Draft Environmental Impact Report

For the Washington Boulevard/ Andora Bridge Improvement Project

June 2019

City of Roseville
Public Works
311 Vernon Street
Roseville, CA 95678

CITY OF ROSEVILLE CALIFORNIA Public Works

DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE WASHINGTON BOULEVARD/ANDORA BRIDGE IMPROVEMENT PROJECT

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Acronyms and Abbreviations

2036 RTP	Placer County 2036 Regional Transportation Plan
AB	Assembly Bill
ADAM	Aerometric Data Analysis and Management System
ADL	Aerially deposited lead
ADT	average daily traffic
Alquist-Priolo Act	Alquist-Priolo Earthquake Fault Zoning Act
AMSL	above mean sea level
APE	area of potential effect
AQSR	Air Quality Study Report
ARB	California Air Resources Board
Basin Plan	Central Valley RWQCB's Water Quality Control Plan
BAU	business-as-usual
bgs	below ground surface
BMPs	best management practices
BP	before present
Business Plan Act	Hazardous Materials Release Response Plans and Inventory Act
CAA	Clean Air Act
CAAQS	California ambient air quality standards
CAL FIRE	California Department of Forestry and Fire Protection
CalARP	California Accidental Release Prevention
Cal-EPA	California Environmental Protection Agency
Cal-OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CBSC	California Building Standards Code
CDWR	California Department of Water Resources
Central Valley Water Board	Central Valley Regional Water Quality Control Board
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH_4	methane
CIP	Capital Improvement Program
City	City of Roseville
CLOMR	Conditional Letter of Map Revision
CMP	Congestion Management Program
CMPs	corrugated metal pipes
CMS	changeable message sign
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide

CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CUPA	Certified Unified Program Agency
CVFPP	Central Valley Flood Protection Plan
CWA	Clean Water Act
CY	cubic yards
dB	Decibel
dBA	A-weighted decibels
dbh	diameter at breast height
DPM	diesel particulate matter
Dry Creek WWTP	Dry Creek Wastewater Treatment Plant
DSA	disturbed soil area
DTSC	California Department of Toxic Substances Control
EIR	Environmental Impact Report
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESAs	Environmentally Sensitive Areas
FBFM	Flood Boundary and Floodway Map
FEMA	Federal Emergency Management Agency
FESA	federal Endangered Species Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
First Update	First Update to the Climate Change Scoping Plan
FMMP	Farmland Mapping and Monitoring Program
FTIPs	Federal Transportation Improvement Programs
GC	General Commercial
General Construction Permit	General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities
GHG	greenhouse gas
GWP	global warming potential
HCM	Highway Capacity Manual
HI	hazard index
Hot Spots Act	Air Toxics Hot Spots Information and Assessment Act of 1987
HREA	Health Risk and Exposure Assessment
HSC	California Health and Safety Code
HSWA	Hazardous and Solid Waste Amendments of 1984
Hydrology and Hydraulics Study	Washington/Andora Widening Project Hydrology and Hydraulics Study
I-80	Interstate 80
ICF	ICF International
IPCC	Intergovernmental Panel on Climate Change
L1	Light Industrial
LBP	lead-based paint
L_{dn}	Day-Night Level
L_{eq}	Equivalent Sound Level

L_{max}	Maximum Sound Levels
LOS	Level of Service
LSAA	lake and streambed alteration agreement
M2	General Industrial
MEI	maximum exposed individual
mg/cm^2	milligrams/square centimeter
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
mgd	million gallons per day
MLD	most likely descendant
mph	miles per hour
MPO	Metropolitan Planning Organization
MRZ	mineral resource zone
MS4	Municipal Separate Storm Sewer Systems
MSATs	mobile source air toxics
MTC	Metropolitan Transportation Plan
MTIP	Metropolitan Transportation Improvement Program
MTP/SCS	2016 Metropolitan Transportation Plan/ Sustainable Communities Strategy
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO	nitric oxide
NO_2	nitrogen dioxide
NOA	Naturally occurring asbestos
NOC	Notice of Completion
NOD	Notice of Determination
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSR	New Source Review
O_2	oxygen
OHP	California Office of Historic Preservation
OHWM	ordinary high water mark
OS	Open Space
OSHA	Occupational Safety and Health Administration
OSPOMP	Open Space Preserve Overarching Management Plan
Ozone Plan	Sacramento Regional 8-Hour Attainment and Reasonable Further Progress Plan
Pb	lead
PCAPCD	Placer County Air Pollution Control District

PCFWCD	Placer County Flood Control and Conservation District
PCTPA	Placer County Transportation Planning Agency
PG&E	Pacific Gas and Electric Company
Pleasant Grove WWTP	Pleasant Grove Wastewater Treatment Plant
PM	particulate matter
PM10	particulate matter of 10 microns in diameter and smaller
PM2.5	particulate matter of 2.5 microns in diameter and smaller
POM	Polycyclic organic matter
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PPV	peak particle velocity
PR	Parks and Recreation
proposed project	proposed Washington Boulevard/Andora Bridge Improvement Project
QSD	Qualified SWPPP Developer
R1/DS	Single Family Residential/ Development Standards
RCEM	Road Construction Emissions Model
RCNM	roadway construction noise model
RCRA	Resource Conservation and Recovery Act of 1976
Regional Water Boards	Regional Water Quality Control Boards
RMC	Roseville Municipal Code
RMP	Risk Management Plan
ROG	reactive organic gases
ROWs	rights-of-way
RS	Small Lot Residential
RTP	Regional Transportation Plan
RWQCBs	Regional Water Quality Control Boards
SACOG	Sacramento Area Council of Governments
SB	Senate Bill
Scoping Plan	Climate Change Scoping Plan
SCS	sustainable communities strategy
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District's
SMARA	Surface Mining and Reclamation Act of 1975
SO_2	sulfur dioxide
SPCC	spill prevention, control, and countermeasure plan
SPRTA	South Placer Regional Transportation Authority
SR	State Route
SRAs	state responsibility areas
SSBMI	Shingle Springs Band of Miwok Indians
State CEQA Guidelines	CEQA Statute and Guidelines
State Water Board	State Water Resources Control Board
STLC	Soluble Threshold Limit Concentration
SVAB	Sacramento Valley Air Basin
SWPPP	Storm Water Pollution Prevention Plan
TAC	toxic air contaminants
Tanner Act	Toxic Air Contaminant Identification and Control Act
TAZ	traffic analysis zone

TCRs	tribal cultural resources
TDM	travel demand model
TDS	total dissolved solids
TMDLs	Total Maximum Daily Loads
TMP	Transportation Management Plan
TNM	traffic noise model
TWW	Treated wood waste
UAIC	United Auburn Indian Community
UPRR	Union Pacific Railroad
US-50	United States Route 50
USC	United States Code
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VIA	Visual Impact Assessment
VMT	vehicle miles traveled
VP/SA	Business Professional/Special Area
WAPA	Western Area Power Administration
WDRs	Waste Discharge Requirements

S.1 Introduction

Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15123, this summary provides information about the environmental impact report (EIR) prepared by the City of Roseville (City) for the proposed Washington Boulevard/Andora Bridge Improvement Project (proposed project). As required by Section 15123 of the State CEQA Guidelines, this summary presents a description of the proposed project; summarizes the impacts and mitigation measures; identifies areas of known controversy, including issues raised by agencies and the public; and identifies unresolved issues.

S.2 Project Description

The proposed project involves improvements along a 1.45-mile section of Washington Boulevard. The project would involve widening a two-lane section of Washington Boulevard between Sawtell Road and Pleasant Grove Boulevard to four lanes and replacing the existing 100-year-old Union Pacific Railroad (UPRR) bridge (referred to in this document as the Andora Underpass or Andora bridge) on Washington Boulevard. The addition of two new lanes to Washington Boulevard would provide a continuous four-lane thorough fare between Sawtell Road and Pleasant Grove Boulevard and improve traffic circulation and pedestrian traffic through the area. The proposed project is subject to state and federal environmental review requirements because the use of federal funds from the Federal Highway Administration (FHWA) is proposed. The California Department of Transportation (Caltrans) is the federal lead agency under FHWA assignment of National Environmental Policy Act (NEPA) responsibilities pursuant to 23 U.S. Code 327 and the City is the lead agency under CEQA.

The project is needed because recurring morning and evening peak-period demand exceeds the current design capacity of Washington Boulevard, creating traffic operation and safety issues for motorists, pedestrians, and cyclists. These issues result in moderate delays and wasted fuel, which are expected to be exacerbated by anticipated increases in traffic from future population and employment growth.

The City's Transportation System 2035 Capital Improvement Program (CIP) identifies improvements to Washington Boulevard, including the widening of Washington Boulevard between Sawtell Road and Pleasant Grove Boulevard, to improve traffic circulation and pedestrian traffic through the area. Approximately 18,000 vehicles per day travel through this segment, and the road improvements would enhance accessibility for motorists, pedestrians, and cyclists along Washington Boulevard and nearby intersections. To enable roadway widening at the narrow Andora Underpass, the existing structure must be removed and replaced. The Andora Underpass would need to remain open and accessible to rail traffic during project construction because approximately 25 trains travel over it each day.

The proposed project would provide better connectivity between the existing two-lane, 0.85-mile segment of Washington Boulevard and the existing four-lane segments of Washington Boulevard and would provide an evacuation route in case of an emergency. The improvements would also offer a better and more continuous route for pedestrians and bicyclists, who are currently forced to detour off Washington Boulevard and onto Derek Place. The proposed project would be constructed in two phases, consisting of the following elements:

- Widening approximately 0.85 mile of Washington Boulevard from two to four lanes with a raised median separating northbound and southbound traffic (Phase 1).
- Widening the Andora Underpass to a two-span bridge with columns located in the roadway median island to accommodate the additional two lanes (Phase 2).
- Improving the Washington Boulevard/Pleasant Grove Boulevard intersection by lowering the intersection to conform to the new Washington Boulevard road elevation on the south and removing an existing “hump” across Washington Boulevard (Phase 2).
- Installing a new traffic signal at the Washington Boulevard/Kaseberg Drive intersection (Phase 1).
- Modifying the existing traffic signal at the Washington Boulevard/Diamond Oaks Road intersection to conform to the new four-lane roadway (Phase 1).
- Adding 8-foot-wide Class II (i.e., on-street with appropriate signing and striping) bike lanes along both sides of Washington Boulevard (Phase 1).
- Extending the existing Class I bike path on the east side of Washington Boulevard from a point approximately 150 feet south of Diamond Oaks Road to All-America City Boulevard with a 10- to 12-foot-wide path parallel to Washington Boulevard (Phase 1).
- Removing the existing bicycle/pedestrian crossing under UPRR (Phase 2) and providing a new temporary connection between the existing Derek Place bike path and the new Class I bike path along Washington Boulevard (described above) (Phase 1).
- Adding a new 8- to 12-foot-wide multiuse path on the west side of Washington Boulevard between Emerald Oaks Road and Kaseberg Drive. Portions of this proposed multiuse path may be deferred beyond Phase 2, until additional construction funding is available (Phases 1 and 2).
- Conducting floodplain, water quality, and drainage improvements (Phases 1 and 2).
- Relocating existing utilities, including sewer, water, telecommunications, and natural gas (Phases 1 and 2).
- Potentially installing a sound wall adjacent to a residential area along Washington Boulevard (to be determined during Phase 2).
- Temporarily restriping Foothills Boulevard at Junction Boulevard to provide two left-turn lanes from southbound Foothills Boulevard to eastbound Junction Boulevard to accommodate traffic management during widening of the Andora Underpass (Phase 2).

The proposed project would not alter the existing bus turnout adjacent to southbound Washington Boulevard and south of Pleasant Grove Boulevard.

The proposed project and phasing plan were developed in response to comments on the Notice of Preparation of a draft EIR and to take advantage of available grant funding opportunities. Since publication of the Notice of Preparation, the City has revised the project with the following provisions:

- A signal light was added at the Washington Boulevard/Kaseberg Drive Diamond K private driveway entrance.
- A sound wall was added to replace existing wooden backyard fences along the east side of Washington Boulevard south of Pleasant Grove Boulevard.
- The Washington Boulevard southbound left-turn lane to Diamond Oaks Road has been extended by approximately 100 feet.
- A Class I bike trail on the east side of Washington Boulevard has been extended south to All-America City Boulevard.

In addition to the above improvements, the project which is now proposed to be constructed in two phases. Phase 1 generally includes the majority of road widening (with the exception of widening at the Andora Underpass) and most Class I bike trail and intersection improvements (including the new signal at the Washington Boulevard/Kaseberg Drive intersection). Phase I would be constructed during summer 2020. Phase 2 would include completing the widening of Washington Boulevard at the Andora Underpass, final drainage improvements including the proposed bio-retention basin, sound wall installation, and improvements at the Washington Boulevard/Pleasant Grove Boulevard intersection. The schedule for Phase 2 construction is currently unknown and subject to funding availability.

S.3 Project Objectives

The purpose of the proposed project is to improve existing and future traffic circulation; enhance access and safety for motorists, pedestrians, and cyclists; and meet railroad clearance requirements. The proposed project's objectives are as follows:

- Implement the adopted CIP for the segment of Washington Boulevard between Sawtell Road and Pleasant Grove Boulevard.
- Improve vehicular traffic flow along Washington Boulevard between Sawtell Road and Pleasant Grove Boulevard by widening the road and the Andora Underpass.
- Enhance access and safety along this segment of Washington Boulevard for motorists, pedestrians, and cyclists by widening the boulevard and adding a signal at the Washington Boulevard/Kaseberg Drive intersection.
- Provide a better and more continuous route for pedestrians and bicyclists on Washington Boulevard than the existing detour onto the more isolated Derek Place and extend the existing Class I bike trail south to All-America City Boulevard.
- Provide a consistent four-lane roadway along this length of Washington Boulevard by connecting the existing four-lane segments on either side of Sawtell Road and Pleasant Grove Boulevard.

- Improve traffic safety by alleviating the existing substandard vertical clearance and width at Andora Underpass.

S.4 Areas of Known Controversy and Issues to be Resolved

State CEQA Guidelines Section 15123(b) requires that a summary section include a description of areas of controversy known to the lead agency, including issues raised by agencies and the public; and issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant impacts.

In summer and fall 2016, the City and the project team met with residents and local businesses about the proposed project. More than 45 community members attended two meetings with the project team to discuss the project, ask questions, and provide feedback on the project and proposed construction approach. Known areas of controversy include left-turn safety from Kaseberg Drive onto Washington Boulevard; increased potential for speeding vehicles associated with a wider street; a need for traffic calming measures; improving bicycle and multi-use path connections; minimizing the duration of construction; Diamond K Estates access during the Washington Boulevard construction closure; increased traffic on Diamond Oaks Road during the construction closure; and roadway and railroad noise effects on nearby residential neighborhoods.

It is expected that the public controversy expressed over perceived safety concerns at the Washington Boulevard/Kaseberg Drive intersection would be mostly resolved with the proposed addition of a traffic signal, dedicated left turn lanes, and bicycle and pedestrian improvements.

S.5 Environmental Impact Report Process and Public Review

The City distributed a Notice of Preparation of a draft EIR for the proposed project on September 12, 2016. The Notice of Preparation was distributed for a 30-day comment period that ended on October 12, 2016. During that time, a public meeting was held to gather public input on the scope of the EIR presented in the Notice of Preparation. The public meeting was on September 21, 2016, in Roseville, California. Comments about the Notice of Preparation were considered in the preparation of the draft EIR. Appendix A contains the Notice of Preparation and public comments received on the Notice of Preparation.

The City encourages public review of this EIR. This draft EIR is being circulated for a 45-day public review period. During this time, written comments may be submitted to the following staff person for consideration in the final EIR.

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Following the close of the public comment period, the City will prepare a final EIR that contains this draft EIR plus any technical clarifications and responses to significant environmental points raised in the public review and resource agency consultations. The draft and final EIR will be considered by the City Council and, subsequently, a decision will be made to approve or deny the proposed project.

S.6 Project Impacts and Mitigation Measures

S.6.1 Summary of Impacts

Impacts identified in this draft EIR are summarized in Table S-1 (presented at the end of this summary). For potentially significant impacts, mitigation measures are identified where feasible to reduce the impact on the environmental resources to a less-than-significant level. Unless otherwise noted in the summary table, the impacts and mitigation measures apply to both project phases. Refer to Chapter 3, *Impact Analysis*, for a detailed discussion of the impacts and mitigation measures.

S.6.2 Significant and Unavoidable Impacts

Section 21067 of CEQA and Sections 15126(b) and 15126.2(b) of the State CEQA Guidelines require that an EIR describe any significant impacts, including those that can be mitigated but not reduced to a less-than-significant level. Furthermore, where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should also be described. As discussed below, this draft EIR identifies four environmental issue areas where significant and unavoidable impacts would result from project implementation.

Aesthetics: Tying the temporary railroad track, known as a shoofly, into the existing permanent railroad track at the start of the construction window, and removing the tie-in at the end of the construction window may involve the use of night lighting. Adequate lighting is required to safely accomplish this task. No mitigation measures are available to reduce this impact to a less-than-significant level.

Greenhouse Gas Emissions: The emissions analysis presented in Chapter 3, Section 3.7, *Greenhouse Gas Emissions*, Table 3.7-4 indicates that operation of the project would decrease greenhouse gas (GHG) emissions relative to existing conditions. This result is due to factors external to the project. For example, vehicular emission rates are anticipated to lessen in future years because of continuing improvements in engine technology and the retirement of older, higher-emitting vehicles. Emissions effects directly resulting from implementation of the project are obtained through a comparison of with-project emissions to without-project emissions. As shown in Table 3.7-4, implementation of the project would increase vehicle miles traveled (VMT), resulting in a slight increase in GHG emissions compared with no project conditions. This increase is considered a significant unavoidable impact.

As discussed in Section 3.7, the proposed project is included in the Sacramento Council of Governments' 2016 Metropolitan Transportation Plan and Sustainable Communities Strategy and will be included in their 2020 version of those plans. Although long-term operation of the project would be part of SACOG's regional planning framework that is expected to achieve GHG reductions consistent with those needed to support statewide attainment of California's GHG reduction goals, implementation of the project would increase GHG emissions relative to no project conditions; therefore, the project may have a significant impact on the environment and may also conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Consequently, these GHG impacts are conservatively concluded to be significant. The impact would result from increased VMT, and there is no feasible mitigation to reduce the impact to a less-than-significant level.

Noise: Construction activities for the proposed project could increase noise levels at nearby noise sensitive land uses in the project area. The vast majority of construction activities for the proposed project would occur from 7:00 a.m. to 7:00 p.m. Monday through Friday and 8:00 a.m. to 8:00 p.m. Saturday and Sunday, during which construction noise is exempt from the City noise limit. However, it is possible that some limited Phase 2 construction by the UPRR would need to occur outside of these exempt hours. The UPRR would need to tie the temporary railroad track into the existing permanent railroad track at the start of the Phase 2 construction window, and remove the tie-in at the end of the construction window. This activity, which would take place during a single day at the beginning and a single day at the end of the project construction window, would likely occur when the least amount of trains are likely to require access to the track, which could be during non-exempt (nighttime or early morning) hours. Although it is likely this will be daytime work, it cannot be known with certainty at this time. Should this work occur outside of the exempt daytime hours, noise levels at nearby noise-sensitive receptors could be in excess of the thresholds that govern non-transportation noise during nighttime hours. Although Mitigation Measure NOI-1, *Employ Noise-Reducing Construction Practices*, would reduce the amount of noise generated by nighttime construction, potential impacts related to nighttime construction noise would be significant and unavoidable.

It is possible that vibration-generating construction equipment, such as a vibratory roller, could be operating as close as 25 feet from residential property lines and could generate vibration levels in excess of the distinctly perceptible threshold at nearby residences.

Furthermore, it is possible that pile driving could be necessary at the UPRR overcrossing during Phase 2 construction. If pile driving is required at the railroad overcrossing, or if a vibratory roller is used within 80 feet of a residential property line, implementation of Mitigation Measure NOI-2, *Construction Vibration Control Measures*, would not be expected to reduce vibration impacts to less-than-significant levels.

Finally, as discussed Section 3.12, *Noise*, under Impact NOI-4, construction activities were also found to generate significant and unavoidable short-term or periodic noise increases.

Transportation/Traffic: The temporary construction-related street closure would unavoidably degrade intersection operations to unacceptable levels at the Roseville Parkway/Reserve Drive and Roseville Parkway/Galleria Boulevard intersections. Improvements (both physical and signal timing-related) were considered; however, any physical improvements would be complicated and temporary, and any signal timing improvements would be difficult to implement without adversely affecting overall Roseville Parkway corridor operations. Therefore, no improvements were identified as being feasible at those intersections for this temporary impact.

According to Table 3.16-8, in Section 3.16, *Transportation/Traffic*, full buildout of the proposed project would cause significant PM peak hour operations impact on the Washington Boulevard/Pleasant Grove Boulevard intersection, worsening the level of service (LOS) from D to E under existing plus project conditions. Implementation of Mitigation Measure TRA-1.1 would reduce this impact by reallocating green light time on the Washington Boulevard north/south approaches to better match travel demand. Although this measure would reduce delay, the residual impact would remain significant and unavoidable.

S.7 Other CEQA-Related Impact Conclusions

S.7.1 Cumulative Impacts

Section 15130 of the State CEQA Guidelines requires that an EIR consider a project's contribution to any significant cumulative impacts. Cumulative impacts are the incremental effects of a proposed project added to the impacts of other closely related past, present, and reasonably foreseeable future projects, which, together, are cumulatively considerable. The purpose of the cumulative impact analysis is to assess the project's contribution in the context of the larger, cumulative impact.

All resource areas were analyzed for cumulative impacts. The analyses in Chapter 3 indicate that the proposed project would have no impact on agricultural resources, mineral resources, or public services. Because the proposed project would have no impact on these resources, it cannot contribute to any potential cumulative impacts associated with them. In addition, the analysis of cumulative impacts found that the project would not contribute to cumulative impacts on six resource areas within the project region. Therefore, the proposed project would not contribute to a cumulative impact in the project region for the following resources or topic areas.

- Agricultural and forestry resources
- Mineral resources
- Public services
- Population and housing
- Recreation
- Utilities and service systems

The proposed project's contribution to cumulative impacts is expected to be less than cumulatively considerable for the following resources and topic areas within the project region, and, therefore, cumulative impacts would be less than significant.

- Aesthetics
- Air quality
- Biological resources
- Cultural and tribal resources
- Geology and soils
- Greenhouse gas emissions
- Hazards and hazardous materials
- Hydrology and water quality
- Land use and planning

The proposed project would make considerable contributions to cumulative impacts for two topic areas.

- Noise and vibration
- Transportation and traffic

The assessment of the project's contribution to cumulative impacts is provided in Chapter 4, *Other CEQA Considerations.*

S.7.2 Growth Inducement and Growth-Related Impacts

Section 15126.2 of the State CEQA Guidelines provides guidance for analyzing the growth-inducing impacts of a project. The growth inducement analysis must discuss ways in which a proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Projects that would remove obstacles to population growth could lead to increased demand for existing community services. Growth in an area is not necessarily considered beneficial, detrimental, or of little significance to the environment. However, the secondary impacts associated with growth (e.g., air quality impacts from new construction) can be significant.

This draft EIR concludes that the project would not induce growth. Rather, this Capital Improvement Project has been planned for many years as a means of accommodating approved growth. Growth inducement and growth-related impacts are discussed in further detail in Chapter 4, *Other CEQA Considerations*.

S.7.3 Significant Irreversible Environmental Changes

Section 15126.2 of the State CEQA Guidelines requires that an EIR address any significant irreversible changes that would be caused by the proposed project. Examples of such changes include use of nonrenewable resources, irreversible damage that may result from accidents associated with a project, or irretrievable commitments of resources. Project implementation would result in the expansion of a roadway segment, including an underpass, as well as construction of new bicycle and pedestrian facilities, all of which would result in the long-term commitment of the project site to these land uses and the commitment of nonrenewable energy resources and natural resources, as discussed in this draft EIR. These irreversible impacts, which are consequences of urban development, are described in detail in the appropriate sections of Chapter 3, *Impact Analysis*, and Chapter 4, *Other CEQA Considerations*.

S.8 Project Alternatives

S.8.1 Alternatives Evaluated

The draft EIR must examine a reasonable range of alternatives to the project that could feasibly attain most of the project objectives and avoid or substantially lessen any of the project's significant environmental impacts (State CEQA Guidelines Section 15126[f]). As required by Section 15126.6 of the State CEQA Guidelines, the range of alternatives must always include the No Project alternative. The purpose of describing and analyzing a No Project alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.

Two alternatives to the proposed project are examined in this draft EIR.

- Alternative 1 – One Lane Closure during Construction
- Alternative 2 – No Project

Alternative 1 is designed to satisfy the project objectives (see Section S.3, *Project Objectives*), while avoiding or minimizing environmental impacts associated with the project. The alignment and associated project components of Alternative 1 are the same as those described for the proposed project and involve the same improvements to Washington Boulevard; however, Alternative 1 differs in its construction approach, including traffic diversion and schedule. The primary difference from the proposed project is that it would leave one lane open during construction and would require an estimated 20 to 24 months to construct because a temporary railroad bridge is required over Washington Boulevard to maintain train traffic.

Alternative 1 would reduce the impacts on traffic and intersections caused by rerouting existing traffic from Washington Boulevard to other streets during its multi-month closure during construction of the proposed new Andora Undercrossing. Alternative 1 would reduce the substantial increases in project-related traffic on the parallel segment of Foothills Boulevard and Diamond Oaks Road east of Washington Boulevard. Alternative 1 would also reduce the project's effects on the following intersections during the construction closure of Washington Boulevard.

- Foothills Boulevard/Pleasant Grove Boulevard—westbound left-turn movement.
- Foothills Boulevard/Junction Boulevard—southbound left-turn movement and westbound right-turn movement during the PM peak hour.
- Roseville Parkway/Reserve Drive—eastbound right-turn movement and northbound left-turn movement during the PM peak hour.
- Roseville Parkway/Galleria Boulevard—northbound left-turn movement during the PM peak hour.

Under Alternative 1, Washington Boulevard vehicular traffic would be allowed to pass through the project site under the control of one-way flagging operations during some of the construction phases. However, the travelling public would still be significantly delayed during construction of Alternative 1 because it would not be possible to maintain two lanes of traffic flow during most of the construction period; therefore, more than half of the normal traffic would use an alternative route.

Alternative 2, the No Project alternative, would not involve any improvements to Washington Boulevard. The existing roadway and Andora Underpass would remain in their existing state.

S.8.2 Comparison of Alternatives

As indicated in Chapter 3, *Impact Analysis*, neither the proposed project nor either alternative would have any impact on agricultural and forestry resources, mineral resources, or public services; therefore, these resource areas were not considered further in the alternatives analysis.

Alternative 1

As described in the individual resource analyses in Chapter 3, *Impact Analysis*, because the location and physical characteristics would be the same, Alternative 1 (one lane closure during construction) and the proposed project would generally result in the same types and levels of both construction and operational impacts on most resources. For all other resources, nearly all impacts would be comparable for Alternative 1 and the proposed project. Exceptions to these similarities are primarily associated with full closure of Washington Boulevard under the proposed project and the longer duration of construction under Alternative 1. These exceptions include nighttime lighting during construction, air quality impacts associated with construction emissions, construction noise impacts, and traffic delays during construction. Nighttime construction lighting would have a marginally more severe impact under Alternative 1 because Alternative 1's extended construction period (20 months) would result in a longer period of construction lighting on the project site. Likewise, construction-related air quality impacts of Alternative 1 would be slightly greater than those of the proposed project. During construction, Alternative 1 would generate slightly higher emissions of nitrogen oxides (NO_x) and particulate matter 2.5 microns in diameter or smaller than the proposed project, but would not generate emissions of reactive organic gases (ROG), NO_X, or particulate matter 10 microns in diameter or smaller in excess of PCAPCD's thresholds. Under Alternative 1, construction noise would last for a longer period than under the proposed project, resulting in marginally greater impacts. Because Washington Boulevard would be reduced to a single lane of alternating northbound and southbound traffic from south of Diamond Oaks Road to beyond the railroad bridge for a distance of 1,400 feet, traffic delays during Alternative 1's 20-month construction period would correspond to an LOS F condition. In addition, congestion caused by queuing during LOS F conditions would result in significant ingress and egress delays for residents of Diamond K Estates, which has a single stop sign controlled point of access from Washington Boulevard at Kaseberg Drive. Because traffic would degrade to a LOS F condition, Alternative 1 construction activities would have a similar impact on traffic operations (LOS F compared with road closure and therefore no LOS) as the proposed project. There would be two notable differences. First, under the proposed project, one lane of through traffic would be maintained under controlled conditions, which would benefit local traffic. Second, LOS impacts of the proposed project along the temporary detour route would be reduced slightly under Alternative 1 because maintaining one lane of through traffic at the construction site would reduce detour route average daily traffic and related intersection LOS impacts.

No Project Alternative

The individual resource analyses in Chapter 3, *Impact Analysis*, indicate that the No Project alternative would have no construction-related impacts on any resources. Roadway operations under the no project (cumulative 2035) condition would result in marginally greater NOx and carbon monoxide emissions than under the proposed project. The No Project alternative would result in a greater degradation of both AM and PM peak hour operations than would the proposed project at the intersections of Washington Boulevard with Pleasant Grove Boulevard, Diamond Oaks Road/Emerald Oak Road, and Junction Boulevard.

S.8.3 Environmentally Superior Alternative

Section 15126.6 of the State CEQA Guidelines requires that an EIR identify an environmentally superior alternative among the alternatives that are evaluated. The environmentally superior alternative is typically the alternative that would be expected to generate the fewest adverse impacts. If the No Project alternative is identified as environmentally superior, then Section 15126.6(e)(2) of the State CEQA Guidelines requires that the EIR identify which of the other alternatives is environmentally superior. Determination of the environmentally superior alternative uses the impact evaluations of the project and of each alternative in a comparative process. The impacts of each alternative are identified and compared to those of the project. The relative severity and quantity of each alternative's impacts are evaluated, and the alternative found to have the least impact, as compared to the others, is determined to be the environmentally superior alternative.

As indicated by the individual resource analyses described in more detail in Chapter 3, *Impact Analysis*, and summarized in Section S.8.2, *Comparison of Alternatives*, the proposed project would have the least environmental impact of the alternatives analyzed. For this reason, it would be the environmentally superior alternative.

