Permit and any subsequent permit as they relate to construction activities for the project. These best management practices will include submission of a Notice of Intention to the Central Valley Regional Water Quality Control Board at least 30 days before the start of construction and submission of a Notice of Termination to the Regional Water Quality Control Board upon completion of construction and stabilization of the project site. The temporary best management practices will be installed by the project prior to any construction operations and will be in place for the duration of the contract. The removal of these best management practices by the project will be the final operation, along with the project site cleanup.

WQ-2 The project will follow Design Pollution Prevention and Treatment Control best management practices for the project in accordance with the procedures outlines in the Stormwater Quality Handbooks, Project Planning and Design Guide. Compliance with Design Pollution Prevention and Treatment Control best management practices will included coordination with the Regional Water Quality Control Board with respect to feasibility, maintenance, and monitoring of Treatment Control best management practices as set forth in Caltrans' Statewide Stormwater Management Plan. A Water Pollution Control Program will need to be prepared by a Qualified Stormwater Pollution Prevention Plan Practitioner.

WQ-3 The project will be required to comply with the provisions specified in Section 13 “Water Pollution Control,” and Section 14-11 “Hazardous Waste and Contamination,” of the California State Standard Specifications, regarding spill prevention and control measures. All workers will be informed by the project of the importance of preventing spills and appropriate measures to take should a spill occur.

WQ-4 To control sedimentation during and after project implementation, the project will implement best management practices outlined in any authorizations or permits, issued under the authorities of the Clean Water Act that it receives for the project. If best management practices are ineffective, the project will remedy the situation immediately, in consultation with the regulatory and resource agencies.

b) No Impact

The Preliminary Geotechnical Report for the project indicated that there was groundwater encountered at a depth ranging between 1.5 feet and 22.5 feet below the existing ground level. The project would not rely on pumping groundwater. There would be **no impact** to groundwater as a result of implementation of the project Phases 1A, 1B, and 1C or during project operation. CEQA-related mitigation measures would not be required.

c) No Impact

The project site drainage is generally by sheet flow or collected by local drainage systems. During construction, temporary drainage facilities may be required to redirect runoff from work areas. While there may be minimal impacts to existing hydrology, there would be no alteration to its course or a substantial permanent increase in runoff. Existing drainage systems at the edge of shoulders or in the median may need to be relocated. There would be **no impact** to drainage patterns causing erosion or siltation either off-site or in the project site during Phases 1A, 1B, and 1C or during project operation. CEQA-related mitigation measures would not be required.

d) No Impact

There would be **no impact** to drainage patterns causing flooding or increased runoff either off-site or in the project site during Phases 1A, 1B, and 1C or during project operation. CEQA-related mitigation measures would not be required.

e) No Impact

The project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. **No impact** would occur. CEQA-related mitigation measures would not be required.

f) Less Than Significant Impact

The Stormwater Pollution Prevention Plan would include measures to avoid and reduce potential impacts to water quality during project construction by incorporating applicable temporary construction site-specific best management practices. Therefore, with the inclusion of standard measures **WQ-1** through **WQ-4** (described above), any potential impacts to water quality would be **less than significant** during **p**roject Phases 1A, 1B, and 1C and during project operation. CEQA-related mitigation measures would not be required.

g) No Impact

Flood Insurance Rate Maps show that the project site is within unshaded Zone X, which indicates areas determined to be outside the 0.2 percent (500-year) annual chance floodplain. The scope of work proposed does not include adding housing or structures of any type. **No impact** would occur. CEQA-related mitigation measures would not be required.

h) No Impact

The project is not within the 100-year flood hazard area and would not include the construction of any structures that would impede or redirect flows within a 100-year flood hazard area. **No impact** would occur. CEQA-related mitigation measures would not be required.

i) No Impact

There are no levees or dams in the project area. There would be **no impact** during project Phases 1A, 1B, and 1C and project operation. CEQA-related mitigation measures would not be required.

j) No Impact

No water bodies that would present a risk for seiche or tsunamis are within the project vicinity. There are no steep slopes that exist within or near the project site. Also, the project site is relatively topographically flat with elevations ranging between 40 and 78 feet above mean sea level. Landslide potential does not exist at the project site. No distinct evidence of recent or past landslides was observed during field geological investigations or previously mapped by others within the project study area. Any new human-made slopes associated with the project would be designed to meet the Caltrans Seismic Design Criteria and, therefore, would reduce the risk of slope failure during a seismic event. **No impact** related to inundation by seiche, tsunami, or mudflow would occur. CEQA-related mitigation measures would not be required.

LAND USE AND PLANNING

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b)Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

CEQA Significance Determinations for Land Use and Planning

a) No Impact

The project would not divide an established community because the transportation facility already exists. There would be **no impact** during project Phases 1A, 1B, and 1C and during project operation. CEQA-related mitigation measures would not be required.

b) No Impact

The City of Manteca, San Joaquin County, and the San Joaquin Council of Governments have incorporated the development of the project into their land use plans/planning documents, indicating that an improved State Route 99/State Route 120 connector is needed to alleviate existing and future traffic congestion due to an increase in anticipated/planned development trends, and also needed to improve vehicle circulation safety. Implementation of the project is not anticipated to increase planned development trends in the City of Manteca or unincorporated portions of San Joaquin County in the project site vicinity. There would be **no impact** to land use or planning during project Phases 1A, 1B, and 1C and during project operation. CEQA-related mitigation measures would not be required.

c) No Impact

The project would not conflict with any adopted Habitat Conservation Plan or other approved local, regional, or state habitat conservation plan. The project is within the jurisdiction of the San Joaquin Multi-Species Conservation Plan. However, the plan would not expedite or reduce costs of the project and

would not be used. The project would not conflict with the adopted San Joaquin Multi-Species Conservation Plan as this plan will not be used for project implementation. Therefore, **no impact** would occur during project construction of Phases 1A, 1B, and 1C or during operation. CEQA-related mitigation measures would not be required.

MINERAL RESOURCES

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

CEQA Significance Determinations for Mineral Resources

a) No Impact

Construction activities occurring during Phase 1A, Phase 1B, and Phase 1C of the project would not result in the loss of mineral resources. **No impact** would occur during project Phases 1A, 1B, and 1C and during project operation. CEQA-related mitigation measures would not be required.

b) No Impact

Mineral Resource Zones are adjacent to the project site; however, no Mineral Resource Zones are in the permanent impact areas of the project, so mineral resources would not be lost and **no impact** would occur during project Phases 1A, 1B, and 1C and during project operation. CEQA-related mitigation measures would not be required.

NOISE

Would the project result in:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

CEQA Significance Determinations for Noise

a) Less Than Significant Impact

Construction Impacts

Noise levels during project construction have the potential to impact nearby sensitive noise receptors throughout the study area. Most of the noise sensitive receptors potentially impacted by construction noise are south of State Route 120 and west of State Route 99, or near the frontage road. Typical construction noise levels may reach 94.3 dBA L_{max} at a distance of 50 feet from the noise sources. Due to the proximity of these receptors to both State Route 99 and State Route 120, construction noise is anticipated to be overshadowed by traffic noise. Construction activities would be temporary and would mostly occur during normal daytime hours. The City of Manteca's noise ordinance allows construction activities during the hours of 7:00 a.m. to 7:00 p.m. If construction activities occur outside of these hours, coordination with the City, including potential measures to reduce noise levels, would be required. The County's Municipal Code (Title IX, Chapter 97, Section

97.04(B)(1)) restricts noise from construction activities within 500 feet of residential units between the hours of 10:00 p.m. to 6:00 a.m. daily; on Sundays, hours are extended to 8:00 a.m. Some construction activities may require limited work during nighttime hours. A variance or waiver would be required from the City prior to the start of construction activities during nighttime hours. Impact pile driving would occur only during daytime hours, which would reduce the potential for impacts at sensitive receptors. In addition, minimization measure **NOI-1** (described in Chapter 2) would minimize construction noise impacts under the project. Impacts from construction noise are anticipated to be **less than significant** under CEQA. CEQA-related mitigation measures would not be required.

Long-Term Transportation Noise Impacts

Most of the existing sensitive receptors in the City of Manteca and unincorporated San Joaquin County are currently and would continue to be (during construction year 2023 and design year 2043 conditions) exposed to traffic noise approaching or exceeding City/County General Plan noise standards. The existing noise levels at the residential sensitive receptors that were studied in the Noise Study Report (see Table B-1 in the Noise Study Report as listed in the List of Technical Studies at the end of this document) ranged between 61 to 75 dBA L_{eq}(h), all of which currently exceed City and County standards. Under the construction year 2023 scenario, the existing sensitive receptors may be exposed to a noise level increase of 2 dBA L_{eq}(h), which does not constitute a substantial noise increase (a substantial noise increase under CEQA is considered to be greater than a 5-dBA L_{eq}(h) increase). Under the design year 2043 scenario, noise level increases at sensitive receptors are anticipated to be as much as 5 dBA L_{eq}(h) with implementation of the project. This noise level increase does not constitute a substantial noise increase under CEQA. Also, the sensitive receptors studied in the Noise Study Report are currently exposed to noise levels that exceed the City and County noise level thresholds for sensitive receptors. Impacts under CEQA would be **less than significant.** CEQA-related mitigation measures would not be required.

b) Less Than Significant Impact

The nearest sensitive receptors are about 50 feet from construction areas of the project. Construction equipment such as bulldozers would generate the highest vibration levels of 0.089 peak particle velocity inches/second at a distance of 25 feet. At 50 feet, the sensitive receptors could be exposed to groundborne vibration levels as high as 0.031 peak particle velocity inches/second, which is considered barely perceptible to humans and would not result in community annoyance. This vibration level would be well below the damage threshold of 0.3 peak particle velocity inches/second for residential structures and would not have the potential to damage nearby residential structures. In addition, compliance with local noise ordinances and the Caltrans Standard Specifications would minimize vibration impacts.

Therefore, groundborne vibration and noise impacts would be **less than significant** under CEQA. CEQA-related mitigation measures would not be required.

Groundborne vibration from vehicles driving on the project facilities would not result in any measurable changes in vibration levels compared to the existing conditions. Therefore, vibration impacts are considered **less than significant** under CEQA during project operation. CEQA-related mitigation measures would not be required.

c) Less Than Significant Impact with Mitigation Incorporated

As discussed under threshold *a* above, implementation of the project would result in a permanent increase in ambient noise levels. However, the increase is not anticipated to exceed 5dBA L_{eq}(h), and therefore is not considered substantial under CEQA. In addition, sensitive receptors within the project vicinity are currently experiencing noise levels that exceed the City and County noise level thresholds, under existing conditions. Although not required to reduce noise impacts to sensitive receptors under CEQA, implementation of mitigation measure **NOI-2** would further reduce noise levels generated by the project at nearby sensitive receptors. Implementation of the project (which includes mitigation measure **NOI-2** incorporation) would result in a **less than significant impact**. Additional, CEQA-related mitigation measures would not be required.

d) Less Than Significant Impact

As discussed under threshold *a* above, construction noise levels may reach 94.3 dBA L_{max} at a distance of 50 feet from the source. However, due to the proximity of sensitive noise receptors to State Route 99 and State Route 120, construction noise would be overshadowed by traffic noise. In addition, the project would comply with City and County noise standards, and construction activities would be temporary and primarily occurring during normal daytime hours. Minimization measure **NOI-1** (described in Chapter 2) would be implemented to further reduce noise impacts. A **less than significant impact** would occur. CEQA-related mitigation measures would not be required.

e) No Impact

Stockton Metropolitan Airport is about 6 miles north of the project site and is the closest public use airport. The project is not within the Airport Influence Area of the Stockton Metropolitan Airport Land Use Compatibility Plan and is far enough away that implementation of the project would not expose people residing or working in the project area to excessive noise levels from the airport. Therefore, **no impact** would occur during project Phases 1A, 1B, and 1C and during project operation. CEQA-related mitigation measures would not be required.

f) No Impact

The project is not in the vicinity of a private airstrip based on review of aerial maps. Implementation of the project would therefore not expose people residing or working in the area to excessive noise from private airstrips. **No impact** would occur during Phases 1A, 1B, 1C and project operation. CEQA-related mitigation measures would not be required.

POPULATION AND HOUSING

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

CEQA Significance Determinations for Population and Housing

a) No Impact

The project would not introduce new homes or businesses to the area. The project would indirectly affect growth within the City of Manteca and unincorporated San Joaquin County areas by improving the circulation in the area of the State Route 99/State Route 120 connector and alleviating adverse effects to circulation associated with future planned growth within the City of Manteca. The project and the relevant cumulative projects would not stimulate unplanned residential or related commercial growth. The area growth is created in response to planned land use and forecast traffic demand and is included in the City of Manteca General Plan and the San Joaquin County General Plan and their Environmental Impact Reports. The project would have **no impacts** during Phases 1A, 1B, 1C and operation. CEQA-related mitigation measures would not be required.

b) Less Than Significant Impact

The project would require the partial and full acquisition of parcels that are occupied by six residential units to implement Phase 1C of the project. Tenants of those residential units would be displaced and require relocation. The existing stock of housing in the City of Manteca that is for sale would be sufficient enough to accommodate relocation of the residents of these six residential units, so the need for construction of replacement housing would not be required. Impacts would be **less than significant** during Phases 1A, 1B, 1C and project operation. CEQA-related mitigation measures would not be required.

c) Less Than Significant Impact

As discussed above under threshold *b*, Phase 1C of the project would result in the displacement of the tenants of six residential units. However, sufficient housing is available in the City of Manteca to accommodate relocation of the residents and the project would not necessitate the construction of replacement housing elsewhere. A **less than significant impact** would occur. CEQA-related mitigation measures would not be required.

PUBLIC SERVICES

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐

CEQA Significance Determinations for Public Services

a) Less Than Significant Impact

Temporary lane, road, and intersection closures are expected during construction. Such closures would result in delays, but the closures are not expected to disrupt emergency services since the construction contractor would circulate construction schedules and traffic control information to City of Manteca and San Joaquin County emergency-service providers. This would allow emergency service providers to plan for the use of alternate routes during project construction-related road closures. Once implemented, the project would improve the ability of emergency services to better serve the community. The project would reduce congestion in the connector area, which could reduce response times for fire, medical, and police services. There are no schools or parks or other public facilities in the project area. Standardized measure **TRA-1** (described in Chapter 2) would be implemented to ensure that emergency services have access to the project area during construction activities.

Avoidance and minimization measure **TRA-2** (described in Chapter 2) would be implemented to ensure that emergency services are provided adequate advance notice of detours to ensure response times to the project area are not impacted.

With implementation of standardized measure **TRA-1** as well as avoidance and minimization measure **TRA-2**, there would be a **less than significant**

impact during project construction Phases 1A, 1B, 1C and project operation. CEQA-related mitigation measures would not be required.

RECREATION

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

CEQA Significance Determinations for Recreation

a) No Impact

The project would reconstruct an existing transportation facility. Nearby parks exist, but the project would not increase the use of existing neighborhood/ regional parks or other recreational facilities due to the type of project it is. **No impact** to recreation would occur during construction Phases 1A, 1B, and 1C and project operation. CEQA-related mitigation measures would not be required.

b) No Impact

The project does not include the development of a recreational facility as part of its design and therefore would not include such facilities that could have an adverse physical effect on the environment. **No impact** to recreation would occur during construction Phases 1A, 1B, and 1C and project operation. CEQA-related mitigation measures would not be required.

TRANSPORTATION/TRAFFIC

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

CEQA Significance Determinations for Transportation/Traffic

a) Less Than Significant Impact

General construction activities associated with implementation of Phases 1A, 1B and 1C of the project would cause lane, ramp, and intersection closures, leading to temporarily increased congestion. Access to parcels occupied by residential units, businesses, or industrial uses in the area could be limited depending on construction activities. Also, response times for emergency responders (i.e., law enforcement, fire protection, and ambulance services) could potentially be impacted during general construction activities because of detours. Implementation of standard measure **TRA-1** and avoidance and minimization measures **TRA-2,** and **TRA-3** (described in Chapter 2) would

reduce such impacts during the general construction activities of the project. With such measures, impacts during construction would be **less than significant**. CEQA-related mitigation measures would not be required.

b) Less Than Significant Impact

Operation of the project was analyzed under four different scenarios due to the timing of Phases 1A, 1B, and 1C of the project. Phase 1A is anticipated to be constructed in 2023; traffic conditions (intersection and roadway segments) were analyzed for construction year 2023 and design year 2043 for Phase 1A. Phases 1B and 1C would be implemented as funding becomes available. Phase 1B is anticipated to be completed by 2033. Traffic conditions were analyzed for an interim year 2033 for Phase 1B and design year 2043 plus ultimate project (the ultimate project being Phases 1A, 1B and 1C combined and built out).

The existing State Route 99/State Route 120 connector interchange will not provide enough capacity to serve traffic by 2023; the project (Phase 1A) is needed to improve the level of service conditions in construction year 2023. Implementation of the project (Phase 1A) in construction year 2023 would provide benefits to the regional circulation by improving level of service on State Route 120, State Route 99, most of the Caltrans right-of-way intersections, and most local intersections. Some local intersections (eastbound State Route 120 off-ramp/Main Street intersection; Moffat Boulevard/Woodward Avenue intersection; northbound State Route 99 Ramps/Yosemite Avenue intersection; Moffat Boulevard connector/Austin Road, and Woodward Avenue/Main Street intersections) during morning and evening peak hours would still operate at unacceptable level of service conditions. Implementation of avoidance and minimization measures **TRA-4** through **TRA-7** (described in Chapter 2) would improve level of service conditions to acceptable levels in construction year 2023 with Phase 1A, and impacts would be **less than significant**.

The existing State Route 99/State Route 120 connector interchange will not provide enough capacity to serve traffic volumes by 2043. Based on the modeling conducted in the design year 2043 with Phase 1A, it was determined that the improvements associated with the project (Phase 1A) would not provide benefits nor improve level of service conditions to State Route 120, State Route 99, the Caltrans right-of-way intersections, and local jurisdictional intersections. Under design year 2043 with Phase 1A morning peak hour conditions, the northbound State Route 99 to westbound State Route 120 freeway-to-freeway ramp is projected to continue to operate at unacceptable level of service conditions. This impact would be alleviated by implementation of avoidance and minimization measure **TRA-8** (described in Chapter 2). Also, to improve the level of service conditions for studied segments and intersections in the design year 2043, it is recommended that Phase 1B of the project be implemented by interim year 2033 conditions. As discussed in detail in Section 2.1.5 Traffic and Transportation/Pedestrian and

Bicycle Facilities, the interim year 2033 analysis indicates that with Phase 1B improvements level of service would improve. However, enforcement of timely Phase 1B construction through implementation of mitigation measures cannot be guaranteed due to funding availability.

Finally, the circulation conditions were modeled for design year 2043 with the ultimate project (Phases 1A, 1B, and 1C implemented). This scenario would provide benefits to State Route 120, State Route 99, most of the Caltrans right-of-way intersections, and local jurisdictional intersections. The State Route 120/Main Street intersections will continue to operate at unacceptable level of service conditions with implementation of the project under the design year 2043 with ultimate project scenario. Implementation of avoidance and minimization measure **TRA-9** (described in Chapter 2) would reduce impacts. With implementation of minimization measure **TRA-9**, this intersection would operate at acceptable level of service conditions during the evening peak hours under the design year 2043 with ultimate project scenario. Overall, implementation of the project (Phases 1A, 1B, and 1C), along with the planned San Joaquin Council of Governments/City of Manteca improvements at the State Route 120/Main Street interchange, would construct sufficient capacity to adequately serve projected design year 2043 morning and evening peak hour demand volumes. Impacts would be **less than significant,** and CEQA-related mitigation measures would not be required.

c) No Impact

The project would not result in any changes to air traffic patterns, **and no impact** will occur. CEQA-related mitigation measures would not be required.

d) No Impact

The project design would not involve any hazardous features. Implementation of the project would improve hazardous features that already exist on the mainline segments of State Route 99 and State Route 120. **No Impact** would occur due to project implementation. CEQA-related mitigation measures would not be required.

e) Less Than Significant

Response times for emergency responders (i.e., law enforcement, fire protection, and ambulance services) could potentially be impacted during general construction activities. Implementation of standard measure **TRA-1** and avoidance and minimization measures **TRA-2,** and **TRA-3** (described in Chapter 2) would reduce such impacts during the general construction activities of the project. With the measures, impacts during construction would be **less than significant**. CEQA-related mitigation measures would not be required.

f) No Impact

The project would not improve or degrade existing transit or non-transit facilities along State Route 99, State Route 120, or intersections within the project footprint. Implementation of the project would therefore have no effect on bicycle or transit facilities in the City of Manteca or unincorporated areas of San Joaquin County. The project would have a **no impact**. CEQA-related mitigation measures would not be required.

TRIBAL CULTURAL RESOURCES

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

CEQA Significance Determinations for Tribal Cultural Resources

a) No Impact

If any tribal cultural materials are discovered during project excavation and construction, the implementation of avoidance and minimization measure **CULT-1** and **standard** measures **CULT-2** and **CULT-3** (described in Chapter 2) would prevent any potential impacts to tribal cultural resources. There would be **no impacts** during construction Phases 1A, 1B, 1C and project operation. CEQA-related mitigation measures would not be required.

b) No Impact

As stated above under item *a,* no resources have been identified within the project area. If an unidentified resource is discovered during project construction, the implementation of avoidance and minimization measure **CULT-**1 and standard measures **CULT-2** and **CULT-3** (described in Chapter 2) would prevent any impacts to tribal cultural resources. The project would result in **no impacts** to tribal cultural resources. CEQA-related mitigation measures would not be required.

UTILITIES AND SERVICE SYSTEMS

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

CEQA Significance Determinations for Utilities and Service Systems

a) No Impact

Wastewater collection occurs in the City of Manteca via a municipal wastewater collection system that includes 242 miles of sewer mains and 19 pump stations. The collection system includes gravity flow pipes ranging from 6-inch to 60-inch diameter and force mains from 6-inch to 24-inch diameter. Municipal wastewater is treated at the City's Wastewater Quality Control Facility, which treats an average dry weather flow of about 6 million gallons per day, has an average dry weather design capacity of 9.87 million gallons per day, and has a buildout capacity of 27 million gallons per day. Per contractual agreement, 8.42 million gallons per day of plant capacity is allocated to the City of Manteca.

The project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, and **no impact** would occur. CEQA-related mitigation measures would not be required.

b) No Impact

During construction of Phases 1A, 1B, and 1C, water would be required for dust control and minimal wastewater would be generated. The amount of water required and wastewater anticipated to be generated during construction would be minimal and would occur on a temporary basis for the duration of construction activities. Any amount of wastewater generated by construction workers would be hauled and treated off-site.

Water and sewer lines, maintained and owned by the City of Manteca, run within the project site and would need to be relocated. Water and sewer lines are in Moffat and East Woodward; their locations would be verified, and they would be avoided to reduce impacts due to project implementation. Water and sewer lines that run parallel to and cross State Route 99 in the vicinity of Austin Road would be relocated to avoid impacts from the project.

Implementation of the project would not require construction of new or expansion of existing water or wastewater facilities; as such, **no impact** would occur under CEQA. CEQA-related mitigation measures would not be required.

c) Less Than Significant Impact

The project would result in an increase in impervious surfaces at the State Route 99/State Route 120 interchange connector; however, design features of the project include stormwater drainage facility installation (i.e., drainage ditches and vegetated bioswales) to accommodate any increases in stormwater runoff. Best management practices and standard measures **WQ-2** through **WQ-4** (described in Chapter 2) would be implemented to reduce impacts. A **less than significant impact** would occur. CEQA-related mitigation measures would not be required.

d) Less Than Significant Impact

There would be no long-term utility consequences as a result of the project. The South San Joaquin Irrigation District currently has irrigation lines within the project boundary that parallel and cross State Route 99 and are north of the State Route 99/State Route 120 connector. These utilities would likely need to be relocated or encased so they would not be impacted by the project. As stated above, the project would require water for dust control during construction. However, such use would be temporary and in minimal quantity. The project would not require new or expanded entitlements and a **less than significant impact** would occur. CEQA-related mitigation measures would not be required.

e) No Impact

The amount of wastewater anticipated to be generated during construction would be minimal, would occur on a temporary basis for the duration of construction activities, and would be hauled and treated off-site. The wastewater treatment provider would have adequate capacity to serve the project. **No impact** would occur. CEQA-related mitigation measures would not be required.

f) No Impact

The Forward Sanitary Landfill provides waste disposal service to the City of Manteca. This landfill is the only Class II facility in San Joaquin County designed to accept both designated wastes such as contaminated soil as well as inert municipal solid waste. Accepted wastes include green materials, sludge (biosolids), asbestos, tires, industrial, and mixed municipal. The project would not exceed the capacity of the Forward Sanitary Landfill. There would be **no impacts**, and CEQA-related mitigation measures would not be required.

g) No Impact

The project would comply with all regulations regarding solid waste. **No impact** would occur. CEQA-related mitigation measures would not be required.

MANDATORY FINDINGS OF SIGNIFICANCE

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

CEQA Significance Determinations for Mandatory Findings of Significance

a) Less Than Significant Impact

The project would have the potential to adversely impact special-status animals, habitat, and previously undiscovered cultural resources and/or human remains. With implementation of the avoidance and minimization measures recommended in this document, compliance with City of Manteca and San Joaquin County requirements, and application of standard practices, the project would not: 1) degrade the quality of the environment; 2) substantially reduce the habitat of plant or wildlife species; 3) cause a wildlife population to drop below self-sustaining levels; 4) threaten to eliminate a plant or animal community; 5) reduce the number or restrict the range of a rare or endangered plant or animals; or, 6) eliminate important examples of the major periods of California history or prehistory. Impacts would be **less than significant** during Phases 1A, 1B, and 1C and operation of the project. CEQA-related mitigation measures would not be required.

b) Less Than Significant Impact

As discussed in Section 3.2, all environmental impacts that could occur as a result of the project would be reduced to a less than significant level with inclusion of the standard measures recommended throughout this document in the project design. When viewed in conjunction with other closely related past, present, or reasonably foreseeable future projects, development of this project would not cumulatively contribute to impacts. Impacts would be **less than significant** during Phases 1A, 1B, and 1C and operation of the project. CEQA-related mitigation measures would not be required.

c) Less Than Significant with Mitigation Incorporated

The project will not generate environmental impacts that will directly or indirectly cause substantial adverse effects on human beings. Where potential impacts occur, standard project measures, avoidance and minimization measures, and mitigation measures have been implemented to ensure direct and indirect impacts to human beings do not occur. There will be relocations of humans due to project implementation; however, it has been determined that enough housing inventory exists around the project to accommodate the affected population. Noise generated by operation of the project has the potential to impact nearby sensitive receptors; however, mitigation measure **NOI-2** will be implemented (implementation of a noise barrier in Phase 1A) to reduce noise levels at affected sensitive receptors. Impacts would be **less than significant with Mitigation Incorporated** under CEQA.

3.3 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (also known as GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to greenhouse gas emissions reduction and climate change research and policy. These efforts are concerned mostly with the emissions of greenhouse gases generated by human activity, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), HFC-23 (fluoroform), HFC-134a (1, 1, 1, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of greenhouse gas emissions is electricity generation, followed by transportation.[3] In the U.S., the main source of greenhouse gas emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles) are the largest contributors of greenhouse gas emissions.[4] The dominant greenhouse gas emitted is CO_2, mostly from fossil fuel combustion.

Two terms are typically used when discussing how we address the impacts of climate change: “greenhouse gas mitigation” and “adaptation.” “Greenhouse gas mitigation” covers the activities and policies aimed at reducing greenhouse gas emissions to reduce or “mitigate” the impacts of climate change. “Adaptation,” on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).

Regulatory Setting

This section outlines federal and state efforts to comprehensively reduce greenhouse gas emissions from transportation sources.

Federal

To date, no national standards have been established for nationwide mobile-source greenhouse gas reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and greenhouse gas emissions reduction at the project level.

NEPA (42 U.S. Code Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The Federal Highway Administration recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. The Federal Highway Administration therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices.[5] This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of sustainability.”[6] Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety

[3] https://www.epa.gov/ghgemissions/us-greenhouse-gas-inventory-report-1990-2014
[4] https://www.arb.ca.gov/cc/inventory/data/data.htm
[5] https://www.fhwa.dot.gov/environment/sustainability/resilience/
[6] https://www.sustainablehighways.dot.gov/overview.aspx

and mobility, enhance the environment, promote energy conservation, and improve the quality of life. Addressing these factors up front in the planning process will assist in decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project-level decision-making.

Various efforts have been made at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

The Energy Policy Act of 1992 (EPACT92, 102nd Congress H.R.776.ENR): With this act, Congress set goals, created mandates, and amended utility laws to increase clean energy use and improve overall energy efficiency in the United States. EPACT92 consists of 27 titles detailing various measures designed to lessen the nation's dependence on imported energy, provide incentives for clean and renewable energy, and promote energy conservation in buildings. Title III of EPACT92 addresses alternative fuels. It gave the U.S. Department of Energy administrative power to regulate the minimum number of light-duty alternative fuel vehicles required in certain federal fleets beginning in fiscal year 1993. The main goal of the program is to cut petroleum use in the United States by 2.5 billion gallons per year by 2020.

Energy Policy Act of 2005 (109th Congress H.R.6 (2005–2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) Indian energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

Energy Policy and Conservation Act of 1975 (42 U.S. Code Section 6201) and Corporate Average Fuel Standards: This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the Corporate Average Fuel Economy (CAFE) program on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance, 74 Federal Register 52117 (October 8, 2009): This federal order set sustainability goals for federal agencies and focuses on making improvements in their environmental, energy, and economic performance. It instituted as policy of the United States that federal agencies measure, report, and reduce their greenhouse gas emissions from direct and indirect activities.

Executive Order 13693, Planning for Federal Sustainability in the Next Decade, 80 Federal Register 15869 (March 2015): This order reaffirms the policy of the United States that federal agencies measure, report, and reduce

their greenhouse gas emissions from direct and indirect activities. It sets sustainability goals for all agencies to promote energy conservation, efficiency, and management by reducing energy consumption and greenhouse gas emissions. It builds on the adaptation and resiliency goals in previous executive orders to ensure agency operations and facilities prepare for impacts of climate change. This order revokes Executive Order 13514.

The U.S. EPA's authority to regulate greenhouse gas emissions stems from the U.S. Supreme Court decision in Massachusetts v. EPA (2007). The Supreme Court ruled that greenhouse gases meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the court's ruling, the U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence, it found that six greenhouse gases constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing act and EPA's assessment of the scientific evidence that form the basis for EPA's regulatory actions.