Table S-1. Summary of Project Impacts and Mitigation Measures

Impact	Level of Significance Proposed Project	Proposed Mitigation Measure(s)	Level of Significance after Mitigation Proposed Project
Aesthetics			
Impact AES-1: Temporary visual impacts caused by construction activities	LTS	None required	LTS
Impact AES-2: Have a substantial adverse effect on a scenic vista	NI	None required	NI
Impact AES-3: Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings along a scenic highway	NI	None required	NI
Impact AES-4: Substantially degrade the existing visual character or quality of the site and its surroundings	LTS	None required	LTS
Impact AES-5: Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area	S	**Mitigation Measure AES-5.1:** Minimize Fugitive Light from Portable Sources Used for Construction	SU
Agriculture and Forestry Resources			
Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use	NI	None required	NI
Impact AG-2: Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract	NI	None required	NI
Impact AG-3: 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])	NI	None required	NI
Impact AG-4: Result in the loss of forest land or conversion of forest land to non-forest use	NI	None required	NI

Impact	Level of Significance Proposed Project	Proposed Mitigation Measure(s)	Level of Significance after Mitigation Proposed Project
Impact AG-5: Involve other changes in the existing environment that, 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	NI	None required	NI
Air Quality			
Impact AQ-1: Conflict with or obstruct implementation of the applicable air quality plan	LTS	None required	LTS
Impact AQ-2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation	LTS	None required	LTS
Impact AQ-3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)	LTS	None required	LTS
Impact AQ-4: Expose sensitive receptors to substantial pollutant concentrations	LTS	None required	LTS
Impact AQ-5: Create objectionable odors affecting a substantial number of people	LTS	None required	LTS
Biological Resources			
Impact BIO-1: 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 Wildlife or U.S. Fish and Wildlife Service	S	**Mitigation Measure BIO-1.1**: Install Fencing and/or Flagging to Protect Sensitive Biological Resources **Mitigation Measure BIO-1.2:** Conduct Environmental Awareness Training for Construction Personnel **Mitigation Measure BIO-1.3:** Retain a Qualified Biologist to Conduct Preconstruction Surveys and Periodic Monitoring during Construction in Sensitive Habitats	LTS

Impact	Level of Significance Proposed Project	Proposed Mitigation Measure(s)	Level of Significance after Mitigation Proposed Project
		Mitigation Measure BIO-1.4: Protect Water Quality and Minimize Sedimentation Runoff in Wetlands and Non-Wetland Waters **Mitigation Measure BIO-1.5:** Compensate for Direct Impacts on Vernal Pool Branchiopod Habitat (Phase 2 only) **Mitigation Measure BIO-1.6:** Install a No-Disturbance Buffer around the Elderberry Shrub (Phase 2 only) **Mitigation Measure BIO-1.7:** Conduct a Preconstruction Survey for Northern Western Pond Turtle and Exclude Turtles from the Work Area **Mitigation Measure BIO-1.8:** Conduct Vegetation Removal during the Non-breeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds and Raptors **Mitigation Measure BIO-1.9:** Conduct Preconstruction Surveys for Roosting Bats and Implement Protection Measures **Mitigation Measure BIO-1.10:** Modify Existing Structures during the Non-breeding Season for Structure-Nesting Migratory Birds or Implement Exclusion Measures to Deter Nesting	

Impact	Level of Significance Proposed Project	Proposed Mitigation Measure(s)	Level of Significance after Mitigation Proposed Project
Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service	S	**Mitigation Measure BIO-1.1:** Install Fencing and/or Flagging to Protect Sensitive Biological Resources **Mitigation Measure BIO-1.2:** Conduct Environmental Awareness Training for Construction Personnel **Mitigation Measure BIO-1.3:** Retain a Qualified Biologist to Conduct Preconstruction Surveys and Periodic Monitoring during Construction in Sensitive Habitats **Mitigation Measure BIO-2.1:** Compensate for the Loss of Riparian Communities	LTS
Impact BIO-3: Have a substantial adverse effect on federally protected wetlands and non-wetland waters as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, streams etc.) through direct removal, filling, hydrological interruption, or other means	S	**Mitigation Measure BIO-1.1:** Install Fencing and/or Flagging to Protect Sensitive Biological Resources **Mitigation Measure BIO-1.2:** Conduct Environmental Awareness Training for Construction Personnel **Mitigation Measure BIO-1.3:** Retain a Qualified Biologist to Conduct Preconstruction Surveys and Periodic Monitoring during Construction in Sensitive Habitats **Mitigation Measure BIO-1.4:** Protect Water Quality and Minimize Sedimentation Runoff in Wetlands and Non-Wetland Waters **Mitigation Measure BIO-3.1:** Avoid and Minimize Disturbance of Waters of the United States and Waters of the State	LTS

Impact	Level of Significance Proposed Project	Proposed Mitigation Measure(s)	Level of Significance after Mitigation Proposed Project
		Mitigation Measure BIO-3.2: Compensate for the Permanent Loss of Waters of the United States/Waters of the State	
Impact BIO-4: 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	LTS	None required	LTS
Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	LTS	None required	LTS
Cultural and Tribal Resources			
Impact CUL-1: Potential to cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5	NI	None required	NI
Impact CUL-2: Potential to cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5	S	**Mitigation Measure CUL-2.1:** Stop Work if Cultural Resources are Encountered During Ground-Disturbing Activities	LTS
Impact CUL-3: Disturbance of any human remains, including those interred outside of formal cemeteries	S	**Mitigation Measure CUL-3.1:** Implement appropriate treatment for discovery of human remains	LTS
Impact CUL-4: Potential to cause a substantial adverse change in the significance of a tribal cultural resource pursuant to Public Resources Code Section 21074	NI	None required	NI
Geology and Soils			
Impact GEO-1: Exposure of people or structures to potential substantial adverse effects involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides	LTS	None required	LTS

Impact	Level of Significance Proposed Project	Proposed Mitigation Measure(s)	Level of Significance after Mitigation Proposed Project
Impact GEO-2: Potential to result in substantial soil erosion or the loss of topsoil	S	**Mitigation Measure WQ-2.1:** Provide a System to Meet NPDES Post-Construction Stormwater Runoff Requirements	LTS
Impact GEO-3: Placement of project-related facilities on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse	LTS	None required	LTS
Impact GEO-4: Placement of project-related facilities on expansive soil, creating substantial risks to life or property	S	**Mitigation Measure GEO-4.1:** Prepare Soil Report or Geotechnical Investigation and Implement Recommendations	LTS
Impact GEO-5: Placement of facilities on soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater	NI	None required	NI
Impact GEO-6: Direct or indirect destruction of a unique paleontological resource or site or unique geologic feature	S	**Mitigation Measure GEO-6.1:** Cease Work until Review Conducted by Qualified Paleontologist and Recommendations Implemented **Mitigation Measure GEO-6.2:** Prepare and Implement a Worker Education Program for those Involved with Earthwork	LTS
Greenhouse Gas Emissions			
Impact GHG-1: Generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment	S	None available	SU
Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases	S	None available	SU

Impact	Level of Significance Proposed Project	Proposed Mitigation Measure(s)	Level of Significance after Mitigation Proposed Project
Hazards and Hazardous Materials			
Impact HAZ-1: Creation of a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, including lead based paint, aerially deposited lead, traffic striping, and treated wood waste	S	**Mitigation Measure HAZ-1.1:** Develop a Lead Abatement Plan **Mitigation Measure HAZ-1.2:** Perform Soil Testing and Appropriately Dispose of Soils Contaminated with ADL	LTS
Impact HAZ-2: Creation of 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	LTS	None required	LTS
Impact HAZ-3: Emission of hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school	NI	None required	NI
Impact HAZ-4: Placement of project-related facilities on a site that is included on a list of hazardous materials sites, and resulting creation of a significant hazard to the public or the environment	NI	None required	NI
Impact HAZ-5: Placement of project-related facilities within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, resulting in a safety hazard for people residing or working in the project area	NI	None required	NI
Impact HAZ-6: Placement of project-related facilities in the vicinity of a private airstrip, resulting in a safety hazard for people residing or working in the project area	NI	None required	NI
Impact HAZ-7: Impairment of implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan	LTS	None required	LTS

Impact	Level of Significance Proposed Project	Proposed Mitigation Measure(s)	Level of Significance after Mitigation Proposed Project
Impact HAZ-8: Exposure of people or structures to a significant risk involving wildland fires	LTS	None required	LTS
Hydrology and Water Quality			
Impact WQ-1: Violation of any water quality standards or waste discharge requirements	LTS	None required	LTS
Impact WQ-2: Substantial depletion of groundwater supplies or substantial interference with groundwater recharge	S	**Mitigation Measure WQ-2.1:** Provide a System to Meet NPDES Post-Construction Stormwater Runoff Requirements.	LTS
Impact WQ-3: Substantial alteration of existing drainage patterns in a manner that would result in substantial erosion or siltation onsite or offsite	S	**Mitigation Measure WQ-2.1:** Provide a System to Meet NPDES Post-Construction Stormwater Runoff Requirements.	LTS
Impact WQ-4: Substantial alteration of existing drainage patterns in a manner that would result in flooding onsite or offsite	S	**Mitigation Measure WQ-2.1:** Provide a System to Meet NPDES Post-Construction Stormwater Runoff requirements.	LTS
Impact WQ-5: Creation of or contribution to runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff	NI	None required	NI
Impact WQ-6: Other substantial degradation of water quality	NI	None required	NI
Impact WQ-7: Placement of housing within a 100-year flood hazard area	NI	None required	NI
Impact WQ-8: Placement of structures that would impede or redirect floodflows within a 100-year flood hazard area	LTS	None required	LTS
Impact WQ-9: Exposure of people or structures to significant risk involving flooding, including flooding as a result of the failure of a levee or dam	NI	None required	NI

Impact	Level of Significance Proposed Project	Proposed Mitigation Measure(s)	Level of Significance after Mitigation Proposed Project
Impact WQ-10: Contribution to inundation by seiche, tsunami, or mudflow	NI	None required	NI
Land Use and Planning			
Impact LU-1: Physical division of an established community	LTS	None required	LTS
Impact LU-2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect	NI	None required	NI
Impact LU-3: Conflict with any applicable habitat conservation plan or natural community conservation plan	NI	None required	NI
Mineral Resources			
Impact MIN-1: Contribution to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state	NI	None required	NI
Impact MIN-2: Contribution to 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	NI	None required	NI
Noise			
Impact NOI-1: Exposure of persons to or generation of noise levels in excess of applicable standards	S	**Mitigation Measure NOI-1.1:** Employ Noise-Reducing Construction Practices	SU
Impact NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels	S	**Mitigation Measure NOI-2.1:** Construction Vibration Control Measures	SU
Impact NOI-3: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity	LTS	None required	LTS

Impact	Level of Significance Proposed Project	Proposed Mitigation Measure(s)	Level of Significance after Mitigation Proposed Project
Impact NOI-4: Creation of a substantial temporary or periodic increase in existing ambient noise levels in the project vicinity	S	**Mitigation Measure NOI-1.1:** Employ Noise-Reducing Construction Practices	SU
Impact NOI-5: Presence of project-related activities within an airport land use plan area or within 2 miles of a public airport or public use airport, resulting in exposure of people residing or working in the project area to excessive noise levels	NI	None required	NI
Impact NOI-6: Presence of project-related activities in the vicinity of a private airstrip, resulting of exposure to people residing or working in the project area to excessive noise levels	NI	None required	NI
Population and Housing			
Impact POP-1: Creation of substantial population growth either directly or indirectly	LTS	None required	LTS
Impact POP-2: Displacement of a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere	NI	None required	NI
Impact POP-3: Displacement of a substantial number of people, necessitating the construction of replacement housing elsewhere	NI	None required	NI
Public Services			
Impact PS-1: Creation of a need for new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives for fire protection, police protection, schools, parks, or other public facilities	NI	None required	NI

Impact	Level of Significance Proposed Project	Proposed Mitigation Measure(s)	Level of Significance after Mitigation Proposed Project
Recreation			
Impact REC-1: Increased use of existing recreational facilities, resulting in substantial physical deterioration	LTS	None required	LTS
Impact REC-2: Construction or expansion of recreational facilities that might have an adverse physical effect on the environment	LTS	None required	LTS
Transportation/Traffic			
Impact TRA-1: Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system			
Construction: Phase 1	LTS	None required	LTS
Construction: Phase 2	S	None available	SU
Operation: Phase 1	LTS	None required	LTS
Operation: Phase 2	S	**Mitigation Measure TRA-1:** Modify Traffic Signal Timing by Shifting 6 Seconds of Green Light Time from the Northbound Left-Turn Movement to the Southbound Through Movement	SU
Impact TRA-2: Conflict with an applicable congestion management program	LTS	None required	LTS
Impact TRA-3: Potential to cause a change in air traffic patterns that results in substantial safety risks	NI	None required	NI
Impact TRA-4: Substantial increase in hazards because of a design feature (e.g., sharp curves, dangerous intersections) or incompatible uses (e.g., farm equipment)	LTS	None required	LTS
Impact TRA-5: Cause inadequate emergency access	LTS	None required	LTS

Impact	Level of Significance Proposed Project	Proposed Mitigation Measure(s)	Level of Significance after Mitigation Proposed Project
Impact TRA-6: Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities	LTS	None required	LTS
Utilities and Service Systems			
Impact UT-1: Exceedance of wastewater treatment requirements of the applicable Regional Water Quality Control Board	LTS	None required	LTS
Impact UT-2: Construction of new water or wastewater treatment facilities or expansion of existing facilities, with the potential to cause significant environmental effects	NI	None required	NI
Impact UT-3: Construction of new stormwater drainage facilities, or expansion of existing facilities, with the potential to cause significant environmental effects	LTS	None required	LTS
Impact UT-4: Creation of a need for new or expanded entitlements or resources for sufficient water supply	NI	None required	NI
Impact UT-5: Project-related exceedance of existing wastewater treatment capacity	NI	None required	NI
Impact UT-6: Project-related exceedance of the relevant landfill's permitted capacity	LTS	None required	LTS
Impact UT-7: Inconsistency with federal, state, and local statutes and regulations related to solid waste	NI	None required	NI

Notes:
NI = No Impact
LTS = Less than Significant
S = Significant
SU = Significant and Unavoidable

Chapter 1
Introduction

The City of Roseville (City) has prepared this draft environmental impact report (EIR) to provide an assessment of the potentially significant environmental effects of the proposed project, located along an approximately 1.4-mile segment of Washington Boulevard between All-America City Boulevard and Pleasant Grove Boulevard in the City of Roseville (Figures 1-1 and 1-2).

1.1 Purpose of this EIR

The purpose of this draft EIR is to inform decision-makers for the City, other responsible agencies, and the public of the environmental consequences of implementing the project as proposed. The draft EIR has been prepared in accordance with and in fulfillment of the California Environmental Quality Act (CEQA) Statute and Guidelines (State CEQA Guidelines). The City is the lead agency for this draft EIR. The City Council has the principal responsibility for authorizing the implementation of the project as proposed.

As described in CEQA and the State CEQA Guidelines, public agencies are generally under a substantive obligation to avoid or substantially lessen significant environmental effects of a project, where feasible. Consistent with that obligation, this draft EIR identifies the following: (1) the potentially significant environmental effects of the proposed project, including cumulative effects resulting from the proposed project together with other past, present, and probable future projects; (2) mitigation measures that could substantially lessen or avoid any such significant environmental effects; (3) any significant effects that cannot be mitigated to a less than significant level, and thus are unavoidable; and (4) reasonable, potentially feasible alternatives to the proposed project that would meet most of the basic objectives of the proposed project while substantially lessening or avoiding at least one significant effect of the proposed project.

Under CEQA, the lead agency's decision-making body (the Roseville City Council) is required to consider the information in the EIR, along with any other relevant information, in making its decisions on the proposed project. Although the EIR does not determine the ultimate decision that the City Council will make regarding implementation of the proposed project, CEQA requires the City Council to consider the information in the EIR prior to taking action on the project.

1.2 Summary of the Proposed Project

The proposed project involves activities along an approximately 1.4-mile section of Washington Boulevard. The project involves widening a 0.85-mile section of Washington Boulevard between Sawtell Road and Pleasant Grove Boulevard from two lanes to four lanes and replacing the existing 100-year-old undercrossing (Andora Underpass) beneath the Andora bridge on Washington Boulevard. The addition of two new lanes to Washington

Boulevard would provide a continuous four-lane thoroughfare between Sawtell Road and Pleasant Grove Boulevard and improve traffic circulation and pedestrian traffic through the area. The improvements would also include a better and more continuous route for pedestrians and bicyclists, who are currently forced to detour off Washington Boulevard on to Derek Place due to the narrowness of the existing road.

The proposed project is subject to state and federal environmental review requirements because the use of federal funds from the Federal Highway Administration (FHWA) is proposed. The California Department of Transportation (Caltrans) is the federal lead agency under FHWA assignment of National Environmental Policy Act (NEPA) responsibilities pursuant to 23 U.S. Code (USC) 327. Caltrans will complete its NEPA obligations prior to approving federal funding. The City is the lead agency under CEQA.

1.3 Environmental Review Process

On September 12, 2016, the City published a Notice of Preparation for the proposed project. The purpose of the Notice of Preparation was to solicit early comments from public agencies with expertise in subjects that would be discussed in the draft EIR. The 30-day comment period ended on October 15, 2016. The City also held a public scoping meeting on September 21, 2016, to solicit verbal and written comments from the public and public agencies. Table 1-1 summarizes all comments received during the Notice of Preparation comment period, including those received at the September 21, 2016 public scoping meeting, via email and U.S. Mail. Appendix A contains the full Notice of Preparation, a comprehensive Public Scoping Meeting summary report, and all NOP comment letters received via U.S. Mail.

Table 1-1. Public Comments Received during Notice of Preparation Comment Period

Public Comments		
Comments from September 21, 2016 Workshop		
Commenter	***Neighborhood***	***Summary of Comments***
Deborah Serenbetz	Diamond Oaks	Connect existing bike lanes. Provide median with trees and roses. Thank you for four lanes and the project.
Kyle Baumgartner	Diamond Creek	Adding bike paths and multi-use paths will improve mobility and create safe environment. Questions about existing multi-use paths.
Jacob Baumgartner	Diamond Creek	Project should be a good step for bike friendliness.
Sue Hallahan-Cook	Fiddyment Farm	Project is long overdue. Questions about funding.
Scott Alvord	RCONA/ Downtown Merchants Association	Diamond K needs a stop light. Close road for 4 months to complete project.
Sandra Magdaleno	Diamond Oaks Road	Extend the left turn lane off southbound Washington onto Diamond Oaks Road. Put speed tables, not bumps, on Diamond Oaks to help slow traffic.
Amos E. Gbeintor Sr.	Emerald Oaks	Keep the boulevard closed to shorten duration of the project.

Public Comments			
Sharon Edwards	Diamond K Estates	Traffic moves very fast now and will move faster with four lanes of traffic. A merge lane will not be very helpful. Install a stop sign or light at Kaseberg.	
Lorraine K. Brown	Diamond Oaks	Questions about increased train traffic and resulting air pollution and potential oil spill and fire. Noise barriers (walls) should be constructed for homes along Washington and Diamond Oaks.	
Jeff Brown	Diamond Oaks	The wooden backyard fences along the east side of Washington Boulevard south of Pleasant Grove Boulevard need to be replaced with concrete walls as part of the project. Widened road will increase noise, and the concrete walls will help reflect or dampen noise.	
Comments Received by Email			
Commenter	***Date***	***Neighborhood***	***Summary of Comments***
Ed Scanlan	Sept. 3, 2016	Diamond K Estates	A detour to access or exit is not possible because there is only one way in and out, that being off Washington. Four lanes of traffic on Washington will be like a freeway, especially because there is little if any police traffic enforcement on Washington and Pleasant Grove.
Gary Miller	September 21, 2016; April 13, 2017; April 25, 2017	Diamond K Estates	Concerns about access to Diamond K Estates because of heavy traffic on Washington, which the project could exacerbate. Concerns about limited emergency egress. The City does not care about people who live in Diamond K.
Comments Received by Letter			
Commenter	***Date Received***	***Affiliation***	***Summary of Comments***
Scott Alvord	September 18, 2016	RCONA/ Downtown Merchants Association	Concerns about Diamond K Estates access from Washington Boulevard. Project could make access more difficult. Could a traffic signal be added at this intersection?
Stephanie Tadlock	September 30, 2016	Central Valley Regional Water Quality Control Board	The environmental review document should evaluate potential impacts to both surface water and groundwater quality. Project may require various state and federal permits related to water quality.
Gene Whitehouse	September 28, 2016	United Auburn Indian Community	United Auburn Indian Community is concerned about development within its aboriginal territory that has potential to affect the lifeways, cultural sites, and landscapes that may be of sacred or ceremonial significance. Request copies of archaeological reports. Tribal monitor should be present during ground-disturbing activities.

Public Comments			
Yushuo Chang	October 14, 2016	Placer County Air Pollution Control District	The District's comment letter recommended use of their CEQA Handbook for impact analysis guidance, thresholds of significance, and mitigation strategies and identified adopted District Rules applicable to the project.

As indicated in Table 1-1, Notice of Preparation comments included comments on the project's original concept design. As discussed in Chapter 2, *Project Description*, the current project and phasing plan were developed in response to Notice of Preparation comments and to take advantage of available grant funding opportunities. Since publication of the Notice of Preparation, the City has revised the project with the following provisions.

- A signal light was added at the Washington Boulevard/Kaseberg Drive Diamond K private driveway entrance.
- A sound wall was added to replace existing wooden backyard fences along the east side of Washington Boulevard south of Pleasant Grove Boulevard.
- The Washington Boulevard south bound left-turn lane to Diamond Oaks Road has been extended by approximately 100 feet.
- A Class I bike trail on the east side of Washington Boulevard has been extended south to All-America City Boulevard.

In addition to these improvements, the project is now proposed to be constructed in two phases. Phase 1 generally would include the majority of road widening (with the exception of at the Andora Underpass), most Class I bike trail and intersection improvements (including the new signal at the Washington Boulevard/Kaseberg Drive intersection) and would be constructed summer 2020. Phase 2 would include completing the widening of Washington Boulevard at the Andora Underpass, final drainage improvements, including the proposed bio-retention basin, and final intersection tie in and sound wall improvements at the Washington Boulevard/Pleasant Grove Boulevard intersection. The schedule for Phase 2 construction is unknown and subject to funding availability.

Notice of Preparation project design comments also suggested "speed tables" be constructed on Diamond Oaks Road to slow traffic. It was determined this suggestion, which involves locations outside the project limits, would be better coordinated as a separate project at the neighborhood level. Notice of Preparation comments also suggested Washington Boulevard widening include a median landscaped with trees and roses; this item as not included because of funding constraints. Refer to Chapter 2, *Project Description*, for a detailed description of proposed improvements and project phasing.

The City has filed a Notice of Completion with the Governor's Office of Planning and Research, State Clearinghouse indicating that this draft EIR has been completed and is available for review and comment by the public and agencies.

The draft EIR will be available for review by the public and interested parties, agencies, and organizations for a review period of 45 days, as required by California law. The draft EIR review period will begin on **June 17, 2019 and end on August 1, 2019**. In reviewing the draft EIR, reviewers should focus on the document's adequacy in identifying and analyzing the project's significant effects on the environment and ways in which the significant effects of the project might be avoided or mitigated. To ensure inclusion in the final EIR and full consideration by the lead agency, comments on the draft EIR must be received in writing during the 45-day public review period at the following address:

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Written responses to significant environmental issues raised in comments on the draft EIR will be prepared and included in the final EIR. The draft EIR text and appendices, together with the response to comments document and any text changes to the draft EIR made in response to comments or other new information, will constitute the final EIR.

The City Council will review the final EIR for adequacy and consider it for certification pursuant to the requirements of Section 15090 of the State CEQA Guidelines. If the Council certifies the final EIR, the Council will then consider the project separately for approval or denial. If the Council chooses to approve the project, the Council will have to adopt findings on the feasibility of reducing or avoiding significant environmental effects; and, if the project has significant environmental effects that cannot feasibly be reduced to less-than-significant levels, the Council will also have to adopt a Statement of Overriding Considerations. If the Council does approve the proposed project, a Notice of Determination will be prepared and filed with the County Clerk and the State Clearinghouse. The Notice of Determination will include a description of the project, the date of approval, an indication of whether the Findings and Statement of Overriding Considerations were prepared, and the address where the final EIR and record of project approval are available for review.

1.4 Scope of this EIR

Consistent with Appendix G of the State CEQA Guidelines, this draft EIR evaluates the potential impacts of the proposed project for the following resources and topic areas:

- Aesthetics
- Agricultural and forestry resources

- Air quality
- Biological resources
- Cultural and tribal resources
- Geology and soils
- Greenhouse gas emissions
- Hazards and hazardous materials
- Hydrology and water quality
- Land use and planning
- Mineral resources
- Noise
- Population and housing
- Public services
- Recreation
- Transportation and traffic
- Utilities and service systems

The following topics are also analyzed in this draft EIR:

- Cumulative impacts
- Significant and unavoidable impacts
- Significant irreversible changes in the environment
- Growth inducement
- Alternatives to the proposed project
- Notice of Preparation comments and public outreach

1.5 Report Organization

This draft EIR is organized into the following chapters:

Summary presents a brief description of the proposed project, summarizes environmental consequences that would result from project implementation, provides a summary table that denotes anticipated significant environmental impacts, identifies mitigation measures, and indicates the level of significance of impacts before and after mitigation. In addition, the *Summary* presents a brief description of alternatives to the proposed project and compares the environmental impacts of each of the alternatives with the impacts of the proposed project.

Chapter 1, *Introduction*, provides an introduction and overview describing the purpose and scope of topics addressed in this EIR, including a summary of the comments received on the Notice of Preparation and the environmental review process.

Chapter 2, *Project Description*, describes the proposed project and its phases, including the proposed roadway widening and associated Andora Underpass widening, as well as other improvements such as traffic signal modifications, bicycle and pedestrian facilities, water quality and drainage improvements, and utility relocation. The alternatives to the proposed project that are being considered to eliminate or reduce significant impacts are also described in this chapter. A prospective alternative that was considered and dismissed also is described.

Chapter 3, *Impact Analysis*, describes the environmental setting, including applicable plans and policies for each environmental topic listed in Section 1.4, *Scope of this EIR*; provides an analysis of the significant environmental impacts of the proposed project; and identifies mitigation measures to avoid or reduce the magnitude of significant impacts. This chapter also evaluates the alternatives to the project, specifically Alternative 1 (one lane open to traffic during construction) and Alternative 2 (No Project alternative), and summarizes the comparative environmental consequences of each alternative.

Chapter 4, *Other CEQA Considerations*, provides a discussion of the proposed project's significant and unavoidable impacts and significant irreversible environmental changes, the proposed project's cumulative impacts, and the potential for growth inducement due to project implementation.

Appendix A contains the Notice of Preparation and public comments received on the Notice of Preparation.

Appendix B contains the traffic study prepared for the project.

Appendix C contains the air quality assumptions used in the analysis of impacts on air quality.

A variety of technical studies have been prepared to support this project and are referenced throughout the draft EIR. All project-specific technical studies referenced in this draft EIR are available for review at the City of Roseville Permit Center and on the City's website (http://www.roseville.ca.us/EnvironmentalDocs).

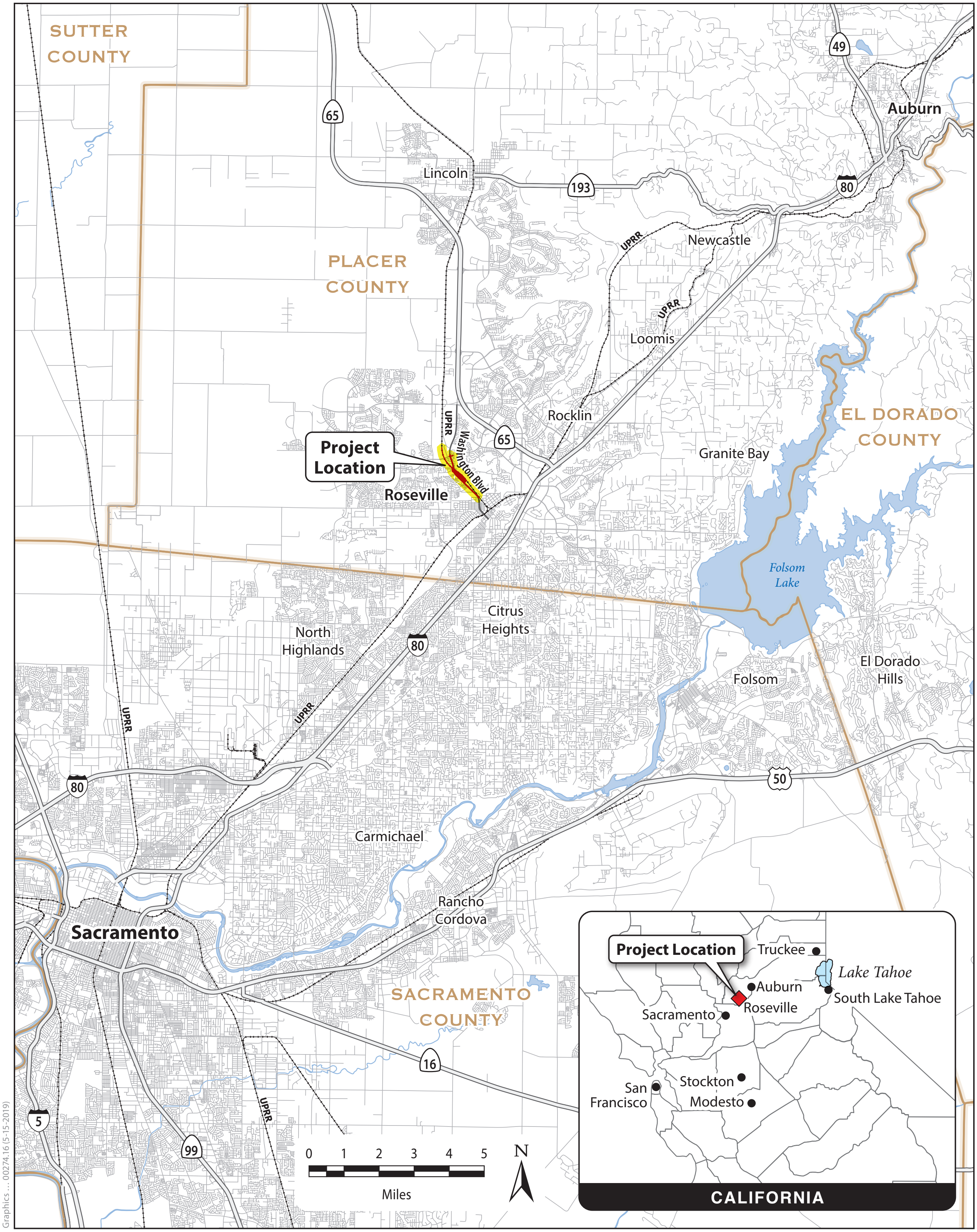

Figure 1-1
Regional Location

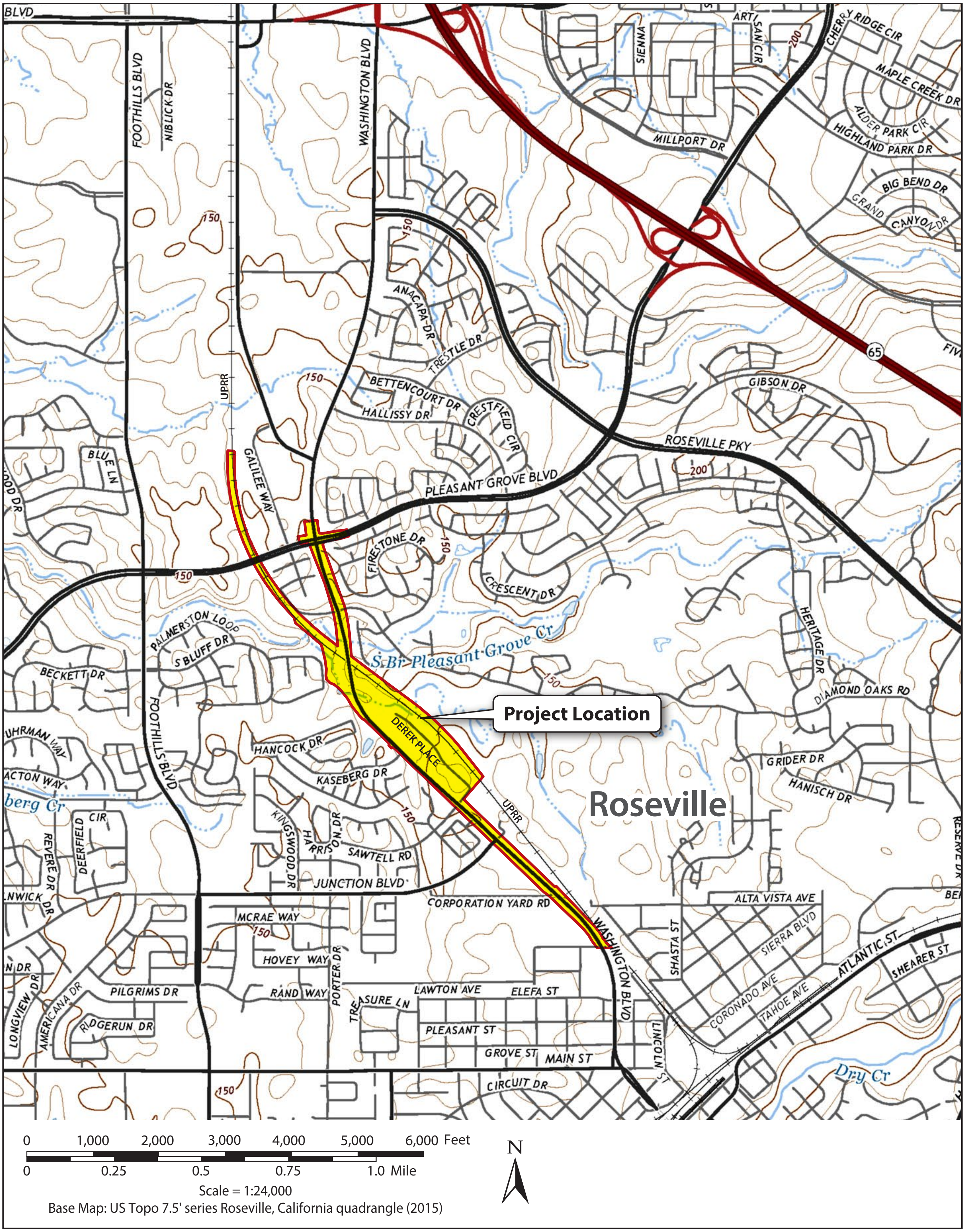

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Figure 1-2
Project Location

Chapter 2
Project Description

This chapter describes the proposed project, including the project background; purpose, need, and objectives; location and existing conditions; project components; and construction approach. The chapter also describes the project alternatives, and the permits and approvals required to construct the proposed project.

Notice of Preparation comments included comments on the project's original concept design. The project description and phasing plan have been developed to address these comments and take advantage of available funding opportunities. Project revisions that address Notice of Preparation comments include the following provisions:

- A signal light was added at the Washington Boulevard/Kaseberg Drive Diamond K private driveway entrance.
- A sound wall was added to replace existing wooden backyard fences along the east side of Washington Boulevard south of Pleasant Grove Boulevard.
- The Washington Boulevard southbound left-turn lane to Diamond Oaks Road has been extended by approximately 100 feet.
- A Class I bike trail on the east side of Washington Boulevard has been extended south to All-America City Boulevard.

In addition to these improvements, the project is now proposed in two phases. Phase 1 would generally involve the majority of road widening with the exception of at the Andora Underpass, and most Class I bike trail and intersection improvements, including the new signal at Washington Boulevard and Kaseberg Drive. Phase 1 would be constructed during summer 2020. Phase 2 would involve completing the widening of Washington Boulevard at the Andora Underpass, final drainage improvements, including the proposed bio-retention basin, and final intersection tie in and sound wall improvements at the Washington Boulevard/Pleasant Grove Boulevard intersection. The schedule for Phase 2 construction is unknown and subject to funding availability.

Notice of Preparation project design comments also suggested that "speed tables" be constructed on Diamond Oaks Road to slow traffic. It was determined this suggestion, which involves locations outside the project limits, would be better coordinated as a separate project at the neighborhood level. Notice of Preparation comments also suggested Washington Boulevard widening include a median landscaped with trees and roses. This item is not included because of funding constraints.

2.1 Project Background

Washington Boulevard generally runs north-south and begins in downtown Roseville at its junction with Oak Street and ends at State Route (SR) 65. The boulevard provides an important local connection among downtown Roseville and the North Central Roseville, Northwest Roseville, and North Industrial areas through its connections with other major local thoroughfares, including Foothills Boulevard, Pleasant Grove Boulevard, Roseville Parkway, Industrial Boulevard, and Blue Oaks Boulevard. Washington Boulevard provides a vital economic link from residential areas to shopping and employment centers in downtown Roseville.

Washington Boulevard was constructed as a two-lane road as part of the State Highway System approximately 100 years ago. The City proposes to widen Washington Boulevard to improve the level of service (LOS) and traffic performance and to accommodate increasing traffic volumes.

The City's Transportation System 2035 Capital Improvement Program (CIP) identifies improvements to Washington Boulevard, including the widening of Washington Boulevard between Sawtell Road and Pleasant Grove Boulevard, to improve traffic circulation and pedestrian traffic through the area. Approximately 18,000 vehicles per day travel through this segment, and the road improvements would enhance accessibility for motorists, pedestrians, and cyclists along Washington Boulevard and nearby intersections. To enable roadway widening at the narrow Andora Underpass, the existing structure must be removed and replaced. The Andora Underpass would need to remain open and accessible to rail traffic during project construction because approximately 25 trains travel over it each day.

In summer and fall 2016, the City and the project team met with residents and local businesses about the proposed project. More than 45 community members attended two meetings with the project team to discuss the project, ask questions, and provide feedback on the project and proposed construction approach.

The project has been preliminarily awarded grant funding for certain Phase 1 improvements. The project's construction phasing plan was developed to ensure compliance with grant requirements and the expected retention of awarded funding.

2.2 Project Location and Existing Conditions

The proposed project is in the City of Roseville, Placer County, along an approximately 1.45-mile segment of Washington Boulevard between All-America City Boulevard on the south and Pleasant Grove Boulevard on the north (Figure 1-2). At the southern end of the project area, the UPRR line runs along the east side of Washington Boulevard, crosses over the road just south of South Branch Pleasant Grove Creek, and continues along the west side of the road toward Pleasant Grove Boulevard. The southern end of the project area includes commercial development to the east (followed by the railroad and then residential uses) and the Placer County Fairgrounds and All-American Speedway to the west. North of Junction Boulevard, the project area is bordered by commercial development to the east and residential areas to the west. The Diamond Oaks and Kaseberg-Kingswood neighborhoods are adjacent to the central and northern portions of the project area. City-designated General Open Space lands occupy the area immediately west and north of the Andora Underpass. Residential development is present on both sides of Washington Boulevard between the Andora Underpass and Pleasant Grove Boulevard. An existing Class I (i.e., off-street) bike path along the east side of Washington Boulevard connects

Diamond Oaks Road to Derek Place. Figure 2-1 shows an overview of the proposed project and existing conditions.

2.3 Project Purpose, Need, and Objectives

The purpose of the proposed project is to improve existing and future traffic; enhance access and safety for motorists, pedestrians, and cyclists; and meet railroad clearance requirements. The proposed project would also provide better connectivity between the existing two-lane, 0.85-mile segment of Washington Boulevard and the existing four-lane segments of Washington Boulevard, and would provide an evacuation route in case of an emergency. In addition, the improvements would offer a better and more continuous route for pedestrians and bicyclists, who are currently forced to detour off Washington Boulevard onto Derek Place.

The project is needed because recurring morning and evening peak-period traffic demand exceeds the current design capacity of Washington Boulevard, creating traffic operation and safety issues for motorists, pedestrians, and cyclists. These issues result in moderate delays and wasted fuel, which are expected to be exacerbated by anticipated increases in traffic from future population and employment growth.

The proposed project's objectives are as follows:

- Implement the adopted CIP improvements for the segment of Washington Boulevard between Sawtell Road and Pleasant Grove Boulevard.
- Improve vehicular traffic flow along Washington Boulevard between Sawtell Road and Pleasant Grove Boulevard by widening the road and the Andora Underpass.
- Enhance access and safety along this segment of Washington Boulevard for motorists, pedestrians, and cyclists by widening the boulevard and adding a signal at the Washington Boulevard/Kaseberg Drive intersection.
- Provide a better and more continuous route for pedestrians and bicyclists on Washington Boulevard than the existing detour onto the more isolated Derek Place and extend the existing Class I bike trail south to All-America City Boulevard.
- Provide a consistent four-lane roadway along this length of Washington Boulevard by connecting the existing four-lane segments on either side of Sawtell Road and Pleasant Grove Boulevard.
- Improve traffic safety by alleviating the Andora Underpass' existing substandard vertical clearance and width.

2.4 Proposed Project Components

The proposed project would be constructed in two phases consisting of the following elements:

- Widening approximately 0.85 mile of Washington Boulevard from two to four lanes with a raised median separating northbound and southbound traffic (Phase 1).

- Widening the Andora Underpass to a two-span bridge with columns located in the roadway median island to accommodate the additional two lanes (Phase 2).
- Improving the Washington Boulevard/Pleasant Grove Boulevard intersection by lowering the intersection to conform to the new Washington Boulevard road elevation on the south and removing an existing hump across Washington Boulevard (Phase 2).
- Installing a new traffic signal at the Washington Boulevard/Kaseberg Drive intersection (Phase 1).
- Modifying the existing traffic signal at the Washington Boulevard/Diamond Oaks Road intersection to conform to the new four-lane roadway (Phase 1).
- Adding 8-foot-wide Class II (i.e., on-street with appropriate signing and striping) bike lanes along both sides of Washington Boulevard (Phases 1 and 2).
- Extending the existing Class I bike path on the east side of Washington Boulevard from a point approximately 150 south of Diamond Oaks Road to All-America City Boulevard with a 10- to 12-foot-wide path parallel to Washington Boulevard (Phase 1).
- Removing the existing bicycle/pedestrian crossing under UPRR (Phase 2) and providing a new temporary connection between the existing Derek Place bike path and the new Class I bike path along Washington Boulevard (described above) (Phase 1).
- Adding a new 8- to 12-foot-wide multiuse path on the west side of Washington Boulevard between Emerald Oaks Road and Kaseberg Drive (Phases 1 and 2). Portions of this proposed multiuse path may be deferred beyond Phase 2 until additional construction funding is available.
- Conducting floodplain, water quality, and drainage improvements (Phase 1 and 2).
- Relocating existing utilities, including sewer, water, telecommunications, and natural gas (Phases 1 and 2).
- Potentially constructing a sound wall adjacent to residential areas along Washington Boulevard (to be determined during Phase 2).
- Temporarily restriping Foothills Boulevard at Junction Boulevard to provide two left-turn lanes from southbound Foothills Boulevard to eastbound Junction Boulevard to accommodate traffic management during widening of the Andora Underpass (Phase 2).

The proposed project would not alter the existing bus turnout adjacent to southbound Washington Boulevard and south of Pleasant Grove Boulevard. Each of the major proposed project components is described in greater detail below. Figure 2-1 provides an overview of these components. The project is expected to be completed in two major phases with Phase 1 generally including all improvements with the exception of road and bridge widening at the Andora Underpass and a portion of the Class I trail on the west side of Washington Boulevard. Table 2-1 identifies the major construction tasks by phase.

2.4.1 Washington Boulevard Widening

The proposed project would consist of widening Washington Boulevard to allow two through lanes in each direction with a raised median separating the northbound and southbound traffic. Concrete curbs would define the new edge of roadway and separate vehicular traffic from pedestrians.

2.4.2 Andora Underpass and Bridge Widening

The existing Andora Underpass has substandard vertical clearance. To provide standard vertical clearance, the profile grade of Washington Boulevard would be lowered approximately 3 feet. The lowering of the roadway would also require removal and replacement of two drainage culvert crossings (described in Section 2.4.5, *Floodplain, Water Quality, and Drainage Improvements*).

Widening the Andora Underpass would involve broadening the existing bridge structure to a two-span bridge with columns located in the roadway median island. The existing 100 year old roadway crosses beneath the UPRR tracks at a 45-degree angle. Because UPRR now limits bridge skews to a maximum of 30 degrees, the proposed bridge median columns would be slightly skewed by approximately 15 degrees. The existing Andora Underpass can accommodate two railroad tracks, although only one track currently exists at this location. The proposed project design would accommodate two UPRR tracks, although the bridge structure would be constructed with only a single track. The ability to easily add a second track to the structure without needing to widen the concrete abutments is a project requirement. According to UPRR, there are no reasonably foreseeable plans to install a second track.

The Andora Underpass would have concrete abutments and wingwalls. The concrete surface would have some relief to mimic the appearance of an old style Works Progress Administration bridge. There is also potential for incorporating architectural enhancements, color, and features into the concrete facade to provide additional visual interest and character for the structure. The superstructure would consist of painted steel girders with painted steel hand railings extending above the track level. The bottom of the structure (soffit) would show the individual steel girders and would not be smooth like a normal concrete highway bridge.

2.4.3 Railroad Shoofly

During Phase 2, a 9-month construction period, railroad traffic would be maintained except for short time periods allowed by UPRR. During removal of the existing Andora Underpass, the railroad would be detoured to a temporary track, known as a shoofly. An estimated 25 trains would use the track each day. During the transition from the old track to the shoofly and back again, the rail line would be shut down to train traffic for about 4 hours. No trains would be diverted around the project site to other rail lines.

The shoofly would be within UPRR- and City-owned rights-of-way (as shown in Figure 2-1). The shoofly would be approximately 6,200 feet long (1.2 miles), would extend up to 0.75 mile north and 0.5 mile south of the Andora Underpass, and could shift up to 35 feet westerly. Temporary fill would be placed within the portion of the Sierra View Tributary that runs along the tracks to accommodate the temporary shoofly alignment. Temporary culverts and fill would be placed at two locations (east and west of Washington Boulevard) within the portion of the Sierra View Tributary that runs along the tracks to accommodate the temporary shoofly alignment.

The shoofly would be constructed using imported soil. Approximately 13,500 cubic yards (CY) of fill would be placed east of Washington Boulevard and 22,500 CY would be placed west of Washington Boulevard to create the shoofly.

The temporary shoofly fill would be removed and material would be disposed at permitted soil disposal sites. Railroad slopes would be restored using the appropriate seed mix and in accordance with the project Storm Water Pollution Prevention Plan (SWPPP), and the drainages would be restored consistent with any permit conditions.

2.4.4 Bicycle Trail Improvements

Eight-foot-wide Class II striped on-street bike lanes would be constructed along both sides of Washington Boulevard within the limits of proposed road widening. In addition, a new 10-foot to 12-foot-wide Class I bike path would be constructed along the east side of Washington Boulevard beginning at a point approximately 150 south of Pleasant Grove Boulevard on the north to All-America City Boulevard on the south. This new Class I facility would replace the existing Class I bike path located approximately 100 feet east of Washington Boulevard between Diamond Oaks Road and Derek Place. This existing Class I path would be abandoned, and the existing pedestrian underpass filled and closed as part of Phase 2. A new 2,400-foot-long (0.45-mile), 10-foot-wide multiuse Class I bike path is also proposed on the west side of Washington Boulevard between Emerald Oaks Road and Kaseberg Drive; however, the construction of this path may be deferred beyond Phase 2 until additional construction funding is available.

To accommodate the Class I bike path, the recycling drop-off site on the east side of Washington Boulevard, north of All-America City Boulevard, would be either relocated, or the driveway would be modified.

All bike facilities would be enhanced with standard wayfinding signage and pavement makings to delineate proper user.

2.4.5 Floodplain, Water Quality, and Drainage Improvements

The lowering of Washington Boulevard under the Andora Underpass requires a variety of drainage and floodplain improvements because the low point of Washington Boulevard would be below the 100-year flood elevation. These improvements would include the following (shown in Figure 2-1):

- Regrading ditches and adding a drainage pump station to drain the Andora Underpass.
- Constructing a bioretention basin to treat existing stormwater and comply with current stormwater quality requirements (Water Quality Order No. 2013-0001-DWQ). The new bioretention basin would be used to treat stormwater runoff that originates from the

northern portion of the project and an area tributary to the intersection of Washington Boulevard and Pleasant Grove Boulevard. The bioretention basin (shown in Figure 2-1) would be constructed on the City-owned parcel bordered by Emerald Oaks Road, South Branch Pleasant Grove Creek, and Washington Boulevard. This parcel currently supports an open annual grassland. The basin would be created by excavation, construction of a berm along the east side of South Branch Pleasant Grove Creek, and placement of imported drain rock and sand-compost mix to support runoff retention, water quality treatment and specialized planting. Roadside water quality swales would be constructed as interim drainage improvements during Phase 1 road widening. The bioretention basin would be constructed during Phase 2 as part of the project's ultimate drainage and water quality improvements (discussed further in Section 2.5.6, *Project Schedule, Traffic Staging, and Construction Phasing*).

- Removing existing corrugated metal pipes and installing reinforced concrete pipe in four crossings of unnamed tributaries of Sierra View Tributary to support widening of Washington Boulevard.
- Replacing and extending two box culverts (Sierra View Tributary and South Branch Pleasant Grove Creek).

2.4.6 Traffic Signal and Intersection Improvements

A new traffic signal would be installed at the Washington Boulevard/Kaseberg Drive intersection. This signal would facilitate a safer bicyclist and pedestrian crossing of Kaseberg Drive and ease perceived safety concerns associated with left turns from eastbound Kaseberg Drive to northbound Washington Boulevard. In addition, the existing traffic signal at the Diamond Oaks Road/Washington Boulevard intersection would be modified to conform to the new four-lane roadway, and the existing traffic signal at the Pleasant Grove Boulevard/Washington Boulevard intersection would have signal re-timing only. Finally, the Washington Boulevard/Pleasant Grove Boulevard intersection would be regraded and improved as part of Phase 2 construction by lowering the intersection to conform to the new Washington Boulevard road elevation on the south, and an existing hump across Washington Boulevard would be removed.

2.4.7 Utility Relocations

The lowering of the roadway would necessitate relocation of City-owned sewer and water lines and underground telecommunication lines, and could require adjustments to underground Pacific Gas and Electric Company gas lines. These relocations would remain within existing right-of-way and retain essentially the existing alignments.

2.4.8 Sound Wall

Depending on future Phase 2 engineering design, a 6-foot-high sound wall may be constructed adjacent to one residential area to provide a buffer between the future road noise and the residences. The potential wall would be located on the eastern side of Washington Boulevard between Diamond Oaks Road and an existing concrete masonry wall just south of Pleasant Grove Boulevard.

2.5 Construction Approach

Construction of the proposed project would consist of the activities described below.

2.5.1 Equipment and Material Staging Areas

Potential equipment and material staging areas have been identified for the purpose of this analysis and are shown in Figure 2-1. The contractor would use City-owned areas within and outside the roadway right-of-way for staging. Open space and undeveloped areas on the west side of Washington Boulevard would be used to support shoofly construction. The bioretention basin area (designed General Open Space) would be used for staging activities on the east side of the tracks. During the Phase 2 road closure period, the roadway between Diamond Oaks and the UPRR tracks would be used for staging. The staging areas would be used for fueling and maintaining equipment (except within the City Open Space areas), as well as designated materials storage. Section 2.5.7, *Best Management Practices*, outlines the best management practices (BMPs) that would be implemented to minimize potential construction-related water quality impacts.

Should additional or alternative areas be needed for staging, the contractor would be directed to use previously disturbed or paved areas. All additional or alternative staging areas would be evaluated by the City to ensure that the staging area does not support sensitive environmental resources and that staging area use would not result in direct or indirect effects on environmental resources.

2.5.2 Construction Access and Traffic Control

Construction would temporarily affect traffic on Washington Boulevard and auxiliary streets. During Phase 2 construction, Washington Boulevard would be closed to vehicular traffic for up to 6 months. Vehicles would be rerouted on city streets. To accommodate the increased vehicular traffic on the detour route, the Foothills Boulevard/Junction Boulevard intersection would be temporarily restriped to add a second left-turn lane from southbound Foothills Boulevard to eastbound Junction Boulevard. Existing traffic signals would be temporarily modified to provide an adequate LOS during the construction period.

2.5.3 Railroad Shoofly Installation

To support the temporary shoofly, two temporary culverts would be installed within the Sierra View tributaries, one approximately 300 feet in length near Derek Place and one approximately 500 feet in length just prior to the confluence with South Branch Pleasant Grove Creek (shown in Figure 2-1). In addition, the South Branch Pleasant Grove Creek concrete box culvert (under the UPRR) would be extended. The existing concrete box culvert pedestrian undercrossing would be temporarily extended to maintain pedestrian access under the shoofly. After the culverts are installed, the shoofly fill material would be placed over the culverts.

Once the remaining earthwork was placed and compacted, imported material that is similar to roadway aggregate base would be placed along the length of the shoofly. Imported railroad rock ballast would be placed along with new track and ties starting approximately

500 feet from the beginning and 2,050 feet from the end of the shoofly. Approximately 500 feet of existing track and ties at the south end of the shoofly and 2,050 feet at the north end of the shoofly would be shifted to the shoofly alignment by UPRR employees. Once the shoofly is removed, the existing underpass and temporary extension of the pedestrian undercrossing would be removed or filled with cement slurry. The South Branch Pleasant Grove Creek concrete box culvert (under the UPRR) would be removed or, with UPRR approval, would remain in place.

Washington Boulevard would be open to traffic during the initial phases of shoofly construction and would remain open until all shoofly earthwork was completed outside the limits of the existing roadway. Washington Boulevard would then be closed to all vehicular traffic to complete the shoofly earthwork.

After the new Andora Underpass is completed, UPRR would shift the trains back to the existing track alignment and the shoofly, including rails and ties, would be removed. The earthen material occupying Washington Boulevard would be removed to allow the remaining part of the structure footings and abutment to be constructed. The final step in the clean-up phase would involve removing the temporary culverts and shoofly earthwork, restoring the existing ditches, hydroseeding slopes for controlling erosion, removing the temporary extension of the pedestrian undercrossing, and filling the existing pedestrian undercrossing with sand.

2.5.4 Earthwork

Grading

Grading would be allowed only as necessary to construct the proposed project within a designated work area. All grading activities would be evaluated for consistency with the City's Flood Damage Prevention ordinance (City of Roseville Municipal Code Chapter 9.80). Waste soils or other solid debris from project construction would be kept out of wetlands and drainages by implementing construction BMPs specified in the SWPPP.

Material Excavation and Onsite Use

Construction of the proposed project would require the excavation of approximately 63,000 CY of soil from the site, including 850 CY of concrete associated with the Andora Underpass concrete abutments. An estimated 29,000 CY of this material would be used to construct the temporary shoofly, which would then be removed and disposed of at an approved site.

2.5.5 Stream Dewatering

Dewatering may be necessary in Sierra View Tributary, South Branch Pleasant Grove Creek, and associated tributaries that contain water during the construction period. Most of the streams receive irrigation runoff during the summer construction period and natural rainfall flows during winter months. The construction contractor may choose one of the following dewatering methods, depending on the amount of water present in the stream during installation of the new permanent and temporary culverts:

- Contractor constructs a temporary dam in the stream and places a temporary culvert to allow the water to flow past the work zone. Pumping would not be used. The temporary culvert would be removed after the new culvert is in place and prior to backfilling.
- Contractor places a pump and pumps water into a detention basin that is constructed with permeable rock pursuant to standard BMP methods. The pump would be on the upstream side and the discharge on the downstream side. A pump would allow the contractor to locate the discharge pipe and discharge point at a location of the contractor's choosing, keeping the discharge pipe out of the work zone.

2.5.6 Project Schedule, Traffic Staging, and Construction Phasing

Under the current funding assumptions, project construction would begin during 2020 and be completed in two phases which, combined, would require approximately 21 months to complete. Phase 1 is expected to take 8 months and would involve all proposed road widening except at the Andora Undercrossing, signal and intersection improvements, Class I bike trail construction on the east side of Washington Boulevard, and interim drainage improvements. Phase 2 is expected to take 13 months and would involve UPRR temporary shoe fly installation and removal, Andora Underpass widening and related Class I trail improvements, regrading at the Washington Boulevard/Pleasant Grove Boulevard intersection, sound wall construction, and final drainage improvements. Depending on funding availability, Phase 2 may also include the Class I bike trail on the west side of Washington Boulevard.

During Phase 1, Washington Boulevard would be widened primarily along the east side of the existing road. Phase 1 construction would be fairly standard with no offsite temporary detours or lane restriping proposed. The traveling public would be subject to temporary lane reductions or lane shifting within the limits of the construction zone; however, Washington Boulevard would remain open throughout Phase 1 construction.

During Phase 2, the travelling public would observe the following three major stages of change to road use and traffic flow:

- Stage 1 – During the closure of Washington Boulevard to public traffic. All vehicle traffic would be detoured. Pedestrians would use the existing multiuse path and temporary culvert extension under the shoofly. Duration of 5 to 6 months.
- Stage 2 – After UPRR returns to the existing track alignment and the new structure is partially complete. Washington Boulevard traffic at the Andora Underpass would be restored for one lane in each direction. Daytime travel time delays may occur. Duration of 2 to 3 months.
- Stage 3 – Completion of the remaining roadway, structure and landscaping/erosion control. Remaining two lanes would be opened to traffic. No travel time delays are expected. Duration of 1 to 2 months.

Table 2-1 identifies the major construction tasks by phase and associated activities proposed for the project. The phases shown in Table 2-1 are preliminary and may change based on available funding, transportation improvement needs, and other considerations.

Construction activities associated with project components would generally occur Monday through Friday between 7:00 a.m. and 7:00 p.m., and Saturday and Sunday from 8:00 a.m. to 8:00 p.m.

Table 2-1. Project Construction Phases and Associated Activities

Task	Activity
Phase 1 – Road Widening, Bike and Pedestrian Improvements	
Task	Activity
Task 1 – Preconstruction activities	Establish and clear staging areas and access road. Mobilize equipment and materials. Install environmental sensitive fencing and employ BMPs.
Task 2 – Grading and vegetation removal	Clear vegetation from work area. Conduct initial grading activities.
Task 3 – Construct eastern half of Washington Boulevard	Construct curb, sidewalk, and erosion control drainage facilities; lay aggregate base and pave.
Task 4 – Open Washington Boulevard to four lanes of traffic	Clean up, demobilize, open roadway.
Phase 2 - UPRR Andora Underpass Widening	
Task 1 – Begin shoofly installation (Washington Boulevard open to traffic)	Import fill and begin building shoofly. Restripe the Foothills Boulevard/Junction Boulevard intersection.
Task 2 – Complete shoofly and shift UPRR alignment	Close Washington Boulevard, complete earthwork, and place ties and track. UPRR shifts trains to shoofly.
Task 3 – Remove Andora Underpass	Place temporary shoring and remove existing concrete bridge.
Task 4 – Construct eastern half of Andora Underpass and Washington Boulevard	Drill foundation piles, place concrete footings and columns, install steel bridge girders, and install new track. Construct curb, sidewalk, and drainage facilities; lay aggregate base and pave.
Task 5 – Shift UPRR to new structure, remove shoofly, and construct western half of Andora Underpass	UPRR shifts trains to new structure. Remove shoofly and temporary shoring, drill foundation piles, and place concrete footings. Construct remaining curb, sidewalk, and drainage facilities; lay aggregate base and pave.
Task 6 – Open Washington Boulevard to four lanes of traffic in each direction and close existing pedestrian underpass	Complete structure abutments, roadway grading, and paving. Restore striping at Foothills Boulevard/Junction Boulevard intersection.
Task 7 – Finish Andora Underpass and open roadway	Complete sidewalks and erosion control, and demobilize.

2.5.7 Best Management Practices

Water quality measures (stormwater management measures and BMPs) would be implemented as part of the project to minimize potential water quality impacts during construction, operation, and maintenance of the project. Key management measures consist of the following:

- Protect areas that provide important water quality benefits or are particularly susceptible to erosion or sediment loss.
- Minimize the potential for erosion by limiting land disturbances such as clearing, grading, and cut and fill.
- Limit disturbance of natural drainage features and vegetation.
- Prepare and implement an approved SWPPP.
- Ensure proper storage and disposal of toxic material.
- Incorporate pollution prevention into operation and maintenance procedures to reduce pollutant loadings to surface runoff.

Construction BMPs

The City and its contractor will implement construction BMPs to avoid and minimize impacts on sensitive biological, cultural, and water resources. Implementation of the SWPPP, the Erosion Control Plan, the National Pollutant Discharge Elimination System (NPDES) permit, and the BMPs will minimize the potential for construction-related surface water pollution and ensure that water quality in waterways will not be compromised by erosion and sedimentation during construction. Any water diversion structures will be installed in accordance with the provisions outlined in the California Department of Transportation *Construction Site Best Management Practices for Clear Water Diversion* (Fact Sheet NS-5).

Temporary Fencing. The City's contractor will install construction barrier fencing (including sediment fencing and straw wattles) to prevent contaminants and debris from entering waterways. Before construction begins, the City or its contractor will identify the locations for the barrier fencing and mark those locations with stakes or flagging.

SWPPP. A SWPPP will be implemented as part of the NPDES Permit and a General Construction Activity Storm Water Permit to minimize the potential for sediments or contaminants to enter waterways.

Equipment. The City will comply with applicable stormwater ordinances, stormwater management plans, and BMPs to prevent or minimize the potential release of equipment-related petroleum contaminants into surface waters and groundwater. Implementation of standard construction procedures and precautions for working with petroleum and construction chemicals will further ensure that the impacts related to chemical handling during project construction will be minor.

Hazardous Materials. The City will implement appropriate hazardous material management practices and other good housekeeping measures to reduce the potential for chemical spills or releases of contaminants, including any non-stormwater discharge to drainage channels.

Implementation of these measures will minimize the potential for surface and groundwater contamination.

Erosion Control. The project design will incorporate permanent erosion control elements to ensure that stormwater runoff does not cause soil erosion. Erosion and sediment control plans will comply with the City's Grading Ordinance, which requires reducing erosion and retaining sediment onsite.

Toxic Materials Control and Spill Response Plan. The following measures will be incorporated into the plan and implemented to avoid or minimize the risk of spills or discharges of toxic materials into waterways.

- Prepare a hazardous material spill prevention, control, and countermeasure plan (SPCC) before construction that will be implemented during construction.
- Prevent raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life from contaminating the soil or entering waterways.
- Prevent discharge of drilling mud and fluids into the waterways by using appropriate containment, disposal, and storage methods.
- Prevent discharge of turbid water or sediment-laden runoff to waterways by using sediment filters, diverting the water to a settling tank, and/or implementing other erosion and water quality control BMPs to ensure compliance with water quality requirements prior to discharging water back to the waterways.
- Clean up all spills immediately according to the SPCC.
- Provide areas located outside the ordinary high water mark for staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants.
- Remove vehicles from the normal high-water area before refueling and lubricating to prevent contaminants from being discharged to the waterways during storm runoff. Contaminated water would be pumped to a holding tank for proper disposal.
- Prevent hazardous materials from entering waters. The construction contractor will notify the City Fire Department if evidence of soil or groundwater contamination is encountered during construction activities. Construction in that area will be halted until the Fire Department has evaluated the find and remediation is completed, if necessary.

Traffic Management Plan

The City will require the construction contractor to implement a traffic management plan (TMP), including a construction schedule and plan to meet the City's notice procedures, before construction activities are initiated. This plan will identify general methods by which construction activities will be managed to minimize substantial delays to traffic. The plan will incorporate the following guidance and components provided in the *Final Transportation Study for the Washington /Andora Widening Project* (Fehr & Peers 2018) (Appendix B).

Communication: Develop and implement a public information campaign that describes the duration of the street closure and recommends alternative routes. Particular attention will be placed on special events (e.g., school graduations or Placer County Fairgrounds events) that may attract unfamiliar users to the City's roadway system. The City is currently doing public outreach and will continue the outreach program throughout the various phases of the project.

Demolition and Construction: Describe and analyze the number of employees and their site parking areas, and the number of trucks, their routing and staging, and operating hours.

Wayfinding: Position and operate changeable message sign (CMS) trailers at strategic locations to advise motorists of the street closure and suggest alternate routes.

Traffic Operations: To offset the adverse LOS and delay effects of Phase 2 construction, modify impacted intersections as follows (refer to discussion on following page for details):

- Foothills Boulevard/Pleasant Grove Boulevard – Modify signal timing in response to changing travel demand.
- Foothills Boulevard/Junction Boulevard – Modify intersection to add a second southbound left-turn lane.

Bicycle/Pedestrian Travel: Close the multiuse path to all travelers during periods in which construction activity could pose safety concerns to those users. Advertise multiuse path closures in advance and suggest alternate routes.

Emergency Vehicle Response: The City Police and Fire Departments will coordinate with the Public Works Department to ensure that all potential effects of the closure have been addressed, including emergency vehicle routing (this includes ensuring road shoulder emergency vehicle access to Kaseberg Drive at all times, and in particular during any Alternative 1 road closure), temporary changes in fire station servicing areas, and emergency vehicle pre-emption at signalized intersections.

Monitoring: The construction TMP will include a monitoring program of daily traffic volumes and speeds on Diamond Oaks Road east of Washington Boulevard. The TMP will describe the frequency of monitoring and establish maximum acceptable thresholds for changes in operations above which a series of temporary traffic calming measures, such as temporary speed humps, enhanced enforcement, and other measures, may be considered.

The following performance standards will be met at all times during construction:

- Diamond Oaks Road east of Washington Boulevard experiences no more than a 2,000 average daily traffic increase over existing volumes.
- The median vehicular travel speed on Diamond Oaks Road east of Washington Boulevard increases by no more than 10% over existing conditions.
- Traffic signal timings at the Washington Boulevard/Pleasant Grove Boulevard and Washington Boulevard/Junction Boulevard intersections are adjusted in response to the change in travel demand.
- Construction-related trucks access the work site via Washington Boulevard, and not adjacent neighborhood streets.

- The combination of public outreach and CMS trailers enables the general public to be aware of construction-related street closures and to select alternate routes.
- Public transit and emergency provider service times are not adversely affected, based on the performance standards used by those entities.
- The multiuse path remains open and free of debris during periods in which construction operation does not pose any safety hazards to the facility.

Noise Control Measures

The following measures will be incorporated into the construction specifications for the proposed project to reduce and control noise generated by construction-related activities, consistent with City ordinances and standards:

- Noise-generating construction activities from the City's construction contractor will be restricted consistent with the City's Noise ordinance (Monday through Friday from 7:00 a.m. to 7:00 p.m., and Saturday and Sunday from 8:00 a.m. to 8:00 p.m.).
- All construction equipment will have sound-control devices no less effective than those provided on the original equipment. No equipment will have an unmuffled exhaust.
- Appropriate additional noise-reducing measures will be implemented, including the following: stationary construction equipment will be located as far as possible from sensitive uses; sensitive uses will be identified on construction drawings; and excessive equipment idling will be prohibited when the equipment is not in use.

Hazards and Hazardous Materials Measures

The construction documents will identify materials that are considered hazardous. The project contractor will be required to develop a Health and Safety Plan (prepared by a registered industrial hygienist) that addresses release prevention measures; employee training, notification, and evacuation procedures; and adequate emergency response protocols and cleanup procedures.

The contractor will comply with the California Occupational Safety and Health Administration standards for the storage and handling of fuels, flammable materials, and common construction-related hazardous materials and for fire prevention (California Labor Code, Division 5, Chapter 2.5).

City of Roseville Mitigating Ordinances, Guidelines, and Standards

As part of the proposed project, the City will implement the following regulations and ordinances to reduce potential environmental impacts associated with the project.

- Noise Regulation (Roseville Municipal Code [RMC] Ch.9.24).
- Urban Stormwater Quality Management and Discharge Control Ordinance (RMC Ch.14.20).
- Stormwater Quality Design Manual (Resolution 07-432).
- City of Roseville Design and Construction Standards (Resolution 07-137).

- Community Design Guidelines (Resolution 95-347).
- Tree Ordinance (RMC Ch. 19.66).

2.6 Project Alternatives

After extensive engineering and traffic analysis efforts, and review and screening of design concepts, two build alternatives (the proposed project and Alternative 1) surfaced for consideration and analysis that would meet the project's purpose and need and objectives. The proposed project and Alternative 1 involve the same project components described above. The primary differences between the proposed project and Alternative 1 are the construction access and traffic diversion options, and the associated staging and duration of construction (the proposed project involves complete road closure) and rerouting of traffic during Phase 2 for a period of 5 to 6 months and an estimated construction duration of 13 months; Alternative 1 would leave one lane open during construction and would require an estimated 20 to 24 months of construction. Alternative 2 is the No Project alternative.

2.6.1 Alternative 1 (One Lane Closure during Construction)

Alternative 1 is designed to satisfy the project objectives identified in Section 2.3, *Project Purpose, Need, and Objectives*, while reducing traffic impacts associated with the project. The alignment and associated project components (described under Section 2.4, *Proposed Project Components*) of Alternative 1 are the same as described for the proposed project and involve the same improvements to Washington Boulevard; however, Alternative 1 differs in its construction approach, including traffic diversion and schedule. The primary difference from the proposed project is that it would leave one lane open during construction and would require an estimated 20 to 24 months to construct because a temporary railroad bridge over Washington Boulevard would be required to maintain train traffic.

Under Alternative 1, Washington Boulevard vehicular traffic would be allowed to pass through the project site under the control of one-way flagging operations during some of the construction phases. However, the travelling public would still be significantly delayed during construction under Alternative 1 because maintaining two lanes of traffic flow during most of the construction period would be impossible; therefore, more than half of the normal traffic would use an alternative route.

2.6.2 Alternative 2 (No Project)

The No Project alternative would not involve any improvements to Washington Boulevard. The existing roadway and Andora Underpass would remain in their current state.

2.6.3 Alternatives Considered but Eliminated from Further Discussion

CEQA requires any potential alternatives that were considered, but not carried forth for analysis, to be identified in the EIR. The City and project engineers considered an option of accelerated Andora bridge construction. This alternative construction method would involve the contractor building the Andora bridge without a shoofly and would allow construction to occur in a shorter time period (1 week to 2 months depending on the type of bridge aesthetics used). Without the shoofly, the UPRR track would need to be shut down during this construction period. This alternative construction method was rejected as infeasible because UPRR would not allow for any extended track shutdown periods. UPRR requires continuous access to this track because it carries both freight and Amtrak passenger trains. Also, UPRR would not identify specific, guaranteed contractor time periods when UPRR would allow work within 25 feet of the track because daily schedules for freight trains vary weekly. In addition, UPRR would not grant permission to detour trains to other UPRR tracks for any duration. For these reasons, this alternative construction approach of accelerated bridge construction was eliminated from consideration and is not evaluated in this document.

2.7 Project Approvals

CEQA (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations Title 14 Section 15000 et seq.) require all state and local government agencies to consider the environmental consequences of projects over which they have discretionary authority before acting on those projects. The City is the project proponent and the state lead agency under CEQA.

The following City approvals are anticipated for the proposed project.

- Certification of EIR—Roseville City Council.
- Project approval—Roseville City Council.

In addition to City approvals, a variety of state and federal agencies would be involved in issuing permits and approvals for the proposed project. Table 2-2 identifies the permits that would likely be required to construct the project.

Table 2-2. Permits and Approvals Needed for the Proposed Project

Agency	Permit/Approval	Status
U.S. Army Corps of Engineers	Clean Water Act Section 404 authorization for fill of waters of the United States and coordination to receive approval to work in the preserve open space area	In Process
U.S. Fish and Wildlife Service	Biological Opinion	In Process
Federal Emergency Management Agency	Conditional Letter of Map Revision/Letter of Map Revision	Not yet initiated
California Department of Fish and Wildlife	Section 1602 of the California Fish and Game Code – Lake or Streambed Alteration Agreement	Not yet initiated
Central Valley Regional Water Quality Control Board	Clean Water Act Section 401 Water Quality Certification	Not yet initiated
State Water Resources Control Board	Clean Water Act Section 402 coverage under the National Pollutant Discharge Elimination System Permit (Order No. 00-06-DWQ)	Not yet initiated
Placer County Air Pollution Control District	Formal notification prior to construction	Not yet initiated
California Department of Transportation (on behalf of Federal Highway Administration)	National Environmental Policy Act Categorical Exclusion	In Process

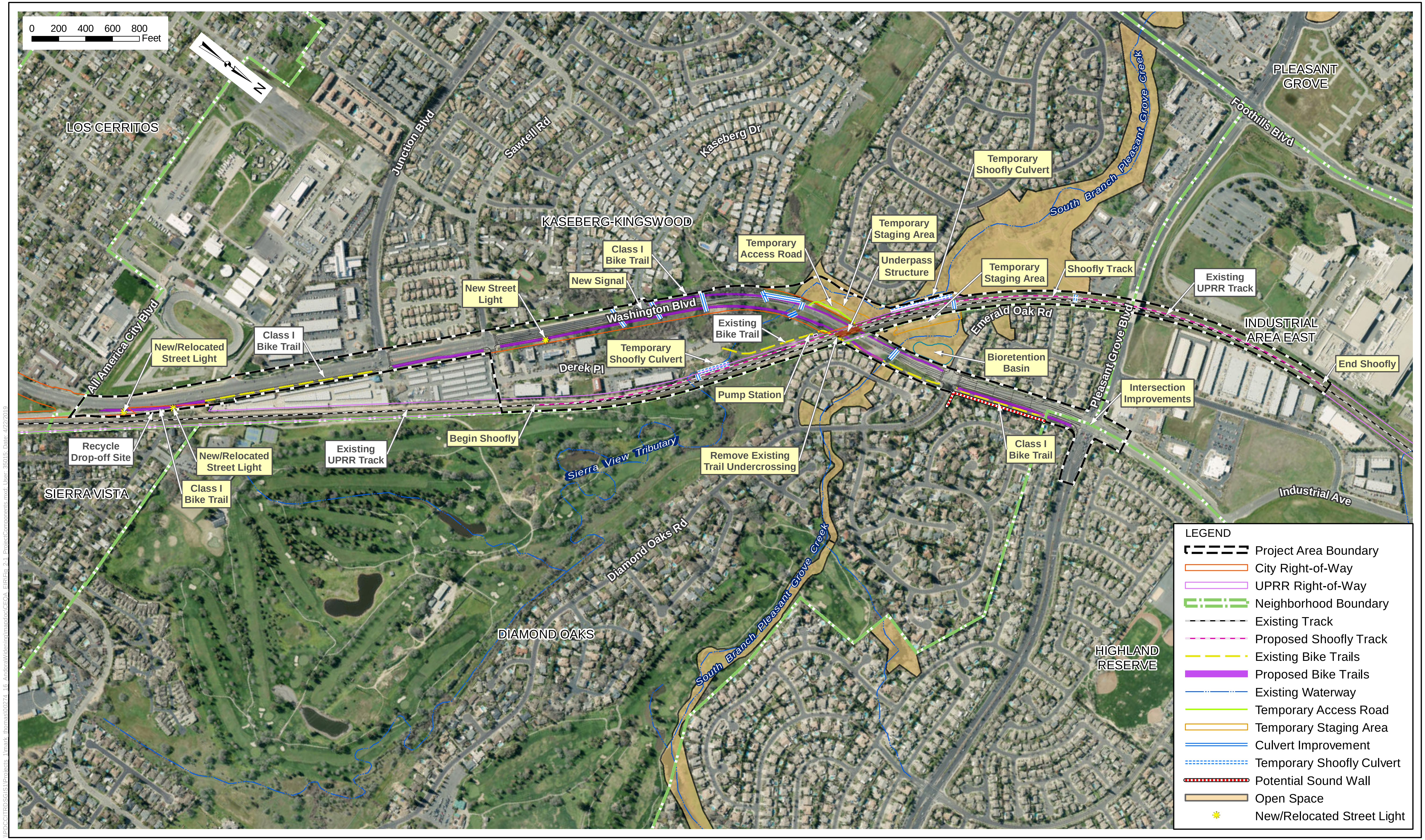
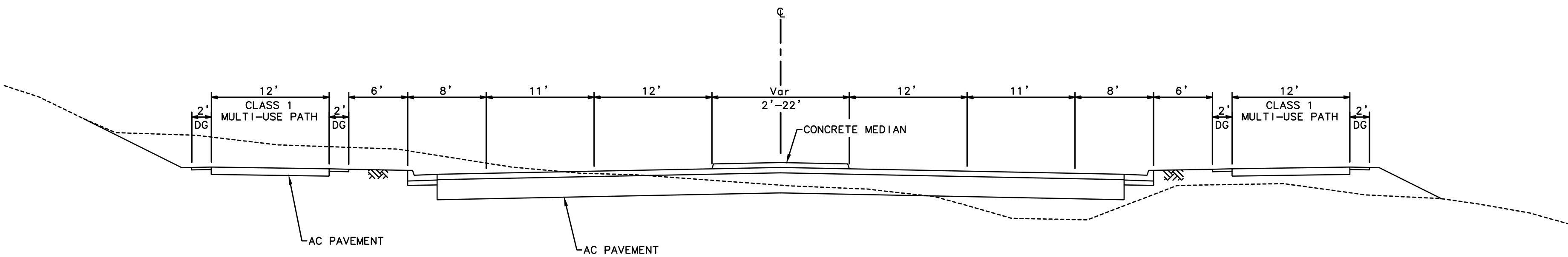


Figure 2-1
Project Components



Source: Mark Thomas 2018.