The U.S. EPA in conjunction with the National Highway Traffic Safety Administration (NHTSA) issued the first of a series of greenhouse gas emission standards for new cars and light-duty vehicles in April 2010[7] and significantly increased the fuel economy of all new passenger cars and light trucks sold in the United States. The standards required these vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. In August 2012, the federal government adopted the second rule that increases fuel economy for the fleet of passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2017 and beyond to average fuel economy of 54.5 miles per gallon by 2025. Because the National Highway Traffic Safety Administration cannot set standards beyond model year 2021 due to statutory obligations and the rules' long timeframe, a mid-term evaluation is included in the rule. The Mid-Term Evaluation is the overarching process by which the National Highway Traffic Safety Administration, EPA, and Air Resources Board will decide on the CAFE and greenhouse gas emissions standard stringency for model years 2022–2025. The National Highway Traffic Safety Administration has not formally adopted standards for model years 2022 through 2025. However, the EPA finalized its mid-term review in January 2017, affirming that the target fleet average of at least 54.5 miles per gallon by 2025 was appropriate. In March 2017, President Donald Trump ordered the EPA to reopen the review and reconsider the mileage target.[8]

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[7] http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq

[8] http://www.nbcnews.com/business/autos/trump-rolls-back-obama-era-fuel-economy-standards-n734256 and https://www.federalregister.gov/documents/2017/03/22/2017-05316/notice-of-intention-to-reconsider-the-final-determination-of-the-mid-term-evaluation-of-greenhouse

The National Highway Traffic Safety Administration and EPA issued a Final Rule for “Phase 2” for medium- and heavy-duty vehicles to improve fuel efficiency and cut carbon pollution in October 2016. The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce CO_2 emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018–2027 vehicles.

Presidential Executive Order 13783, Promoting Energy Independence and Economic Growth, of March 28, 2017, ordered all federal agencies to apply cost-benefit analyses to regulations of greenhouse gas emissions and evaluations of the social cost of carbon, nitrous oxide, and methane.

State

With the passage of legislation including State Senate and Assembly bills and executive orders, California has been innovative and proactive in addressing greenhouse gas emissions and climate change.

Assembly Bill 1493, Pavley Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the California Air Resources Board to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

Executive Order S-3-05 (June 1, 2005): The goal of this order is to reduce California’s greenhouse gas emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill 32 in 2006 and SB 32 in 2016.

Assembly Bill 32 (AB 32), Chapter 488, 2006: Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 greenhouse gas emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that the Air Resources Board create a scoping plan and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” The Legislature also intended that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020 (Health and Safety Code Section 38551(b)). The law requires the Air Resources Board to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective greenhouse gas reductions.

Executive Order S-01-07 (January 18, 2007): This order set forth the low carbon fuel standard (LCFS) for California. Under this order, the carbon intensity of California’s transportation fuels is to be reduced by at least 10 percent by the year 2020. The Air Resources Board re-adopted the LCFS regulation in September 2015, and the changes went into effect on January 1,

2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 greenhouse gas reduction goals.

Senate Bill 97 (SB 97), Chapter 185, 2007, Greenhouse Gas Emissions: This bill requires the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the California Environmental Quality Act (CEQA) Guidelines for addressing greenhouse gas emissions. The amendments became effective on March 18, 2010.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires Air Resources Board to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land use, and housing policies to plan how it will achieve the emissions target for its region.

Senate Bill 391 (SB 391), Chapter 585, 2009, California Transportation Plan: This bill requires the State's long-range transportation plan to meet California's climate change goals under AB 32.

Executive Order B-16-12 (March 2012): This order required state entities under the direction of the governor, including the Air Resources Board, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

Executive Order B-30-15 (April 2015): This order established an interim statewide greenhouse gas emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of greenhouse gas emissions to implement measures, pursuant to statutory authority, to achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets. It also directs the Air Resources Board to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO2e). Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, Safeguarding California, every 3 years, and to ensure that its provisions are fully implemented.

Senate Bill 32, (SB 32) Chapter 249, 2016: This bill codifies the greenhouse gas reduction targets established in Executive Order B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

Environmental Setting

In 2006, the Legislature passed the California Global Warming Solutions Act of 2006 (AB 32), which created a comprehensive, multi-year program to reduce greenhouse gas emissions in California. AB 32 required the Air Resources Board to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing greenhouse gas emissions to 1990 levels by 2020. The Scoping Plan was first approved by the Air Resources Board in 2008 and must be updated every 5 years. The second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32.

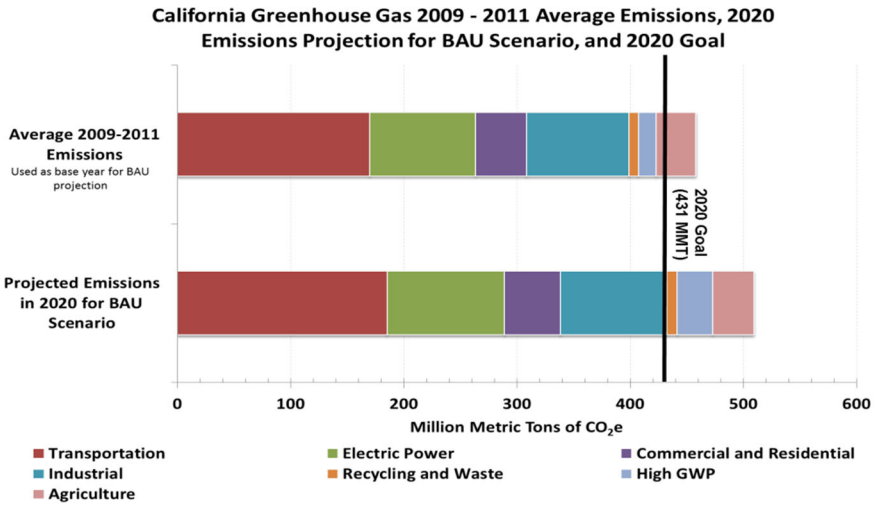
The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce greenhouse gas emissions. As part of its supporting documentation for the updated Scoping Plan, the Air Resources Board released the 2017 greenhouse gas inventory for California. The Air Resources Board is responsible for maintaining and updating California's Greenhouse Gas Inventory per Health and Safety Code Section 39607.4. The associated forecast/projection is an estimate of the emissions anticipated to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented.

An emissions projection estimates future emissions based on current emissions, expected regulatory implementation, and other technological, social, economic, and behavioral patterns. The projected 2020 emissions provided in **Figure 3-1: 2020 Business as Usual (BAU) Emissions Projection 2014 Edition** represent a business-as-usual (BAU) scenario assuming none of the Scoping Plan measures are implemented. The 2020 BAU emissions estimate assists the Air Resources Board in demonstrating progress toward meeting the 2020 goal of 431 MMTCO2e.[9] The 2018 edition of the greenhouse gas emissions inventory found total California emissions of 429 MMTCO2e for 2016.

The 2020 BAU emissions projection was revisited in support of the First Update to the Scoping Plan (2014). This projection accounts for updates to the economic forecasts of fuel and energy demand as well as other factors. It also accounts for the effects of the 2008 economic recession and the projected recovery. The total emissions expected in the 2020 BAU scenario include reductions anticipated from Pavley I and the Renewable Electricity Standard (30 MMTCO2e total). With these reductions in the baseline, estimated 2020 statewide BAU emissions are 509 MMTCO2e.

[9] The revised target using Global Warming Potentials (GWP) from the Intergovernmental Panel on Climate Change Fourth Assessment Report (AR4)

Figure 3-1: 2020 Business as Usual (BAU) Emissions Projection 2014 Edition



https://www.arb.ca.gov/cc/inventory/data/bau.htm

Project Analysis

An individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its incremental change in emissions when combined with the contributions of all other sources of greenhouse gas.[10] In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130). To make this determination, you must compare the incremental impacts of the project with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

Greenhouse gas emissions for transportation projects can be divided into those produced during operations and those produced during construction. The following represents a best faith effort to describe the potential greenhouse gas emissions related to the project.

[10] This approach is supported by the Association of Environmental Professionals: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

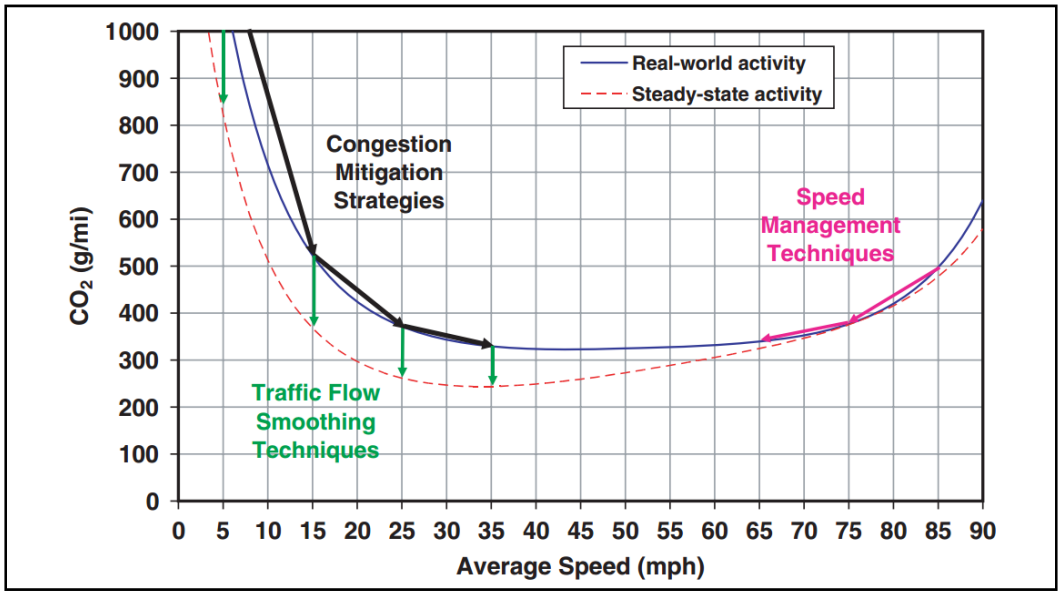
Operational Emissions

Four main strategies can reduce greenhouse gas emissions from transportation sources: (1) improving the transportation system and operational efficiencies, (2) reducing travel activity, (3) transitioning to lower greenhouse gas-emitting fuels, and (4) improving vehicle technologies/ efficiency. To be most effective, all four strategies should be pursued concurrently.

The Federal Highway Administration supports these strategies to lessen climate change impacts, which correlate with efforts that the State of California is undertaking to reduce greenhouse gas emissions from the transportation sector.

The highest levels of CO_2 from mobile sources such as automobiles occur at stop-and-go speeds (0–25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0–25 miles per hour (see **Figure 3-2: Possible Use of Traffic Operation Strategies in Reducing On-Road CO_2 Emissions** above). To the extent that a project relieves congestion by enhancing operations and improving travel times in high-congestion travel corridors, greenhouse gas emissions, particularly CO_2, may be reduced.

Figure 3-2: Possible Use of Traffic Operation Strategies in Reducing On-Road $C0_2$ Emissions



Source: Matthew Barth and Kanok Boriboonsomsin, University of California, Riverside, May 2010 (https://www.researchgate.net/publication/46438207)

The project is listed in the San Joaquin Council of Governments' 2018 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS): "*The proposed interchange improvement project is part of an overall regional strategy that is expected to meet or exceed the regional GHG reduction target of ten percent per capita by 2035 (compared to 2005 baseline).*"

The State Route 99/State Route 120 project has been identified by the Regional Transportation Plan as one of the highest priority projects. The project would help to relieve congestion and would therefore lead to greenhouse gas reductions. As discussed in Section 2.1.5 Traffic and Transportation/Pedestrian and Bicycle Facilities, the interchange is heavily used and is operating below the standard level of service. The improvements included within the project would increase level of service and would reduce traffic delays. State Route 99 provides major movement of goods throughout the region and is valuable to the regional economy.

The design concept and scope of the project is consistent with the project description in the 2018 Regional Transportation Plan, 2019 Federal Transportation Improvement Program, and the "open to traffic" assumptions of the San Joaquin Council of Governments' regional emissions analysis. Completion of Phase 1A is anticipated in 2023, which would improve the eastbound State Route 120 to southbound State Route 99 traffic movement. Completion of Phase 1B is anticipated to occur concurrently or subsequently to Phase 1C and would improve the northbound State Route 99 to westbound State Route 120 traffic movement.

Quantitative Analysis

Table 3-2: Modeled Annual CO_2 Emissions and Vehicle Miles Traveled, by Alternative provides the vehicle miles traveled (VMT) projections for the no-build scenario as well as the build alternative, along with the CO_2 emission results for the existing conditions/baseline year (2017), construction year 2023 (Phase 1A) 2023, and design year 2043 (Phase 1A, 1B, and 1C buildout conditions), as determined by the Traffic Operations Analysis Report (as listed in the List of Technical Studies at the end of this document).

Table 3-2: Modeled Annual CO_2 Emissions and Vehicle Miles Traveled, by Alternative

Alternative	CO_2 Emissions (Metric Tons/Year)	Annual Vehicle Miles Traveled[1]
Existing/Baseline (2017)	76,140	157,523,582
Construction Year 2023		
No-Build Alternative	84,931	206,907,685
Build Alternative (Phase 1A)	79,888	194,938,979
Design-Year 2043		
No Build Alternative	74,117	232,913,913
Build Alternative (Phases 1A, 1B, and 1C)	74,474	236,983,737

CO_2 = carbon dioxide
Source: *Air Quality Report State Route 99/State Route 120 Interchange Connector Project*, Terry A. Hayes Associates, Inc. (TAHA), pg. 43, Table 4-4 Modeled Annual CO_2 Emissions and Vehicle Miles Traveled, by Alternative, March 2019.

[1] Annual VMT values derived from Daily VMT values multiplied by 347, per ARB methodology (ARB 2008).

Table 3-2 shows that under construction year 2023 conditions, the No-Build Alternative would generate more metric tons per year of CO_2 emissions compared to the Build Alternative (Phase 1A). The CO_2 emissions in design year 2043 for the No-Build Alternative would be nominally lower when compared to the Build Alternative (Phases 1A, 1B, and 1C). The Build Alternative (Phase 1A) CO_2 emissions in construction year 2023 are anticipated to be higher when compared to existing conditions due to the continued population growth in the region and the increase in vehicle miles traveled during the 6-year time period. The Build Alternative (Phase 1A) CO_2 emissions in construction year 2023 shows an improvement when compared to emissions associated with the No-Build Alternative. Greenhouse gas emissions decrease in 2043 compared to the existing condition in the study area due mostly to fleet turnover and improvements in exhaust controls. When compared to the No-Build Alternative, the Build Alternative (Phase 1A) in construction year 2023 would result in reduced annual greenhouse gas emissions due to improved traffic flow. CO_2 emissions under the Build Alternative (Phases 1A, 1B, and 1C) would be slightly higher than No-Build Alternative emissions in the design year 2043 conditions, but emissions under both the No-Build Alternative and Build Alternative (Phases 1A, 1B, and 1C) in design year 2043 would be less than emissions generated in 2023. The slight increase in greenhouse gas emissions caused by implementation of the Build Alternative (Phases 1A, 1B, and 1C) in design year 2043 is attributed to the increase in vehicle miles traveled from planned (regional/local) growth, which is accommodated by the expanded capacity and congestion improvements of the project. Improved operations under the project would also contribute to reduced fuel consumption, despite the increase in vehicle miles traveled (as described in the Traffic Operations Analysis Report).

While emission factors (EMFAC) has a rigorous scientific foundation and has been vetted through multiple stakeholder reviews, its emission rates are based on tailpipe emission test data and have limitations. The EMFAC-based CO_2 emissions estimates are used for comparison of alternatives. However, the model does not account for factors such as the vehicle operation mode (e.g., rate of acceleration) and the vehicles' aerodynamics, which would influence CO_2 emissions. The Air Resources Board's greenhouse gas inventory follows the Intergovernmental Panel on Climate Change guideline by assuming complete fuel combustion, while still using EMFAC data to calculate CH_4 and N_2O emissions.