ICF Graphics ... 00274.16 (6-19-2018)

Figure 2-2
Typical Section

Chapter 3
Impact Analysis

This chapter provides environmental analyses of the physical impacts that could result from implementation of the project. The chapter is organized into separate sections for each resource analyzed, as listed below. Each resource section provides a description of the environmental and regulatory setting, significance criteria and methodology used in the impact analysis, and the potential impacts and required mitigation measures.

This chapter is organized into the following sections.

- 3.1, Aesthetics
- 3.2, Agricultural and Forestry Resources
- 3.3, Air Quality
- 3.4, Biological Resources
- 3.5, Cultural and Tribal Resources
- 3.6, Geology and Soils
- 3.7, Greenhouse Gas Emissions
- 3.8, Hazards and Hazardous Materials
- 3.9, Hydrology and Water Quality
- 3.10, Land Use and Planning
- 3.11, Mineral Resources
- 3.12, Noise
- 3.13, Population and Housing
- 3.14, Public Services
- 3.15, Recreation
- 3.16, Transportation/Traffic
- 3.17, Utilities and Service Systems

Terminology Used in the EIR

This draft EIR uses the following terminology to describe environmental effects of the project.

Less-than-Significant Impact: A project impact is considered less than significant if it would not exceed the threshold of significance and, therefore, would not cause a substantial adverse change in the environment. No mitigation is required for a less-than-significant impact.

Potentially Significant Impact: A potentially significant impact is an environmental effect that may cause a substantial adverse change in the environment; however, additional information is needed regarding the extent of the impact. For CEQA purposes, a potentially significant impact is treated as if it were a significant impact.

Significant Impact: A project impact is considered significant if it would result in a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by the evaluation of project effects in the context of specified thresholds of significance. Where feasible, mitigation measures or project alternatives are identified to reduce these effects on the environment.

Significant and Unavoidable Impact: A project impact is considered significant and unavoidable if it would result in a substantial adverse change in the environment that cannot be feasibly avoided or mitigated to a less-than-significant level if the project is implemented. If a lead agency proposes to approved a project with significant and unavoidable impacts, the agency must adopt a statement of overriding considerations to explain its actions (State CEQA Guidelines Section 15093[b]).

Cumulative impact: Under State CEQA Guidelines Section 15355, "*cumulative impacts* refer to two or more individual effects which, which considered together, are considerable or which compound or increase other environmental impacts." Furthermore, State CEQA Guidelines Section 15130(a) requires that cumulative impacts be discussed when the "project's increment effect is cumulative considerable … [or] … provide a basis for concluding that the incremental effect is not cumulatively considerable."

Mitigation Measures: Mitigation measures are identified, where feasible, to avoid, minimize, rectify, reduce, or compensate for significant or potentially significant impacts of the project, in accordance with State CEQA Guidelines Section 15126.4

Format of the Environmental Analysis

Each section in this chapter begins with a description of the project environmental setting and regulatory setting as they pertain to the particular resource or topic. The environmental setting serves as the baseline, which provides a reference point for assessing the environmental impacts of the proposed project and the alternative, and for determining the significance of those impacts. The setting description in each section is followed by a discussion of impacts and mitigation. The impact and mitigation portion of each section contains impact statements, which are prefaced by a number in boldface type. An explanation of each impact and an analysis of its significance follow each impact statement. All mitigation measures pertinent to each individual impact follow the impact statement and discussion. The degree to which the identified mitigation measures would reduce the impact also is described.

Environmental Setting: This subsection describes the existing environmental conditions on the proposed project site and surrounding area, in accordance with State CEQA Guidelines Section 15125. The discussions of the environmental setting focus on information relevant to the resource topic under evaluation. The extent of the environmental setting area (the project study area) may differ among resources, depending on the nature of the impacts.

For example, air quality impacts are assessed for the air basin, whereas cultural resource impacts are assessed for only the project site.

Regulatory Setting: The subsection presents information on the laws, regulations, plans, and policies that relate to the resource topic. Regulations originating from the local, state, and federal levels are discussed.

Impacts: This subsection identifies the thresholds of significance used to determine the level of significance of the environmental impacts for each resource topic, describes environmental impacts and where significant or potentially significant impacts would result, and presents feasible mitigation measures. Key methods and assumptions used to frame and conduct the impact analysis, as well as issues or potential impacts not discussed further (such issues for which the project would have no impact) also are described.

After extensive engineering and traffic analysis, and review and screening of design concepts, the City identified the proposed project and Alternative 1 as two potential build alternatives that meet the project's purpose and need objectives. The proposed project and Alternative 1 are described in Chapter 2, *Project Description*, and both are analyzed in the Impacts subsection of each resource section in this chapter. Consequently, this EIR provides "project level" CEQA clearance for either the proposed project or Alternative 1.

Project impacts are organized numerically in each section (e.g., Impact AQ-1, Impact AQ-2, Impact AQ-3, and so on). The analysis of each impact begins with an impact summary table. The top of the table identifies the impact number and title in **boldface** type. This is followed by a summary of applicable policies and regulations, the impact significance with application of policies and regulations, recommended mitigation measures, and finally the impact significance after mitigation. An example of this format is shown below.

Impact AQ-1	**Impact title**
Applicable Policies and Regulations	List of applicable policies
Significance with Policies and Regulations	Proposed Project: Potentially Significant Alternative 1: Potentially Significant
Mitigation Measures	Proposed Project and Alternative 1: Mitigation Measure AQ-1.1 : Mitigation measure title Mitigation Measure AQ-1.2: Mitigation measure title
Significance after Mitigation	Proposed Project: Less than Significant with Mitigation Alternative 1: Less than Significant with Mitigation

The discussion that follows the impact summary table contains the substantial evidence supporting the impact analysis and significance conclusion. If necessary, mitigation measures are recommended to reduce potentially significant or significant impacts to less-than-significant levels, as feasible, and the significance of the impact after implementation of mitigation is described. Mitigation measure numbering corresponds to the impact that the measures would address. Unless otherwise stated in the impact summary table or discussion that follows, recommended mitigation measures apply to both project phases.

Proposed Project

The most detailed impact discussion is presented first for the proposed project. Each impact discussion contains substantial evidence supporting the significance conclusion.

Alternative 1

Substantial evidence supporting the impact conclusion for Alternative 1 is presented.

3.1 Aesthetics

This section identifies and evaluates issues related to visual resources in the project area. Section 3.1.2, *Environmental Setting*, describes the current visual setting of the project area to establish the existing environmental context against which the reader can then understand the environmental changes caused by the proposed project. The environmental changes associated with the proposed project are discussed in Section 3.1.3, *Environmental Impacts*, which identifies impacts, describes how they would result, and specifies a mitigation measure to reduce significant impacts.

No comments related to aesthetics were received in response to the Notice of Preparation.

Concepts and Terminology

Identifying a project area's visual resources and conditions involves three steps.

1. Objective identification of the visual features (visual resources) of the landscape.
2. Assessment of the character and quality of those resources relative to overall regional visual character.
3. Determination of the importance to people, or *sensitivity*, of views of visual resources in the landscape.

The aesthetic value of an area is a measure of its visual character and quality, combined with the viewer response to the area (Federal Highway Administration 2015). Visual quality can best be described as the relative worth of a landscape based on the overall impression that an individual viewer retains after driving through, walking through, or flying over an area (U.S. Bureau of Land Management 1984). Viewer response is a combination of viewer exposure and viewer sensitivity. Viewer exposure is a function of the number of viewers, number of views seen, distance of the viewers, and viewing duration. Viewer sensitivity relates to the extent of the public's concern for a particular viewshed. These terms and criteria are described in detail below.

Visual Character

Natural and artificial landscape features contribute to the visual character of an area or view. Visual character is influenced by geologic, hydrologic, botanical, wildlife, recreational, and urban features. Urban features include those associated with landscape settlements and development, including roads, utilities, structures, earthworks, and the results of other human activities. The perception of visual character can vary significantly seasonally, even hourly, as weather, light, shadow, and elements that compose the viewshed change. The basic components used to describe visual character for most visual assessments are the elements of form, line, color, and texture of the landscape features (U.S. Forest Service 1995; Federal Highway Administration 2015). The appearance of the landscape is described in terms of the dominance of each of these components.

Visual Quality

Visual quality is evaluated using the well-established approach to visual analysis adopted by the Federal Highway Administration (FHWA), employing the concepts of vividness, intactness, and unity (Federal Highway Administration 1988; Jones et al. 1975), which are described below.

- Vividness is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns.
- Intactness is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements; this factor can be present in well-kept urban and rural landscapes, and in natural settings.
- Unity is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape.

Visual quality is evaluated based on the relative degree of vividness, intactness, and unity, as modified by its visual sensitivity. High-quality views are highly vivid, relatively intact, and exhibit a high degree of visual unity. Low-quality views lack vividness, are not visually intact, and possess a low degree of visual unity.

Visual Exposure and Sensitivity

The measure of the quality of a view must be tempered by the overall sensitivity of the viewer. Sensitivity levels are a measure of public concern for scenic quality (U.S. Bureau of Land Management 1984). Viewer sensitivity or concern is based on the visibility of resources in the landscape, proximity of viewers to the visual resource, elevation of viewers relative to the visual resource, frequency and duration of views, number of viewers, and types and expectations of individuals and viewer groups.

The importance of a view is related in part to the position of the viewer to the resource; therefore, visibility and visual dominance of landscape elements depend on their placement within the viewshed. A viewshed is defined as all of the surface area visible from a particular location (e.g., an overlook) or sequence of locations (e.g., a roadway or trail) (Federal Highway Administration 1988). To identify the importance of views of a resource, a viewshed must be broken into distance zones of foreground, middle ground, and background. Generally, the closer a resource is to the viewer, the more dominant it is and the greater its importance to the viewer. Although distance zones in a viewshed may vary between different geographic regions or types of terrain, the standard foreground zone is 0.25–0.5 mile from the viewer, the middle ground zone is 3–5 miles from the viewer, and the background zone is from the middle ground zone to infinity (Litton 1968).

Visual sensitivity depends on the number and type of viewers and the frequency and duration of views. Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in relation to the number of viewers and viewing duration. For example, visual sensitivity is generally higher for views seen by people who are driving for pleasure; people engaging in recreational activities such as hiking, biking or camping; and homeowners. Sensitivity tends to be lower for views seen by people driving to and from work or as part of their work (U.S. Forest Service 1995; Federal Highway Administration 1988; U.S. Soil Conservation Service 1978). Commuters and non-recreational travelers generally have fleeting views and tend to focus on commute traffic, not on surrounding scenery; therefore, they are generally considered to have low visual sensitivity. Residential viewers typically have extended viewing periods and are concerned about changes in the views from their homes; therefore, they are generally considered to have high visual sensitivity. Viewers using recreation trails and areas, scenic highways, and scenic overlooks are usually assessed as having high visual sensitivity.

Judgments of visual quality and viewer response must be made in the context of a regional frame of reference (U.S. Soil Conservation Service 1978). The same landform or visual resource appearing in different geographic areas could have a different degree of visual quality and sensitivity in each setting. For example, a small hill may be a significant visual element on a flat landscape but have very little significance in mountainous terrain.

3.1.1 Existing Conditions

Regulatory Setting

This section summarizes federal, state, and local regulations related to aesthetic resources that are applicable to the proposed project.

Federal

There are no federally designated National Scenic Byways in the project vicinity (Federal Highway Administration 2017).

State

The project site is not located near a state scenic highway or other designated scenic corridor (California Department of Transportation 2017).

Local

City's General Plan 2035

The City's General Plan 2035 does not designate any scenic roads or resources (City of Roseville 2016a). The general plan contains the following aesthetics-related policies.

Land Use Element

Community Form Policy 5. Where feasible, improve existing development areas to create better pedestrian and transit accessibility.

Community Design Goal 1. Achieve a consistent level of high quality aesthetic and functional design through the development of, and adherence to, superior design concepts and principles as defined in the Community Design Guidelines.

Community Design Policy 1. Through the design review process, apply design standards that promote the use of high quality building materials, architectural and site designs, landscaping signage, and amenities.

Open Space and Conservation Element

Vegetation and Wildlife Goal 2. Maintain healthy and well-managed habitat areas in conjunction with one another, maximizing the potential for compatible open space, recreation, and visual experiences.

3.1.2 Environmental Setting

Regional Character

The project region lies in the transition zone between the flat Sacramento Valley and the Sierra Nevada and Lake Tahoe region in northern California, in western Placer County. The rolling Sierra Nevada foothills largely comprise the easternmost portion of the region. The westernmost portion of the region primarily consists of agricultural and suburban land uses, with the urban core of Sacramento located in the southwestern portion of the region. The landscape pattern is influenced by development sprawling from existing city cores and the major roadways, such as State Route (SR) 65, SR 70, Interstate 80, U.S. Route 50, SR 99, and Interstate 5. This portion of the county primarily supports agricultural, open space, and developed land uses that are located at the base of the foothills. Urban areas include Lincoln, Roseville, and Rocklin. In addition to numerous creeks and streams, major water bodies in the region that are outside of the immediate project vicinity include Dry Creek, Auburn Ravine, Pleasant Grove Creek, Folsom Lake, and the American River. Sierra View Tributary and South Branch Pleasant Grove Creek run through the project area.

Vicinity Character

The project is within the city of Roseville. The immediate project area is characterized by flat to gently sloping terrain. Development, transportation infrastructure, and mature trees and shrubs prevent distant views of the Sierra Nevada to the east. The land uses within the project corridor are primarily commercial and residential, intermixed with open space. The southern end of the project area is surrounded by commercial development to the east and residential areas to the west. Residential development is present on both sides of Washington Boulevard between the Andora Underpass and Pleasant Grove Boulevard. The Diamond Oaks and Kaseberg-Kingswood neighborhoods are adjacent to the central and northern portions of the project area. There are open space/recreational land uses (e.g., Diamond Oaks Golf Course, Sierra View Country Club, Nelson Park) nearby, as well as open space lands immediately west of the Andora Underpass.

Transportation facilities are a dominant visual feature in the project vicinity and include major roadways such as Washington Boulevard and Pleasant Grove Boulevard, as well the UPRR and the Andora Underpass. A Class I (off-street) bike path along the east side of Washington Boulevard connects Diamond Oaks Road to Derek Place. South Branch Pleasant Grove Creek bisects the project area from east to west.

The project corridor is defined as the area of land that is visible from, adjacent to, and outside the roadway right-of-way (ROW), and is determined by topography, vegetation, and viewing distance. The project vicinity consists of commercial, residential, and open space lands that abut the project area. The majority of the project area along Washington Boulevard is flat except where the road slopes down and passes beneath the Andora

Underpass. The surrounding development, vegetation, transportation facilities, and sloping terrain prevent background views.

Washington Boulevard has street lighting along the west side of the roadway except for the section between the Andora bridge and Diamond Oaks Drive. North of Sawtell Road there is no lighting along the east side of the roadway except for the lighting at the signalized intersections of Washington Boulevard at Pleasant Grove Boulevard and at Diamond Oaks Drive. There is lighting immediately north of the project area. South of Sawtell Road street lighting exists on both sides of Washington Boulevard and at the intersections of Washington Boulevard and Junction, Corporation Yard Road, and All-America City Boulevard. Both the Washington Boulevard tunnel and bike path tunnel under the UPRR line are lit for safety. Other artificial light in the project area comes from interior and outdoor lighting associated with residential and commercial development, parking lot lighting, and vehicle headlights on local streets.

Existing Viewer Groups and Viewer Responses

Existing viewer groups that would be affected by the proposed project include neighbors (people with views to the road), roadway users (people with views from the road), and pedestrians (people walking or biking on the bike paths). It is anticipated that the average response of all viewer groups would be moderately high.

Neighbors

Neighbors consist of suburban residents, employees and patrons at nearby businesses, and people using nearby parks and recreation facilities. Neighbors also include roadway users connecting to the project corridor from local roadways. Residents and business occupants are considered to have high visual sensitivity because although they are accustomed to views of the existing roadway and passing traffic, they generally view the project site for an extended period, are likely to have a high sense of ownership over local views, and are more likely to be affected by changes in the views from their homes or businesses than business patrons or employees. Business patrons and employees are likely to have moderately low visual sensitivity due to their intermittent and limited views of the project area seen while generally more focused on working or visiting the commercial uses. Recreationists are considered to have moderate visual sensitivity because although they tend to highly value views in designated recreation areas and could be exposed to these views for extended periods, their views of the project alignment would be limited.

Roadway Users

Roadway users include local commuters traveling to and from work, shoppers, recreational travelers, and local residents of the neighborhood surrounding Washington Boulevard who travel at speeds ranging from a stop to approximately 45 miles per hour (the posted speed limit). Depending on speed, drivers and passengers are able to take in brief to longer views of the scenery around them. Commuters generally have fleeting views and tend to focus on commute traffic rather than surrounding scenery, while local residents have higher sensitivity to changes in their neighborhood. Therefore, roadway users are considered to have moderately high visual sensitivity.

Pedestrians and Bicyclists

Pedestrians and bicyclists include local residents utilizing the dedicated bike trail, most likely for walking and biking to school, as well as for recreational purposes. Pedestrians and bicyclists are able to take in long views of their surroundings and therefore are considered to have high visual sensitivity.

3.1.3 Environmental Impacts

This section describes the CEQA impact analysis relating to visual resources for the proposed project. It describes the methods used to determine the project's potential impacts and lists the criteria thresholds used to conclude whether an impact would be significant. Because evaluating visual impacts is inherently subjective, federal and professional standards of visual assessment methodology have been used to determine potential impacts on aesthetic values of the project vicinity. A measure to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompanies each impact discussion, where applicable.

Methods for Analysis

Two main variables determine visual impacts: resource change and viewer response. Resource change refers to the evaluation of the visual character and the visual quality of the visual resources that comprise the project corridor before and after construction of a proposed project. Viewer response refers to the response of viewers to changes in their visual environment. Visual impacts are determined by assessing changes to the visual resources and predicting viewer response to those changes.

Using the concepts and terminology described at the beginning of this section, and criteria for determining significance described below, the analysis of the visual effects of the project is based on the following.

- Evaluation of regional and local visual context.
- Review of project construction drawings.
- Review of the proposed project in regard to compliance with state and local ordinances and regulations and professional standards pertaining to visual quality.

This section was prepared using information from the *Visual Impact Assessment* (VIA) technical report prepared for this project (ICF 2017). The VIA assesses potential visual impacts of the proposed project based on guidance outlined in the *Guidelines for the Visual Impact Assessment of Highway Projects* published by the FHWA (Federal Highway Administration 2015).

Determination of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Have a substantial adverse effect on a scenic vista.

- Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings along a scenic highway.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

Impacts and Mitigation Measures

This section describes impacts expected to result from project implementation, and provides a mitigation measure, where applicable. In general, both phases of the proposed project and Alternative 1 (one lane closure during construction) would result in the same types and levels of aesthetic impacts. Alternative 2 (No Project) would not result in any new impacts related to aesthetic resources and is not discussed further in this analysis.

Impact AES-1	**Temporary visual impacts caused by construction activities**
Applicable Policies and Regulations	City of Roseville General Plan Land Use Element, City of Roseville Design and Construction Standards (Resolution 07-137)
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required.
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

There are no scenic vista views or scenic roadways in or near the project area, so there would be no impact on such resources during construction. However, general construction activities, construction staging/stockpiling, the storage of road-widening/building materials, the presence of construction equipment (e.g., graders, excavators, pavers, and compactors), and temporary traffic barricades associated with the proposed project would result in temporary construction impacts by altering the composition of the view available from and to the project corridor.

Construction would be conducted near residences, recreation facilities, and open space lands. There are no homes facing the roadway or construction; however, construction activities would abut fenced and walled backyards along Washington Boulevard in the Diamond Oaks neighborhood and between Emerald Oaks Road and Pleasant Grove Boulevard. Residential rear yard walls also exist on the west side of Washington Boulevard between Junction Boulevard and Sawtell Road. However, in this area, only Class I bike trail construction is proposed, and only on the east side of Washington Boulevard. These and other nearby residents would experience disruptive construction activities near their homes that may evoke a sense of invaded privacy. However, residents generally would not have views of the construction activities, as the homes face away from Washington Boulevard and are separated from the roadway by fences, sound walls and residential landscaping. Because of its elevated location, a limited amount of shoofly construction activity may be visible from second-story windows of residences that directly adjoin the corridor. Recreationists using nearby facilities such as Sierra View Country Club and travelers on bicycle paths could also be affected by construction of the shoofly. During construction, some recreationists, pedestrians, school children, and bicyclists may have intermittent, temporary views of construction equipment and activities.

The two construction staging areas would be north of Washington Boulevard (Figure 2-1). One staging area and temporary access road would be north of the Andora Underpass, where Washington Boulevard and the UPRR tracks intersect. The other staging area would be immediately south of the UPRR tracks between Washington Boulevard and Emerald Oaks Road. Staging areas and access roads would also accommodate temporary construction activities and could be visible from off-site locations.

Construction of the proposed project would last approximately 21 months, including approximately 5 to 6 months of full road closure on Washington Boulevard. Therefore, roadway users would be removed from the project corridor during a good portion of Phase 2 construction, but roadway neighbors with no intervening fencing or screening vegetation would still be able to see construction activities. Roadway neighbors on the detour route would not see construction activities but would see a temporary increase in local traffic along the detour route.

The proposed project would occur in two phases over approximately 21 months. The City's construction standards require contractors maintain clean and orderly construction sites and conduct construction litter control and street sweeping on an as needed basis. In addition, as discussed in Chapter 2, *Project Description,* Section 2.5.7, the project includes Best Management Practices that protect drainage features and vegetation and restrict unnecessary land disturbance such as clearing, grading, and cut and fill.

Temporary road construction and maintenance activities are visible intermittently throughout the City and views of such activities are not uncommon and are consistent with living in an urban setting. Therefore, because construction activities and related traffic are only temporary and subject to oversight by City inspection staff, and because impacts to trees and vegetation that contribute to visual interest would be protected and temporarily disturbed areas restored, temporary visual impacts of construction activities are considered less than significant. No mitigation is required.

<u>Alternative 1</u>

Construction activities associated with Alternative 1 would involve the closure of only one lane of Washington Boulevard and would last approximately 20 months. Alternative 1 would have the same less-than-significant temporary aesthetic impacts as the proposed project with the exception that views from Washington Boulevard travel lanes would continue through all phases of construction. No mitigation is required.

Impact AES-2	**Have a substantial adverse effect on a scenic vista**
Applicable Policies and Regulations	City of Roseville General Plan 2035 Land Use Element
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

<u>Proposed Project</u>

As discussed in Section 3.1.2, *Environmental Setting*, there are no scenic vistas or officially designated scenic roadways within or near the project corridor. Therefore, implementation of the proposed project would not affect scenic vistas or damage scenic resources, such as trees, rock outcroppings, and historic buildings along a scenic highway. There would be no impact. No mitigation is required.

<u>Alternative 1</u>

Alternative 1 would be in the same location and would have the same characteristics as the proposed project. Consequently, Alternative 1 would similarly have no impact on a scenic vista. No mitigation is required.

Impact AES-3	**Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings along a scenic highway**
Applicable Policies and Regulations	City of Roseville General Plan 2035 Land Use Element
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

<u>Proposed Project</u>

There are no roadways within or near the project area that are designated in federal, state, or local plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds (California Department of Transportation 2017). Therefore, implementation of the proposed project would not damage scenic resources, such as trees, rock outcroppings, and historic buildings along a scenic highway. There would be no impact. No mitigation is required.

Alternative 1

Alternative 1 would be in the same location and would have the same characteristics as the proposed project. Consequently, Alternative 1 would similarly have no impact on scenic resources. No mitigation is required.

Impact AES-4	**Substantially degrade the existing visual character or quality of the site and its surroundings**
Applicable Policies and Regulations	City of Roseville General Plan 2035 Land Use Element City of Roseville Design and Construction Standards (Resolution 07-137) City of Roseville Community Design Guidelines (Resolution 95-347)
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None Required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

The proposed project would result in an expanded roadway corridor on Washington Boulevard, removal of several trees, a widened Andora Underpass with a new bridge, and a new raised median separating northbound and southbound traffic. However, grading would be minimal and would not greatly alter the terrain. The corridor would be wider, but the roadway and underpass would retain their form, line, color, and texture consistent with existing conditions. The visual changes would take place within the existing City and UPRR ROW. Further, as described in Section 2.5.7 under *City of Roseville Mitigating Ordinances, Guidelines, and Standards,* the City would implement the City of Roseville Design and Construction Standards (Resolution 07-137) and the Community Design Guidelines (Resolution 95-347) to reduce potential environmental impacts associated with the project. Because the project is in an already developed suburban area and would be implemented in compliance with these standards and guidelines, this conversion would be visually consistent with the surroundings and would not degrade the area’s visual character. The visual character of the proposed project would be compatible with the existing visual character of the project area.

The proposed widened Andora Underpass would have concrete abutments and wingwalls, and would be designed to mimic the appearance of an old style Works Progress Administration bridge. As indicated in Chapter 2, *Project Description*, there is also the potential for incorporating architectural enhancements, color, and features into the concrete façade, including staining the concrete a rock-like color, to provide additional visual interest and character. The superstructure would consist of painted steel girders with painted steel hand railings extending above the track level. The bottom of the structure (soffit) would show the individual steel girders and would not be smooth like a typical concrete highway bridge. These elements would visually enhance the bridge, which is already part of the area's visual character, and would serve to increase the quality of views associated with the bridge. However, if these enhancements are not made, the proposed project would not greatly alter the visual character and quality of the corridor or lands adjacent to the ROW because while the bridge would be wider, it would be made of the same material as the existing bridge and would be of a similar design, resulting in minor visual changes.

Culvert widening and utility relocations would result in minor visual changes while the modifications are occurring. Utilities would be relocated, but their presence would be consistent with existing conditions because utilities comprise an existing visual element within the project corridor. Therefore, their relocation would not alter the character of views of and from the project corridor. Views from the project corridor to the surrounding landscape would be much the same because widening, bridge replacement, and modifications to pedestrian and bicycle access would only result in minor visual changes along the existing corridor, retaining the area's vividness, intactness, and unity. However, the proposed project would increase the paved area and require removal of mature trees, changing the project corridor from a more rural-looking, two-lane roadway to a wider, suburbanized four-lane roadway. This would alter views of and from the project corridor, slightly reducing the project area's overall visual quality.

As described in Chapter 2, a sound wall may be built along Washington Boulevard to reduce noise impacts. In the event that a sound wall is built, the design characteristics, including heights, materials, color and type of barrier or wall, would be determined during final design consistent with adopted City design standards. This would ensure wall aesthetics harmonize with existing walls.

The proposed project could result in some degradation of the existing visual quality of the site and its surroundings, however because it would comply with the City's tree preservation ordinance and applicable design guidelines, the project's aesthetic impact would be less than significant. No mitigation is required.

Alternative 1

Alternative 1 would have the same physical characteristics as the proposed project and therefore would similarly result in a less-than-significant impact. No mitigation is required

Impact AES-5	**Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area**
Applicable Policies and Regulations	City of Roseville General Plan 2035, Land Use Element
Significance with Policies and Regulations	Proposed Project: Potentially Significant Alternative 1: Potentially Significant
Mitigation Measures	Proposed Project and Alternative 1: Mitigation Measure AES-5.1: Minimize Fugitive Light from Portable Sources Used for Construction
Significance after Mitigation	Proposed Project: Significant and Unavoidable Alternative 1: Significant and Unavoidable

Proposed Project

Evening and nighttime construction activities would require the use of bright lights, which could adversely affect roadway users and nighttime views of and from the work area. Nighttime construction could occur when UPRR is relocating the shoofly tracks, and some nighttime lighting would be required at the construction site. This nighttime lighting could result in nuisance light if not properly designed. In addition, street lighting would be added along the east side of the roadway and along the west side between Diamond Oaks and the Andora Underpass as part of the proposed project.

The contractor would typically work during the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday, and 8:00 a.m. to 8:00 p.m. Saturday, Sunday, and holidays. Because project construction would continue for 21 months, some early evening construction activities within these hours could take place after sunset during late fall, winter, and early spring. Restricting construction activities to these hours would therefore limit, but not eliminate, nighttime lighting associated with project construction.

The additional lanes associated with the proposed project would result in a nominal increase in daytime glare by increasing the paved area and removing some of the roadside vegetation that provides shade. However, the pavement would be dark and greatly reduce glare, and roadside vegetation would still be present along the ROW to provide some shade.

The visual impact that would result from the presence of nighttime construction lighting would be significant and unavoidable. Implementation of Mitigation Measure AES-5.1 would reduce this impact, but not to a less-than-significant level.

Mitigation Measure AES-5.1: Minimize Fugitive Light from Portable Sources Used for Construction

At a minimum, the construction contractor will minimize project-related light and glare to the maximum extent feasible, given safety considerations. Color-corrected halide lights will be used. Portable lights will be operated at the lowest allowable wattage while meeting safety requirements and portable lighting will only be raised to a height required to adequately aluminate the work area. All construction lights will be directed downward toward work activities and away from the night sky and particularly residential areas, to the maximum extent possible. The number of nighttime lights used will be minimized to the greatest extent possible.

Alternative 1

Alternative 1 would have the same physical characteristics as the proposed project and therefore would similarly result in a significant and unavoidable impact. Implementation of Mitigation Measures AES-5.1 would reduce this impact, but not to a less-than-significant level.

3.1.4 References Cited

California Department of Transportation. 2017. *List of Eligible and Officially Designated State Scenic Highways*. Available: http://www.dot.ca.gov/design/lap/livability/scenic-highways/index.html. Last updated: March 22, 2017. Accessed: April 5, 2017.

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U.S. Forest Service. 1995. *Landscape Aesthetics: A Handbook for Scenery Management.* Agriculture Handbook Number 701.

U.S. Soil Conservation Service. 1978. *Procedure to Establish Priorities in Landscape Architecture*. Technical Release No. 65. Washington, DC.

3.2 Agricultural and Forestry Resources

This section discusses agricultural and forestry resources in the project area, identifies relevant state and local regulations and policies, and discusses potential impacts of the proposed project on agricultural and forestry resources.

No comments related to agriculture and forestry resources were received in response to the Notice of Preparation for this EIR.

3.2.1 Existing Conditions

Regulatory Setting

State

Department of Conservation Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) is a non-regulatory program that produces maps and statistical data for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status. Land rated as Prime Farmland has the soil characteristics, growing season, and moisture supply necessary for sustained high yields. Farmland of Statewide Importance is similar to Prime Farmland but with minor shortcomings, such as steeper slopes or less ability to store soil moisture than Prime Farmland has. Unique Farmland is of lesser soil quality. Grazing Land supports vegetation suitable for livestock grazing (California Department of Conservation 2004:6). The FMMP also recognizes Farmland of Local Importance, which is designated by a county board of supervisors.

City General Plan 2035

The City's *General Plan 2035* serves as Roseville's long-term guide for physical, economic, and environmental growth; however, it contains no policies regarding agriculture (City of Roseville 2016:V-2). The City's *General Plan 2035* designates lands in and adjacent to the project area for light industrial, community commercial, business professional, parks and recreation, open space, low-density residential, and high-density residential uses (City of Roseville 2017).

Environmental Setting

Much of the project area consists of right-of-way for roadways or UPRR tracks. The southern end of the project area, south of Sawtell Road to All-America City Boulevard, is limited to existing Washington Boulevard right-of-way along the east side of the road. This portion of the project site is bordered by existing Washington Boulevard followed by residential, commercial and fairground uses to the west, and self-storage and railroad uses to the east. North of Sawtell the site is bordered by commercial development and the Sierra View Country Club to the east and residential land uses to the west. The Diamond Oaks and Kaseberg-Kingswood neighborhoods are adjacent to the central and northern portions of the project area. City General Open Space lands occupy the area immediately west of the Andora Underpass. Residential development is located east of Washington Boulevard from the Andora Underpass to Diamond Oaks Road, and on both sides of Washington Boulevard from Diamond Oaks/Emerald Oaks Roads to Pleasant Grove Boulevard. An existing off-street bicycle path along the east side of Washington Boulevard connects Diamond Oaks Road to Derek Place. Open space and undeveloped lands in and around the project area contain mature trees, wildlife habitat, and urban landscaping, but no agricultural or timber uses.

The FMMP designates the project area as Urban and Built Up Land, which means the land is occupied by structures and does not support agriculture (California Department of Conservation 2017). The FMMP has not identified any agricultural land in the project vicinity.

There is no land in or near the project area that is designated for agricultural use or timber production under the General Plan. Urban Reserve is the only general plan designation in which agriculture is a primary use, and no Urban Reserve lands are near the project area.

3.2.2 Environmental Impacts

This section describes the environmental impacts of the proposed project on agricultural and forestry resources. This section also describes the methods used to evaluate the impacts and the thresholds used to determine whether an impact would be significant.

Methods for Analysis

This analysis addresses the project’s potential adverse impacts on the natural and built physical environment. Existing conditions serve as the baseline for measuring the project’s potential impacts on agricultural and forest resources.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use.
- Conflict with existing zoning for agricultural use or a Williamson Act contract.
- 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)).
- Result in the loss of forest land or conversion of forest land to non-forest use.
- Involve other changes in the existing environment that, 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

Impacts and Mitigation Measures

In general, both phases of the proposed project and Alternative 1 (one lane closure during construction) would result in the same impacts on agricultural and forestry resources. Alternative 2 (No Project) would not result in any impacts on agricultural and forestry resources and is not discussed further in this section.