Limitations and Uncertainties with Modeling

Emission Factors

Although EMFAC can calculate CO_2 emissions from mobile sources, the model does have limitations when it comes to accurately reflecting changes in CO_2 emissions due to impacts on traffic. According to the National Cooperative Highway Research Program report, *Development of a Comprehensive Modal Emission Model* (April 2008) and a 2009 University of California study (Barth & Boriboonsomsin 2016), brief but rapid accelerations, such as those occurring during congestion, can contribute significantly to a vehicle's CO_2 emissions during a typical urban trip. Current emission-factor models do not distinguish the emission of such modal events (i.e., acceleration, deceleration) in the operation of a vehicle and instead estimate emissions by average trip speed. It is difficult to model this because the frequency and rate of acceleration or deceleration that drivers chose to operate their vehicles depend on each individual's human behavior, their reaction to other vehicles' movements around them, and their acceptable safety margins. Currently, the EPA and the California Air Resources Board have not approved a modal emissions model that is capable of conducting such detailed modeling. This limitation is a factor to consider when comparing the model's estimated emissions for various project alternatives against a baseline value to determine impacts.

Other Variables

With the current understanding, project-level analysis of greenhouse gas emissions has limitations. Although a greenhouse gas analysis is included for this project, there are numerous external variables that could change during the design life of the project and would thus change the projected CO_2 emissions.

First, vehicle fuel economy is increasing. The U.S. EPA's annual report, "Light-Duty Automotive Technology and Fuel Economy Trends: 1975 through 2016" (2016) which provides data on the fuel economy and technology characteristics of new light-duty vehicles including cars, minivans, sport utility vehicles, and pickup trucks, confirms that average fuel economy improves each year with a noticeable rate of change beginning in 2005. Corporate

Average Fuel Economy (CAFE) standards remained the same between model years 1995 and 2003, subsequently increasing to higher fuel economy standards for future vehicle model years. The U.S. EPA estimates that light duty fuel economy rose by 29 percent from model year 2004 to 2015, attributed to new technology that improved fuel economy while keeping vehicle weight relatively constant. **Table 3-3: Average Required Fuel Economy (miles per gallon)** shows the increases in required fuel economy standards for cars and trucks between Model Years 2012 and 2025, from the National Highway Traffic Safety Administration for the 2012–2016 and 2017–2025 CAFE Standards.

Table 3-3: Average Required Fuel Economy (miles per gallon)

Vehicle Type	2012	2013	2014	2015	2016	2017	2018	2020	2025
Passenger Cars	33.3	34.2	34.9	36.2	37.8	39.6-40.1	41.1-41.6	44.2-44.8	55.3-56.2
Light Trucks	25.4	26	26.6	27.5	28.8	29.1-29.4	29.6-30.0	30.6-31.2	39.3-40.3
Combined	29.7	30.5	31.3	32.6	34.1	35.1-35.4	36.1-36.5	38.3-38.9	48.7-49.7

Sources: EPA and NHTSA 2010, 2012. https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-greenhouse-gas-emissions-passenger-cars-and U.S. EPA 2012, https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-model-year-2017-and-later-light-duty-vehicle#rule-summary

Second, new lower-emission and zero-emission vehicles will come into the market within the expected design life of this project. According to the 2013 Annual Energy Outlook (U.S. EIA 2013):

> Light Duty Vehicles that use diesel, other alternative fuels, hybrid-electric, or all-electric systems play a significant role in meeting more stringent GHG emissions and CAFE standards over the projection period. Sales of such vehicles increase from 20 percent of all new Light Duty Vehicle sales in 2011 to 49 percent in 2040 in the AEO2013 Reference case. (U.S. EIA 2013)

The greater percentage of lower-emissions and zero-emissions vehicles on the road in the future will reduce overall greenhouse gas emissions as compared to scenarios in which vehicle technologies and fuel efficiencies do not change.

Third, California adopted a low-carbon transportation fuel standard in 2009 to reduce the carbon intensity of transportation fuels by 10 percent by 2020. The regulation became effective on January 12, 2010 (codified in title 17, California Code of Regulations, Sections 95480-95490). Beginning January 1,

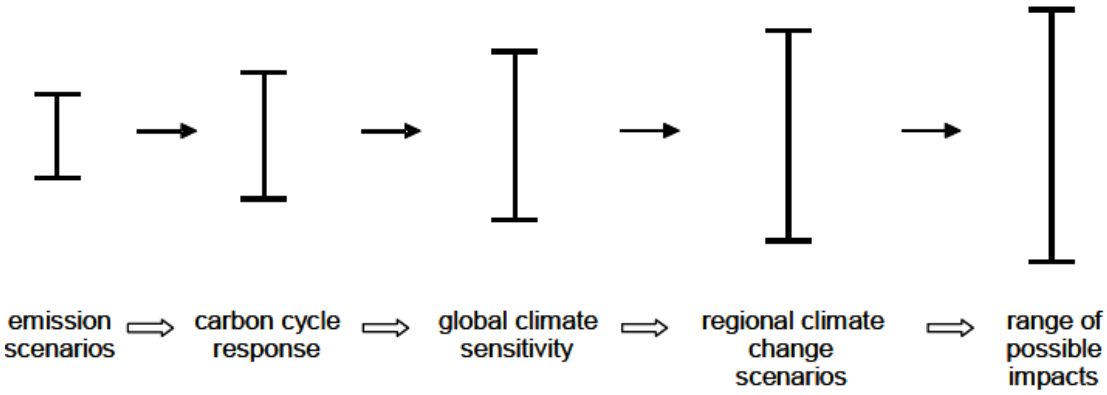
2011, transportation fuel producers and importers must meet specified average carbon intensity requirements for fuel in each calendar year.

Limitations and Uncertainties with Impact Assessment

Figure 3-3: Cascade of Uncertainty in Climate Change Simulations illustrates how the range of uncertainties in assessing greenhouse gas impacts grows with each step of the analysis, as noted in the *National Highway Traffic Safety Administration Final EIS for MY2017–2025 CAFE Standards* (NHTSA 2012):

> Moss and Schneider (2000) characterize the 'cascade of uncertainty' in climate change simulations (**Figure 3-3**). As indicated in **Figure 3-3**, the emission estimates … have narrower bands of uncertainty than the global climate effects, which are less uncertain than regional climate change effects. The effects on climate are, in turn, less uncertain than the impacts of climate change on affected resources (such as terrestrial and coastal ecosystems, human health, and other resources …). Although the uncertainty bands broaden with each successive step in the analytic chain, all values within the bands are not equally likely; the mid-range values have the highest likelihood.[11]

Figure 3-3: Cascade of Uncertainty in Climate Change Simulations



Source: National Highway Traffic Safety Administration Final EIS for MY2017-2025 CAFE Standards (July 2012). Page 5-22.

Much of the uncertainty in assessing an individual project's impact on climate change surrounds the global nature of the climate change. Even assuming that the target of meeting the 1990 levels of emissions is met, there is no regulatory or other framework in place that would allow for a ready assessment of what any modeled increase in CO_2 emissions would mean for climate change given the overall California greenhouse gas emissions

[11] http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/FINAL_EIS.pdf. page 5-21

inventory of approximately 430 million tons of CO_2 equivalent. This uncertainty only increases when viewed globally. The Intergovernmental Panel on Climate Change has created multiple scenarios to project potential future global greenhouse gas emissions as well as to evaluate potential changes in global temperature, other climate changes, and their effect on human and natural systems. These scenarios vary in terms of the type of economic development, the amount of overall growth, and the steps taken to reduce greenhouse gas emissions. Non-mitigation Intergovernmental Panel on Climate Change scenarios project an increase in global greenhouse gas emissions by 9.7 up to 36.7 billion metric tons CO_2 from 2000 to 2030, which represents an increase of between 25 and 90 percent.[12]

The assessment is further complicated by the fact that changes in greenhouse gas emissions can be difficult to attribute to a particular project because the projects often cause shifts in the locale for some type of greenhouse gas emissions, rather than causing “new” greenhouse gas emissions. It is difficult to assess the extent to which any project-level increase in CO_2 emissions represents a net global increase, reduction, or no change; there are no models approved by regulatory agencies that operate at the global or even statewide scale.

Construction Emissions

Construction greenhouse gas emissions would result from material processing, onsite construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the greenhouse gas emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

Construction-related greenhouse gas emissions were calculated using the *Sacramento Metropolitan Air Quality Management District Road Construction Emissions Model*. While the model was developed for Sacramento conditions in terms of fleet emission factors, silt, loading, and other model assumptions, it is considered adequate for estimating road construction emissions by the San Joaquin Valley Air Pollution Control District (under its Indirect Source regulations) and the South Coast Air Quality Management District (in its CEQA guidance) and is used for that purpose in this project analysis. Assuming a project start year of 2021, and complete construction duration (for

[12] Intergovernmental Panel on Climate Change (IPCC). February 2007. *Climate Change 2007: The Physical Science Basis: Summary for Policy Makers*. https://www.ipcc.ch/publications_and_data/ar4/wg1/en/spm.html

Phases 1A, 1B, and 1C) of 33 months, the project would produce a total of 4,743.9 tons of CO_2, with a maximum of 14.9 pounds per day. Air quality avoidance and minimization measures **AQ-1**, **AQ-2,** and **AQ-3** would contribute to a reduction of construction greenhouse gas emissions by improving fuel efficiency from construction equipment. Furthermore, the project would incorporate greenhouse gas reduction measures GHG-1, GHG-2, and GHG-3 as recommended in the San Joaquin Council of Governments Regional Transportation Plan/Sustainable Communities Strategy.

CEQA Conclusion

Implementation of the project would result in a slight increase in greenhouse gas emissions during construction. As discussed above, construction year 2023 emissions with and without project (Phase 1A) show increases in CO_2 emissions over the existing baseline (2017) levels. The CO_2 emissions under construction year 2023 with-project conditions (Phase 1A) would be lower by 5,043 metric tons per year than the construction year 2023 without-project (Phase 1A) conditions, indicating an improvement in greenhouse gas emissions with project Phase 1A implementation. Under the design year 2043 without-project (Phases 1A, 1B, and 1C) conditions, CO_2 emissions are anticipated to be 74,117 metric tons/year, whereas design year 2043 with-project conditions (Phase 1A, 1B, and 1C) are anticipated to emit 74,474 metric tons per year of CO_2, indicating a relatively small increase. The increase in greenhouse gas emissions caused by implementation of the project (Phases 1A, 1B, and 1C) in design year 2043 is attributed to the increase in vehicle miles traveled accommodated by the expanded capacity and alleviated congestion.

Nonetheless, there are also limitations with EMFAC and with assessing what a given CO_2 emissions increase means for climate change. Therefore, it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a determination regarding significance of the project's direct impact and its cumulative contribution to climate change. However, Caltrans is firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the following section.

Greenhouse Gas Reduction Strategies

Statewide Efforts

In an effort to further the vision of California's greenhouse gas reduction targets outlined in AB 32 and SB 32, then-Governor Edmund G. Brown Jr. identified key climate change strategy pillars (concepts). See **Figure 3-4: Governor's Climate Change Pillars: 2030 Greenhouse Gas Reduction Goals**. These pillars highlight the idea that several major areas of the California economy will need to reduce emissions to meet the 2030 greenhouse gas emissions target. These pillars are (1) reducing today's

petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy-efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farm and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, Safeguarding California.

Figure 3-4: Governor's Climate Change Pillars: 2030 Greenhouse Gas Reduction Goals

The transportation sector is integral to the people and economy of California. To achieve greenhouse gas emission reduction goals, it is vital that we build on our past successes in reducing criteria and toxic air pollutants from transportation and goods movement activities. Greenhouse gas emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled. One of then-Governor Brown's key pillars sets the ambitious goal of reducing today's petroleum use in cars and trucks by up to 50 percent by 2030.

Then-Governor Brown called for support to manage natural and working lands, including forests, rangelands, farms, wetlands, and soils, so they can store carbon. These lands have the ability to remove carbon dioxide from the atmosphere through biological processes, and to then sequester carbon in above- and below-ground matter.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the Air Resources Board works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Executive Order B-30-15, issued in April 2015, and SB 32 (2016), set a new interim target to cut greenhouse gas emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

California Transportation Plan (CTP 2040)

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas emissions. The plan defines performance-based goals, policies, and strategies to achieve our collective vision for California's future statewide, integrated, multimodal transportation system. It serves as an umbrella document for all other statewide transportation planning documents.

SB 391(Liu 2009) requires the California Transportation Plan to meet California's climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible greenhouse gas emission reductions while meeting the state's transportation needs. While Metropolitan Planning Organizations have primary responsibility for identifying land use patterns to help reduce greenhouse gas emissions, CTP 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

Caltrans Strategic Management Plan

The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce greenhouse gas emissions, among other goals. Specific performance targets in the plan that will help to reduce greenhouse gas emissions include the following:

- Increasing percentage of non-auto mode share
- Reducing vehicle miles traveled per capita
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) greenhouse gas emissions

Funding and Technical Assistance Programs

In addition to developing plans and performance targets to reduce greenhouse gas emissions, Caltrans also administers several funding and technical assistance programs that have greenhouse gas reduction benefits. These include the Bicycle Transportation Program, Safe Routes to School, Transportation Enhancement Funds, and Transit Planning Grants. A more extensive description of these programs can be found in Caltrans Activities to Address Climate Change (2013).

The Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a department policy that will ensure coordinated efforts to incorporate climate change into departmental decisions and activities.

Caltrans Activities to Address Climate Change (April 2013) provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce greenhouse gas emissions resulting from agency operations.

Project-Level Greenhouse Gas Reduction Strategies

The following measures will also be implemented in the project to reduce greenhouse gas emissions and potential climate change impacts from the project.

Compliance with Caltrans Standard Specifications, Standard Special Provisions, and Nonstandard Special Provisions would reduce greenhouse gas emissions during construction. These specifications and provisions include proper maintenance of construction equipment to control exhaust emissions; shutting down equipment when not in use; limiting hours of operation and amount of equipment in use at one time; and curtailing construction activities during periods of high concentrations of ambient air pollutants.

In addition, the project will include the following standard specifications (common to all Caltrans projects) that help reduce greenhouse gas emissions:

- Section 7-1.02A and 7-1.02C, Emissions Reduction, mandate that contractors comply with laws, regulations, orders, and decrees applicable to the project, which include compliance with air quality and other environmental laws, orders, and regulations that could affect greenhouse gas emissions.
- Section 14-9.02, Air Pollution Control, also requires compliance with air-pollution-control rules, regulations, ordinances, and statutes, and reduces greenhouse gases to the extent that compliance reduces emissions of CO_2, black carbon, and other greenhouse gases and greenhouse gas precursors.

Further, under avoidance and minimization measure **AES-1,** the project will provide replacement highway planting and landscape improvements within the highway right-of-way at the Austin Road/ State Route 99 interchange. Retaining vegetation helps absorb CO_2.

The project will also implement a Traffic Management Plan to minimize traffic delays and idling emissions during construction:

TRA-1 The project will be required to prepare and implement a Traffic Management Plan to address short-term disruptions in existing circulation patterns during construction; the Traffic Management Plan will identify the locations of temporary detours and signage to facilitate local traffic patterns and through-traffic requirements.

Finally, the project will include measures outlined in San Joaquin Council of Governments' 2018 Regional Transportation Plan/Sustainable Communities Strategy to further reduce greenhouse gas emissions. These avoidance and minimization measures address greenhouse gas emissions as well as energy use during construction and operation of the project.

GHG-1 The project would ensure that applicable greenhouse gas-reducing diesel particulate and NO_X emissions measures for off-road construction vehicles are implemented during construction. The measures would be noted on all construction plans and the project sponsor would perform periodic site inspections. Applicable greenhouse gas-reducing measures include the following:

- Use of diesel construction equipment meeting Air Resources Board's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation.
- Use of on-road heavy-duty trucks that meet the Air Resources Board's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation.
- All on- and off-road diesel equipment would not idle for more than 5 minutes. Signs would be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit.
- Use of electric equipment in place of diesel-powered equipment, where feasible.
- Substitute gasoline-powered in place of diesel-powered equipment, where feasible.
- Use of alternatively fueled construction equipment on-site where feasible, such as compressed natural gas, liquefied natural gas, propane or biodiesel.