Impact AG-1	**Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use**
Applicable Policies and Regulations	California Land Conservation Act of 1965 (Williamson Act) Farmland Security Zone provisions in California Government Code City of Roseville General Plan 2035, Land Use and Conservation and Open Space Elements City of Roseville Zoning Ordinance (allowed uses)
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

The FMMP designates the project area and surrounding area as Urban and Built Up Land. There is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance in the vicinity of the project area (California Department of Conservation 2017). Thus, the project would not convert farmland to non-agricultural use. There would be no impact and no mitigation is required.

Alternative 1

Alternative 1 would occupy the same location as the proposed project. Therefore, it would not convert farmland and would have no impact. No mitigation is required.

Impact AG-2	Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract
Applicable Policies and Regulations	California Land Conservation Act of 1965 (Williamson Act) City of Roseville General Plan 2035, Land Use and Conservation and Open Space Elements City of Roseville Zoning Ordinance (Title 19 of the Roseville Municipal Code)
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

Parcels in and adjacent to the project area are designated for light industrial, community commercial, business professional, parks and recreation, open space, and residential uses (City of Roseville 2017). No land near the project area is zoned for agricultural use, nor is any land under a Williamson Act contract. Thus, the project would not conflict with agricultural zoning or a Williamson Act contract. There would be no impact and no mitigation is required.

Alternative 1

Alternative 1 would occupy the same location as the proposed project. Therefore, it would not conflict with an agricultural use or a Williamson Act contract, and would have no impact. No mitigation is required.

Impact AG-3	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])
Applicable Policies and Regulations	California Public Resources Code Sections 12220(g) and 4526 California Government Code Section 51104(g) City of Roseville Zoning Ordinance (Title 19 of the Roseville Municipal Code)
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

Parcels in and adjacent to the project area are designated for light industrial, community commercial, business professional, parks and recreation, open space, and residential uses (City of Roseville 2017). No land near the project area is zoned as forest land or for timber production. Thus, the project would not conflict with any forest or timber zoning. There would be no impact and no mitigation is required.

Alternative 1

Alternative 1 would occupy the same location as the proposed project. Therefore, it would similarly have no impact and no mitigation is required.

Impact AG-4	**Result in the loss of forest land or conversion of forest land to non-forest use**
Applicable Policies and Regulations	California Public Resources Code Sections 12220(g) and 4526 California Government Code Section 51104(g) City of Roseville Zoning Ordinance (Title 19 of the Roseville Municipal Code) City of Roseville General Plan 2035, Land Use and Open Space and Conservation Elements
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

The project would be constructed on existing roadway and UPRR right-of-way and in open space. There is no forest land near the project area. Thus, the project would not result in loss of forest land or conversion to non-forest use. There would be no impact and no mitigation is required.

Alternative 1

Alternative 1 would occupy the same location as the proposed project. Therefore, it would similarly have no impact and no mitigation is required.

Impact AG-5	**Involve other changes in the existing environment that, 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 (no impact)**
Applicable Policies and Regulations	City of Roseville Zoning Ordinance (Title 19 of the Roseville Municipal Code) City of Roseville General Plan 2035, Land Use and Open Space and Conservation Elements
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

The proposed project would involve widening a two-lane section of Washington Boulevard to four lanes and replacing the Andora Underpass. The project is intended to improve vehicular and pedestrian circulation in the area, which is already urban and contains no agricultural or forest uses. The project would not result in conversion of farmland or forest land to other uses. There would be no impact and no mitigation is required.

Alternative 1

Alternative 1 would occupy the same location as the proposed project. Therefore, it would similarly have no impact and no mitigation is required.

3.2.3 References Cited

California Department of Conservation. 2004. *A Guide to the Farmland Mapping and Monitoring Program*. 2004 Edition. Division of Land Resource Protection. Sacramento, CA.

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City of Roseville. 2016. *General Plan 2035*, *Open Space and Conservation Element*. Adopted June 15, 2016.

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3.3 Air Quality

This section describes the regulatory and environmental setting for air quality near the proposed project. This section also describes the impacts on air quality that would result from implementation of the project. This section is based in part on the following technical studies: *Washington Boulevard/Andora Bridge Improvement Project Air Quality Conformity Analysis* (California Department of Transportation 2017a) and *Washington Boulevard/ Andora Bridge Improvement Project Air Quality Study Report* (California Department of Transportation 2017b). Greenhouse gas emissions are discussed separately in Section 3.7, *Greenhouse Gas Emissions*.

The Placer County Air Pollution Control District (PCAPCD) submitted a comment letter in response to the Notice of Preparation for this EIR with respect to usage of the PCAPCD *CEQA Air Quality Handbook* (Handbook) to assist with recommended analytical approaches and feasible mitigation measures when preparing air quality analyses for land use projects. This letter was dated October 14, 2016. In October 2016, PCAPCD adopted updated significance thresholds; and, in June 2017, PCAPCD released a draft 2017 update of the District's Handbook which was subsequently approved by the PCAPCD Board in August 2017. The method of analysis contained in this section for short-term construction, long-term regional (operational), local mobile-source, and toxic air emissions is consistent with PCAPCD recommendations in the updated August 2017 Handbook.

An individual comment was also received related to potential impacts resulting from increased train traffic and vehicle volumes at specific roadway intersections. Implementation of the proposed project would not affect the frequency or number of long-term trains operating on the existing UPRR line. Accordingly, there would no change in operational locomotive emissions. Temporary air quality impacts associated with the temporary railroad detour (i.e., shoofly) are assessed in this section. Similarly, the chapter evaluates localized carbon monoxide (CO) concentrations at selected intersections from changes in vehicle volumes in the project area.

3.3.1 Existing Conditions

Regulatory Setting

Relevant regulatory agencies for criteria pollutant emissions include the U.S. Environmental Protection Agency (EPA), California Air Resources Board (CARB), and PCAPCD. EPA has established federal air quality standards for which CARB and PCAPCD have primary implementation responsibility. CARB has established state air quality standards, and CARB and PCAPCD are responsible for ensuring that state air quality standards are met. This section summarizes federal, state, regional, and local regulations related to air quality and applicable to the proposed project.

Federal Regulations

Clean Air Act and Ambient Air Quality Standards

The federal Clean Air Act (CAA), promulgated in 1963 and amended several times thereafter, including the 1990 amendments, establishes the framework for modern air pollution control in the United States. CAA directs EPA to establish federal air quality standards, known as National Ambient Air Quality Standards (NAAQS), and specifies future dates for achieving compliance. EPA has set NAAQS for six “criteria” pollutants: ozone, CO, particulate matter (PM) of 10 microns in diameter and smaller (PM10) and 2.5 microns in diameter and smaller (PM2.5), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and lead (Pb). NAAQS are divided into primary and secondary standards; the former are set to protect human health with an adequate margin of safety, the latter to protect environmental values, such as plant and animal life.

Table 3.3-1 summarizes NAAQS currently in effect for each criteria pollutant. The California ambient air quality standards (CAAQS) (discussed below) are also provided for reference.

Table 3.3-1. Federal and State Ambient Air Quality Standards

Criteria Pollutant	Averaging Time	California Standards	National Standards[a]	
			Primary	Secondary
Ozone	1-hour	0.09 ppm	None[b]	None[b]
	8–hour	0.070 ppm	0.070 ppm	0.070 ppm
Particulate Matter (PM10)	24-hour	50 μg/m	150 μg/m	150 μg/m
	Annual mean	20 μg/m	None	None
Fine Particulate Matter (PM2.5)	24-hour	None	35 μg/m	35 μg/m
	Annual mean	12 μg/m	12.0 μg/m	15.0 μg/m
Carbon Monoxide	8-hour	9.0 ppm	9 ppm	None
	1-hour	20 ppm	35 ppm	None
Nitrogen Dioxide	Annual mean	0.030 ppm	0.053 ppm	0.053 ppm
	1-hour	0.18 ppm	0.100 ppm	None
Sulfur Dioxide	Annual mean	None	0.030 ppm[c]	None
	24-hour[c]	0.04 ppm	0.14 ppm[c]	None
	3-hour	None	None	0.5 ppm
	1-hour	0.25 ppm	0.075 ppm	None
Lead	30-day Average	1.5 μg/m	None	None
	Calendar quarter	None	1.5 μg/m	1.5 μg/m
	3-month average	None	0.15 μg/m	0.15 μg/m
Sulfates	24-hour	25 μg/m	None	None
Visibility Reducing Particles	8-hour	–[d]	None	None
Hydrogen Sulfide	1-hour	0.03 ppm	None	None
Vinyl Chloride	24-hour	0.01 ppm	None	None

Source: California Air Resources Board 2016

$\mu g/m^3$ = micrograms per cubic meter
ppm = parts per million

[a] National standards are divided into primary and secondary standards. Primary standards are intended to protect public health, whereas secondary standards are intended to protect public welfare and the environment.

[b] The federal 1-hour standard of 12 parts per 100 million was in effect from 1979 through June 15, 2005. The revoked standard is referenced because it was employed for such a long period and is a benchmark for State Implementation Plans.

[c] The annual and 24-hour National Ambient Air Quality Standards for sulfur dioxide apply only for 1 year after designation of the new 1-hour standard to those areas that were previously nonattainment for 24-hour and annual National Ambient Air Quality Standards.

[d] California Ambient Air Quality Standards for visibility-reducing particles is defined by an extinction coefficient of 0.23 per kilometer – visibility of 10 miles or more due to particles when relative humidity is less than 70%.

State Regulations

California Clean Air Act and Ambient Air Quality Standards

In 1988, the state legislature adopted the California CAA, which established a statewide air pollution control program. The California CAA requires all air districts in the state to endeavor to meet CAAQS by the earliest practical date. Unlike the federal CAA, the California CAA does not set precise attainment deadlines. Instead, the California CAA establishes increasingly stringent requirements for areas that will require more time to achieve the standards. CAAQS are generally more stringent than NAAQS and incorporate additional standards for sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride. CAAQS and NAAQS are listed together in Table 3.3-1.

CARB and local air districts bear responsibility for achieving California's air quality standards, which are to be achieved through district-level air quality management plans to be incorporated into the State Implementation Plan (SIP). In California, EPA has delegated authority to prepare SIPs to CARB, which, in turn, has delegated that authority to individual air districts. CARB traditionally has established state air quality standards, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and approving SIPs.

The California CAA substantially adds to the authority and responsibilities of air districts. The California CAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The California CAA also emphasizes the control of "indirect and area-wide sources" of air pollutant emissions. An indirect source is a facility or land use that attracts or generates motor vehicle traffic. The California CAA gives local air pollution control districts explicit authority to regulate indirect sources of air pollution and to establish traffic control measures.

State Tailpipe Emission Standards

CARB established a series of increasingly strict emission standards for new off-road diesel equipment, on-road diesel trucks, and harbor craft. Construction equipment used for the proposed project, including heavy duty trucks and off-road construction equipment, will be required to comply with the standards applicable to the model year of manufacture.

Toxic Air Contaminant Regulation

California regulates toxic air contaminants (TACs) primarily through the Toxic Air Contaminant Identification and Control Act (Tanner Act) and the Air Toxics "Hot Spots" Information and Assessment Act of 1987. In the early 1980s, CARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Tanner Act created California's program to reduce exposure to air toxics. The Hot Spots Act supplements the Tanner Act by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks.

In August 1998, CARB identified diesel particulate matter (DPM) from diesel-fueled engines as TACs. In September 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. The goal of the plan is to reduce DPM (respirable particulate matter) emissions and the associated health risk by 75% in 2010 and by 85% by 2020. The plan identifies 14 measures that CARB will implement over the next several years.

Regional/Local Regulations

Placer County Air Pollution Control District

PCAPCD has local air quality jurisdiction in Placer County but does not have land use jurisdiction or jurisdiction over mobile sources. Responsibilities of the air district include overseeing stationary-source emissions, approving permits, maintaining emissions inventories, maintaining air quality monitoring stations, overseeing agricultural burning permits, and reviewing air quality–related sections of environmental documents required by CEQA. PCAPCD is also responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws and for ensuring that NAAQS and CAAQS are met.

PCAPCD manages air quality through a comprehensive program that includes long-term planning, regulations, incentives for technical innovation, education, and community outreach. For example, the *Sacramento Regional 8-Hour Attainment and Reasonable Further Progress Plan* (Ozone Plan) outlines strategies to achieve the federal ozone standard throughout the entire nonattainment area of the Sacramento Valley Air Basin (SVAB) (Sacramento Metropolitan Air Quality Management District et al. 2017). PCAPCD has also adopted thresholds to assist lead agencies in evaluating the significance of air quality impacts in CEQA documents (Placer County Air Pollution Control District 2017).

The proposed project may be subject to the following district rules (Placer County Air Pollution Control District 2018). This list of rules may not be complete because additional PCAPCD rules may apply to the project as specific components are identified.

- **Rule 202, Visible Emissions**. This rule restricts emissions darker than No. 1 on the Ringlemann Chart to less than 3 minutes in any 1 hour.
- **Rule 205, Nuisance**. This rule restricts emissions of air contaminants that cause injury, detriment, nuisance or annoyance to any considerable number of persons.
- **Rule 217, Cutback and Emulsified Asphalt Paving Materials**. This rule restricts emissions of reactive organic gases (ROG) caused by the use or manufacture of cutback or emulsified asphalts for paving, road construction or road maintenance.
- **Rule 228, Fugitive Dust**. This rule requires actions to prevent, reduce, or mitigate fugitive dust emissions.

Sacramento Area Council of Governments

The Sacramento Area Council of Governments (SACOG) is the Metropolitan Planning Organization (MPO) for six-county Sacramento Region, which includes Placer County. SACOG prepares Regional Transportation Plans (RTPs, also known as MTPs) and Federal Transportation Improvement Programs (FTIPs, also known as MTIPs) that include all of the transportation projects planned for the region. SACOG and the Federal Highway Administration (FHWA) determine whether MTPs and MTIPs conform to SIP goals for achieving the CAA requirements (discussed above). SACOG's currently conforming MTP and MTIP are the *2016 Metropolitan Transportation Plan/Sustainable Communities Strategy*

(MTP/SCS)[1] and *2019–2022 Metropolitan Transportation Improvement Program* (MTIP) (Sacramento Area Council of Governments 2016, 2018).

Environmental Setting

This section describes the environmental setting related to air quality. The study area for air quality consists of the SVAB; the project footprint plus 1,000 feet along affected roadways; and all affected intersections projected to operate at level of service (LOS) E or F.

Local Meteorological Conditions

California is divided into 15 air basins based on geographic features that create distinctive regional climates. Ambient air quality in each air basin is affected by these climatological conditions, as well as topography and the types and amounts of pollutants emitted. The project is in Placer County, California, which spans three air basins; however, the project limits are entirely in the SVAB. The SVAB consists of Sacramento, Shasta, Tehama, Butte, Glenn, Colusa, Sutter, Yuba, and Yolo Counties, as well as parts of Solano and Placer Counties. The SVAB is bounded on the west by the Coast Ranges and on the north and east by the Cascade Range and Sierra Nevada. The San Joaquin Valley Air Basin lies to the south.

The SVAB has a Mediterranean climate characterized by hot, dry summers and cool, rainy winters. During the winter, the North Pacific storm track intermittently dominates valley weather, and fair weather alternates with periods of extensive clouds and precipitation. Also characteristic of winter weather in the SVAB are periods of dense and persistent low-level fog that is most prevalent between storms. The frequency and persistence of heavy fog in the SVAB diminishes with the approach of spring. The average yearly temperature range for the Sacramento Valley is between 20 and 115° F, with summer high temperatures often exceeding 90°F and winter low temperatures occasionally dropping below freezing.

Incoming airflow strength varies daily with a pronounced diurnal cycle. As shown in Figure 3.3-1, the predominant wind direction in the region is from the southeast, based on meteorological data from the North Sunrise Boulevard monitoring station (California Air Resources Board 2003). Influx strength is weakest in the morning and increases in the evening hours. Associated with the influx of air through the Carquinez Strait is the Schultz Eddy. The Schultz Eddy is an eddy formed when mountains on the valley's western side divert incoming marine air. The eddy contributes to the formation of a low-level southerly jet between 500 and 1,000 feet above the surface that is capable of speeds in excess of 35 miles per hour (mph). This jet is important for air quality in the Sacramento Valley because of its ability to transport air pollutants over large distances.

The SVAB's climate and topography contribute to the formation and transport of photochemical pollutants throughout the region. The region experiences temperature inversions that limit atmospheric mixing and trap pollutants; high pollutant concentrations result near the ground surface. Generally, the lower the inversion base height from the ground and the greater the temperature increase from base to top, the more pronounced the

[1] SACOG is currently working on the 2020 MTP/SCS, which is expected to be released for public review in fall 2019 and adopted in early 2020.

inhibiting effect of the inversion will be on pollutant dispersion. Consequently, the highest concentrations of photochemical pollutants occur from late spring to early fall when photochemical reactions are greatest because of intensifying sunlight and lowering altitude of daytime inversion layers. Surface inversions (those at altitudes of 0 to 500 feet above sea level) are most frequent during winter, and subsidence inversions (those at 1,000 to 2,000 feet above sea level) are most common in the summer.

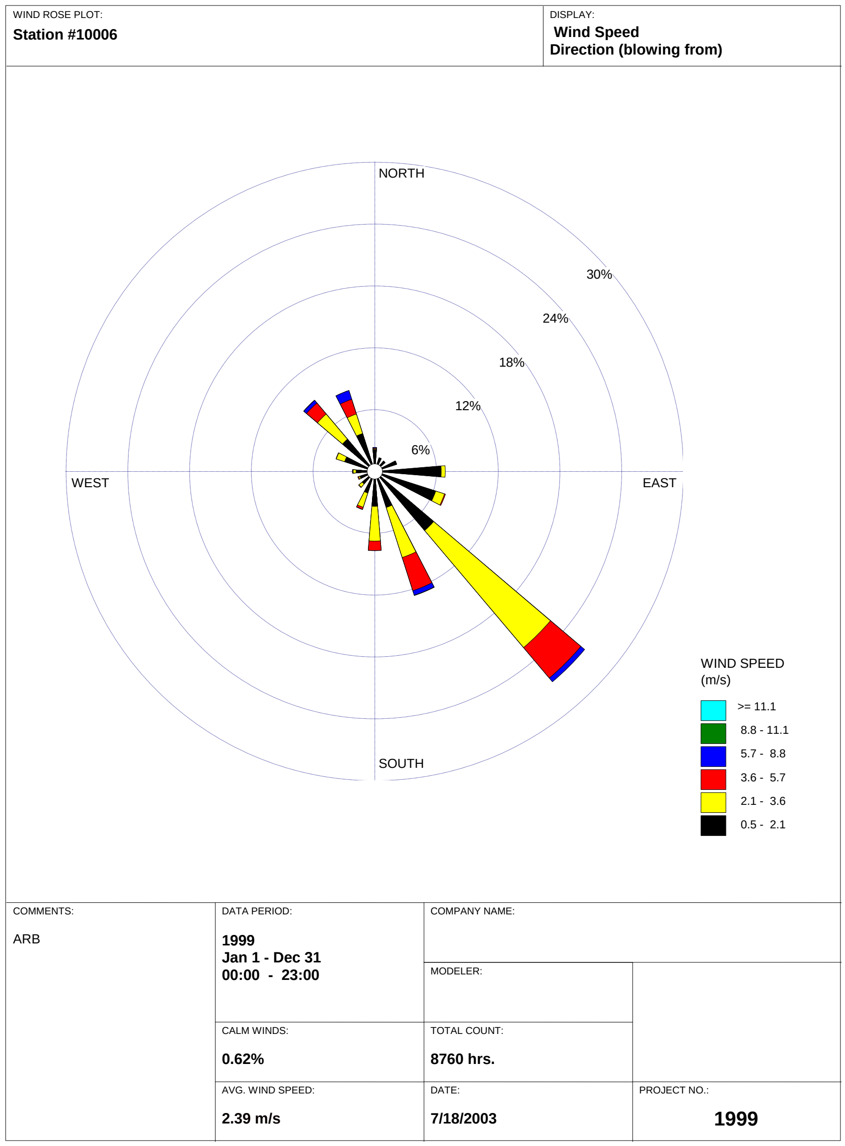

Figure 3.3-1. Wind Rose Plot—Roseville North Sunrise

Pollutants of Concern

Criteria Air Pollutants

As discussed above, the federal and state governments have established NAAQS and CAAQS, respectively, for six criteria pollutants. Ozone is considered a regional pollutant because its precursors combine to affect air quality on a regional scale. Pollutants such as CO, NO_2, SO_2, and Pb are considered local pollutants that tend to accumulate in the air locally. PM is both a local and a regional pollutant. The primary criteria pollutants of concern generated by the project are ozone precursors (ROG and nitrogen oxides [NO_X]), CO, and PM.[2, 3]

All criteria pollutants can have human health and environmental effects at certain concentrations. The ambient air quality standards for these pollutants (Table 3.3-1) are set to protect public health and the environment within an adequate margin of safety (CAA Section 109). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants, and form the scientific basis for new and revised ambient air quality standards.

Principal characteristics and possible health and environmental effects from exposure to the primary criteria pollutants generated by the project are discussed below.

Ozone, or smog, is a photochemical oxidant that is formed when ROG and NO_X (both by-products of the internal combustion engine) react with sunlight. ROG are compounds made up primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Other sources of ROG are emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. The two major forms of NO_X are nitric oxide (NO) and NO_2. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown irritating gas formed by the combination of NO and oxygen. In addition to serving as an integral participant in ozone formation, NO_X also directly acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens.

Ozone poses a higher risk to those who already suffer from respiratory diseases (e.g., asthma), children, older adults, and people who are active outdoor. Exposure to ozone at certain concentrations can make breathing more difficult, cause shortness of breath and coughing, inflame and damage the airways, aggregate lung diseases, increase the frequency of asthma attacks, and cause chronic obstructive pulmonary disease. Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. Environmental Protection Agency 2019a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50% decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggests that sensitive

[2] As discussed above, there are also ambient air quality standards for SO_2, Pb, sulfates, hydrogen sulfide, vinyl chloride, and visibility particulates. However, these pollutants are typically associated with industrial sources, which are not included as part of the project. Accordingly, they are not evaluated further.

[3] Most emission of NOx are in the form of NO. Conversion to NO_2 occurs in the atmosphere as pollutants disperse downwind. Accordingly, NO_2 is not considered a local pollutant of concern for the proposed project and is not evaluated further.

populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 parts per billion (U.S. Environmental Protection Agency 2019b).

In addition to human health effect, ozone has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. Ozone can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials.

Carbon Monoxide is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. In the study area, high CO levels are of greatest concern during the winter, when periods of light winds combine with the formation of ground-level temperature inversions from evening through early morning. These conditions trap pollutants near the ground, reducing the dispersion of vehicle emissions. Moreover, motor vehicles exhibit increased CO emission rates at low air temperatures. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation. Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects of ambient CO (California Air Resources Board 2019a).

Particulate Matter consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of particulates are now generally considered: respirable particles with an aerodynamic diameter of 10 micrometers or less, or PM10, and fine particles with an aerodynamic diameter of 2.5 micrometers or less, or PM2.5. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind on arid landscapes also contributes substantially to local particulate loading.

Particulate pollution can be transported over long distances and may adversely affect humans, especially people who are naturally sensitive or susceptible to breathing problems. Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease. Other symptoms of exposure may include nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lunch function, and increased respiratory symptoms. In 2008, CARB estimated that annual PM2.5 emissions for the entire Sacramento Metropolitan Area[4] causes 90 premature deaths, 20 hospital admissions, 1,200 asthma and lower respiratory symptom cases, 110 acute bronchitis cases, 7,900 lost work days, and 42,000 minor restricted activity days (Sacramento Metropolitan Air Quality Management District 2013). Depending on its composition, both PM10 and PM2.5 can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. Environmental Protection Agency 2019c).

Toxic Air Contaminants/Mobile Source Air Toxics

Although NAAQS and CAAQS have been established for criteria pollutants, no ambient standards exist for TACs. A TAC is defined by California law as an air pollutant that “may

[4] Sacramento Metropolitan Area includes: El Dorado, Sacramento, Yolo counties and portions of Placer and Solano counties.

cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health." The primary TACs of concern associated with the project are asbestos and certain mobile source air toxics (MSAT), including DPM.

Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (proper rock name serpentinite) and often contains chrysotile asbestos. Another form of asbestos, tremolite, can also be found associated with ultramafic rock, particularly near faults. Sources of asbestos emissions include: unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present. Naturally occurring asbestos (NOA) is present in approximately 44 of California's 58 counties.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos-bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed.

Asbestos can result in a human health hazard when airborne. The inhalation of asbestos fibers into the lungs can result in a variety of adverse health effects, including inflammation of the lungs, respiratory ailments (such as asbestosis, which is scarring of lung tissue that results in constricted breathing), and cancer (such as lung cancer and mesothelioma, which is cancer of the linings of the lungs and abdomen).

MSATs are a group of 93 compounds emitted from mobile sources that are regulated under EPA's 2007 Rule on the Control of Hazardous Air Pollutants from Mobile Sources. The EPA has further identified nine compounds with significant contributions from mobile sources that are among the national- and regional-scale cancer risk drivers. These are acrolein, benzene, 1,3-butadiene, acetaldehyde, DPM, ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. CARB estimates that DPM emissions are responsible for about 70% of the total ambient air toxics risk in California (California Air Resources Board 2019b). Short-term exposure to DPM can cause acute irritation (e.g., eye, throat, and bronchial), neurophysiological symptoms (e.g., lightheadedness and nausea), and respiratory symptoms (e.g., cough and phlegm). The EPA has determined that diesel exhaust is "likely to be carcinogenic to humans by inhalation" (United States Environmental Protection Agency 2002).

Existing Air Quality Conditions

Local Monitoring Data

Several ambient air quality monitoring stations are located in PCAPCD to monitor progress toward air quality standards attainment of NAAQS and CAAQS (Table 3.3-1). The nearest air quality monitoring station in the project vicinity that reported pollutant concentrations between 2015 and 2017 is the North Sunrise Boulevard monitoring station at 151 North Sunrise Avenue in Roseville, which is approximately 2.5 miles south of the project. The North Sunrise Boulevard station monitors for ozone (O_3), NO_2, PM10, and PM2.5. Because there are no monitors for CO in Placer County, monitoring data for CO was taken from the nearest monitoring station, located at North Highlands-Blackfoot Way in Sacramento County (7 miles southwest of the project).

Air quality monitoring data from the North Sunrise Boulevard and North Highlands-Blackfoot Way monitoring stations are summarized in Table 3.3-2. These data represent air quality monitoring data for the last 3 years in which complete data are available (2015 through 2017).

Table 3.3-2. Ambient Air Quality Monitoring Data Measured at the Roseville-North Sunrise Boulevard and North Highlands-Blackfoot Way Sacramento Monitoring Stations

Pollutant Standards	2015	2016	2017
Ozone (O_3) (Roseville-North Sunrise Boulevard)			
Maximum 1-hour concentration (ppm)	0.098	0.115	0.117
Maximum 8-hour concentration (ppm)	0.084	0.092	0.088
Number of days standard exceeded[a]			
CAAQS 1-hour (>0.09 ppm)	1	5	4
CAAQS and NAAQS 8-hour (>0.070 ppm)	6	21	10
Nitrogen Dioxide (NO_2) (Roseville-North Sunrise Boulevard)			
State maximum 1-hour concentration (ppb)	50	50	52
State second-highest 1-hour concentration (ppb)	49	43	51
Annual average concentration (ppb)	8	8	7
Number of days standard exceeded[a]			
CAAQS 1-hour (0.18 ppm)	0	0	0
Carbon Monoxide (CO) (North Highlands-Blackfoot Way)			
Maximum 8-hour concentration (ppm)	1.3	1.6	1.3
Maximum 1-hour concentration (ppm)	2.1	2.3	1.6
Number of days standard exceeded[a]			
NAAQS 8-hour (≥9 ppm)	0	0	0
CAAQS 8-hour (≥9.0 ppm)	0	0	0
NAAQS 1-hour (≥35 ppm)	0	0	0
CAAQS 1-hour (≥20 ppm)	0	0	0
Particulate Matter (PM10) (Roseville-North Sunrise Boulevard)			
National[c] maximum 24-hour concentration (μg/m^3)	35.7	39.2	66.0
National[c] second-highest 24-hour concentration (μg/m^3)	24.4	38.9	64.8
State[d] maximum 24-hour concentration (μg/m^3)	59.1	39.1	65.8
State[d] second-highest 24-hour concentration (μg/m^3)	43.1	38.9	63.9
National annual average concentration (μg/m^3)	13.0	15.7	16.4
State annual average concentration (μg/m^3)[e]	*	*	*

Pollutant Standards	2015	2016	2017
Number of days standard exceeded[a]			
NAAQS 24-hour (>150 $\mu g/m^3$)[f]	0	0	0
CAAQS 24-hour (>50 $\mu g/m^3$)[f]	1	0	5
Particulate Matter (PM2.5) (Roseville-North Sunrise Boulevard)			
National[c] maximum 24-hour concentration ($\mu g/m^3$)	29.1	21.2	27.8
National[c] second-highest 24-hour concentration ($\mu g/m^3$)	20.1	20.2	17.4
State[d] maximum 24-hour concentration ($\mu g/m^3$)	44.1	24.4	28.8
State[d] second-highest 24-hour concentration ($\mu g/m^3$)	37.7	23.1	28.2
National annual average concentration ($\mu g/m^3$)	8.0	6.8	7.2
State annual average concentration ($\mu g/m^3$)[e]	8.1	6.9	7.4
Number of days standard exceeded[a]			
NAAQS 24-hour (>35 $\mu g/m^3$)	0	0	0

Sources: California Air Resources Board 2019c; U.S. Environmental Protection Agency 2019d.

ppm = parts per million
ppb = parts per billion
NAAQS = National Ambient Air Quality Standards
CAAQS = California Ambient Air Quality Standards
$\mu g/m^3$ = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter
\> = greater than
$\geq$ = greater than or equal to
NA = not applicable or there was insufficient or no data available to determine the value

[a] An exceedance is not necessarily a violation.

[b] National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.

[c] State statistics are based on local conditions data, except in the South Coast Air Basin, for which statistics are based on standard conditions data. In addition, state statistics are based on California-approved samplers.

[d] Measurements usually are collected every 6 days.

[e] State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

[f] Mathematical estimate of how many days' concentrations would have been measured as higher than the level of the standard had each day been monitored. Values have been rounded.

As shown in Table 3.3-2, the Roseville-North Sunrise Boulevard monitoring station has experienced violations of the state 1-hour O_3 standard, state and federal 8-hour O_3 standard, and state 24-hour PM10 standard during the 3-year monitoring period. As discussed above, the CAAQS and NAAQS represent concentration limits of criteria air pollutants needed to adequately protect human health and the environment. Existing violations of the O_3 and PM10 ambient air quality standards indicate that certain individuals exposed to this pollutant may experience certain health effects, including increased incidence of acute and chronic cardiovascular and respiratory ailments.

Attainment Status

Local monitoring data (Table 3.3-2) are used to designate areas as nonattainment, maintenance, attainment, or unclassified for NAAQS and CAAQS. The four designations are further defined as:

- Nonattainment – Assigned to areas where monitored pollutant concentrations violate the standard in question.
- Maintenance – Assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past but are no longer in violation of that standard.
- Attainment – Assigned to areas where pollutant concentrations meet the standard in question over a designated period of time.
- Unclassified – Assigned to areas where data are insufficient to determine whether a pollutant is violating the standard in question.

Table 3.3-3 summarizes the attainment status for the SVAB portion of Placer County for the NAAQS and CAAQS.

Table 3.3-3. Attainment Status of Sacramento Valley Air Basin Portion of Placer County

	Attainment Status	
Pollutant	**State**	**Federal**
Ozone	Nonattainment	Severe Nonattainment
Nitrogen Dioxide	Attainment	Attainment
Carbon Monoxide	Attainment	Attainment
PM10	Nonattainment	Attainment
PM2.5	Attainment	Moderate Nonattainment
Lead	Attainment	Attainment

Sources: California Air Resources Board 2018; U.S. Environmental Protection Agency 2019e
PM10 = particulate matter that is 10 microns in diameter and smaller.
PM2.5 = particulate matter that is 2.5 microns in diameter and smaller.

Sensitive Receptors

The PCAPCD defines *sensitive receptors* as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of sensitive receptors include schools, hospitals, and residential areas. Primary pollutants of concern to sensitive receptors are localized criteria pollutants (e.g., PM, CO), DPM, and, to a lesser extent, odors or odorous compounds such as ammonia. Sensitive receptors would not be directly affected by regional pollutants, such as ozone precursors (ROG and NO_X), although regional emissions can contribute to the formation of ground-borne ozone or secondary PM.

The project area is in an urban environment; therefore, land use compatibility issues relative to the siting of pollution-emitting sources or the siting of sensitive receptors must be considered. Receptors within 1,000 feet of the proposed project may be exposed to increased air pollution. Residential land uses are immediately east and west (closest receptor is 25 feet) of Washington Boulevard between the Andora Underpass and Pleasant Grove Boulevard. Residential receptors are also within 120 feet of the existing UPRR mainline. Use of the shoofly during construction would move existing freight traffic approximately 40 feet closer to the Kaseberg-Kingswood neighborhood that is northwest of

Washington Boulevard. Figure 3.3-2 indicates the locations of sensitive receptors located in the vicinity of the project alignment.

3.3.2 Environmental Impacts

This section describes the environmental impacts of the proposed project on air quality. This section also describes the methods used to evaluate the impacts and the thresholds used to determine whether an impact would be significant.

Methods for Analysis

Air quality impacts associated with construction and operation of the proposed project were assessed and quantified using standard and accepted software tools, techniques, and emission factors. A summary of the methodology is provided below. A full list of assumptions is provided in Appendix C.

Construction

Construction activity is a source of dust and exhaust emissions that can have substantial temporary impacts on local air quality. Such emissions would result from earthmoving and use of heavy equipment, as well as land clearing, ground excavation, cut-and-fill operations, and roadway construction. Emissions can vary substantially from day to day, depending on the level of activity, the specific operations, and the prevailing weather. A major portion of dust emissions for the project would likely be caused by construction traffic on temporary areas.

Construction emissions of ROG, NO_X, CO, PM10, and PM2.5 were estimated using the Sacramento Metropolitan Air Quality Management District's (SMAQMD) Road Construction Emissions Model (RCEM) (Version 9.0). Construction activity for the project is expected to occur in two phases. As described in Chapter 2, *Project Description*, Phase 1 would involve intersection improvements (e.g., enhanced crosswalks) and minor road widening to support the new Class I bike trail. Phase 1 construction would require 8 months in 2020. Phase 2 would involve road widening, drainage improvements including the proposed bio-retention basin, and final intersection tie in and sound wall improvements at the Washington Boulevard/Pleasant Grove Boulevard intersection. Phase 2 would require 13 months, beginning in spring 2023.

The analysis covers the proposed project, which assumes Washington Boulevard would be closed during certain periods of construction of the UPRR shoofly, and Alternative 1, which assumes the road would remain open. Construction activities during both phases for the proposed project and Alternative 1 are anticipated to occur over four subphases, (1) Grubbing/Land Clearing; (2) Grading/Excavation; (3) Drainage/Utilities/Sub-Grade; and (4) Paving. RCEM defaults were assumed, except where project-specific data were provided by the project engineers, Mark Thomas & Company (Horton pers. comm.).

Operation

Criteria Pollutants

The primary operational criteria pollutants associated with the project are ROG, NO_X, CO, PM10, and PM2.5 emitted as vehicle exhaust. Emissions were estimated using the California Department of Transportation (Caltrans) CT-EMFAC model and vehicle activity data provided in the Fehr & Peers 2018 *Transportation Study for the Washington/Andora Widening Project*. This information was supplemented with a related Fehr & Peers technical memorandum dated April 10, 2019 which reviewed the effects of newly proposed project phasing. Appendix B contains both the 2018 transportation study and the 2019 technical memo. This memo confirmed that vehicle miles traveled (VMT) following Phase 1 improvements would be less than that identified for full project buildout. The CT-EMFAC program assumed project operating conditions during average annual conditions for the SVAB portion of Placer County.

Emission were modeled for existing (2016), existing (2016) plus project, cumulative (2035) no project, and cumulative (2035) plus project conditions using daily VMT distribution by 5-mph speed bin data (5 mph to 70 mph). VMT data were not provided for opening year (2025) conditions and are therefore not evaluated in the analysis of project-related criteria pollutant. The data included vehicle activity for affected roadways in the immediate project region.

Note that the only differences between the proposed project and Alternative 1 would occur during construction. Traffic volumes, speeds, and other operational conditions under the proposed project and Alternative 1 would be identical. Accordingly, the operational impact assessment is based on a single set of traffic conditions, which is representative of both the proposed project and Alternative 1 (one lane closure during construction).

Appendix C presents the daily VMT data and CT-EMFAC emission factor outputs.

Mobile Source Air Toxics/TACs

FHWA (2016) has issued an updated interim guidance using a tiered approach on how MSATs for transportation projects should be evaluated. Depending on the specific project circumstances, FHWA has identified the following three tiers of analysis.

1. No analysis for exempt projects or projects that have no potential for meaningful MSAT effects.
2. Qualitative analysis for projects with low potential MSAT effects.
3. Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

Potential MSAT effects associated with the proposed project are assessed according to FHWA's updated interim guidance and the project analysis tiers identified above. The analysis also considers guidance from the ARB's (2005) *Air Quality and Land Use Handbook.*

Carbon Monoxide Hot Spots

Vehicle idling at roadway intersections may increase localized CO concentrations, leading to CO hot spots. The potential for CO hot spots was evaluated at roadway intersections within the transportation study area, as defined in Section 3.16, *Transportation/Traffic*. Four conditions were modeled: existing, existing plus project, cumulative (2035) no project, and cumulative (2035) plus project.

Modeled traffic volumes and operating conditions were obtained from the traffic data prepared the *Transportation Study for the Washington/Andora Widening Project*. This information was supplemented with the Fehr & Peers technical memorandum, which confirmed that operational LOS impacts and hourly traffic volumes at study area intersections following Phase 1 improvements would be less than that identified for full project buildout (Appendix B). Ambient CO concentrations near the roadway under future project conditions were modeled using CALINE4 (Benson 1989). Only the PM peak hour traffic was modeled, as the modeled LOS and delays are worse in the PM peak hour than in the AM peak hour (Appendix B).

CO intersection modeling was conducted for the following three intersections.

- Washington Boulevard/Pleasant Grove Boulevard.
- Washington Boulevard/Kaseberg Drive.
- Washington Boulevard/Junction Boulevard.

The Washington Boulevard detour during construction would also result in notable traffic increases at several intersections in the surrounding area. Therefore, CO intersection modeling also was conducted for the following two intersections to evaluate the effects of closing Washington Boulevard during construction.

- Foothills Boulevard/Junction Boulevard.
- Roseville Parkway/Galleria Boulevard.

These intersections were evaluated because they were identified in the *Transportation Study for the Washington/Andora Widening Project* as the most affected intersections (i.e., highest traffic volumes and worst levels of congestion/delay) of the intersections analyzed in the project vicinity. Vehicle emission rates were determined using the EMFAC2017 emission rate program.

CO concentrations were estimated at four receptor locations at each of the intersections analyzed. The modeled receptors are not representative of the actual sensitive receptors and represent receptors at the nearest possible location to the intersection of the modeled mixing zones.[5] Inputs to the CALINE4 model were determined using methodology

[5] In the parlance of air dispersion modeling, the *mixing zone* represents the region directly over the highway as a zone of uniform emissions and turbulence. This area is the region over the traveled way (traffic lanes, not including shoulders) plus three meters on either side. The additional three-meter width accounts for the initial horizontal dispersion imparted to pollutants by the vehicle wake. Within the mixing zone, the mechanical turbulence created by moving vehicles and the thermal turbulence created by hot vehicle exhaust are assumed to be the dominant dispersive mechanisms (Benson 1989).

recommended in Appendix B of the CO Protocol (Garza et al. 1997), and represent conservative assumptions to evaluate worst-case conditions.

Background CO concentrations based on local air quality monitoring data (see Table 3.3-2) were added to project-level results to account for sources of CO not included in the modeling. Background concentrations for cumulative (2035) no project and cumulative (2035) plus project conditions were assumed to be the same as those for the current year. Actual 1- and 8-hour background concentrations in future years would likely be lower than those used in the CO modeling analysis because the trend in CO emissions and concentrations is decreasing as a result of continuing improvements in engine technology and the retirement of older, higher-emitting vehicles.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

In December 2018, the California Supreme Court issued its decision in *Sierra Club v. County of Fresno* (6 Cal. 5th 502). The court reviewed the long-term, regional air quality analysis contained in the EIR for the proposed Friant Ranch development. The Friant Ranch project is a 942-acre master-plan development in unincorporated Fresno County within the San Joaquin Valley Air Basin. The court found that the air quality analysis was inadequate because it failed to provide enough detail "for the public to translate the bare [criteria pollutant emissions] numbers provided into adverse health impacts or to understand why such a translation is not possible at this time." The court's decision clarifies that environmental documents must connect a project's air quality impacts to specific health effects or explain why it is not technically feasible to perform such an analysis.

All criteria pollutants that would be generated by the proposed project are associated with some form of health risk (e.g., asthma). The potential for pollutants to affect public health depend on a multitude of variables, including how pollutants are dispersed and transported in the atmosphere. As discussed above, both construction and operation of the project would generate regional ozone precursors (ROG and NO_X) and PM emissions. The project would also result in localized emissions, primarily CO and PM.

PCAPCD's Handbook (2017) provides guidance for evaluating project-level air quality impacts, and identifies significance thresholds to assist lead agencies in determining criteria pollutant impacts for projects located in Placer County (see Table 3.3-4).

Table 3.3-4. Placer County Air Pollution Control District Criteria Pollutant Thresholds (pounds per day)

	Ozone Precursor Emissions		
Source	**ROG**	**NO_X**	**PM10**
Construction (short-term)	82	82	82
Operational (long-term)	55	55	82

NO_X = nitrogen oxides
PM10 = particulate matter that is 10 microns in diameter and smaller
ROG = reactive organic gases
Source: Placer County Air Pollution Control District 2017

PCAPCD's ozone precursor thresholds presented in Table 3.3-4 consider existing air quality concentrations and attainment or nonattainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence that demonstrates there are known safe concentrations of criteria pollutants. While recognizing that air quality is cumulative problem, PCAPCD considers projects that generate criteria pollutant and ozone precursor emissions below these thresholds to be minor in nature and would not adversely affect air quality such that the NAAQS or CAAQS would be exceeded. Emissions generated by the project could increase photochemical reactions and the formation of tropospheric ozone and secondary PM, which at certain concentrations could lead to increased incidence of specific health consequences. Although these health effects are associated with ozone and particulate pollution, the effects are a result of cumulative and regional emissions. Consequently, for projects with relatively small emissions contributions (i.e., emissions below the regional air district thresholds), that project's incremental contribution cannot be traced to specific health outcomes on a regional scale, and a quantitative correlation of project-generated regional criteria pollutant emissions to specific human health impacts is not technically feasible.

PCAPCD considers localized CO emissions from mobile sources to result in significant impacts if concentrations exceed the health-protective CAAQS. The PCAPCD Handbook has not established thresholds for MSATs, but recommends DPM be evaluated using the California Air Pollution Control Officers Association's (CAPCOA) guidance and thresholds, which are the probability of contracting cancer for the maximum exposed individual exceeding 10 in 1 million, or the ground-level concentrations of non-carcinogenic PM resulting in a hazard index greater than 1 for the maximum exposed individual (California Air Pollution Control Officers Association 2009).

Impacts and Mitigation Measures

In general, both phases of the proposed project and Alternative 1 (one lane closure during construction) would result in similar impacts on air quality. When impacts of phases are different, these are noted in the impact summary table and analysis below. Alternative 2 (No

Project) would not result in any impacts related to air quality and is not discussed further in this analysis.

Impact AQ-1	**Conflict with or obstruct implementation of the applicable air quality plan**
Applicable Policies and Regulations	Federal Clean Air Act California Clean Air Act NAAQS and CAAQS Ozone Plan PCAPCD rules and regulations SACOG's *2016 Metropolitan Transportation Plan/Sustainable Communities Strategy* and *2019–2022 Metropolitan Transportation Improvement Program*
Significance with Policies and Regulations	Proposed Project Phase 1: Less than Significant Phase 2: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project (Phases 1 and 2) and Alternative 1: None required
Significance after Mitigation	Proposed Project Phase 1: Less than Significant Phase 2: Less than Significant Alternative 1: Less than Significant

<u>Proposed Project</u>

The proposed project was included in the regional emissions analysis conducted by SACOG for the conforming 2016 MTP/SCS. Projects included in the MTP/SCS are consistent with the planning goals of SIP adopted by local air quality management agencies. Accordingly, it can be concluded that the project's emissions, which would include the O_3 precursors ROG and NO_X, would not exacerbate nonattainment conditions or conflict with air quality plans adopted to attain and maintain the CAAQS and NAAQS. This impact would be less than significant. No mitigation is required.

<u>Alternative 1</u>

Alternative 1 would result in conditions and impacts similar to those of the proposed project. Consequently, Alternative 1 emissions, which would include the O_3 precursors ROG and NO_X, would not exacerbate nonattainment conditions or conflict with air quality plans adopted to attain and maintain the CAAQS and NAAQS. As with the proposed project, this impact would be less than significant for Alternative 1. No mitigation is required.

Impact AQ-2	**Violate any air quality standard or contribute substantially to an existing or projected air quality violation**
Applicable Policies and Regulations	NAAQS and CAAQS Ozone Plan PCAPCD rules and regulations PCAPCD CEQA Guidelines and thresholds
Significance with Policies and Regulations	**Construction** Proposed Project Phase 1: Less than Significant Phase 2: Less than Significant Alternative 1: Less than Significant **Concurrent Construction and Traffic Detour Emissions** Proposed Project: Less than Significant Alternative 1: Less than Significant **Operations** Proposed Project Phase 1: Less than Significant Phase 2: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project (Phases 1 and 2) and Alternative 1: None required
Significance after Mitigation	Proposed Project Phase 1: Less than Significant Phase 2: Less than Significant Alternative 1: Less than Significant

Construction

Proposed Project

Temporary construction emissions would result during Phases 1 and 2 from grubbing/land clearing, grading/excavation, drainage/utilities/sub-grade construction, and paving activities. Emissions would also be generated during Phase 2 from demolition of the existing Andora Underpass. Pollutant emissions would vary daily, depending on the level of activity, specific operations, and prevailing weather.

The SMAQMD RCEM (Version 9.0) and information provided by the project engineers were used to estimate construction-related emissions. Table 3.3-5 summarizes the estimated maximum daily emissions levels during both construction phases. Construction of Phase 1 and Phase 2 would occur over four sequential subphases; emissions for each subphase are therefore compared separately with PCAPCD's thresholds as opposed to adding emissions across all activities. Accordingly, if emissions generated during a single subphase (e.g., Phase 1 grubbing/land clearing) would exceed PCAPCD's thresholds, the project would result in a significant air quality impact.

Table 3.3-5. Estimated Criteria Pollutant Emissions from Construction of the Proposed Project (pounds per day)

				PM10			PM2.5		
Project Phase	**ROG**	**NO_X**	**CO**	**Exhaust**	**Dust**	**Total**	**Exhaust**	**Dust**	**Total**
Phase 1									
Grubbing/Land Clearing	1	11	7	<1	29	29	<1	6	6
Grading/Excavation	2	29	17	1	29	30	1	6	7
Drainage/Utilities/Sub-Grade	2	15	13	1	29	30	1	6	7
Paving	1	13	13	1	<1	1	1	<1	1
Phase 2									
Grubbing/Land Clearing	1	14	12	1	38	38	1	8	8
Grading/Excavation[a]	5	56	41	2	42	45	2	9	10
Drainage/Utilities/Sub-Grade	2	17	19	1	38	38	1	8	9
Paving	1	15	15	1	<1	1	1	<1	1
Maximum Daily, Phase 1	2	29	17	1	29	30	1	6	7
Maximum Daily, Phase 2	5	56	41	2	42	45	2	9	10
PCAPCD Threshold	*82*	*82*	–	–	–	*82*	–	–	–

CO = carbon monoxide
NO_X = nitrogen oxides
PCAPCD = Placer County Air Pollution Control District
PM10 = particles of 10 micrometers or smaller
PM2.5 = particles of 2.5 micrometers and smaller
ROG = reactive organic gases

[a] Fugitive dust emissions from demolition of the existing underpass were estimated using emission factors from the CalEEMod User Guide (Trinity Consultants 2017). It was assumed that 850 cubic yards of material would be demolished over a period of 5 days.

As shown in Tables 3.3-5, neither Phase 1 nor Phase 2 would generate ROG, NO_X, or PM10 in excess of PCAPCD's thresholds. The project would implement Caltrans Standard Specifications (14-9.02, 10-5, 13-5, and 14-11.04) and comply with the PCAPCD fugitive dust control rule (see Section 3.3.1, *Existing Conditions*). The project would also be required to comply with the City's Department of Public Works Construction Standards, Section 111, which is intended to minimize fugitive dust emissions during construction activities. Compliance with the engineering and design requirements would be noted on City-approved construction plans. Implementation of these measures would further reduce PM emissions. Consequently, construction emissions of the proposed project would not be expected to contribute a significant level of air pollution such that regional air quality within the SVAB would be degraded. This impact would be less than significant, and no mitigation is required.

Alternative 1

Similar to the proposed project, Alternative 1 would result in temporary construction emissions from construction activities. These pollutant emissions would vary daily, depending on the level of activity, specific operations, and prevailing weather. Table 3.3-6 summarizes maximum daily emission levels during construction of Alternative 1. Construction of Phase 1 and Phase 2 would occur over four sequential subphases; emissions for each subphase are therefore compared separately with PCAPCD's thresholds as opposed to adding emissions across all activities. Accordingly, if emissions generated during a single subphase (e.g., Phase 1 grubbing/land clearing) would exceed PCAPCD's thresholds, the project would result in a significant air quality impact.

Table 3.3-6. Estimated Criteria Pollutant Emissions from Construction of Alternative 1 (pounds per day)

Project Phase	ROG	NO_X	CO	PM10 Exhaust	PM10 Dust	PM10 Total	PM2.5 Exhaust	PM2.5 Dust	PM2.5 Total
Phase 1									
Grubbing/Land Clearing	1	11	7	<1	29	29	<1	6	6
Grading/Excavation	2	29	17	1	29	30	1	6	7
Drainage/Utilities/Sub-Grade	2	15	13	1	29	30	1	6	7
Paving	1	13	13	1	<1	1	1	<1	1
Phase 2									
Grubbing/Land Clearing	1	14	12	1	38	38	1	8	8
Grading/Excavation[a]	5	54	40	2	42	45	2	9	10
Drainage/Utilities/Sub-Grade	2	16	19	1	38	38	1	8	8
Paving	1	13	15	1	<1	1	<1	<1	<1
Maximum Daily, Phase 1	2	29	17	1	29	30	1	6	7
Maximum Daily, Phase 2	5	54	40	2	42	45	2	9	10
PCAPCD Threshold	*82*	*82*	–	–	–	*82*	–	–	–

CO = carbon monoxide
NO_X = nitrogen oxides
PCAPCD = Placer County Air Pollution Control District
PM10 = particles of 10 micrometers or smaller
PM2.5 = particles of 2.5 micrometers and smaller
ROG = reactive organic gases

[a] Fugitive dust emissions from demolition of the existing underpass were estimated using emission factors from the CalEEMod User Guide (Trinity Consultants 2017). It was assumed that 850 cubic yards of material would be demolished over a period of 5 days.

As shown in Table 3.3-6, neither Phase 1 nor Phase 2 under Alternative 1 would generate ROG, NO_X, or PM10 in excess of PCAPCD's thresholds. The project would implement Caltrans Standard Specifications (14-9.02, 10-5, 13-5, and 14-11.04), and comply with the PCAPCD fugitive dust control rule (see Section 3.3.1, *Existing Conditions*). The project would also be required to comply with the City's Department of Public Works Construction Standards, Section 111, which is intended to minimize fugitive dust emissions during construction activities. Compliance with the engineering and design requirements would be noted on City-approved construction plans. Implementation of these measures would further reduce PM emissions. Consequently, emissions by construction of Alternative 1 would not be expected to contribute a significant level of air pollution such that regional air quality within the SVAB would be degraded. As is the case for the proposed project, this impact would be less than significant, and no mitigation is required.

Concurrent Construction and Traffic Detour Emissions

Proposed Project

As part of Phase 2 construction, Washington Boulevard would be closed to all vehicular traffic from south of Diamond Oaks Road to north of Kaseberg Drive in 2023. The road closure and associated detour would cause an estimated 10,600 VMT increase during the weekdays (Gard pers. comm.). Emissions generated by the VMT increase were conservatively assumed to occur concurrently with the grading and excavation subphase of

Phase 2 construction (this is the subphase that would generate the maximum daily construction emissions). A conservative estimate of overlapping emissions from simultaneous construction activities and the traffic detour were summed and are presented in Table 3.3-7. The increase in VMT was quantified using the CT-EMFAC2017 model assuming a posted speed limit of 40 mph on the detour route.

Table 3.3-7. Estimated Unmitigated Criteria Pollutant Emissions from Construction Activities and the Washington Boulevard Traffic Detour (2019) (pounds per day)

Source	ROG	NO_X	CO	PM10	PM2.5
Grading and excavation	5	56	41	45	10
Traffic detour vehicle miles traveled	<1	4	16	4	1
Total	5	61	57	49	11
PCAPCD Threshold	*82*	*82*	–	*82*	–

CO = carbon monoxide
NO_X = nitrogen oxides
PCAPCD = Placer County Air Pollution Control District
PM10 = particles of 10 micrometers or smaller
PM2.5 = particles of 2.5 micrometers and smaller
ROG = reactive organic gases

As shown in Table 3.3-7, concurrent construction and traffic detour emissions would not exceed PCAPCD's thresholds. As noted above, the project would implement Caltrans Standard Specifications (14-9.02, 10-5, 13-5, and 14-11.04), PCAPCD fugitive dust control rules, and City's Department of Public Works Construction Standards, Section 111, during grading and excavation activities. Implementation of these measures would further reduce PM emissions. Consequently, emissions generated by construction of the proposed project, inclusive of the traffic detour emissions, would not be expected to contribute a significant level of air pollution such that regional air quality within the SVAB would be degraded. As is the case for the proposed project, this impact would be less than significant, and no mitigation is required.

Alternative 1

The Washington Boulevard closure would not be required under Alternative 1. However, traffic congestion would occur through the construction site because of temporary lane closures. Specifically, as described in Section 3.16, *Transportation/Traffic*, peak-hour vehicle delay for northbound traffic on Kaseberg Drive and southbound traffic from Diamond Oaks Road through the Washington Boulevard/Pleasant Grove Boulevard intersection would be around 300 and 220 seconds per vehicle, respectively. Due to this congestion, individuals may alter their travel route to avoid the project area, even if the roadway remains officially open. The traffic diversion and additional delay may increase emissions generated during the construction period, but the specific quantity cannot be quantified because it is unknown how individuals will choose to change their travel habits.

While additional emissions may be generated, they are not expected to exceed those estimated under the full traffic detour for the proposed project (see Table 3.3-7). Based on the estimated detour and construction emissions for Alternative 1 (see Table 3.3-6), concurrent construction and traffic detour emissions would not exceed PCAPCD's thresholds. Accordingly, this impact would be less than significant.

Operation

Proposed Project

Long-term air quality impacts are those associated with motor vehicles operating on the roadway network, predominantly those operating in the project vicinity. Emission of ROG, NO_X, CO, PM10, and PM2.5 for existing (2016), existing (2016) plus project, cumulative (2035) no project, and cumulative (2035) plus project conditions were evaluated through modeling conducted using Caltrans' CT-EMFAC2017 model and vehicle activity data provided in the *Transportation Study for the Washington/Andora Widening Project* (Appendix B). Table 3.3-8 summarizes the modeled emissions by scenario and presents a comparison of emissions under the existing plus project and cumulative (2035) plus project conditions to emissions under the cumulative (2035) no project and existing (2016) conditions. As noted above, the operational impact assessment is based on a single set of traffic conditions, which is representative of both build alternatives (the proposed project and Alternative 1). Only emissions under full build (i.e., after completion of Phase 2) were modeled as traffic volumes, and, thus, emissions would be lower with completion of only Phase 1.

Table 3.3-8. Estimated Criteria Pollutant Emissions from Operation of the Proposed Project (pounds per day)

Condition	Daily VMT	ROG	NO_X	CO	PM10	PM2.5
2016 Existing	52,098,452	7,313	59,374	160,177	2,507	266
2016 Existing Plus Project	52,104,120	7,314	59,382	160,204	2,507	266
Cumulative (2035) No Project	73,990,584	2,499	24,610	77,449	2,361	51
Cumulative (2035) Plus Project	73,991,365	2,499	24,609	77,446	2,361	51
Incremental Project Impact						
2016 Existing Plus Project vs. 2016 Existing	5,668	2	8	28	<1	<1
Cumulative (2035) Plus Project vs. Cumulative (2035) No Project	781	<1	-1	-3	<1	<1
PCAPCD Threshold	*–*	*55*	*55*	*–*	*82*	*–*

CO = carbon monoxide
NO_X = nitrogen oxides
PCAPCD = Placer County Air Pollution Control District
PM10 = particles of 10 micrometers or smaller
PM2.5 = particles of 2.5 micrometers and smaller
ROG = reactive organic gases
VMT = vehicle miles travelled

The emissions analysis presented in Table 3.3-8 indicates that operation of the proposed project would result in minor increases of all criteria pollutants compared to existing conditions. Relative to cumulative (2035) no project conditions, the project would have virtually no effect on ROG and PM emissions, and result in minor decreases of NOx and CO. These reductions are primarily the result of changes in vehicle speed patterns and the relationship between vehicle speeds and emission rates, which offset the minor increase in VMT associated with implementation of the project. The increase in ROG and PM emissions would be minor and would not exceed PCAPCD thresholds. Consequently, emissions by operation of the proposed project would not be expected to contribute a significant level of air pollution such that regional air quality within the SVAB would be degraded. This impact would be less than significant, and no mitigation is required.

Alternative 1

Alternative 1 would result in the same impacts as discussed for the proposed project and presented in Table 3.3-8. The impacts would be less than significant, and no mitigation is required.

Impact AQ-3	**Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)**
Applicable Policies and Regulations	NAAQS and CAAQS Ozone Plan PCAPCD rules and regulations PCAPCD CEQA Guidelines and thresholds
Significance with Policies and Regulations	Proposed Project Phase 1: Less than Significant Phase 2: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project (Phases 1 and 2) and Alternative 1: None required
Significance after Mitigation	Proposed Project Phase 1: Less than Significant Phase 2: Less than Significant Alternative 1: Less than Significant

Proposed Project

The City, as CEQA lead agency, relies on a two-tier criteria pollutant cumulative analysis methodology similar to that adopted by SMAQMD as outlined in its *Guide to Air Quality Assessment in Sacramento County* (Sacramento Air Quality Management District 2018). That is, if a project would not result in significant project-level criteria air pollutant emissions for which the region is designated nonattainment (i.e., exceed the PCAPCD recommended project thresholds shown in Table 3.3-4), project emissions would not be considered cumulatively considerable and would result in a less-than-significant cumulative impact. Should a project exceed the thresholds, a Tier 2 evaluation is conducted to determine Ozone Plan consistency in accordance with CEQA Guidelines Section 15064 (h)(3). Under the Tier 2 analysis, projects that are found to be consistent with the Ozone Plan and which would not conflict with the Ozone Plan emissions budget are considered less than cumulatively considerable. The City finds that this methodology is appropriate for Roseville projects because the city is within the SVAB, the same air basin where the above methodology is utilized by numerous CEQA lead agencies with concurrence and support from SMAQMD.

As shown in Tables 3.3-5 through 3.3-8, neither construction nor operation of the proposed project would result in emissions in excess of PCAPCD's recommended project thresholds. Accordingly, project emissions would not be considered cumulatively considerable and would result in a less-than-significant cumulative impact without a Tier 2 evaluation being required.

Alternative 1

As shown in Tables 3.3-6 and 3.3-8 and as is the case for the proposed project, neither construction nor operation of Alternative 1 would result in emissions in excess of PCAPCD's recommended project thresholds. Concurrent construction and traffic delay/diversion emissions likewise would not exceed thresholds. Accordingly, emissions would not be considered cumulatively considerable and would result in a less-than-significant cumulative impact without a Tier 2 evaluation being required.

Impact AQ-4	Expose sensitive receptors to substantial pollutant concentrations
Applicable Policies and Regulations	NAAQS and CAAQS PCAPCD rules and regulations PCAPCD CEQA Guidelines and thresholds
Significance with Policies and Regulations	Proposed Project Phase 1: Less than Significant Phase 2: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project (Phases 1 and 2) and Alternative 1: None required
Significance after Mitigation	Proposed Project Phase 1: Less than Significant Phase 2: Less than Significant Alternative 1: Less than Significant

Proposed Project

Toxic Air Contaminants/Mobile Source Air Toxics

Construction Activities

Heavy-duty equipment would generate DPM during roadway-widening activities. As shown in Table 3.3-5, DPM emissions would be minor (1 to 2 pounds per day, depending on subphase) and only occur over a period of 13 months. The short-term construction period is well below the 30-year exposure period typically associated with increased cancer risks

(Office of Environmental Health Hazard Assessment 2015). Moreover, DPM from construction equipment would be transitory and spread throughout the entire 0.85-mile segment, as opposed to being concentrated at a single location. Accordingly, construction of the proposed project would not result in a significant increase in cancer or non-cancer risks at nearby sensitive receptors. This impact would be less than significant.

According to the California Department of Conservation's *A General Location Guide for Ultramafic Rocks in California*, there are no geologic features normally associated with NOA (i.e., serpentine rock or ultramafic rock near fault zones) in or near the project area (California Department of Conservation 2000). Consequently, there is no potential for impacts related to NOA emissions during construction activities. However, demolition of the existing Andora bridge would be subject to EPA's National Emissions Standards for Hazardous Air Pollutants and CARB's Airborne Toxic Control Measures if asbestos-containing materials were used in the original bridge construction. This impact would be less than significant.

Shoofly

Use of the shoofly would relocate existing UPRR diesel locomotive traffic about 40 feet closer to existing sensitive receptors. The shoofly would be operational for roughly 6 months and approximately 25 trains per day would use the shoofly instead of the existing mainline. During the transition from the old track to the shoofly and back again, the rail line would be shut down to train traffic for about 4 hours. However, no trains would be diverted around the project site to other rail lines. Although the shoofly would move locomotives closer to receptors (by about 40 feet), it would not increase the number or intensity of existing DPM emissions. Moreover, the detour would only change the location of DPM emissions for a period of up to 6 months. This change would be short-term and would not result in a significant increase in cancer or non-cancer risks at nearby sensitive receptors. This impact would be less than significant.

Roadway Operation

As discussed under *Mobile Source Air Toxics/TACs* in Section 3.3.2, FHWA has issued an updated interim guidance using a tiered approach on how MSATs for transportation projects should be evaluated. Based on the three project categories outlined in FHWA's guidance, the proposed project is considered a project with low potential MSAT impacts because average daily traffic (ADT) in the project area would not exceed 60,000 vehicles per day under cumulative (2035) plus project conditions. Consequently, ADT would be below FHWA's MSAT ADT threshold of 140,000 vehicles for projects with higher potential for MSAT impacts.

As shown in Table 3.3-8, VMT estimated for the proposed project is slightly higher than that for Alternative 2 (No Project), because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. This increase in VMT would lead to higher MSAT emissions for the proposed project along Washington Boulevard, along with a corresponding decrease in MSAT emissions along the parallel routes. The additional travel lanes contemplated as part of the project would have the effect of moving some traffic closer to nearby homes; therefore, there may be localized areas where ambient concentrations of MSATs could be higher than the cumulative no project condition. However, the widened portions of Washington Boulevard are neither considered by the CARB (2005) as high-traffic roads nor roadways with significant diesel volumes.[6] Accordingly, operation of the proposed project would not expose sensitive populations to substantial MSAT concentrations or associated health risks. This impact would be less than significant.

Criteria Pollutants

Adverse health effects induced by regional criteria pollutant emissions generated by the proposed project (ozone precursors and PM) depend on numerous interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). For these reasons, ozone precursors (ROG and NO_X) contribute to the formation of ground-borne ozone on a regional scale, where emissions of ROG and NO_X generated in one area may not equate to a specific ozone concentration in that same area. Similarly, some types of particulate pollutants may be transported over long distances or formed through atmospheric reactions. Consequently, the magnitude and locations of specific health effects from exposure to increased ozone or regional PM concentrations are the product of emissions generated by numerous sources throughout a region, as opposed to a single individual project, and a project's incremental contribution cannot be traced to specific health outcomes on a regional scale. Accordingly, a quantitative correlation of project-generated regional criteria pollutant emissions to specific human health impacts is not technically feasible for projects with relatively small emissions contributions (i.e., emissions below the regional air district thresholds).

Localized criteria pollutant generated by a project (e.g., fugitive dust) are deposited and potentially affect population near the emissions source. Because these pollutants dissipate with distance, emissions from individual projects can result in direct and material health impacts to adjacent sensitive receptors. The NAAQS and CAAQS are health protective standards and define the maximum amount of ambient pollution that can be present without harming public health.

As discussed above, PCAPCD has developed region-specific CEQA thresholds of significance in consideration of existing air quality concentrations and attainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence that demonstrates there are known safe concentrations of criteria pollutants. While recognizing that air quality is a cumulative problem, PCAPCD typically considers projects that generate criteria pollutant and ozone precursor emissions below these thresholds to be minor in nature and would not adversely affect air quality such that the NAAQS or CAAQS would be exceeded. As shown in Tables 3.3-5 through 3.3-8, neither construction nor operation of the proposed project would not generate ROG, $NO_{X,}$ or

[6] CARB's (2005) *Air Quality and Land Use Handbook* defines high-traffic urban roads as those with greater than 100,000 vehicles per day and high-traffic rural roads as those with greater than 500,000 vehicles per day. ADT in the project area for the project under cumulative year (2035) conditions will vary between 9,400 and 60,000 vehicles, depending on the location. Heavy-duty trucks comprise approximately 2% of this ADT, resulting in a truck ADT of 188 to 1,200 (Horton pers. comm.).

PM in excess of PCAPCD's numeric thresholds. The project would also implement Caltrans Standard Specifications (14-9.02, 10-5, 13-5, and 14-11.04), PCAPCD fugitive dust control rules, and City's Department of Public Works Construction Standards, Section 111, during grading and excavation activities. Implementation of these measures would further reduce localized and regional PM emissions during construction. Consequently, the proposed project would not be expected to contribute a significant level of air pollution such that air quality would be degraded.

In addition to the thresholds shown in Table 3.3-4, PCAPCD has also adopted screening criteria to evaluate CO hot spots from operational motor vehicle traffic, which can be a problem in urban areas. Hot spots typically occur in areas of high motor vehicle use, such as in parking lots, at congested intersections, and along highways. Existing (2016), existing (2016) plus project, cumulative (2035) no project, and cumulative (2035) plus project conditions were modeled to evaluate CO concentrations relative to the health-protective NAAQS and CAAQS. As previously discussed, CO concentrations were estimated at three roadway intersections. Table 3.3-9 summarizes the results of the intersection CO modeling and indicate that CO concentrations are not anticipated to exceed the 1- or 8-hour NAAQS and CAAQS under all project conditions.

The Washington Boulevard detour during construction would also result in notable traffic increases at several intersections in the surrounding area. CO intersection modeling was conducted for the following two junctions to evaluate the effects of closing Washington Boulevard during construction.

- Foothills Boulevard/Junction Boulevard.
- Roseville Parkway/Galleria Boulevard.

These intersections were evaluated because they were identified in the *Transportation Study for the Washington/Andora Widening Project* as the most affected intersections (i.e., highest traffic volumes and worst levels of congestion/delay) that were analyzed in the project vicinity (Appendix B). Table 3.3-10 summarizes the results of the modeling and indicates that traffic conditions would not result in localized CO hot spots. As a result, the proposed project would not result in CO concentrations in excess of the health protective CAAQS or NAAQS, and, therefore, would not expose sensitive receptors to significant pollutant CO concentrations or health effects. This impact would be less than significant, and no mitigation is required.

Table 3.3-9. Carbon Monoxide Concentration Modeling Results (parts per million)

		1-Hour Concentration[b]			8-Hour Concentration[c]		
Intersection	**Rec.[a]**	**Existing (2016)**	**Cumulative (2035) No Project**	**Cumulative (2035) Plus Project**	**Existing (2016)**	**Cumulative (2035) No Project**	**Cumulative (2035) Plus Project**
Washington Boulevard/ Pleasant Grove Boulevard	1	4.2	2.9	2.9	2.9	2.0	2.0
	2	3.8	2.7	2.7	2.7	1.9	1.9
	3	3.7	2.7	2.7	2.6	1.9	1.9
	4	4.2	2.9	2.9	2.9	2.0	2.0
Washington Boulevard/ Kaseberg Drive	5	3.4	2.5	2.6	2.4	1.7	1.8
	6	3.1	2.4	2.5	2.2	1.7	1.7
	7	3.2	2.5	2.6	2.3	1.7	1.8
	8	3.1	2.4	2.5	2.2	1.7	1.7
Washington Boulevard/ Junction Boulevard	9	3.2	2.6	2.6	2.3	1.8	1.8
	10	3.2	2.6	2.6	2.3	1.8	1.8
	11	3.4	2.6	2.6	2.4	1.8	1.8
	12	3.1	2.6	2.6	2.2	1.8	1.8
State Standard (ppm)		*20*	*20*	*20*	*9.0*	*9.0*	*9.0*
Federal Standard (ppm)		*35*	*35*	*35*	*9*	*9*	*9*

Rec. = receptor

[a] Consistent with Caltrans CO Protocol, receptors are located at 3 meters from the intersection, at each of the four corners to represent the nearest location in which a receptor could potentially be located adjacent to a travelled roadway. The modeled receptors indicated are not representative of the actual sensitive receptors. All intersections modeled have two intersecting roadways.

[b] Average 1-hour background concentration between 2015 and 2017 was 2.0 ppm (California Air Resources Board 2019c).

[c] Average 8-hour background concentration between 2015 and 2017 was 1.4 ppm (U.S. Environmental Protection Agency 2019d).