GHG-2 All lighting installed by the project will be energy-efficient and designed to use the least amount of energy to serve the purpose of the lighting. Lighting would use solar energy wherever feasible.

GHG-3 New landscaping design and irrigation systems installed by the project will be water-efficient.

Adaptation Strategies

"Adaptation strategies" refer to how Caltrans and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage—or, put another way, planning and design for resilience. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. These types of impacts to the transportation infrastructure may also have economic and strategic ramifications.

Federal Efforts

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the Council on Environmental Quality, the Office of Science and Technology Policy, and the National Oceanic and Atmospheric Administration (NOAA), released its interagency task force progress report on October 28, 2011,[13] outlining the federal government's progress in expanding and strengthening the nation's capacity to better understand, prepare for, and respond to extreme events and other climate change impacts. The report provided an update on actions in key areas of federal adaptation, including: building resilience in local communities, safeguarding critical natural resources such as fresh water, and providing accessible climate information and tools to help decision-makers manage climate risks.

The Federal Department of Transportation issued a U.S. Department of Transportation Policy Statement on Climate Adaptation in June 2011, committing to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of U.S. Department of Transportation in order to ensure that taxpayer resources are invested wisely and that transportation infrastructure, services and operations remain effective in current and future climate conditions."[14]

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[13] https://obamawhitehouse.archives.gov/administration/eop/ceq/initiatives/resilience
[14] https://www.fhwa.dot.gov/environment/sustainability/resilience/

To further the U.S. Department of Transportation Policy Statement, in December 15, 2014, the Federal Highway Administration issued order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events*).[15] This directive established a Federal Highway Administration policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. The Federal Highway Administration will work to integrate consideration of these risks into its planning, operations, policies, and programs in order to promote preparedness and resilience; safeguard federal investments; and ensure the safety, reliability, and sustainability of the nation's transportation systems.

The Federal Highway Administration has developed guidance and tools for transportation planning that fosters resilience to climate effects and sustainability at the federal, state, and local levels.[16]

State Efforts

On November 14, 2008, then-Governor Arnold Schwarzenegger signed Executive Order S-13-08, which directed a number of state agencies to address California's vulnerability to sea-level rise caused by climate change. This order set in motion several agencies and actions to address the concern of sea-level rise and directed all state agencies planning to construct projects in areas vulnerable to future sea-level rise to consider a range of sea-level rise scenarios for the years 2050 and 2100, assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea-level rise. Sea-level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, and storm surge and storm wave data.

Then-Governor Schwarzenegger also requested the National Academy of Sciences to prepare an assessment report to recommend how California should plan for future sea-level rise. The final report, Sea-Level Rise for the Coasts of California, Oregon, and Washington (Sea-Level Rise Assessment Report),[17] was released in June 2012 and included relative sea-level rise projections for the three states, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates, and the range of uncertainty in selected sea-level rise projections. It provided a synthesis of existing information on projected sea-level rise impacts to state infrastructure (such as roads, public facilities, and beaches), natural areas, and coastal and marine ecosystems, and a discussion of future research needs regarding sea-level rise.

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[15] https://www.fhwa.dot.gov/legsregs/directives/orders/5520.cfm
[16] https://www.fhwa.dot.gov/environment/sustainability/resilience/
[17] *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012) is available at: http://www.nap.edu/catalog.php?record_id=13389.

In response to Executive Order S-13-08, the California Natural Resources Agency (Resources Agency), in coordination with local, regional, state, federal, and public and private entities, developed The California Climate Adaptation Strategy (Dec 2009),[18] which summarized the best available science on climate change impacts to California, assessed California's vulnerability to the identified impacts, and outlined solutions that can be implemented within and across state agencies to promote resiliency. The adaptation strategy was updated and rebranded in 2014 as Safeguarding California: Reducing Climate Risk (Safeguarding California Plan).

Then-Governor Jerry Brown enhanced the overall adaptation planning effort by signing Executive Order B-30-15 in April 2015, requiring state agencies to factor climate change into all planning and investment decisions. In March 2016, sector-specific Implementation Action Plans that demonstrate how state agencies are implementing Executive Order B-30-15 were added to the Safeguarding California Plan. This effort represents a multi-agency, cross-sector approach to addressing adaptation to climate change-related events statewide.

Executive Order S-13-08 also gave rise to the *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance), produced by the Coastal and Ocean Working Group of the California Climate Action Team (CO-CAT), of which Caltrans is a member. First published in 2010, the document provided "guidance for incorporating sea-level rise (SLR) projections into planning and decision making for projects in California," specifically, "information and recommendations to enhance consistency across agencies in their development of approaches to SLR."[19]

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation, and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is actively engaged in working toward identifying these risks throughout the state and will work to incorporate this information into all planning and investment decisions as directed in Executive Order B-30-15.

The project is outside the coastal zone and not in an area subject to sea-level rise. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

[18] http://www.climatechange.ca.gov/adaptation/strategy/index.html
[19] http://www.opc.ca.gov/2013/04/update-to-the-sea-level-rise-guidance-document/

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Chapter 4 Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation, the level of analysis required, and to identify potential impacts and mitigation measures and related environmental requirements. Agency consultation and public participation for the project have been accomplished through a variety of formal and informal methods, including: project development team meetings and interagency coordination meetings. Also, local groups and individuals were notified of the project and invited to comment.

This chapter summarizes the results of efforts to identify, address, and resolve project-related issues through early and continuing coordination.

Public Agencies

Agencies were formally or informally contacted and consulted during the preparation of this environmental document. Also, local groups and individuals were notified of the project and invited to comment. All relevant federal, state, and local agencies, organizations, and other interested entities and individuals would receive a Notice of Availability of this environmental document.

Coordination Regarding Cultural Resources

Native American Consultation

The Native American Heritage Commission was contacted on August 25, 2017 to request that they review their Sacred Lands File for any resources that might be affected by the project. Also requested were the names of Native Americans who might have information or concerns about the project. In an email response dated August 31, 2017, Ms. Sharaya Souza, Staff Services Analyst, indicated that the Sacred Lands File search was completed for the area of potential effect with negative results.

On October 2, 2017, letters describing the project and maps showing the area of potential effect were sent to the Native American contacts provided by the Native American Heritage Commission, asking for any information or concerns regarding cultural resources in the area of potential effect. No response to the letters was received within two weeks, and follow-up calls were made on October 17, 2017. Most follow-up phone calls that were made resulted in messages being left with no call-back; however, a representative from the Buena Vista Rancheria indicated that if virgin soils were involved in project construction, then the Buena Vista Rancheria would like to be contacted.

Historical Society Consultation

On August 28, 2017, a letter describing the project and maps showing the area of potential effect were sent to the Manteca Historical Society and San Joaquin County Historical Society requesting any information or concerns they may have about the project. The Manteca Historical Society indicated that it had no comments or concerns regarding the project. Messages were left with the San Joaquin County Historical Society and staff indicated that their archivist would be in contact if there was concern about the project.

State Historic Preservation Officer

On December 10, 2018, the Office of Historic Preservation received a letter from Caltrans initiating consultation with the State Historic Preservation Officer regarding the project. On January 10, 2019, the State Historic Preservation Officer wrote a letter to Caltrans stating the State Historic Preservation Officer concurs that the resources within the project vicinity are not eligible for listing on the National Register of Historic Places. See letter in **Appendix E State Historic Preservation Officer Concurrence**.

Environmental Protection Agency/Federal Highway Administration Concurrence

On October 9, 2018, the San Joaquin Council of Governments prepared a memo that was sent to the Interagency Consultation Partners to concur that the project is not a “project of air quality concern.” The Interagency Consultation Partners reviewed the memo and, on October 11, 2018, the Environmental Protection Agency concurred that the project was not a “project of air quality concern.” On October 12, 2018, the Federal Highway Administration (via Caltrans) indicated that the project was not a “project of air quality concern.” The Interagency Consultation Partners process was completed on October 12, 2018.

Public Outreach

Caltrans District 10, working with the City of Manteca and San Joaquin Council of Governments, held a Public Workshop in Manteca for the project on August 2, 2017. The Public Workshop provided members of the public and other interested parties an opportunity to provide comments, concerns, or suggestions that could be addressed during this outreach period. The Public Workshop was publicized through an invitation sent by first-class U.S. mail, a news release to print and broadcast media that serve the Manteca area, newspaper advertisements, and the San Joaquin Council of Governments and City of Manteca websites. Seventy-two people signed in at the Public Workshop, including 15 members of the project team and 57 members of the public and elected officials. The meeting was conducted as an open house workshop with informational display exhibits. Members of the project team were available throughout the open house to receive comments and answer questions. Each attendee was provided with a printed agenda and a comment sheet. Representatives from Caltrans, the City of Manteca, the San Joaquin

Council of Governments, and the consultant team staffed the information stations. Twelve comment sheets were received at the meeting. Oral comments and suggestions from local residents and community members were also received by project personnel attending the meeting. Main topics/concerns expressed by member of the public and elected officials included:

- Need for an overpass over the railway track between Woodward and Moffatt
- Keep Austin Road Interchange (11 opinions)
    - It is imperative to have an on-ramp at Austin Road to provide access to State Route 99 (provided my Manteca Fire Department)
    - Eliminating current State Route 99 access to/from Austin Road would be devastating to locals
    - Access to both north and southbound Austin Road is needed
    - Keep Austin Road interchange and perhaps move a safe distance to the east
    - Proposes Moffatt off-ramp in new location makes no sense-need to adapt the one in the current location
    - Closing Austin on/off-ramps creates a huge problem for local businesses
    - Keep Austin Road on/off-ramps open
    - Need to reconsider elimination of Austin Road exit between Phases
- Project is minimal benefit to residents of Manteca
- Add a lane to exit bypass to southbound State Route 99
- Discourage the pattern of exiting the bypass on McKinley, Airport, or Union, driving south to access West Ripon Road
- Need to improve local flow in AM/PM peak periods (e.g., overpass at Moffatt)
- Current plan has the potential effect on the State Route 120 corridor to allow flooding
- Need more information on landscaping design

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Chapter 5 List of Preparers

This document was prepared by the following individuals:

Bender Rosenthal Incorporated – Relocation Impact Statement and Last Resort Housing Plan for the State Route 99/State Route 120 Project

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Caltrans

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Juan Torres, Associate Environmental Planner. B.A., Environmental Studies, University of the Pacific, Stockton; 20 years of environmental planning experience. Contribution: Coordination of the environmental process for the project.

Fehr and Peers Transportation Consultants – Final Traffic Operations Analysis Report (FTOAR)

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LSA – Environmental Document, Visual Impact Assessment, Community Impact Assessment Checklist, Natural Environment Study, Archeological Survey Report, Historical Resources Evaluation Report, Paleontological Identification Report/Paleontological Identification Report

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Katie Vallaire, M.A., RPA Architectural History and Archeology. M.A. Public History, California State University, Sacramento, and B.A. Anthropology, Cultural Resource Management Certificate, California State University, Chico. 5 years of experience in cultural resource management. Contribution: Archeological Survey Report and Historical Resources Evaluation Report.

Dan Williams, Wildlife Biologist. B.S. Geography (Environmental Studies), University of Wisconsin, La Crosse. 13 years of experience performing biological studies for environmental review. Contribution: Natural Environment Study.

Mark Thomas – Engineering Studies and Construction Costs

Gary Horton PE, Project Manager. B.S. Civil Engineering, University of Maryland. 43 years of experience, specializing in highway design and management of transportation projects. Contribution: Project management, engineering studies, and construction costs.

Parikh Consultants, Inc. – Initial Environmental Site Assessment, Hazardous Waste Report, Preliminary Foundation Reports

Gary Parikh, P.E., G.E. #666, Principal-In-Charge. M.S. Geotechnical Engineering, University of Berkeley. 46 years of experience managing and conducting geotechnical investigations and materials engineering services. Contribution: Initial Environmental Site Assessment, Hazardous Waste Report, and Preliminary Foundation Reports.

Terry A. Hayes Associates Inc. – Air Quality Report, Noise Study Report and Noise Abatement Decision Report

Anders Sutherland, Environmental Scientist. B.S. Atmospheric, Oceanic, & Environmental Sciences, University of California, Los Angeles. 9 years of experience in air quality assessment. Contribution: Air Quality Report.

Sam Silverman, Senior Associate. M.S. Environmental Health, University of California, Los Angeles. 18 years of experience preparing Air Quality and Greenhouse Gas Studies and Noise Studies. Contribution: Noise Study Report and Noise Abatement Decision Report.

Chapter 6 Distribution List

The following officials, agencies, and interested parties have receive either a copy of the environmental document or a notice informing them of its availability.

Federal Agencies

- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service

State Agencies

- California Air Resources Board
- California Highway Patrol
- California Department of Conservation – Reclamation Board, Farmland Mapping and Monitoring Program Division, Land Resources Protection Division
- California Department of Fish and Wildlife North Central Region (2)
- California Native American Heritage Commission
- California Office of Emergency Services
- California Office of Historic Preservation
- California Public Utilities Commission
- California Regional Water Quality Control Board District 5 Sacramento
- California Natural Resources Agency
- California Transportation Commission
- California Department of Water Resources
- California Highway Patrol – Business Office
- State Water Resources Control Board: Storm Water Regional Control Board: Water Quality

Regional Agencies

- San Joaquin Regional Transit District
- San Joaquin Council of Governments
- San Joaquin Regional Rail Commission

County Agencies

- County of San Joaquin, Community Development Department
- County of San Joaquin, Public Works Department

- County of San Joaquin, Parks and Recreation Department
- San Joaquin County Office of Emergency Services
- San Joaquin County Sheriff's Department

City of Manteca Agencies

- City of Manteca Community Development Division
- City of Manteca Economic Development Division
- City of Manteca Fire Department
- City of Manteca Transit Department
- City of Manteca Parks and Recreation Department
- City of Manteca Police Department
- City of Manteca Public Works Department

City of Ripon Agencies

- City of Ripon Planning Department
- City of Ripon Parks and Recreation Department
- City of Ripon Public Works Department
- City of Ripon Police Department

Other Interested Parties

- Union Pacific Railroad
- Ms. Rhonda Morningstar Pope, Chairperson, Buena Vista Rancheria of Me-Wuk Indians
- Ms. Crystal Martinez-Alire, Chairperson, Ione Band of Miwok Indians
- Mr. Randy Yonemura, Cultural Committee Chair, Ione Band of Miwok Indians
- Ms. Katherine Erolinda Perez, Chairperson, North Valley Yokuts Tribe
- Ms. Lois Martin, Chairperson, Southern Sierra Miwuk Nation
- Mr. Gene Whitehouse, Chairperson, United Auburn Indian Community of the Auburn Rancheria
- Mr. Raymond Hitchcock, Chairperson, Wilton Rancheria

Appendix A Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
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Making Conservation a California Way of Life.

April 2018

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Related federal statutes and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone (916) 324-8379, TTY 711, email Title.VI@dot.ca.gov, or visit the website www.dot.ca.gov.

LAURIE BERMAN
Director

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

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Appendix B Summary of Relocation Benefits

California Department of Transportation Relocation Assistance Program

RELOCATION ASSISTANCE ADVISORY SERVICES

This appendix is general in nature and is not intended to be a complete statement of federal and state relocation laws and regulations. Any questions about relocation should be addressed to the Department's Division of Right of Way and Land Surveys. This section provides some general descriptive information on Public Law (PL) 91-646, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. This is often referred to simply as the "Uniform Act." The information in this appendix is provided only as background and is not intended as a complete statement of all the state or federal laws and regulations; for specific details the environmental planner should contact the Department's District or Regional Right-of-Way Relocation Branch. After presenting an outline of the basic legal foundation for relocation policy, the appendix looks at important relocation assistance information, including advisory services and the payment program. Refer to the Department's Right-of-Way Manual Chapter 10, for more detailed and specific information on relocation and housing programs.