Table 3.3-10. CO Modeling Concentration Results with and without Washington Boulevard Construction Detour (parts per million)

		1-Hour CO Concentrations[b] (ppm)		8-Hour CO Concentrations[c] (ppm)	
Intersection	**Rec.[a]**	**No Detour**	**With Detour**	**No Detour**	**With Detour**
Foothills Boulevard/ Junction Boulevard	1	2.6	2.8	1.8	2.0
	2	2.7	2.8	1.9	1.9
	3	2.7	2.8	1.9	2.0
	4	2.5	2.8	1.8	1.9
Roseville Parkway/ Galleria Boulevard	5	3.0	3.0	2.1	2.1
	6	2.9	2.9	2.0	2.0
	7	2.9	2.9	2.0	2.0
	8	2.9	3.0	2.0	2.1
State Standard (ppm)		*20*	*20*	*9.0*	*9.0*
Federal Standard (ppm)		*35*	*35*	*9*	*9*

CO = carbon monoxide
ppm = parts per million
Rec. = receptor

[a] Consistent with Caltrans CO Protocol, receptors are located at 3 meters from the intersection, at each of the four corners to represent the nearest location in which a receptor could potentially be located adjacent to a travelled roadway. The modeled receptors indicated are not representative of the actual sensitive receptors. All intersections modeled have two intersecting roadways.

[b] Average 1-hour background concentration between 2015 and 2017 was 2.0 ppm (California Air Resources Board 2019c).

[c] Average 8-hour background concentration between 2015 and 2017 was 1.4 ppm (U.S. Environmental Protection Agency 2019d).

Alternative 1

The potential for Alternative 1 to expose sensitive receptors to substantial pollutant concentrations and associated health effects during construction and operation would be similar to the proposed project. As previously discussed, the temporary lane closures would increase peak-hour vehicle delay for northbound traffic on Kaseberg Drive and southbound traffic from Diamond Oaks Road through the Washington Boulevard/Pleasant Grove Boulevard intersection. Increased vehicle idling at these locations would generate CO emissions. However, based on the analysis conducted for full project operation (Table 3.3-9) and the traffic detour under the proposed project (Table 3.3-10), CO concentrations are not anticipated to exceed the 1- or 8-hour NAAQS or CAAQS. This impact would be less than significant, and no mitigation is required.

Impact AQ-5	Create objectionable odors affecting a substantial number of people
Applicable Policies and Regulations	PCAPCD Rule 205, Nuisance PCAPCD CEQA Guidelines
Significance with Policies and Regulations	Proposed Project Phase 1: Less than Significant Phase 2: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project (Phases 1 and 2) and Alternative 1: None required
Significance after Mitigation	Proposed Project Phase 1: Less than Significant Phase 2: Less than Significant Alternative 1: Less than Significant

Proposed Project

Minor sources of odors would be present during construction of the proposed project (Phases 1 and 2). Diesel engines are the predominant source of power for construction equipment. Exhaust odors from diesel engines, as well as emissions associated with asphalt paving, may be considered offensive to some individuals. However, because odors would be temporary and would disperse rapidly with distance from the source, construction-generated odors are not anticipated to result in the adverse exposure of receptors to objectionable odorous emissions. The shoofly would relocate diesel-powered freight up to 40 feet closer to receptors for a period of 5 months. Any increase in odors associated with the detour would be intermittent, occurring only as trains pass by receptors, and would be consistent with existing land uses and freight rail operation. Long-term operation of the project is not anticipated to influence odors because it would not increase truck volumes along Washington Boulevard or UPRR train traffic. This impact would be less than significant, and no mitigation is required.

Alternative 1

Alternative 1 would result in the same impacts as discussed above for the proposed project. The impacts would be less than significant, and no mitigation is required.

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Figure 3.3-2
Areas of Sensitive Receptors

3.4 Biological Resources

This section describes the regulatory and environmental setting for biological resources that are present, or have the potential to be present, within the project area. For the purpose of the EIR, biological resources consist of vegetation, wildlife, fish, waters of the United States, and waters of the State.

No comments related to biological resources were received in response to the Notice of Preparation for this EIR.

3.4.1 Existing Conditions

Regulatory Setting

This section summarizes the federal and state regulations that protect special-status species; waters of the United States (which also are considered waters of the State), including wetlands; and sensitive habitats within the project area. This section also discusses pertinent local general plan policies and ordinances related to the protection and preservation of biological resources.

Federal Laws and Regulations

Federal Endangered Species Act

Under the federal Endangered Species Act (FESA), the Secretary of the Interior and the Secretary of Commerce have joint authority to list a species as threatened or endangered (16 United States Code [USC] 1533[c]). Pursuant to the requirements of the FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed species may be present in the project region, and whether the proposed project would result in a “take”[1] of such species. The “take” provision of the FESA applies to actions that would result in injury, death, or harassment of a single member of a species protected under the act. In addition, a federal agency is required to determine whether a proposed federal action is likely to jeopardize the continued existence of any species listed under the FESA, or result in the destruction or adverse modification of critical habitat for such species (16 USC 1536[3][4]). If it is determined that a project may result in the "take" of a federally listed species, a permit from the U.S. Fish and Wildlife Service (USFWS) would be required under Section 7 or Section 10 of the FESA. Section 7 applies if there is a federal nexus (e.g., the project is on federal land, the lead agency is a federal entity, a permit is required from a federal agency, or federal funds are being used). Section 10 applies if there is no federal nexus.

[1] “Take,” as applied in Section 9 of the FESA, means to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect or to attempt to engage in any such conduct.” “Harass” is further defined by USFWS as an intentional or negligent act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, and sheltering (50 Code of Federal Regulations Part 17.3). “Harm” is defined as “an act which actually kills or injures wildlife.” This may include significant habitat modification or degradation that actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Substantial, adverse project-related impacts on FESA-listed species or their habitats would be considered significant in this EIR. Proposed species are granted limited protection under the FESA and must be addressed in Biological Assessments (under Section 7 of the Act, which only applies to federal agencies); proposed species otherwise have no protection from "take" under federal law, unless they are emergency-listed species. Candidate species are afforded no protection under the FESA. However, USFWS recommends that candidate species and species proposed for listing also be considered in informal consultation during a project's environmental review.

Clean Water Act

The federal Water Pollution Control Act of 1972, often referred to as the Clean Water Act, is the nation's primary law for regulating discharges of pollutants into waters of the United States. The objective of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The regulations adopted pursuant to the act deal extensively with the permitting of actions in waters of the United States, including wetlands. The act's statutory sections and implementing regulations provide more specific protection for riparian and wetland habitats than any other federal law. The U.S. Environmental Protection Agency has primary authority under the Clean Water Act to set standards for water quality and for effluents, but the U.S. Army Corps of Engineers (USACE) has primary responsibility for permitting the discharge of dredged or fill materials into streams, rivers, and wetlands. Section 3.9, *Hydrology and Water Quality*, provides additional information on the Clean Water Act.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act protects migratory bird species from take. Take, under the act, is defined as the action of, or an attempt to, pursue, hunt, shoot, capture, collect, or kill (50 Code of Federal Regulations Part 10.12). The definition differentiates between "intentional" take (take that is the purpose of the activity in question) and "unintentional" take (take that results from, but is not the purpose of, the activity in question).

State Laws and Regulations

California Endangered Species Act

The California Endangered Species Act (CESA), established under California Fish and Game Code Section 2050 et seq., identifies measures to ensure that endangered species and their habitats are conserved, protected, restored, and enhanced. The CESA restricts the "take" of plant and wildlife species listed by the state as endangered or threatened, as well as candidates for listing. Section 86 of the Fish and Game Code defines "take" as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Under Section 2081(b) of the Fish and Game Code, the California Department of Fish and Wildlife (CDFW) has the authority to issue permits for incidental take for otherwise lawful activities. Under this section, CDFW may authorize incidental take, but the impacts of the take must be minimized and fully mitigated. CDFW cannot issue permits for projects that would jeopardize the continued existence of state listed species. CDFW maintains lists for candidate-endangered species and candidate-threatened species. Candidate species and listed species receive equal protection under the law.

An agency reviewing a proposed project within its jurisdiction should determine whether any state-listed endangered or threatened species could be present on the project site and determine whether the proposed project could have a potentially significant impact on such species. In addition, CDFW encourages informal consultation on any proposed project that may affect a candidate species. Project-related impacts on species on the CESA endangered or threatened lists would be considered a significant impact in this EIR. Impacts on "species of concern" would be considered a significant impact if the species met the criteria set forth under the State CEQA Guidelines Section 15380, or if the species were also protected under any of the other statutes or policies discussed in this section.

California Fish and Game Code

The California Fish and Game Code provides a variety of protections for species that may not be federally or state-listed as threatened or endangered, or of special concern.

- Section 3503 protects all breeding native bird species in California by prohibiting the take[2], possession, or needless destruction of nests and eggs of any bird, with the exception of nonnative English sparrows and European starlings (Section 3801).
- Section 3503.5 protects all birds of prey (in the orders Falconiformes and Strigiformes) by prohibiting the take, possession, or killing of raptors and owls, their nests, and their eggs.
- Section 3513 prohibits the take or possession of migratory nongame birds as designated in the Migratory Bird Treaty Act or any parts of such birds except in accordance with regulations prescribed by the Secretary of the Interior.
- Section 3800 prohibits the take of nongame birds, which are defined as birds occurring naturally in California that are not game birds or fully protected species.
- Section 3511 (birds), Section 5050 (reptiles and amphibians), and Section 4700 (mammals) designate certain wildlife species as fully protected in California.

Fully protected species, or parts thereof, may not be taken or possessed at any time, except as part of an approved Natural Community Conservation Plan that treats such species as "covered species" (Fish and Game Code Section 2800 et seq.).

Under Fish and Game Code Section 1602, public agencies are required to notify CDFW before undertaking any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resources. These modifications are formalized in a Lake or Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project. Because the proposed project would require modification to the bed and bank of streams that are regulated under Section 1602, the City would obtain a Lake or Streambed Alteration Agreement.

[2] "Take" in this context is defined in Section 86 of the California Fish and Game Code as to "hunt, pursue, catch, capture, or kill, or to attempt to hunt, pursue, catch, capture, or kill."

Porter-Cologne Water Quality Control Act

State law sometimes protects wetlands that are beyond the regulatory reach of federal law under the Clean Water Act. Under the Porter-Cologne Act definition, waters of the State are "any surface water or groundwater, including saline waters, within the boundaries of the state." Although all waters of the United States that are within the borders of California are also waters of the State, the reverse is not true. Therefore, California retains authority to regulate discharges of waste into any waters of the State, regardless of whether USACE has concurrent jurisdiction under Clean Water Act Section 404, and defines discharges to receiving waters more broadly than the Clean Water Act does.

Waters of the state fall under the jurisdiction of the nine Regional Water Quality Control Boards (RWQCBs). Under the Porter-Cologne Act, each RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution. California Water Code Section 13260 requires any person discharging waste, or proposing to discharge waste in any region that could affect the waters of the State to file a report of discharge (an application for waste discharge requirements) with the applicable RWQCB. California Water Code Section 13050 authorizes the State Water Resources Control Board and the affiliated RWQCB to regulate biological pollutants.

Local Laws and Regulations

City of Roseville Design and Construction Standards

Implementation of Section 111 of the City's Design and Construction Standards would reduce impacts associated with erosion and runoff from construction sites by requiring the development of an erosion control plan. The erosion control plan must contain a description of the site and identify time restrictions, erosion and sediment control measures, means of waste disposal, measures to control post-construction sediment, maintenance responsibilities, landscaping during and after grading, and non-stormwater management controls.

City General Plan 2035

The Vegetation and Wildlife Section of the Open Space and Conservation Element in the City's General Plan 2035 provides the following goals and policies that are applicable to the proposed project (City of Roseville 2016).

> **Goal 1.** Establish a comprehensive system of public and private open space, including interconnected open space corridors that should include oak woodlands, riparian areas, grasslands, wetlands, and other open space resources.
>
> > **Policy 1.** Provide an interconnecting system of open space corridors that, where feasible, incorporate bikeways and pedestrian paths.
> >
> > **Policy 2.** Provide interconnected open space corridors between open space and habitat resources, recreation area, schools, employment, commercial service and residential areas.

Policy 3. Work with adjacent jurisdictions to connect the City with regional open space and trail systems, providing a network of open space and habitat resources, pathways and, where reasonable, equestrian trails through the City to link nearby communities.

Policy 4. Require all new development to provide linkages to existing and planned open space systems. Where such access cannot be provided through the creation of open space connections, identify alternative linkages.

Policy 9. Where feasible, entryways into Roseville shall incorporate the preservation of natural resource areas, such as oak woodland, riparian, and grassland areas as a way of defining the City's boundaries and identity.

Goal 3. Integrate, where feasible, passive recreational and educational opportunities with the protection of wildlife and vegetation habitat areas.

Policy 6. Take into account consideration of natural habitat areas in developing linkages and in preserving open space areas. Identify alternative sites for linkages where sensitive habitat areas have the potential to be adversely impacted.

City of Roseville Tree Preservation Ordinance

Chapter 19.66 (Tree Preservation) of the City Municipal Code contains regulations controlling the removal and preservation of trees within the City. A tree permit is required to conduct specific work or regulated activities within the protected zone of a protected tree or to remove a protected tree. A *protected tree* is defined in the Roseville Municipal Code as a native oak tree equal to or greater than 6 inches diameter at breast height, measured as a total of a single trunk or multiple trunks. The *protected zone* is demarcated as the largest radius of the circle formed by the protected tree's dripline plus 1 foot; the radius is measured as the distance from the base of the tree trunk to the greatest extent of the tree's dripline.

Under the ordinance, native oaks are defined as valley oaks, blue oaks, interior live oaks, and their hybrids. Tree permit conditions include compensation for work conducted within the protected zone of protected trees. Compensation may consist of a combination of planting replacement trees, relocating trees that would be removed, implementing a revegetation plan, or paying an in-lieu mitigation fee. The project area contains several native oak trees that meet the City's definition of protected trees. An arborist survey would be conducted in the future and impacts on native oak trees would be quantified as part of the arborist report.

Environmental Setting

The project area includes all permanent and temporary project impact areas (including staging and access routes) and consists of the section of Washington Boulevard between All-America City Boulevard and Pleasant Grove Boulevard, the UPRR right-of-way between the south end of Derek Place and slightly north of Pleasant Grove Boulevard, and the area between Washington Boulevard and the UPRR track south of Emerald Oak Road. Topography within the project area is relatively level, ranging from 125 to 150 feet above mean sea level. An additional area up to 200 feet west of Washington Boulevard was also assessed for biological resources to account for potential indirect impacts and proposed staging areas. The project area also contains open space areas (See Figure 3-1, Chapter

2.0 *Project Description;* and Figures 3.10-1 and 3.10-2 in Section 3.10, *Land Use and Planning*).

Methods for documenting wetland, botanical, and wildlife resources in the project area consisted of a review of existing information and field surveys. The following resources were reviewed.

- A list of sensitive species from the California Natural Diversity Database (CNDDB) records search for the U.S. Geological Survey (USGS) 7.5-minute Roseville, Sheridan, Lincoln, Gold Hill, Pleasant Grove, Rocklin, Rio Linda, Citrus Heights and Folsom quadrangles (California Department of Fish and Wildlife 2017a).
- California Native Plant Society's (CNPS's) Inventory of Rare and Endangered Plants of California for the same USGS quadrangles listed above (California Native Plant Society 2017).
- A list of endangered and threatened species that may occur in or be affected by projects within the USGS Roseville 7.5-minute quadrangle (National Marine Fisheries Service 2017; U.S. Fish and Wildlife Service 2017).
- Lists of plants identified as noxious weeds or invasive plants (California Invasive Plant Council 2017; Natural Resources Conservation Service 2003, 2017).
- The soil map unit descriptions for the project area (Natural Resources Conservation Service 2016).
- Natural Environment Study Report prepared for the project (ICF 2018a).
- Draft Aquatic Resources Delineation Report prepared for the project (ICF 2017).
- Biological Assessment prepared for the project (ICF 2018b).

Biological surveys were conducted in the project area in 2016 and 2017 and included an aquatic resources delineation, special-status plant and wildlife habitat assessments, and botanical surveys.

Land Cover Types

The project area and adjacent areas contain the following land cover types: developed areas, disturbed/graded areas, nonnative grassland, riparian woodland, riparian scrub, stream, seasonal wetland, artificially created seasonal pool, wetland stream, and ditch. Each of these land cover types and their locations within the project area are described below and shown in Figures 3.4-1a through 3.4-1e.

Developed Areas

Developed areas in the project area consist mostly of commercial and light industrial areas, as well as roadways. The vegetation in developed areas typically is composed of ornamental species planted for decorative or landscaping purposes, including species such as rosemary (*Rosmarinus officinalis*), cherry plum (*Prunus cersifera*), and ornamental pine (*Pinus* sp.).

Disturbed/Graded Areas

Disturbed/graded areas include areas adjacent to roadways that were graded during construction of the roadways or adjacent development. The vegetative composition of these areas typically consists of nonnative species, particularly annual grasses and weedy forbs, with scattered trees and shrubs. The density of vegetation is variable and ranges from relatively high in areas along roadways to more sparse in areas that recently have been graded.

Nonnative Annual Grassland

Nonnative annual grassland in the project area occurs in the open space and preserve areas along the UPRR track and Washington Boulevard. This land cover type is dominated by nonnative grasses and forbs. Common grass species are Italian ryegrass (*Festuca perennis*), medusahead (*Elymus caput-medusae*), slender wild oat (*Avena barbata*), ripgut brome (*Bromus diandrus*), and soft chess (*B. hordeaceus*). Typical forb species are yellow star-thistle (*Centaurea solstitialis*), dove's foot geranium (*Geranium molle*), rose clover (*Trifolium hirtum*), hairy vetch (*Vicia villosa*), and broadleaf filaree (*Erodium botrys*).

Riparian Woodland

Riparian woodland occurs along streams in and adjacent to the project area. Dominant tree species in the riparian woodland include blue oak (*Quercus douglasii*), valley oak (*Q. lobata*), and interior live oak (*Q. wislizeni*), with black willow (*Salix gooddingii*) and arroyo willow (*S. lasiolepis*) along some channels.

Riparian Scrub

Riparian scrub occurs within the stream floodplains east of Washington Boulevard in the project area. Vegetation in this land cover type is predominantly Himalayan blackberry (*Rubus armeniacus*), with some riparian trees in the overstory.

Stream

Streams mapped in the project area include perennial and seasonal features. The primary stream is South Branch Pleasant Grove Creek and its two tributaries, Sierra View Tributary and an unnamed tributary. Before the surrounding region was developed, these streams would have been seasonal, but now they are supported by significant amounts of irrigation runoff from nearby recreational (golf course), residential, and industrial/commercial developments within their watersheds.

South Branch Pleasant Grove Creek, which is north of the Andora Underpass, flows generally from east to west and crosses under both Washington Boulevard and the UPRR track. Sierra View Tributary also flows generally from east to west, crossing under the UPRR track, the bicycle trail, and Washington Boulevard to its confluence with South Branch Pleasant Grove Creek. The unnamed tributary originates on the west side of Washington Boulevard at the southern end of the project area, then crosses back and forth under Washington Boulevard, and finally back to the east side, where it joins the Sierra View Tributary.

Where abutting wetlands were absent, the boundaries of streams were mapped at the ordinary high water mark (OHWM), which was identified in the field by observed indicators as described in the aquatic resources delineation report. Most of these stream features are characterized by a shallow gradient with mostly open water and sparse wetland vegetation growing intermittently along their margins. Stream segments with abutting wetlands dominating most of the stream were mapped as wetland stream (described below).

Wetland Stream

Wetland streams occur within segments of streams in the project area that are supported throughout the dry season by irrigation and landscape runoff. Surface water or a high water table was present in most of these features during the November and December 2016 fieldwork, and boundaries of wetland streams were mapped at the OHWM. Typical species were wetland plants such as narrowleaf cattail (*Typha angustifolia*), false waterpepper (*Persicaria hydropiperoides*), and Fremont's cottonwood (*Populus fremontii*) in the overstory.

Seasonal Wetland

Seasonal wetlands in the project area are located adjacent to the unnamed tributary. Seasonal wetlands occur in shallow depressions, are dependent on cool-season rains, and are dry during most of the year. One of the seasonal wetlands is in the riparian woodland above the OHWM of the unnamed tributary, and two seasonal wetlands are in nonnative annual grassland on a terrace above the unnamed tributary. The dominant plant species observed in seasonal wetlands are water starwort (*Callitriche heteropylla*), curly dock (*Rumex crispus*) and nutsedge (*Cyperus eragrostis*).

Artificially Created Seasonal Pool

Two artificially created seasonal pools are located within the project area along the UPRR right-of-way. Artificially created seasonal pools in the project area support wetland hydrology but do not have a permanent water source and support nonnative annual grassland vegetation. The pools occur in small, shallow depressions (i.e., tire ruts and scraped areas at the base of the UPRR berm) that receive surface and landscape irrigation runoff during the rainy season and dry completely during the summer months.

Ditch

Artificially created drainage ditches are present in the project area. These drainage features were constructed to convey runoff from Washington Boulevard or from adjacent developed areas. They exhibit a distinct bed and bank but lack wetland vegetation and do not support habitat for sensitive species.

Common Wildlife Species

The project area provides habitat for an assemblage of wildlife species typical of natural communities and habitats in the region. Numerous mammal species or indicators of use (i.e., scat, burrows) were observed in or near the project area during the winter 2016 field surveys, including black-tailed hare (*Lepus californicus*), Botta's pocket gopher (*Thomomys bottae*), fox squirrel (*Sciurus niger*), and coyote (*Canis latrans*). Stream and wetland habitats in the project area provide habitat for common amphibians and reptiles such as western toad (*Anaxyrus boreas*), Sierran tree frog (*Pseudacris sierra*), and western fence lizard (*Sceloporus occidentalis*). Common bird species observed throughout the project area included black phoebe (*Sayornis nigricans*), mourning dove (*Zenaida macroura*), western scrub jay (*Aphelocoma californica*), Anna's hummingbird (*Calypte anna*), spotted towhee (*Pipilo maculatus*), acorn woodpecker (*Melanerpes formicivorus*), bushtit (*Psaltriparus minimus*), northern flicker (*Colaptes auratus*), wild turkey (*Meleagris gallopavo*), American crow (*Corvus brachyrhynchos*), red-tailed hawk (*Buteo jamaicensis*), and turkey vulture (*Cathartes aura*).

Special-Status Species

Special-status species databases for the project area and vicinity were reviewed, including the CNDDB (California Department of Fish and Wildlife 2017a), CNPS's Inventory of Rare and Endangered Plants of California (California Native Plant Society 2017), and USFWS's list of threatened and endangered species that could be present in the project area (U.S. Fish and Wildlife Service 2017). This information was used to develop lists of sensitive species and vegetation communities of special concern that could be present in the project vicinity. Species from the lists were considered if they were known to occur within an approximately 10-mile radius of the project area. Thirteen special-status plants species, 22 special-status wildlife species (not including fish), and three special-status fish species have potential to occur in the project area, based on known occurrences (Tables 3.4-1 and 3.4-2).

Special-Status Plant Species

Based on searches of the CNDDB, the CNPS rare plant inventory, and USFWS's website, 13 special-status plant species were identified as occurring in the vicinity of the project area (Table 3.4-1). The natural communities in the project area contain potential habitat for 3 of these 13 species. Of the remaining species, either soil type requirements (e.g., alkaline soils) or suitable habitats are not present in the project area (i.e., vernal pools, chaparral, cismontane woodland, and coniferous forest). The relatively high level of historical and ongoing disturbance in most of the project area reduces the quality of potential habitat for special-status plant species.

According to the CNDDB, no special-status species have been recorded in the project area, although one occurrence of California balsamroot that was last observed in 1958 (EO #9) is recorded 0.5 mile north of the project area along the UPRR track (California Department of Fish and Wildlife 2017a), and the project area supports similar habitat to this location. Sanford's arrowhead could occur in streams and wetland streams in the project area. No special-status plants were observed during 2016 and 2017 surveys.

ICF conducted a reconnaissance-level field survey of the project area on November 17, December 6, and December 13, 2016, to evaluate and document the vegetation community types, and to evaluate the potential habitat for special-status plants. Additional special-status plant surveys were conducted on May 2, 2017, which was during the blooming periods of species identified as having the highest potential for occurrence in the project area. A list of plant species observed during the field surveys is on file at ICF and is contained in the Natural Environment Study (ICF 2018)

Special-Status Wildlife Species

Based on a review of the CNDDB search results; the USFWS list of endangered, threatened, and proposed species within the project region; and species' distribution and habitat data, 22 special-status wildlife species (not including fish) were determined to have the potential to occur in the project region (Table 3.4-2). After completion of the field surveys, the biologist determined that 14 of the 22 species would not occur in the project area because the area lacks suitable habitat or is outside the species' known range, or because the species has a low likelihood of occurrence. An explanation for the absence of each of these species from the project area is provided in Table 3.4-2. Suitable habitat is present in the project area for the eight species discussed below.

Vernal Pool Fairy Shrimp

Vernal pool fairy shrimp is a federally listed threatened species. The species is found from Shasta County in the north throughout the Central Valley, and west to the central Coast Ranges, at elevations of 30 to 4,000 feet. Additional populations have been reported from the Agate Desert region near Medford, Oregon, and disjunct populations occur in San Luis Obispo, Santa Barbara, and Riverside Counties. However, most known locations are in the Sacramento and San Joaquin Valleys and along the eastern margin of the central Coast Ranges (Eng et al. 1990:255– 258).

Vernal pool fairy shrimp inhabit vernal pools that form in depressions, usually in grassland habitats (Eng et al. 1990:255–258). Pools must remain inundated long enough for the species to complete its life cycle. Vernal pool fairy shrimp has the shortest time to reach sexual maturity, with a minimum of 18 days (Helm 1998:132). Vernal pool fairy shrimp also occur in other wetlands that provide habitat similar to vernal pools, such as alkaline rain pools, ephemeral drainages, rock outcrop pools, ditches, stream oxbows, stock ponds, vernal swales, and some seasonal wetlands (Helm 1998:137). Occupied wetlands range in size from as small as several square feet to more than 10 acres. Vernal pool fairy shrimp and other fairy shrimp have been observed in artificial depressions and drainages where water ponds for a sufficient duration (Helm 1998:134–138). Examples of such areas include roadside ditches and ruts left behind by off-road vehicles or heavy equipment. Soil compaction from construction activity can sometimes create an artificial hardpan, or restrictive layer, which allows water to pond and form suitable habitat for vernal pool fairy shrimp.

The proposed project is within the current range of vernal pool fairy shrimp. Based on the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (U.S. Fish and Wildlife Service 2005), the project area lies in the Western Placer County core area within the Southeastern Sacramento Valley vernal pool region but does not overlap with designated critical habitat for vernal pool fairy shrimp (70 Federal Register [FR] 46924 and 71 FR 7117).

No protocol surveys for vernal pool fairy shrimp were conducted for the proposed project; however, ICF biologists completed a habitat assessment and conducted a follow-up site visit with local biologist and expert entomologist Pete Balfour from ECORPS Consulting to confirm the ICF habitat assessment determinations. Standing water was commonly observed during the November 2016 to March 2017 field surveys because of substantial rains during the 2016–2017 wet season. The timing of the surveys typically coincided with dry periods after storm events.

Aquatic features assessed to be suitable for vernal pool fairy shrimp were generally observed with hydrophytic indicators and ephemeral invertebrates present, and without evidence of flow. Several other features were observed with repeated inundation during surveys; however, most of these features serve as stormwater conveyance (e.g., ditches) and were deemed unsuitable because of high flows and scour during rain events.

Eight features were assessed as habitat for vernal pool fairy shrimp inside the project area. Two artificially created seasonal pools and one seasonal wetland along the UPRR track are considered suitable habitat for fairy shrimp within the project area (Figures 3.4-1b through 3.4-1d).

These ephemeral features occupy low points in the landscape, and their principal water sources are direct precipitation and stormwater runoff from the surrounding uplands or developed areas. Based on a review of historical aerial imagery, features identified as suitable habitat for vernal pool fairy shrimp may not reliably inundate from year to year under drought conditions of recent years. But in years of normal and above normal winter rainfall, they hold water for sufficient duration (i.e., at least 3 weeks) to allow vernal pool fairy shrimp to reproduce. The northernmost artificially created seasonal pool was occupied by the nonlisted branchiopod California linderiella (*Linderiella occidentalis*) at the time of the February 1, 2017, field survey.

Five additional seasonal wetlands in the project area do not provide suitable habitat for vernal pool fairy shrimp because they are densely vegetated features along stream habitats or they collect stormwater runoff that drains to culverts. Several shallow pools are present within City open space lands that are outside the project area but within 250 feet of the project footprint. These pools are within an area that is topographically higher than the location of proposed project activities and would not be affected by the proposed project. Three occurrences of vernal pool fairy shrimp have been recorded within 1 mile of the project area, and 20 occurrences have been recorded 1 to 5 miles from the project area. (California Department of Fish and Wildlife 2017a).

Vernal Pool Tadpole Shrimp

Vernal pool tadpole shrimp is a federally listed endangered species. This species is a California Central Valley endemic species, with the majority of populations in the Sacramento Valley. This species has also been reported from the Sacramento-San Joaquin River Delta east of San Francisco Bay and from scattered localities in the San Joaquin Valley from San Joaquin to Madera Counties (Rogers 2001:1002).

Vernal pool tadpole shrimp generally take 38 days to mature and typically reproduce in about 54 days (Helm 1998:133). Vernal pool tadpole shrimp occur in a wide variety of seasonal habitats, including vernal pools, ponded clay flats, alkaline pools, ephemeral stock tanks, and roadside ditches (Helm 1998:137–138; Rogers 2001:1002–1005). This species is typically found at the highest concentrations in playa pools, large deep vernal pools, and winter lakes (greater than 100 acres) but have also been found in very small (less than 25 square feet) ephemeral pools (Helm 1998:134–138; Rogers 2001:1002–1005). The species' presence in very small pools is believed to be a result of wash down from larger source pools (Helm pers. comm.). Vernal pool tadpole shrimp have been observed in a variety of habitats ranging from clear, vegetated vernal pools to highly turbid alkali scald with variable depths and volumes of water during the wet cycle (Helm 1998:134–138). Vernal pool tadpole shrimp are uncommon even where suitable habitats occur. During surveys conducted in more than 5,000 wetlands in 95 areas across 27 counties in northern and central California, vernal pool tadpole shrimp were detected in only 17% of wetlands sampled (Helm 1998). Based on the *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* (U.S. Fish and Wildlife Service 2005), the project area lies in the Western Placer County core area within the Southeastern Sacramento Valley vernal pool region but does not overlap with designated critical habitat for vernal pool tadpole shrimp (70 FR 46924 and 71 FR 7117).

As described above for vernal pool fairy shrimp, no protocol surveys for vernal pool tadpole shrimp were conducted and suitable habitat is assumed to be occupied by this species. In the project area, the two artificially created seasonal pools and a seasonal wetland located at the northern end of the project area (north of Pleasant Grove Boulevard) represent potential habitat for vernal pool tadpole shrimp. Large and deep pools, such as the artificially created seasonal pools and seasonal wetland, are likely to provide sufficient ponding duration to support the lifecycle of tadpole shrimp (minimum 38 days for adult maturation). Potential habitat for vernal pool tadpole shrimp is considered the same as habitat for vernal pool fairy shrimp and is depicted as vernal pool branchiopod habitat on Figures 3.4-1b through 3.4-1d.

In Placer County, there have been two documented populations of vernal pool tadpole shrimp in surveyed habitats. The species has been detected at the Woodcreek Oaks City Preserve (documented in a created vernal pool in 1993 and 1995) located just north of Pleasant Grove Boulevard (ECORP Consulting 2011; California Department of Fish and Game 2017a), less than 1 mile west of the project area. Vernal pool tadpole shrimp has also been detected in as many as 10 vernal pools at the Lincoln Communication Facility, now part of the Western Placer Schools Conservation Bank, in 1994, 1995, 1996, 2006, 2009, 2011, and 2013 (U.S. Fish and Wildlife Service 2007; California Department of Fish and Wildlife 2017a), located approximately 8 miles northwest of the project area. A vernal pool tadpole shrimp cyst was also detected in 2002 from a roadside wetland 5.6 miles north of the project area along Industrial Avenue (California Department of Fish and Wildlife 2017a). It is presumed that the cyst may have been transported into this habitat from nearby wetlands that have since been filled by a housing development.

Valley Elderberry Longhorn Beetle

Valley elderberry longhorn beetle is federally listed as threatened. The presumed historical range and current range of valley elderberry longhorn beetle extends from Tehama County south to Fresno County through the Central Valley and associated foothills from about the 3,000-foot contour on the east and the watershed of the Central Valley on the west (79 FR 55881-55884; U.S. Fish and Wildlife Service 1999:1). Valley elderberry longhorn beetle is dependent on its host plant, elderberry, which is a common component of riparian corridors and adjacent upland areas in the Central Valley (Barr 1991:5).

Valley elderberry longhorn beetle has four stages of life: egg, larva, pupa, and adult. Females deposit eggs on or adjacent to the host elderberry. Egg production varies; females have been observed to lay between 16 and 180 eggs. Eggs hatch within a few days of being deposited. Larvae emerge and bore into the wood of the host plant, creating a long feeding gallery in the pith of the elderberry stem. The larvae feed on the pith of the plant for 1 to 2 years. When a larva is ready to pupate, it chews an exit hole to the outside of the stem and then plugs it with frass. The larva then retreats into the feeding gallery and constructs a pupal chamber from wood and frass. The larvae metamorphose between December and April; the pupal stage lasts about a month. The adult remains in the chamber for several weeks after metamorphosis and then emerges from the chamber through the exit hole. Adults emerge between mid-March and mid- June, the flowering season of the plant. Adults feed on elderberry leaves and mate within the elderberry canopy (Talley et al. 2006:7–9).

One elderberry shrub was mapped in the project area on December 6, 2016, with stems measuring at least 1 inch in diameter at ground level (Figure 3.4-1c). A shrub of this size provides suitable habitat for the valley elderberry longhorn beetle. The shrub is growing in nonriparian habitat along a chain-link fence separating the UPRR right-of-way from an undeveloped parcel surrounded by commercial development. The dripline of the shrub is approximately 20 feet from the toe of the existing UPRR track berm. No valley elderberry longhorn beetle exit holes were detected in the shrub during field surveys. The closest CNDDB occurrence for valley elderberry longhorn beetle is a 2001 record from a conservation area in Rocklin, approximately 3 miles east of the project area (California Department of Fish and Wildlife 2017a).

Western Spadefoot Toad

The western spadefoot toad is designated as a state species of special concern. Western spadefoot toads range in length from 1.5 to 2.5 inches. They are dusky green or gray above and often have four irregular light-colored stripes on their back. The iris of the eye is usually a pale gold. The abdomen is whitish without any markings. Spadefoot toads have a wedge-shaped, glossy black “spade” on each hind foot, used for digging. In California, western spadefoot toads historically ranged throughout the Central Valley and Coast Ranges and the coastal lowlands from San Francisco Bay southward to Mexico (Jennings and Hayes 1994:94). The species has experienced severe population declines in the Sacramento Valley and a reduced density of populations in the eastern San Joaquin Valley (U.S. Fish and Wildlife Service 2005:II-223).