DECLARATION OF POLICY

"The purpose of this title is to establish a ***uniform policy for fair and equitable treatment*** of persons displaced as a result of federal and federally assisted programs in order that such persons ***shall not suffer disproportionate injuries*** as a result of programs designed for the benefit of the public as a whole."

The Fifth Amendment to the U.S. Constitution states, "No Person shall…be deprived of life, liberty, or property, without due process of law, nor shall private property be taken for public use without just compensation." The Uniform Act sets forth in statute the due process that must be followed in Real Property acquisitions involving federal funds. Supplementing the Uniform Act is the government-wide single rule for all agencies to follow, set forth in 49 Code of Federal Regulations (CFR) Part 24. Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments, as discussed below.

FAIR HOUSING

The Fair Housing Law (Title VIII of the Civil Rights Act of 1968) sets forth the policy of the United States to provide, within constitutional limitations, for fair housing. This act, and as amended, makes discriminatory practices in the

purchase and rental of most residential units illegal. Whenever possible, minority persons shall be given reasonable opportunities to relocate to any available housing regardless of neighborhood, as long as the replacement dwellings are decent, safe, and sanitary and are within their financial means. This policy, however, does not require the Department to provide a person a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Any persons to be displaced will be assigned to a relocation advisor, who will work closely with each displacee in order to see that all payments and benefits are fully utilized and that all regulations are observed, thereby avoiding the possibility of displacees jeopardizing or forfeiting any of their benefits or payments. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state's relocation services. Tenant occupants of properties to be acquired are contacted soon after the initiation of negotiations and also are given a detailed explanation of the Caltrans Relocation Assistance Program. To avoid loss of possible benefits, no individual, family, business, farm, or nonprofit organization should commit to purchase or rent a replacement property without first contacting a Department relocation advisor.

RELOCATION ASSISTANCE ADVISORY SERVICES

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, the Department will provide relocation advisory assistance to any person, business, farm, or nonprofit organization displaced as a result of the acquisition of real property for public use, so long as they are legally present in the United States. The Department will assist eligible displacees in obtaining comparable replacement housing by providing current and continuing information on the availability and prices of both houses for sale and rental units that are "decent, safe, and sanitary." Nonresidential displacees will receive information on comparable properties for lease or purchase (for business, farm, and nonprofit organization relocation services, see below).

Residential replacement dwellings will be in a location generally not less desirable than the displacement neighborhood at prices or rents within the financial ability of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, comparable replacement dwellings will be offered to displacees that are open to all persons regardless of race, color, religion, sex, national origin, and consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include the supplying of information concerning federal and state assisted housing programs and any other known services being offered by public and private agencies in the area.

Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without first being given at least 90 days written notice. Residential occupants eligible for relocation payment(s) will not be required to move unless at least one comparable “decent, safe, and sanitary” replacement dwelling, available on the market, is offered to them by the Department.

RESIDENTIAL RELOCATION PAYMENTS

The Relocation Assistance Program will help eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for or incidental to the purchase or rental of a replacement dwelling and actual reasonable moving expenses to a new location within 50 miles of the displacement property. Any actual moving costs in excess of the 50 miles are the responsibility of the displacee. The Residential Relocation Assistance Program can be summarized as follows:

Moving Costs

Any displaced person, who lawfully occupied the acquired property, regardless of the length of occupancy in the property acquired, will be eligible for reimbursement of moving costs. Displacees will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 50 miles, or a fixed payment based on a fixed moving cost schedule. Lawful occupants who move into the displacement property after the initiation of negotiations must wait until the Department obtains control of the property in order to be eligible for relocation payments.

Purchase Differential

In addition to moving and related expense payments, fully eligible homeowners may be entitled to payments for increased costs of replacement housing.

Homeowners who have owned and occupied their property for 90 days or more prior to the date of the initiation of negotiations (usually the first written offer to purchase the property), may qualify to receive a price differential payment and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the interest rate for the loan on the replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate.

Rent Differential

Tenants and certain owner-occupants (based on length of ownership) who have occupied the property to be acquired by the Department prior to the date of the initiation of negotiations may qualify to receive a rent differential

payment. This payment is made when the Department determines that the cost to rent a comparable "decent, safe, and sanitary" replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the tenant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of certain costs incidental to the purchase, subject to certain limitations noted under the *Down Payment* section below. To receive any relocation benefits, the displaced person must buy or rent and occupy a "decent, safe and sanitary" replacement dwelling within one year from the date the Department takes legal possession of the property, or from the date the displacee vacates the displacement property, whichever is later.

Down Payment
The down payment option has been designed to aid owner-occupants of less than 90 days and tenants in legal occupancy prior to the Department's initiation of negotiations. The one-year eligibility period in which to purchase and occupy a "decent, safe and sanitary" replacement dwelling will apply.

Last Resort Housing
Federal regulations (49 CFR 24) contain the policy and procedure for implementing the Last Resort Housing Program on Federal-aid projects. Last Resort Housing benefits are, except for the amounts of payments and the methods in making them, the same as those benefits for standard residential relocation as explained above. Last Resort Housing has been designed primarily to cover situations where a displacee cannot be relocated because of lack of available comparable replacement housing, or when the anticipated replacement housing payments exceed the limits of the standard relocation procedure, because either the displacee lacks the financial ability or other valid circumstances.

After the initiation of negotiations, the Department will within a reasonable length of time, personally contact the displacees to gather important information, including the following:

- Number of people to be displaced.
- Specific arrangements needed to accommodate any family member(s) with special needs.
- Financial ability to relocate into comparable replacement dwelling which will adequately house all members of the family.
- Preferences in area of relocation.
- Location of employment or school.

NONRESIDENTIAL RELOCATION ASSISTANCE

The Nonresidential Relocation Assistance Program provides assistance to businesses, farms and nonprofit organizations in locating suitable

replacement property, and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms, and nonprofit organizations are: searching and moving expenses, and possibly reestablishment expenses; or a fixed in lieu payment instead of any moving, searching and reestablishment expenses. The payment types can be summarized as follows:

Moving Expenses
Moving expenses may include the following actual, reasonable costs:

- The moving of inventory, machinery, equipment and similar business-related property, including: dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting of personal property. Items acquired in the right-of-way contract may not be moved under the Relocation Assistance Program. If the displacee buys an Item Pertaining to the Realty back at salvage value, the cost to move that item is borne by the displacee.
- Loss of tangible personal property provides payment for actual, direct loss of personal property that the owner is permitted not to move.
- Expenses related to searching for a new business site, up to $2,500, for reasonable expenses actually incurred.

Reestablishment Expenses
Reestablishment expenses related to the operation of the business at the new location, up to $25,000 for reasonable expenses actually incurred.

Fixed In Lieu Payment
A fixed payment in lieu of moving, searching, and reestablishment payments may be available to businesses that meet certain eligibility requirements. This payment is an amount equal to half the average annual net earnings for the last two taxable years prior to the relocation and may not be less than $1,000 nor more than $40,000.

ADDITIONAL INFORMATION

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954, or for the purpose of determining the extent of eligibility of a displacee for assistance under the Social Security Act, or any other law, *except* for any federal law providing local "Section 8" Housing Programs.

Any person, business, farm or nonprofit organization that has been refused a relocation payment by the Department relocation advisor or believes that the payment(s) offered by the agency are inadequate may appeal for a special

hearing of the complaint. No legal assistance is required. Information about the appeal procedure is available from the relocation advisor.

California law allows for the payment for lost goodwill that arises from the displacement for a public project. A list of ineligible expenses can be obtained from the Department's Division of Right of Way and Land Surveys. California's law and the federal regulations covering relocation assistance provide that no payment shall be duplicated by other payments being made by the displacing agency.

If your project includes relocations, include a link to the Division of Right of Way's Relocation Assistance Program at:

http://www.dot.ca.gov/hq/row/rap/index.htm

Appendix C Avoidance, Minimization and/or Mitigation Summary

To be sure that all environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the proposed Environmental Commitments Record [ECR] which follows) would be implemented. During project design, avoidance, minimization, and/or mitigation measures will be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will ensure that the commitments contained in the Environmental Commitments Record are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. As the following Environmental Commitments Record is a draft, some fields have not been completed and will be filled out as each of the measures is implemented.

Note: Some measures may apply to more than one resource area. Duplicated or redundant measures have not been included in this Environmental Commitments Record.

Initial Study Measure Number	Measure Type	Measure	Responsible Branch/Staff	Timing Phase	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
Visual/Aesthetics									
AES-1	Avoidance/ Minimization	The project will provide replacement highway planting, landscape improvements, and maintenance using recycled wastewater within the highway right-of-way at the Austin Road/State Route 99 interchange. These landscape improvements would be for a gateway feature at the Austin Road/State Route 99 interchange in accordance with the 2023 Manteca General Plan's Community Design Element. This would lessen aesthetic impacts of the project by providing a distinct, attractive gateway for the Austin Road/State Route 99 interchange, particularly in its position at the southeastern entrances to the City. Any highway planting will follow the Caltrans Highway Design Manual's Highway Planting Standards and Guidelines (Caltrans 2016).	Construction Contractor	After construction					
AES-2	Avoidance/ Minimization	The project will limit all construction lighting to within the area of work and avoid light trespass through directional lighting, shielding, and other measures as needed.	Construction Contractor	During construction					
Agricultural Resources (Farmlands)									
AG-1	Avoidance/ Minimization	Final design for the project will be coordinated with neighboring property owners and agricultural operators to incorporate design features to maintain access and operation of adjacent agricultural properties.	Project Applicant / Project Engineer	Prior to construction					
AG-2	Avoidance/ Minimization	The project contractor will reconstruct irrigation ditches and install irrigation pipelines on all agriculture parcels impacted during project construction to ensure proper drainage and irrigation.	Construction Contractor	After construction					
AG-3	Avoidance/ Minimization	The project will notify the California Department of Conservation prior to making a decision to acquire property under Williamson Act contracts for a public improvement (required per Government Code §§51290-51295, 51296.6).	Project Applicant	Prior to construction					

Initial Study Measure Number	Measure Type	Measure	Responsible Branch/Staff	Timing Phase	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
Air Quality									
AQ-1	Avoidance/ Minimization	The following measures will be implemented by the project during construction activities: - The construction contractor must comply with Caltrans' Standard Specifications in Section 14-9 (2018). - Section 14-9-02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances. - Water or a dust palliative will be applied to the site and equipment as often as necessary to control fugitive dust emissions. - Soil binder will be spread on any unpaved roads used for construction purposes, and on all project construction parking areas. - Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions. - Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by Code of Regulations Title 17, Section 93114. - A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely re-vegetation of disturbed slopes as needed to minimize construction impacts to existing communities. - Equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly. - Environmentally sensitive areas will be established near sensitive air receptors. Within these areas, construction activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible. - Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, will be used. - All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust during transportation. - Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to reduce particulate matter emissions. - To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times. - Mulch will be installed or vegetation planted as soon as practical after grading to reduce windblown particulate matter in the area.	Construction Contractor	During construction					
AQ-2	Avoidance/ Minimization	Prepare and implement a dust control plan to comply with San Joaquin Valley Air Pollution Control District Regulation VIII requirements to control construction emissions of PM_{10}. To control the generation of construction-related PM_{10} emissions, the project construction contractors will prepare and submit for approval a dust control plan to the San Joaquin Valley Air Pollution Control District at least 30 days prior to any earthmoving or construction activities.	Construction Contractor	Prior to construction					

Initial Study Measure Number	Measure Type	Measure	Responsible Branch/Staff	Timing Phase	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
AQ-3	Avoidance/ Minimization	The project will enter into a developer agreement with the San Joaquin Valley Air Pollution Control District and conduct an air impact assessment as required by San Joaquin Valley Air Pollution Control District Rule 9510. Off-site emission reduction fees will be calculated, as dictated by Rule 9510, to reduce construction-related NOx emissions by 20 percent and PM_{10} exhaust emissions by 45 percent to the statewide fleet average.	Project Applicant	Prior to and during construction					
Biological Resources									
BIO-1	Avoidance/ Minimization	The following measures will be implemented by the project to reduce the potential for take of the pallid bat: • Focused bat surveys will be conducted in the biological study area by a qualified bat biologist to determine if nursery or roost sites are present. Focused surveys will be the responsibility of the project. If pallid bats are roosting in the biological study area, the following measures will be implemented: ○ Prior to the nursery season for pallid bat (April through September), sites will be sealed or otherwise rendered unusable to bats (e.g., install grating). ○ Seal hibernation sites, prior to the hibernation season (November through March) when hibernation sites are identified in the biological study area. Alternatively, grating may be installed. ○ When colonial roosting sites in trees or structures must be removed, removal will occur outside of the nursery and/or hibernation seasons and will occur during dusk and/or evening hours after bats have left the roosting site.	Construction Contractor / Qualified Bat Biologist	Prior to and during construction					

Initial Study Measure Number	Measure Type	Measure	Responsible Branch/Staff	Timing Phase	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
BIO-2	Avoidance/ Minimization	The following measures will be implemented by the project to reduce the potential for take of the Cooper's hawk and white-tailed kite: • If possible, all trees that will be impacted by the project construction will be removed during the non-nesting season (between September 1 and January 31) to avoid take of a nest or bird. If this is not possible, a survey for nesting Cooper's hawks and white-tailed kites will be conducted in the biological study area and within a 300-foot radius by a qualified biologist. The survey will be conducted to a maximum of 10 days prior to the start of construction. The survey area may be decreased due to property access constraints, etc. • If nesting Cooper's hawks or white-tailed kites are found within 300 feet of the biological study area, a qualified biologist will evaluate the potential for the project to disturb nesting activities. The evaluation criteria will include, but are not limited to, the location/orientation of the nest in the nest tree, the distance of the nest from the biological study area, and line of sight between the nest and the biological study area. • The California Department of Fish and Wildlife will be contacted to review the evaluation and determine if the project can proceed without adversely affecting nesting activities. • If work is allowed to proceed, a qualified biologist will be on-site weekly during construction activities that occur in breeding season to monitor nesting activity. The biologist will have the authority to stop work if it is determined the project is adversely affecting nesting activities. • If the qualified biologist determines that the setback can be reduced, initial construction activities in the vicinity of the nest will be monitored by a qualified biologist. If the biologist determines nesting is not affected by construction activities with the reduced setback, work can proceed. If it is determined that construction activities are adversely affecting the nesting birds with the reduced setback, all construction within 300 feet of a nest will be halted until the biologist can establish an appropriate setback. • Worker environmental awareness training will be conducted by a qualified biologist for all construction personnel. The training will instruct workers on the purpose of Environmentally Sensitive Area (ESA) fencing and the resources being protected.	Construction Contractor / Qualified Biologist	Prior to and during construction					

<table>
<tr><th rowspan="2">Initial Study Measure Number</th><th rowspan="2">Measure Type</th><th rowspan="2">Measure</th><th rowspan="2">Responsible Branch/Staff</th><th rowspan="2">Timing Phase</th><th colspan="2">Task Completed</th><th rowspan="2">Remarks</th><th colspan="2">Environmental Compliance</th></tr>
<tr><th>Initial</th><th>Date</th><th>Initial</th><th>Date</th></tr>
<tr><td>BIO-3</td><td>Avoidance/ Minimization</td><td>The following measures will be implemented by the project to reduce the potential for impacts to the burrowing owl:
• Preconstruction surveys for the burrowing owl will be conducted by a qualified biologist in accordance with California Department of Fish and Wildlife’s 2012 Staff Report on Burrowing Owl Mitigation.
• If burrowing owls are identified during the preconstruction survey, passive exclusion will be implemented per California Department of Fish and Wildlife’s 2012 Staff Report on Burrowing Owl Mitigation (including avoidance of occupied burrows during the breeding season from February 1 to August 31).
• Following construction, all fill slopes, temporary impacts and/or otherwise disturbed areas will be restored to preconstruction contours (if necessary) and revegetated with the native seed mix specified in Table 1: Native Species Mix. Invasive exotic plants will be controlled pursuant to the following:
- All earthmoving equipment to be used during project construction will be cleaned thoroughly before arrival on the project site.
- All seeding equipment (i.e., hydroseed trucks) will be thoroughly rinsed at least three times prior to beginning seeding work.
- To avoid spreading any non-native invasive species already existing on site,

Table 1: Native Species Mix
<table><tr><th>Scientific Name</th><th>Common Name</th><th>Rate (lbs/acre)</th><th>Minimum Percent Germination</th></tr><tr><td>Artemisia douglasiana</td><td>Mugwort</td><td>2.0</td><td>50</td></tr><tr><td>Bromus carinatuscarinatus</td><td>California brome</td><td>5.0</td><td>85</td></tr><tr><td>Elymus trachycaulus</td><td>Slender wheatgrass</td><td>2.0</td><td>60</td></tr><tr><td>Elymus X triticum</td><td>Regreen</td><td>10.0</td><td>80</td></tr><tr><td>Eschsolzia californica</td><td>California poppy</td><td>2.0</td><td>70</td></tr><tr><td>Hordeum brachyantherum</td><td>California barley</td><td>2.0</td><td>80</td></tr><tr><td>Lupinus bicolor</td><td>Bicolored lupine</td><td>4.0</td><td>80</td></tr></table>to off-site areas, all equipment will be thoroughly cleaned before leaving the site.
- To avoid introduction of additional non-native species to the site, all fill dirt brought onto the site must be weed-free.</td><td>Construction Contractor / Qualified Biologist</td><td>Prior to, during, and after construction</td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

Initial Study Measure Number	Measure Type	Measure	Responsible Branch/Staff	Timing Phase	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
BIO-4	Avoidance/ Minimization	The following measures will be implemented by the project to reduce the potential take of the Swainson's hawk: • If work begins between February 1 and August 31, an early season preconstruction survey for nesting Swainson's hawks will be conducted between January and March in the biological study area and immediate vicinity (an approximately 0.25-mile radius) by a qualified biologist when tree foliage is relatively sparse and nests are easy to identify. A second preconstruction survey for nesting Swainson's hawks will be conducted in the biological study area and immediate vicinity (an approximately 0.25-mile radius) by a qualified biologist no more than 10 days prior to initiation of earthmoving activities. • If nesting Swainson's hawks are found within the survey area, a qualified biologist will evaluate the potential for the project to disturb nesting activities. The California Department of Fish and Wildlife will be contacted to review the evaluation and determine if the project can proceed without adversely affecting nesting activities. The California Department of Fish and Wildlife will also be consulted to establish protection measures such as buffers. Disturbance of active nests will be avoided until it is determined by a qualified biologist that nesting is complete and the young have fledged, or that the nest has failed. If work is allowed to proceed, at a minimum, a qualified biologist will be on-site during the start of construction activities during the nesting season to monitor nesting activity. The monitor will have the authority to stop work if it is determined the project is adversely affecting nesting activities. • Worker environmental awareness training will be conducted by a qualified biologist for all construction personnel. This training instructs workers to recognize Swainson's hawks and their habitat(s). • Brightly colored Environmentally Sensitive Area (ESA) fencing will be placed along the limits of work to prevent unnecessary encroachment into adjacent areas. Fencing will be maintained in good condition for the duration of construction activities. • Following construction, all fill slopes, temporary impact and/or otherwise disturbed areas will be restored to preconstruction contours (if necessary) and revegetated with the native seed mix specified above in Table 3-12. Invasive exotic plants will be controlled pursuant to the measures presented in Section 5.7 of the Draft Natural Environment Study.	Construction Contractor / Qualified Biologist	Prior to, during, and after construction					

Initial Study Measure Number	Measure Type	Measure	Responsible Branch/Staff	Timing Phase	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
BIO-5	Avoidance/ Minimization	The following measures will be implemented by the project to reduce the potential for take of the California horned lark and loggerhead shrike: • If construction begins during the nesting season (February 1 to August 31), a survey for nesting California horned larks and loggerhead shrikes will be conducted in the biological study area and within a 100-foot radius by a qualified biologist. The survey will be conducted a maximum of 10 days prior to the start of construction. • If nesting California horned larks or loggerhead shrikes are found within 100 feet of the project footprint during the survey, an initial setback of 100 feet from nesting areas will be established and protected with Environmentally Sensitive Area (ESA) fencing. ESA fencing will be maintained during the nesting season until construction is complete or the young have fledged, as determined by a qualified biologist. • A qualified biologist will evaluate the potential for the proposed work to disturb nesting activities considering the 100-foot setback. The evaluation criteria will include, but are not limited to, the location/orientation of the nest, the distance of the nest to the work limits, the line of sight between the nest and the work limits, and the description of the proposed work. • If work is allowed to proceed, a qualified biologist will be on-site weekly during construction activities that occur in breeding season to monitor nesting activity. The biologist will have the authority to stop work if it is determined the project is adversely affecting nesting activities. • If the qualified biologist determines that the setback can be reduced, initial construction activities in the vicinity of the nest will be monitored by a qualified biologist. If the biologist determines nesting is not affected by construction activities with the reduced setback, work can proceed. If it is determined that construction activities are adversely affecting the nesting birds with the reduced setback, all construction within 100 feet of a nest will be halted until the biologist can establish an appropriate setback. • Worker environmental awareness training will be conducted by a qualified biologist for all construction personnel. The training will instruct workers about the purpose of Environmentally Sensitive Area fencing and the resources being protected.	Construction Contractor / Qualified Biologist	Prior to and during construction					
BIO-6	Avoidance/ Minimization	To avoid the introduction of invasive species into the biological study area during project construction, contract specifications will include, at a minimum, the following measures: - All earthmoving equipment to be used during project construction will be cleaned thoroughly before arrival on the project site. - All seeding equipment (i.e., hydroseed trucks) will be thoroughly rinsed at least three times prior to beginning seeding work. - To avoid spreading non-native invasive species already existing on-site to off-site areas, all equipment will be thoroughly cleaned before leaving the site. - To avoid introduction of additional non-native species to the site, all fill dirt brought onto the site must be weed-free.	Construction Contractor / Qualified Biologist	Prior to and during construction					

Initial Study Measure Number	Measure Type	Measure	Responsible Branch/Staff	Timing Phase	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
Cultural Resources									
CULT-1	Avoidance/Minimization	Prior to any ground disturbance, a qualified archaeologist will conduct a preconstruction meeting to orient the construction crew to the potential for encountering prehistoric archaeological deposits during construction. This instructional meeting will also include a discussion of the types of artifacts that could be encountered and the steps to take upon discovery to avoid inadvertent impacts to such finds.	Construction Contractor / Qualified Archaeologist	Prior to construction					
CULT-2	Standard	If cultural materials are discovered during construction, all earth-moving activity within 60 feet of the find will be diverted until a qualified archaeologist can assess the nature and significance of the find. If the cultural materials are Native American in origin, Native American groups would be contacted.	Construction Contractor / Qualified Archaeologist	During construction					
CULT-3	Standard	If human remains are encountered during project construction activities, the project will comply with the requirements of California Health and Safety Code Section 7050.50. There will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of San Joaquin County has determined the manner and cause of any death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his/her authorized representative. At the same time, an archaeologist will be contacted to assess the situation and consult with agencies as appropriate. Project personnel/construction workers will not collect or move any human remains and associated materials. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendent to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. At this time, the person who discovered the remains will contact Ben Elliot, Acting Senior Environmental Planner, Northern San Joaquin Valley Environmental Management Cultural Resources Branch, (209) 942-619157, so he may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code 5097.98 are to be followed as applicable.	Construction Contractor / County Coroner	During construction					
Geology									
GEO-1	Standard	A Geotechnical Report will be prepared by the Project which will outline required geologic/ geotechnical field investigations and laboratory testing that will be performed. The Geotechnical Report will be prepared to obtain site-specific data appropriate to design Phases 1A, 1B, and 1C of the proposed project.	Project Engineer / Construction Contractor	Prior to construction					

Initial Study Measure Number	Measure Type	Measure	Responsible Branch/Staff	Timing Phase	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
Greenhouse Gas Emissions									
GHG-1	Avoidance/ Minimization	The project would ensure that applicable greenhouse gas-reducing diesel particulate and NO_X emissions measures for off-road construction vehicles are implemented during construction. The measures would be noted on all construction plans and the project sponsor would perform periodic site inspections. Applicable greenhouse gas-reducing measures include the following: • Use of diesel construction equipment meeting the Air Resources Board's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation; • Use of on-road heavy-duty trucks meeting the Air Resources Board's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation; • All on- and off-road diesel equipment would not idle for more than 5 minutes. Signs would be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit; • Use of electric equipment in place of diesel-powered equipment, where feasible; • Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and • Use of alternatively fueled construction equipment on-site where feasible, such as compressed natural gas, liquefied natural gas, propane or biodiesel.	Construction Contractor	During construction					
GHG-2	Avoidance/ Minimization	All lighting installed by the project will be energy-efficient and designed to use the least amount of energy to serve the purpose of the lighting. Lighting would use solar energy wherever feasible.	Project Engineer / Construction Contractor	During and after construction					
GHG-3	Avoidance/ Minimization	New landscaping design and irrigation systems installed by the project will be water-efficient.	Project Engineer / Construction Contractor	During and after construction					
Hazardous Waste and Materials									
HAZ-1	Avoidance/ Minimization	Structures or buildings constructed prior to 1989 may have been constructed using asbestos-containing materials. The project will conduct asbestos surveys using a certified consultant prior to any modification or demolition to accommodate the planned construction.	Project Applicant / Construction Contractor	Prior to construction					
HAZ-2	Avoidance/ Minimization	Structures or buildings constructed prior to 1978 are presumed to contain lead-based paints. The project will conduct lead-based paint surveys using a certified consultant prior to modifications/demolition of structures that may be altered or demolished to accommodate the planned construction.	Project Applicant / Construction Contractor	Prior to construction					
HAZ-3	Avoidance/ Minimization	Wood guardrail posts may have been treated with a chemical preservative to protect the wood from decay. Per Department of Toxic Substances Control Board regulations, Treated Wood Waste may be handled as a solid waste and testing and sampling of Treated Wood Waste is not required. The project will follow this guidance along with Caltrans specifications in the disposal of Treated Wood Waste.	Construction Contractor	Prior to construction					

Initial Study Measure Number	Measure Type	Measure	Responsible Branch/Staff	Timing Phase	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
HAZ-4	Avoidance/ Minimization	To avoid impacts from pavement striping during construction, it is recommended that testing and removal requirements for yellow striping and pavement marking materials be performed by the project in accordance with Caltrans Standard Special Provision 14-11.12 - Remove Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue.	Construction Contractor	During construction					
Noise									
NOI-1	Avoidance/ Minimization	The project will implement appropriate additional noise mitigation measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and/or installing acoustic barriers around station construction noise sources if deemed excessive stationary noise levels by local noise ordinance standards.	Construction Contractor	During construction					
NOI-2	Avoidance/ Minimization CEQA Mitigation Measure	Construction of noise barrier NB-2 (12 feet tall) in Areas C, D, and E will occur at the start of Phase 1A construction (construction year 2023). This barrier will be constructed at the start of Phase 1A construction so it will be functional during Phases 1B and 1C of the project to attenuate operational noise at sensitive receptors once the project is fully operational (design year 2043).	Project Engineer / Construction Contractor	During construction					
Traffic and Transportation									
TRA-1	Standard	The project will be required to prepare and implement a Traffic Management Plan to address short-term disruptions in existing circulation patterns during construction. The Traffic Management Plan will identify the locations of temporary detours and signage to facilitate local traffic patterns and through-traffic requirements. The Traffic Management Plan will also provide access plans for affected businesses and residential units that will be impacted by short-term and long-term road closures to ensure access to uses are still available during construction activities.	Project Applicant / Construction Contractor	During construction					
TRA-2	Avoidance/ Minimization	The project's special provisions of the highway contract will require that emergency service providers (i.e., law enforcement, fire protection, and ambulance services) be given adequate advance notice of any road closures during the construction phases of the project.	Construction Contractor	During construction					
TRA-3	Avoidance/ Minimization	Construction activities will be coordinated by the project to avoid blocking or limiting access to residential units and businesses to the extent possible as applicable. Residents and business owners will be notified by the project in advance about potential access or parking effects prior to the start of construction activities.	Construction Contractor	During construction					
TRA-4	Avoidance/ Minimization	To improve morning and evening peak hour operations at the eastbound State Route 120 off-ramp/Main Street intersection, the ramp will be widened by the project to provide the following: • 400-foot eastbound State Route 120 off-ramp right-turn lane • 300-foot northbound Main Street right-turn With these improvements, the eastbound State Route 120 off-ramp/Main Street intersection would improve from level of service E to level of service D conditions during the morning peak hour and would improve from level of service F to level of service D conditions during the evening peak hour.	City of Manteca	During construction					
TRA-5	Avoidance/ Minimization	To improve morning peak hour operations at the Moffat Boulevard/Woodward Avenue intersection, the intersection will be improved by the project with the installation of a signal. With this improvement, the Moffat Boulevard/Woodward Avenue intersection would improve from level of service F to level of service C conditions during the morning peak hour.	Project Applicant / Project Engineer	During construction					

Initial Study Measure Number	Measure Type	Measure	Responsible Branch/Staff	Timing Phase	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
TRA-6	Avoidance/ Minimization	To improve evening peak hour operations at the northbound State Route 99 ramps/Yosemite Avenue intersection, the intersection signal timings will be optimized and coordinated by the project to provide additional green time for the eastbound Yosemite Avenue right-turn volume onto northbound State Route 99. With this improvement, the northbound State Route 99 ramps/Yosemite Avenue intersection would improve from level of service E to level of service D conditions during the evening peak hour under the construction year 2023.	City of Manteca	During construction					
TRA-7	Avoidance/ Minimization	To improve evening peak hour operations, the Moffat Boulevard Connector/Austin Road, Moffat Boulevard/Woodward Avenue connector, and Woodward Avenue/Main Street will be improved by the project with the installation of a signal. With this improvement, the Moffat Boulevard connector/Austin Road intersection would improve from level of service E to level of service C conditions during the evening peak hour; the Moffat Boulevard/Woodward Avenue connector intersection would improve from level of service F to level of service D conditions during the evening peak hour; and, the Woodward Avenue/Main Street intersection would improve from level of service F to level of service D conditions during the evening peak hour.	City of Manteca	During construction					
TRA-8	Avoidance/ Minimization	To improve the morning/evening peak hour operations at the eastbound State Route 120 off-ramp/Main Street intersection, the interchange will need to be reconstructed by the project proponent based on San Joaquin Council of Governments Regional Transportation Plan/Sustainable Communities Strategy Interchange Project List. This improvement would need to be constructed by the project proponent prior to design year 2043 conditions. With this improvement, the eastbound State Route 120 off-ramp/Main Street intersection would improve from level of service F to level of service D conditions during the morning/evening peak hours.	City of Manteca	During construction / Prior to Design Year 2043					
TRA-9	Avoidance/ Minimization	To improve the morning/evening peak hour operations at the State Route 120/Main Street intersections, the interchange would need to be reconstructed by the project proponent based on San Joaquin Council of Governments Regional Transportation Plan/Sustainable Communities Strategy Interchange Project List. This improvement would be constructed by the project proponent before design year 2043 conditions. With the improvements, the State Route 120/Main Street intersections would improve from unacceptable level of service F to acceptable level of service D conditions during the morning/evening peak hours.	City of Manteca	During construction / Prior to Design Year 2043					
Utilities and Emergency Services									
UT-1	Avoidance/ Minimization	The project will be designed to minimize conflicts with utilities in the project area. The project will include relocation of those utilities that would be inaccessible for maintenance or access purposes as a result of the project implementation.	Project Engineer / Construction Contractor	Prior to and during construction					
UT-2	Avoidance/ Minimization	The project will be required to notify utility users of any short-term, limited interruptions of service.	Construction Contractor	During construction					
UT-3	Avoidance/ Minimization	If unexpected underground utilities are encountered, the project will coordinate with the utility provider to develop plans to address the utility conflict, protect the utility if needed, and limit service interruptions.	Construction Contractor	During construction					

Initial Study Measure Number	Measure Type	Measure	Responsible Branch/Staff	Timing Phase	Task Completed		Remarks	Environmental Compliance	
					Initial	Date		Initial	Date
UT-4	Avoidance/ Minimization	The project will circulate construction schedules and traffic control information to local emergency service providers at least two weeks before any road closures.	Construction Contractor	Prior to and during construction					
Water Quality									
WQ-1	Standard	Preparation and implementation of construction site temporary best management practices by the project will comply with the provisions of the Caltrans Statewide National Pollutant Discharge Elimination System Permit and any subsequent permit as they relate to construction activities for the project. These best management practices will include submission of a Notice of Intention to the Central Valley Regional Water Quality Control Board at least 30 days before the start of construction and submission of a Notice of Termination to the Regional Water Quality Control Board upon completion of construction and stabilization of the project site. The temporary best management practices will be installed by the project prior to any construction operations and will be in place for the duration of the contract. The removal of these best management practices by the project will be the final operation, along with the project site cleanup.	Construction Contractor	Prior to and during construction					
WQ-2	Standard	The project will follow Design Pollution Prevention and Treatment Control best management practices for the project in accordance with the procedures outlined in the Stormwater Quality Handbooks, Project Planning and Design Guide. Compliance with Design Pollution Prevention and Treatment Control best management practices will include coordination with the Regional Water Quality Control Board with respect to feasibility, maintenance, and monitoring of Treatment Control best management practices as set forth in Caltrans' Statewide Stormwater Management Plan. A Water Pollution Control Program will need to be prepared by a Qualified Stormwater Pollution Prevention Plan Practitioner.	Construction Contractor	Prior to and during construction					
WQ-3	Standard	The project will be required to comply to the provisions specified in Section 13, "Water Pollution Control," and Section 14-11, "Hazardous Waste and Contamination," of the California State Standard Specifications, regarding spill prevention and control measures. All workers will be informed by the project of the importance of preventing spills and of the appropriate measures to take should a spill occur.	Construction Contractor	During construction					
WQ-4	Standard	To control sedimentation during and after project implementation, the project will implement best management practices outlined in any authorizations or permits, issued under the authorities of the Clean Water Act that it receives for the project. If best management practices are ineffective, the project will remedy the situation immediately, in consultation with the regulatory and resource agencies.	Construction Contractor	During construction					

Appendix D Species Lists

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Avena (3712171) OR Lathrop (3712173) OR Manteca (3712172) OR Peters (3712181) OR Ripon (3712162) OR Salida (3712161) OR Stockton East (3712182) OR Stockton West (3712183) OR Vernalis (3712163))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Anniella pulchra northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
Anthicus sacramento Sacramento anthicid beetle	IICOL49010	None	None	G1	S1	
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Atriplex cordulata var. cordulata heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
Atriplex minuscula lesser saltscale	PDCHE042M0	None	None	G2	S2	1B.1
Blepharizonia plumosa big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1
Bombus caliginosus obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
Bombus crotchii Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	None	G2G3	S1	
Branchinecta conservatio Conservancy fairy shrimp	ICBRA03010	Endangered	None	G2	S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
Branta hutchinsii leucopareia cackling (=Aleutian Canada) goose	ABNJB05035	Delisted	None	G5T3	S3	
Brasenia schreberi watershield	PDCAB01010	None	None	G5	S3	2B.3
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Chloropyron palmatum palmate-bracted bird's-beak	PDSCR0J0J0	Endangered	Endangered	G1	S1	1B.1
Cirsium crassicaule slough thistle	PDAST2E0U0	None	None	G1	S1	1B.1
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Delphinium recurvatum recurved larkspur	PDRAN0B1J0	None	None	G2?	S2?	1B.2
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Elderberry Savanna Elderberry Savanna	CTT63440CA	None	None	G2	S2.1	
Eremophila alpestris actia California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
Eryngium racemosum Delta button-celery	PDAPI0Z0S0	None	Endangered	G1	S1	1B.1
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Falco columbarius merlin	ABNKD06030	None	None	G5	S3S4	WL
Great Valley Cottonwood Riparian Forest Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
Great Valley Mixed Riparian Forest Great Valley Mixed Riparian Forest	CTT61420CA	None	None	G2	S2.2	
Great Valley Valley Oak Riparian Forest Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Hypomesus transpacificus Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
Lanius ludovicianus loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
Lathyrus jepsonii var. jepsonii Delta tule pea	PDFAB250D2	None	None	G5T2	S2	1B.2
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Lytta moesta moestan blister beetle	IICOL4C020	None	None	G2	S2	

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Melospiza melodia	ABPBXA3010	None	None	G5	S3?	SSC
song sparrow ("Modesto" population)						
Mylopharodon conocephalus	AFCJB25010	None	None	G3	S3	SSC
hardhead						
Neotoma fuscipes riparia	AMAFF08081	Endangered	None	G5T1Q	S1	SSC
riparian (=San Joaquin Valley) woodrat						
Oncorhynchus mykiss irideus pop. 11	AFCHA0209K	Threatened	None	G5T2Q	S2	
steelhead - Central Valley DPS						
Puccinellia simplex	PMPOA53110	None	None	G3	S2	1B.2
California alkali grass						
Sagittaria sanfordii	PMALI040Q0	None	None	G3	S3	1B.2
Sanford's arrowhead						
Spirinchus thaleichthys	AFCHB03010	Candidate	Threatened	G5	S1	SSC
longfin smelt						
Sylvilagus bachmani riparius	AMAEB01021	Endangered	Endangered	G5T1	S1	
riparian brush rabbit						
Symphyotrichum lentum	PDASTE8470	None	None	G2	S2	1B.2
Suisun Marsh aster						
Thamnophis gigas	ARADB36150	Threatened	Threatened	G2	S2	
giant gartersnake						
Trichocoronis wrightii var. wrightii	PDAST9F031	None	None	G4T3	S1	2B.1
Wright's trichocoronis						
Trifolium hydrophilum	PDFAB400R5	None	None	G2	S2	1B.2
saline clover						
Tuctoria greenei	PMPOA6N010	Endangered	Rare	G1	S1	1B.1
Greene's tuctoria						
Vireo bellii pusillus	ABPBW01114	Endangered	Endangered	G5T2	S2	
least Bell's vireo						
Xanthocephalus xanthocephalus	ABPBXB3010	None	None	G5	S3	SSC
yellow-headed blackbird						

Record Count: 55

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2/22/2019 CNPS Inventory Results

CNPS California Native Plant Society

Plant List

Inventory of Rare and Endangered Plants

19 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3712183, 3712182, 3712181, 3712173, 3712172, 3712171, 3712163 3712162 and 3712161;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S1	G2T1
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G3T2
Atriplex coronata var. coronata	crownscale	Chenopodiaceae	annual herb	Mar-Oct	4.2	S3	G4T3
Atriplex minuscula	lesser saltscale	Chenopodiaceae	annual herb	May-Oct	1B.1	S2	G2
Blepharizonia plumosa	big tarplant	Asteraceae	annual herb	Jul-Oct	1B.1	S1S2	G1G2
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	2B.3	S3	G5
Centromadia parryi ssp. rudis	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	4.2	S3	G3T3
Chloropyron palmatum	palmate-bracted bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct	1B.1	S1	G1
Cirsium crassicaule	slough thistle	Asteraceae	annual / perennial herb	May-Aug	1B.1	S1	G1
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	1B.2	S2?	G2?
Eryngium racemosum	Delta button-celery	Apiaceae	annual / perennial herb	Jun-Oct	1B.1	S1	G1
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
Lathyrus jepsonii var. jepsonii	Delta tule pea	Fabaceae	perennial herb	May-Jul(Aug-Sep)	1B.2	S2	G5T2
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	1B.2	S2	G3
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2	G2
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	Asteraceae	annual herb	May-Sep	2B.1	S1	G4T3
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2

http://www.rareplants.cnps.org/result.html?adv=t&quad=3712183:3712182:3712181:3712173:3712172:3712171:3712163:3712162:3712161 1/2

Suggested Citation

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: February 22, 2019
Consultation Code: 08ESMF00-2017-SLI-3170
Event Code: 08ESMF00-2019-E-03589
Project Name: SR 99/120 Interchange Project

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- **Official Species List**

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2017-SLI-3170

Event Code: 08ESMF00-2019-E-03589

Project Name: SR 99/120 Interchange Project

Project Type: TRANSPORTATION

Project Description: MKT1507

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/37.77507576825451N121.18082668960157W

Counties: San Joaquin, CA

Endangered Species Act Species

There is a total of 7 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Reptiles

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850 Habitat assessment guidelines: https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Quad Name **Manteca**
Quad Number **37121-G2**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - X
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Lathrop**
Quad Number **37121-G3**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat - X
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Vernalis**
Quad Number **37121-F3**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - X
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Ripon**
Quad Number **37121-F2**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**

Eulachon (T) -
sDPS Green Sturgeon (T) - X

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - X
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -

Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Salida**
Quad Number **37121-F1**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -

Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Avena**

Quad Number **37121-G1**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - X
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Peters**
Quad Number **37121-H1**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat - X
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Stockton East**
Quad Number **37121-H2**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - X
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Stockton West**
Quad Number **37121-H3**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -

sDPS Green Sturgeon (T) - X

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - X
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -

Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Appendix E State Historic Preservation Officer Concurrence

State of California • Natural Resources Agency — Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION — Lisa Ann L. Mangat, *Director*
OFFICE OF HISTORIC PRESERVATION
Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

January 10, 2019

VIA ELECTRONIC MAIL

Reply in Reference To: FHWA_2018_1210_001

Mr. Benjamin Broyles, Branch Chief
California Department of Transportation
Northern San Joaquin Valley Cultural Branch
District 10
1976 E. Dr. Martin Luther King Jr. Blvd
Stockton CA 95205

Subject: Determination of Eligibility for the Proposed State Route 99 at State Route 120 Interchange Improvements, San Joaquin County, California (10-SJ-99, PM 3.1/6.2; 10-SJ-120, PM R5.1/T7.2)

Dear Mr. Broyles:

On December 10, 2018, the Office of Historic Preservation (OHP) received a letter from the California Department of Transportation (Caltrans) initiating consultation with the State Historic Preservation Officer (SHPO) regarding the above referenced undertaking. Caltrans is consulting with the SHPO in accordance with the January 1, 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (Section 106 PA).

In accordance with Stipulation VIII.C.6 of the Section 106 PA, Caltrans is seeking SHPO concurrence on determinations of eligibility. Caltrans also submitted the following:

- Historic Property Survey Report (HPSR).
- Archaeological Survey Report (ASR).
- Project Vicinity, Location, and Area of Potential Effect (APE) maps.
- Historical Resources Evaluation Report (HRER).

Caltrans District 10, with the cooperation of the City of Manteca and the San Joaquin Council of Governments, proposes to reconstruct the existing State route (SR) 99/120 interchange. A more detailed description of the undertaking and the area of potential effects (APE) are on pages one and two of the HPSR.

Mr. Broyles, Branch Chief FHWA_2018_1210_001
January 10, 2019
Page **2** of **2**

Caltrans' efforts resulted in the identification of six architectural resources requiring evaluation according to the National Register of Historic Places (NRHP) criteria. Pursuant to Stipulation VIII.C.6 of the Section 106 PA, Caltrans requests SHPO concurrence that the following are not eligible for listing on the NRHP:

Name	Address	APN	Property Type
Van Till Ranch	N/A	228-050-18	Residential
20270 S. SR 99 E. Frontage Road	20270 S. SR 99 E. Frontage Road	228-060-15	Residential
2090 S. Austin Road	2090 S. Austin Road	228-060-24	Residential
Betschart Dairy	2075 S. Austin Road	228-060-17	Residential
2252 S. Austin Road	2252 S. Austin Road	228-060-27	Residential
Betschart House	2065 S. Austin Road	224-5050-16	Residential

Upon review of the documentation submitted by Caltrans, **I concur** that the above listed resources are not eligible for listing on the NRHP.

Please be advised that under certain circumstances, such as post-review discoveries or a change in the undertaking description, Caltrans may have future responsibilities for this undertaking under the Section 106 PA. If you have questions, please do not hesitate to contact State Historian Natalie Lindquist at (916) 445-7014 or at natalie.lindquist@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

List of Technical Studies

1) *Air Quality Report State Route 99/State Route 120 Interchange Connector Project,* prepared by Terry A. Hayes Associates, Inc. March 2019.
2) *Natural Environment Study State Route 99/State Route 120 Interchange Connector*, prepared by LSA, November 2018.
3) *Final Community Impact Assessment Checklist State Route 99/State Route 120 Interchange Connector Project*, prepared by LSA, February 2019.
4) *Historic Property Survey Report*, prepared by LSA, November 2018.
5) *Archaeological Survey Report State Route 99 at State Route 120 Interchange Improvements Project*, prepared by LSA, July 2018.
6) *Historical Resources Evaluation Report State Route 99 at State Route 120 Interchange Improvements Project*, prepared by LSA, November 2018.
7) *Preliminary Foundation Report Austin Road Overhead*, prepared by Parikh Consultants, Inc., December 8, 2017.
8) *Preliminary Geotechnical Report State Route 99/State Route 120 Interchange Connector Project*, prepared by prepared by Parikh Consultants, Inc., December 13, 2017.
9) *Soil Investigation Report SR 99/SR-120 Interchange Connector Project Phase I Austin Road*, prepared by Geocon Consultants, Inc., July 2018.
10) *Aerially Deposited Lead Assessment State Route 99/State Route 120 Interchange*, prepared by Blackburn Consulting, February 2018.
11) *Initial Environmental Site Assessment State Route 99/State Route 120 Interchange Reconstruction Project*, prepared by Parikh Consultants, Inc. January 23, 2019.
12) *Noise Study Report State Route 99/State Route 120 Interchange Project*, prepared by Terry A. Hayes Associates, Inc. (TAHA), October 2018.
13) *Noise Abatement Decision Report State Route 99/State Route 120 Interchange Project*, prepared by Terry A. Hayes Associates, Inc. (TAHA), October 2018.
14) *Paleontological Identification Report/Paleontological Evaluation Report State Route 99/State Route 120 Interchange Connector Project*, prepared by LSA, February 2018.
15) *Relocation Impact Statement and Last Resort Housing Plan for the State Route 99/State Route 120 Project*, prepared by Bender Rosenthal Incorporated, September 2018.

16) *Final Traffic Operations Analysis Report (DFTOAR) for the State Route 120/State Route 99 Improvement Project*, prepared by Fehr and Peers, January 2019.
17) *Visual Impact Assessment State Route 99/State Route 120 Interchange Project* prepared by LSA, April 2018.
18) *Water Quality Assessment Report State Route 99/State Route 120 Interchange Connector Project*, prepared by LSA, January 2018.