Western spadefoot toads typically inhabit lowland habitats such as washes, floodplains of rivers, alluvial fans, playas, and alkali flats. This species also may be found in the foothills and mountain regions. Western spadefoot toads prefer areas of open vegetation and short grasses where the soil is sandy or gravelly (U.S. Fish and Wildlife Service 2005:II-230). They are found in the valley and foothill grasslands, open chaparral, and pine-oak woodlands. Spadefoot toads are primarily terrestrial, and require upland habitats for feeding and for burrowing during their long dry-season dormancy (U.S. Fish and Wildlife Service 2005:II-231). They require wetlands for reproduction and have been observed in a variety of permanent and temporary wetlands, including rivers, creeks, pools in intermittent streams, vernal pools, and temporary rain pools (U.S. Fish and Wildlife Service 2005:II-231). Larval development can be completed in 3 to 11 weeks but has been known to take up to 79 days from hatching to metamorphosis (U.S. Fish and Wildlife Service 2005:II-227). Vernal pools and other temporary wetlands may be optimal for breeding due to the absence or reduced abundance of predators (U.S. Fish and Wildlife Service 2005:II-231). Little is known regarding the distance that western spadefoot toads disperse from aquatic breeding areas. Current research on amphibian conservation suggests that average habitat utilization falls within 1,207 feet of aquatic habitats (U.S. Fish and Wildlife Service 2005:II-231).

In the project area, streams, wetland streams, ditches, seasonal wetlands, and artificially created seasonal pools provide aquatic habitat for western spadefoot toad. Although they provide aquatic habitat, streams and wetland streams contain predatory fishes and are subject to high flows and scour that are not suitable for early lifestages (eggs, larvae, and metamorphosing juveniles).

Ditches conveying stormwater are also considered unsuitable breeding habitat because of high flows and scour. The seasonal wetland north of Pleasant Grove Boulevard and the artificially created seasonal pools along the UPRR right-of-way support the suitable breeding habitat for western spadefoot toad. Nonnative annual grassland, riparian scrub, and riparian woodland in the vicinity of the seasonal wetland and artificially created seasonal pools provide upland/burrowing habitat for adult spadefoots, although they may prefer grassland and woodland to scrub habitat.

The closest CNDDB occurrence for western spadefoot toad is a 1990 record from an intermittent drainage located near the intersection of Woodcreek Oaks Boulevard and Pleasant Grove Boulevard, 0.9 mile west of the project area (California Department of Fish and Wildlife 2017a).

Northern Western Pond Turtle

Northern western pond turtle (also called western pond turtle or Pacific pond turtle) is a California species of special concern. Pond turtles occur throughout much of California except for east of the Sierra-Cascade crest and desert regions (with the exception of the Mojave River and its tributaries) (Zeiner et al. 1988). Aquatic habitats used by northern western pond turtles include ponds, lakes, marshes, rivers, streams, and irrigation ditches with a muddy or rocky bottom in grassland, woodland, and open forest areas. Pond turtles spend a considerable amount of time basking on rocks, logs, emergent vegetation, mud or sand banks, or human-generated debris (Jennings et al. 1992:11). They move to upland areas adjacent to watercourses to deposit eggs and overwinter (Jennings and Hayes 1994). Pond turtles have been observed several hundred meters from aquatic habitat (Pilliod et al. 2013:215). Throughout their range, the furthest distance that pond turtles have been reported to travel from water is between approximately 500 and 1,500 feet (Pilliod et al. 2013:207) Where permanent water is available and winter temperatures are mild, for example in the southern portion of the range and along the central coast, northern western pond turtles can be active year-round. In colder regions and where permanent water is not reliable or aquatic habitat is associated with streams and rivers, pond turtles typically become active in March and return to overwintering sites by October or November (Jennings et al. 1992; Pilliod et al. 2013:215).

South Branch Pleasant Grove Creek and its tributaries represent suitable aquatic habitat in the project area for northern western pond turtle. Nonnative annual grassland, riparian scrub, and riparian woodland within the project area are located within 1,500 feet of potential aquatic habitat and, therefore, could be used as upland nesting and overwintering sites by pond turtles if they are present. No northern western pond turtles were observed within the project area during the 2016 and 2017 wildlife surveys.

White-Tailed Kite and Other Migratory Birds and Raptors

White-tailed kite is a state species of special concern and is designated as fully protected under California Fish and Game Code Section 3511. White-tailed kites generally inhabit low-elevation grassland, savannah, oak woodland, wetlands, agricultural, and riparian habitats. Some large shrubs or trees are required for nesting and for communal roosting sites. Nest trees range from small, isolated shrubs and trees to trees in relatively large stands (Dunk 1995). White-tailed kites make nests of loosely piled sticks and twigs, lined with grass and straw, near the top of dense oaks, willows, and other tree stands. The breeding season lasts from February through October and peaks between May and August. They forage in undisturbed, open grassland; meadows; farmland; and emergent wetlands.

Special-status and non-special-status migratory birds and raptors are protected under the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503 and 3503.5.

Focused nest surveys for white-tailed kite and other migratory birds and raptors were not conducted. The closest CNDDB occurrence for a white-tailed kite nest site is a 1998 record that is 1 mile northwest of the project area along Pleasant Grove Creek in riparian/oak woodland (California Department of Fish and Wildlife 2017a). The next closest occurrence for a white-tailed kite nest is a 1992 record that is 4.5 miles southeast of the project area along Linda Creek (California Department of Fish and Wildlife 2017a). Trees within the project area provide potential nesting habitat for white-tailed kite. Because the project is within a largely developed area with a high level of human disturbance and foraging habitat in the project vicinity is limited for white tailed kite, the potential for white-tailed kites to nest in the project area is reduced. No white-tailed kites were observed in the project area during the 2016 and 2017 wildlife surveys.

Migratory birds and raptors that are likely to nest in the project area include red-shouldered hawk (*Buteo lineatus*), Anna's hummingbird, western scrub jay, acorn woodpecker, American robin (*Turdus migratorius*), and house finch (*Haemorhous mexicanus*).

Pallid Bat, Western Red Bat, and Non-Special-Status Bats

The 2016/2017 wildlife habitat assessment identified potential roosting habitat for two special- status bats (pallid bat and western red bat) in the project area, as well as several species of non-special-status bats, including hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctivagans*), California myotis (*Myotis californicus*), and Yuma myotis (*Myotis yumanensis*).

Pallid bat is a California species of special concern and is considered a high priority species in California by the Western Bat Working Group (2017). This species is found throughout most of California at low to middle elevations (6,000 feet), in a variety of habitats including desert, brushy terrain, coniferous forest, and nonconiferous woodlands. Daytime roost sites include rock outcrops, mines, caves, hollow trees, buildings, and bridges. Night roosts are commonly under bridges but are also in caves and mines (Brown and Pierson 1996). Hibernation may occur during late November through March. Pallid bats breed from late October through February (Zeiner et al. 1990b:70) and one or two young are born in May or June (Brown and Pierson 1996).

Western red bat is a California species of special concern and is considered a high priority species in California by the Western Bat Working Group (2017). This species is found throughout much of California at lower elevations, primarily in riparian and wooded habitats but also occurs seasonally in urban areas (Brown and Pierson 1996). Western red bats roost in the foliage of trees that are often located on the edge of habitats adjacent to streams, fields, or urban areas. This species breeds in August and September and young are born in May through July (Zeiner et al. 1990b:60).

No focused or acoustics surveys for special-status bats were conducted. One CNDDB record exists for pallid bat within 6.0 miles of the project area; the record is from 1941 for a single pallid bat collected southeast of the project area (California Department of Fish and Wildlife 2017a). Mature trees with basal hollows, cavities, loose/peeling bark, deeply furrowed bark, cracks, and crevices represent suitable roosting habitat for pallid bat. Pallid bats may also roost in box culverts, or in mud nests of structure-nesting birds that are built in culverts. The bicycle tunnel is not considered to be suitable habitat because of the absence of expansion joints, cracks and crevices, or other similar built features, and because it is regularly disturbed by pedestrian and bicycle traffic.

Other potentially suitable features identified in the project area for pallid bat roosting are the gage station at the bicycle and pedestrian bridge over South Branch Pleasant Grove Creek, and in weep holes on the underside of the Pleasant Grove Boulevard overcrossing. These features are not expected to be disturbed or removed as part of the project.

No records exist for western red bat within 10 miles of the project area. Mature trees with well- developed canopies and abundant foliage represent suitable roosting habitat for western red bat within the project area. Mature trees within the project area also provide suitable roosting habitat for non-special-status foliage roosting bats, such as hoary bat. Trees with crevices provide suitable roosting habitat for silver-haired bat. No expansion joints or other crevice-like habitat were observed at the pedestrian/bicycle bridge, pedestrian/bicycle tunnel, or in the box culverts under the roadway or UPRR track. No signs of bat use were detected at these structures during the 2016 wildlife surveys. However, standing or flowing water was present in the box culverts at the time of the surveys and may have obscured guano accumulations or culled insect parts.

Andora bridge was not directly inspected during the field surveys because pedestrian traffic at this location on Washington Boulevard is prohibited. However, based on available street view imagery, the concrete abutments flanking the roadway do not provide crevice-like habitat for roosting. The underside of the crossing was not visible in this imagery but would likely be unsuitable for roosting. Bats may avoid roosting in structure, crevice, or cavity habitats with a high level of light disturbance at the entry/exit, and high likelihood of collision with vehicles. Culverts in the project area that would be removed or modified may also provide suitable roosting habitat, particularly at night, for non-special-status bats such as California myotis and Yuma myotis. Although box culverts in the project area lack crack and crevice-like features, inactive mud nests built by structure-nesting birds could support day roosting bats.

Special-Status Fish Species

Based on the CNDDB search results and the USFWS and NMFS lists of endangered, threatened, and proposed species within the project region, and general information on species' distribution in the Central Valley, two special-status fish species–delta smelt and California Central Valley steelhead were identified as having the potential to occur in the project region (Moyle 2002; California Department of Fish and Wildlife 2017; U.S. Fish and Wildlife Service 2017). However, these species do not occur in the project area. Delta smelt (*Hypomesus transpacificus*) does not occur in the project area because the project area is outside the species' historical and existing range. California Central Valley steelhead would not occur in the project area because the project area lacks suitable riverine habitat. Additional information to support the absence of these species in the project area is provided in Table 3.4-2. South Branch Pleasant Grove Creek is not designated critical habitat for California Central Valley steelhead, nor is it considered Essential Fish Habitat for Chinook salmon within the project area.

Other Protected and Managed Biological Resources

Cliff swallows (*Petrochelidon pyrrhonota*) and barn swallows (*Hirundo rustica*) are species that frequently build mud nests on the undersides of artificial structures such as bridges. Swallows winter in South America and return to California to breed during February. Swallows nest from April to August and migrate south during September and October (Zeiner et al. 1990a). Black phoebes also build mud nests on, near, or over water on cliff faces, on walls of old buildings, under bridges, under eaves, and on other natural and artificial sheltered locations near water. Black phoebes breed from March to August (Zeiner et al. 1990a). The occupied nests and eggs of migratory birds are protected by federal and state laws, including the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503 and 3503.5. USFWS is responsible for overseeing compliance with the Migratory Bird Treaty Act, and CDFW is responsible for overseeing compliance with the California Fish and Game Code and making recommendations on nesting bird protection.

Based on 2016 wildlife surveys, the Pleasant Grove Boulevard overcrossing structure in the project area provides nesting habitat (i.e., weep holes) for white-throated swifts and northern rough-winged swallows. This structure, as well as box culverts under Washington Boulevard and the UPRR track, provide other structure nesting sites (i.e., ledges and 90 degree angles) for non-special-status birds including cliff swallows and black phoebe. Within the project area, remnant cliff swallow nests were observed on the underside of the Pleasant Grove Boulevard overcrossing; a black phoebe nest and several remnant swallow nests were also present in the box culvert conveying the waters of South Branch Pleasant Grove Creek under Washington Boulevard. White-throated swifts were detected through calls during the winter 2016 and 2017 wildlife surveys in proximity to the Pleasant Grove Boulevard overcrossing.

Table 3.4-1. Special-Status Plant Species Identified as Having the Potential to Occur in the Project Region

Common Name Scientific Name	Status[a] Federal/ State/CRPR	General Habitat Description	Blooming Period	Habitat Present/ Absent	Rationale
California balsamroot *Balsamorhiza macrolepis*	–/–/1B.2	Sometimes on serpentine soils in chaparral, cismontane woodland, valley and foothill grassland; 295–5,101 feet	March–June	Present	No serpentine soils present, but small amount of marginally suitable habitat present. Nearest known occurrence is 0.5 mile north of project area in the same soil map unit as occurs in the project area. Not observed during May 2017 survey.
Hispid bird's-beak *Chloropyron molle* ssp. *hispidum*	–/–/1B.1	Meadow and seeps, valley and foothill grassland, playa, on alkaline soils; 3–508 feet	June–September	Absent	Microhabitat requirements (i.e., alkaline soils) not present in project area. Nearest known occurrence is 3.6 miles northeast of project area.
Brandegee's clarkia *Clarkia biloba ssp. brandegeeae*	–/–/4.2	Chaparral, cismontane woodland, lower coniferous forest, often on roadcuts; 246–3,001 feet	May–July	Absent	No suitable habitat present. Nearest known occurrence is 8.6 miles southeast of project area.
Dwarf downingia *Downingia pusilla*	–/–/2B.2	Vernal pools and mesic valley and foothill grasslands; below 1,459 feet	March–May	Absent	Nearest known occurrence is an extirpated occurrence 0.9 mile north of project area.
Stinkbells *Fritillaria agrestis*	–/–/4.2	Chaparral, cismontane woodland, pinyon-juniper woodland, valley and foothill grassland, on clay, sometimes serpentinite substrate; 33–5,101 feet	March–June	Present	Small amount of marginally suitable habitat present (minor amount of Alamo series clay soils could be present within two of the soil map units). Nearest known occurrence is a possibly extirpated occurrence 3.1 miles southwest of project area. Not observed during May 2017 survey.

Common Name Scientific Name	Status[a] Federal/ State/CRPR	General Habitat Description	Blooming Period	Habitat Present/ Absent	Rationale
Boggs Lake hedge-hyssop *Gratiola heterosepala*	–/E/1B.2	Clay soils in areas of shallow water, lake margins of swamps and marshes, vernal pool margins; 33–7,791 feet	April–August	Absent	Nearest known occurrences are two extirpated occurrences 1.5 miles east of project area.
Ahart's dwarf rush *Juncus leiospermus* var. *ahartii*	–/–/1B.2	Wet areas in valley and foothill grassland, vernal pool margins; 98–751 feet	March–May	Absent	Nearest known occurrence is 9.3 miles north of project area.
Red Bluff dwarf rush *Juncus leiospermus* var. *leiospermus*	–/–/1B.1	Seasonally wet areas in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools; 115–4,101 feet	March–May	Absent	Nearest known occurrence is 1.9 miles north of project area.
Legenere *Legenere limosa*	–/–/1B.1	Deep, seasonally wet habitats such as vernal pools, ditches, marsh edges, and river banks; below 2,887 feet	April–June	Absent	Nearest known occurrence is 2.4 miles north of project area.
Pincushion navarretia *Navarretia myersii* ssp. *myersii*	–/–/1B.1	Edges of vernal pools; 66–1,083 feet	April–May	Absent	Nearest known occurrence is 7.1 miles north of the project area.
Adobe navarretia *Navarretia nigelliformis* ssp. *nigelliformis*	–/–/4.2	Clay soils in vernal pools and vernally mesic annual grassland, sometimes serpentine; 330–3,300 feet	April–July	Absent	Project area is below known elevation range of this plant and no serpentine soils occur in the project area. Nearest known occurrence is more than 10 miles from project area.
Sacramento Orcutt grass *Orcuttia viscida*	E/E/1B.1	Large, deep vernal pools; 98–328 feet	April–July	Absent	Nearest known occurrence is 7.8 miles southeast of project area.

Common Name Scientific Name	Status[a] Federal/ State/CRPR	General Habitat Description	Blooming Period	Habitat Present/ Absent	Rationale
Sanford's arrowhead *Sagittaria sanfordii*	–/–/1B.2	Freshwater marshes, sloughs, canals, and other slow-moving water habitats; below 2,132 feet	May–October	Present	Potential habitat present. Nearest known occurrence is 2.9 miles southwest of project area. Not observed during May 2017 survey.

Sources: California Department of Fish and Wildlife 2017a; California Native Plant Society 2017.

[a] Status explanations:

Federal

- E = Listed as endangered under the federal Endangered Species Act.
- – = No listing status.

State

- E = Listed as endangered under California Endangered Species Act.
- – = No listing status.

California Rare Plant Rank (CRPR)

- 1B = rare, threatened, or endangered in California and elsewhere.
- 2B = rare, threatened, or endangered in California but more common elsewhere.
- 4 = limited distribution; species on a watch list (note: List 4 may not meet the definition of special status but may warrant consideration on the basis of local significance or recent biological information).
- .1 = Seriously endangered in California (over 80% of occurrences threatened—high degree and immediacy of threat).
- .2 = Fairly endangered in California (20-80% occurrences threatened).

Table 3.4-2. Special-Status Wildlife and Fish Species Identified as Having the Potential to Occur in the Project Region

Common Name ***Scientific Name***	**Legal Status[a] (Federal/State)**	**General Habitat Description**	**Habitat Present/ Absent[b]**	**Rationale**
Invertebrates				
Conservancy fairy shrimp *Branchinecta conservatio*	E/–	Disjunct occurrences in Solano, Merced, Tehama, Ventura, Butte, Placer, and Glenn Counties; Central Valley. Large, deep vernal pools in annual grasslands.	Absent	No intact large, deep vernal pools in annual grasslands are present in the project area. The nearest CNDDB occurrence is more than 10 miles from the project area.
Vernal pool fairy shrimp *Branchinecta lynchi*	T/–	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County Common in vernal pools and swales; also found in sandstone rock outcrop pools.	Present	Two artificially created seasonal pools in the project area represent suitable habitat and would be affected by construction of the shoofly. A seasonal wetland at the north end of project area also provides suitable habitat; however, project activities would not occur in this area and no impacts on this feature are anticipated. The closest CNDDB occurrence is 0.5 mile from the project area.
Vernal pool tadpole shrimp *Lepidurus packardi*	E/–	Shasta County south to Merced County, also found in San Francisco Bay National Wildlife Refuge. Vernal pools, swales, and ephemeral stock ponds containing highly turbid waters; also drainages, reservoirs, ditches, backhoe pits and ruts.	Present	Two artificially created seasonal pools in the project area represent suitable habitat and would be impacted by construction of the shoofly. A seasonal wetland at the north end of project area also provides suitable habitat; however project activities would not occur in this area and no impacts on this feature are anticipated. The closest CNDDB occurrence is 0.7 mile from the project area.

Common Name ***Scientific Name***	**Legal Status[a] (Federal/State)**	**General Habitat Description**	**Habitat Present/ Absent[b]**	**Rationale**
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T/–	Stream side habitats below 3,000 feet throughout the Central Valley, along American River, Putah Creek, and the Merced River; also found in the San Joaquin Valley. Riparian and oak savanna habitats with elderberry shrubs; elderberries are the host plant.	Present	One elderberry shrub (host plant) is present in the project area and within 15 feet of the project limits. Project activities would avoid impacts on this shrub. The closest CNDDB occurrence is 3.1 miles from the project area.
Fish				
Delta smelt *Hypomesus transpacificus*	T/E	Found primarily in the Sacramento–San Joaquin Estuary, but has been found as far upstream as the mouth of the American River on the Sacramento River and Mossdale on the San Joaquin River; range extends downstream to San Pablo Bay.	Absent	The project area is not located within the historical or current distribution of this species, and suitable habitat does not occur in the project area. The nearest CNDDB occurrence is more than 10 miles from the project area.
California Central Valley steelhead *Oncorhynchus mykiss*	T/–	Sacramento River and tributary Central Valley rivers downstream of physical barriers, including dams. Resident, nonlisted forms (rainbow trout) occur upstream and downstream of physical barriers. Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 8–18°C (Moyle 2002). Habitat types are riffles, runs, and pools.	Absent	South Branch Pleasant Grove Creek in the project area does not provide suitable riverine habitat. This species is not expected to be present in the project area because of excessively warm water temperatures and low or no flow. The closest CNDDB occurrence is 1.1 miles from the project area in Dry Creek and its tributaries in Secret and Miners Ravine.

Common Name *Scientific Name*	Legal Status[a] (Federal/State)	General Habitat Description	Habitat Present/ Absent[b]	Rationale
Amphibians				
California red-legged frog *Rana draytonii*	T/SSC	Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehama County to Fresno County. Occurs in permanent and semipermanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May estivate in rodent burrows or cracks during dry periods.	Present	Suitable perennial aquatic habitat is present within the project area, however, the species is believed by USFWS to be extirpated from the floor of the Central Valley (U.S. Fish and Wildlife Service 2002) and the project area would be considered part of the Sacramento Valley. The nearest CNDDB occurrence is more than 35 miles from the project area. This species is not expected to be present within the project area.
Western spadefoot *Spea hammondii*	–/SSC	Sierra Nevada foothills, Central Valley, Coast Ranges, coastal counties in southern California; west of Sierran-desert range axis. Shallow streams with riffles and seasonal wetlands, such as vernal pools in annual grasslands and oak woodlands, also temporary rainpools.	Present	Suitable aquatic habitat (artificially created seasonal pools) and upland habitat are present within the project area. Stream habitat is not expected to provide suitable breeding habitat because it is likely to be subject to pulse flows and scour, which would not provide conditions suitable for developing eggs and larvae. The closest CNDDB occurrence is 0.9 mile from the project area.

Common Name ***Scientific Name***	**Legal Status[a] (Federal/State)**	**General Habitat Description**	**Habitat Present/ Absent[b]**	**Rationale**
Reptiles				
Giant garter snake *Thamnophis gigas*	T/T	Central Valley from the vicinity of Burrel in Fresno County north to near Chico in Butte County; has been extirpated from areas south of Fresno; found at elevations from near sea level to 400 feet. Sloughs, canals, low gradient streams and freshwater marsh habitats where there is a prey base of small fish and amphibians; also found in irrigation ditches and rice fields; requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding during winter.	Absent	Stream habitat within the project area does not provide suitable habitat for giant garter snake because summer flows rely on irrigation runoff and do not provide consistent deep water areas required for foraging and refuge. No giant garter snakes have been reported from Placer County and the closest known occurrence is approximately 10 miles west of the project area in rice field habitat along Steelhead Creek. No rice field habitat is present within or near the project area.
Northern western pond turtle *Actinemys marmorata*	–/SSC	Occurs throughout California west of the Sierra- Cascade crest. Found from sea level to 6,000 feet. Does not occur in desert regions except for along the Mojave River and its tributaries. Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests.	Present	Suitable aquatic and upland habitat is present within and along South Branch Pleasant Grove Creek and its tributaries in the project area. Species may be present in the project area. The closest CNDDB occurrence is 6.9 miles from the project area.

Common Name *Scientific Name*	**Legal Status[a] (Federal/State)**	**General Habitat Description**	**Habitat Present/ Absent[b]**	**Rationale**
Birds				
Swainson's hawk *Buteo swainsoni*	–/T	Requires large, open grasslands with suitable nest trees; nests in oaks or cottonwoods in or near riparian habitats; forages in grasslands, lightly grazed pastures/crops, irrigated pastures, and grain fields. Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis and Woodland, Yolo County.	Present	Nesting habitat and limited foraging habitat are present in the project area. However, because habitat in the project area is surrounded by residential areas, and subject to disturbance from human activity and by proximity to the railroad, this species is not expected to nest in the project area. The closest CNDDB occurrence is 1.9 miles from the project area.
Black rail *Laterallus jamaicensis*	–/T, FP	Permanent resident in the San Francisco Bay and eastward through the Delta into Sacramento and San Joaquin Counties; small populations in Marin, Santa Cruz, San Luis Obispo, Orange, Riverside, and Imperial Counties. Tidal salt marshes associated with heavy growth of pickleweed; also occurs in brackish marshes or freshwater marshes at low elevations.	Absent	Wetland vegetation in the project area does not provide suitable nesting substrate for the species. Because the project area is surrounded by developed areas subject to disturbance from human activity and because domestic animals are present, this species is not expected to occur in the project area. The closest CNDDB occurrence is 5.8 miles from the project area.

Common Name ***Scientific Name***	**Legal Status[a] (Federal/State)**	**General Habitat Description**	**Habitat Present/ Absent[b]**	**Rationale**
Western burrowing owl *Athene cunicularia*	–/SSC	Lowlands throughout southern, central, and eastern California, including the Central Valley, northeastern plateau, southeastern deserts, and some coastal areas. Rare along the south coast. Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows; also found in coastal terrace prairies and sagebrush habitats.	Present	Limited foraging habitat is present within the project area; because the project area is surrounded by developed areas subject to disturbance from human activity and because domestic animals are present, this species is not expected to occur in the project area. No suitable burrows were detected in the project area during the winter 2016 and 2017 field surveys. The closest CNDDB occurrence is 3.3 miles from the project area.
White-tailed kite *Elanus leucurus*	–/FP	Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border. Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands or cropland for foraging.	Present	Nesting habitat and limited foraging habitat are present in the project area. The closest CNDDB occurrence is1 mile from the project area. Because habitat in the project area is surrounded by developed areas subject to disturbance from human activity and the railroad, this species may forage or migrate through, but is not expected to nest in, the project area.

Common Name ***Scientific Name***	**Legal Status[a] (Federal/State)**	**General Habitat Description**	**Habitat Present/ Absent[b]**	**Rationale**
Purple martin *Progne subis*	–/SSC	Coastal mountains of Humboldt County south to San Luis Obispo County, west slope of the Sierra Nevada, and northern Sierra and Cascade ranges. Absent from the Central Valley except in Sacramento. Isolated, local populations in southern California. Nests in abandoned woodpecker holes in oaks, cottonwoods, and other deciduous trees in a variety of wooded and riparian habitats. Also nests in vertical drainage holes under elevated freeways and highway bridges or lapsed lava tubes; distributed in (redwood) forest and woodland areas at low to intermediate elevations.	Present	Purple martins have been documented to nest in the drain holes within the State Route 65 overcrossing at Taylor Road approximately 2.3 miles to the east of the project area. Weep holes in the Pleasant Grove overcrossing provide suitable nesting habitat, however nesting purple martins have not been detected in Roseville since 2012 (Airola and Kopp 2012, 2015). This species is not expected to occur in the project area.
Bank swallow *Riparia riparia*	–/T	Occurs along the Sacramento River from Tehama County to Sacramento County, along the Feather and lower American Rivers, in the Owens Valley; and in the plains east of the Cascade Range in Modoc, Lassen, and northern Siskiyou Counties. Small populations near the coast from San Francisco County to Monterey County. Nests in bluffs or banks, usually adjacent to water, where the soil consists of sand or sandy loam, along streams, coastal bluffs, and sand/gravel pits.	Absent	No suitable banks or bluff habitats are present for nesting in the project area. The closest CNDDB occurrence is 8.8 miles from the project area.

Common Name ***Scientific Name***	**Legal Status[a] (Federal/State)**	**General Habitat Description**	**Habitat Present/ Absent[b]**	**Rationale**
Tricolored blackbird *Agelaius tricolor*	–/C	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties. Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grain fields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony.	Absent	The wetland vegetation in the project area is not contiguous enough to support nesting because the species typically forms large colonies. The closest CNDDB occurrence is 4.7 miles from the project area.
Modesto song sparrow *Melospiza melodia*	–/SSC	Found in the north-central portion of the Central Valley, from Butte Sink, Perkins and Eddy Lakes, and Little Butte Creek in Butte County, Colusa and Delevan National Wildlife Refuges, along the Sacramento River in Colusa and Sutter Counties, west of Tisdale in Sutter County, northern San Joaquin Valley in the Delta, and sparsely along the Mokelumne River riparian corridor. Breeds in emergent freshwater wetlands (tules and cattails) and early successional riparian thickets (willows). May also use sparsely vegetated irrigation canals and levees, and valley oak riparian forests with blackberry understory for breeding. Can be found singing or foraging along roadside irrigation ditches. Requires moderately dense vegetation for nest site cover, semi-open canopies, and open ground or leaf litter for foraging.	Present	Limited suitable foraging and nesting habitat (seasonal wetland) is present in the project area. The nearest CNDDB occurrence is more than 10 miles from the project area.

Common Name ***Scientific Name***	**Legal Status[a] (Federal/State)**	**General Habitat Description**	**Habitat Present/ Absent[b]**	**Rationale**
Grasshopper sparrow *Ammodramus savannarum*	–/SSC	Sierra foothills, Central Valley floor, Coast Ranges, and coastal areas from Mendocino County south to San Diego County and across to Riverside County; range also extends from Humboldt and Del Norte Counties into the Shasta Valley, Siskiyou County. Dry grasslands with scattered shrubs for song perches; found in humid north coast, prairies/pastures scattered in largely forested landscape, and on hillsides and mesas along the south coast.	Present	Suitable nesting habitat (grassland) is present in the project area. The closest CNDDB occurrence is 6.0 miles from the project area.
Western yellow-billed cuckoo *Coccyzus americanus*	T/E/–	Nests along the upper Sacramento, lower Feather, south fork of the Kern, Amargosa, Santa Ana, and Colorado Rivers. Wide, dense riparian forests with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging; may avoid valley-oak riparian habitats where scrub jays are abundant.	Absent	No suitable habitat (dense riverine riparian) is present in the project area. The nearest CNDDB occurrence is more than 10 miles from the project area.
Mammals				
Pallid bat *Antrozous pallidus*	–/SSC	Occurs throughout California except the high Sierra from Shasta to Kern County and the northwest coast, primarily at lower and mid elevations. Occurs in a variety of habitats from desert to coniferous forest. Most closely associated with oak, yellow pine, redwood, and giant sequoia habitats in northern California and oak woodland, grassland, and desert scrub in southern California. Relies heavily on trees for roosts but also uses caves, mines, bridges, and buildings.	Present	Numerous mature trees that provide suitable roosting habitat are present in the project area. The closest CNDDB occurrence is 6.0 miles from the project area.

Common Name ***Scientific Name***	**Legal Status[a] (Federal/State)**	**General Habitat Description**	**Habitat Present/ Absent[b]**	**Rationale**
Townsend's big-eared bat *Corynorhinus townsendii*	–/SSC	Widespread throughout California, from low desert to mid-elevation montane habitats. Roosts in caves, tunnels, mines, buildings, and other cave-like spaces. Will night roost in more open settings, including under bridges.	Absent	The pedestrian tunnel under the railroad does not provide suitable day roost habitat, and no other suitable day roost habitat was detected in the project area during the winter 2016 survey. The pedestrian bridge over South Branch Pleasant Grove Creek, bike path/tunnel under the railroad, and the Pleasant Grove Boulevard overcrossing may provide suitable night roost habitat; however, no signs of bat occupancy were detected during the winter 2016 surveys. This species is not expected to occur in the project area because suitable day roosting habitat is absent. The closest CNDDB occurrence is 10 miles from the project area.
Western red bat *Lasiurus blossevillii*	–/SSC	Occurs throughout much of California at lower elevations. Found primarily in riparian and wooded habitats. Occurs at least seasonally in urban areas. Day roosts in trees within the foliage. Found in fruit orchards and sycamore riparian habitats in the Central Valley.	Present	Numerous large mature oak trees providing dense foliage for roosting are present in the project area. This species may be present in the project area. The nearest CNDDB occurrence is more than 10 miles from the project area.

Common Name ***Scientific Name***	**Legal Status[a] (Federal/State)**	**General Habitat Description**	**Habitat Present/ Absent[b]**	**Rationale**
American badger *Taxidea taxus*	–/SSC	Throughout California, except for the humid coastal forests of northwestern California in Del Norte and northwestern Humboldt Counties Occurs in a wide variety of open, arid habitats but is most commonly associated with grasslands, savannas, and mountain meadows near timberline; requires sufficient food (burrowing rodents), friable soils, and relatively open, uncultivated ground.	Absent	Grassland habitat in the project area is not sufficiently large or open to support this species. The closest CNDDB occurrence is 9.6 miles from the project area.

Sources: California Department of Fish and Wildlife 2017; Central Valley Bird Club Bulletin 2011.

CNDDB = California Natural Diversity Database

[a] Status explanations:

Federal

- E = listed as endangered under the federal Endangered Species Act.
- T = listed as threatened under the federal Endangered Species Act.
- – = no listing.

State

- E = listed as endangered under the California Endangered Species Act.
- T = listed as threatened under the California Endangered Species Act.
- CT = candidate for listing as threatened under the California Endangered Species Act.
- FP = fully protected under California Fish and Game Code.
- SSC = species of special concern in California.
- – = no listing.

[b] Habitat designations:

- Absent = no habitat present and no further work needed.
- Present = habitat is, or may be present. The species may be present.

3.4.2 Environmental Impacts

This section describes the CEQA impact analysis relating to biological resources for the proposed project and alternatives. Where appropriate, the biological resource impacts associated with the two construction phases are discussed. This section contains the methods used to determine the project's potential impacts and lists the criteria thresholds used to conclude whether an impact would be significant. Measures to mitigate (avoid, minimize, or compensate for) significant impacts accompany each impact discussion where applicable.

Methods for Analysis

The impact analysis for biological resources was conducted by evaluating the potential changes to existing biological communities based on the anticipated project construction activities listed below that could cause direct and indirect impacts of varying degrees on sensitive biological resources present in the project area:

- Vegetation removal.
- Grading, excavating, compacting, and fill placement during construction.
- In-water work during construction of box culverts (new and temporary culverts, extensions, and replacements) at existing stream crossings.
- Temporary dewatering of streams during construction.
- Temporary stockpiling and side-casting of soil, construction materials, or other construction wastes.
- Runoff of herbicides, fertilizers, diesel fuel, gasoline, oil, raw concrete, or other toxic materials used for project construction and maintenance into sensitive biological resource areas (e.g., wetlands and streams).

The following assumptions were used in assessing the magnitude of possible impacts on biological resources:

- Protected native oak trees that would be removed as part of the proposed project occur within riparian woodlands, and impacts are identified within the riparian woodland discussions.
- Impacts on land cover types and associated wildlife habitat were determined by overlaying preliminary footprints for permanent project features and temporary work areas (e.g., access roads, equipment staging) onto an aerial photograph base map with mapped habitats. Impact acreages presented in this chapter are intended to provide worst-case scenarios; actual impacts are expected to be less based on avoidance of trees and other vegetation within temporary work areas.
- Activities to construct the shoofly track, including fill placement and grading to construct and maintain a temporary access road for construction vehicles (except where temporary staging areas are already proposed for locations within Open Space Preserve), would be implemented within the existing UPRR right-of-way.

- Loss of annual grassland vegetation in the project area is not considered a significant impact from a botanical standpoint because this habitat is common and is not considered a sensitive natural community. Annual grassland vegetation also reestablishes more easily after disturbance than do riparian or wetland communities. However, the loss of annual grassland habitat could result in impacts on special-status wildlife species habitat, and these habitat impacts are discussed in this analysis.
- Construction best management practices (BMPs) would be implemented to ensure that indirect effects on habitats within the preserves are avoided or minimized.
- The proposed project would not result in impacts on special-status plants or fish because none occur in the project area. Therefore, a discussion of these species is not included in this section.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- 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 Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means.
- 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.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

Impacts and Mitigation Measures

This section describes impacts expected result from project implementation and provides mitigation measures, where applicable. In general, the proposed project and Alternative 1 (one lane closure during construction) would result in the same types and levels of biological impacts. When impacts between phases are different, these are noted in the analysis. As indicated in the analysis and summary table below, all recommended biological resource mitigation measures apply to both project phases with two exceptions. The exceptions are Mitigation Measures BIO-1.5 and BIO-1.6 which apply to Phase 2 construction activities only. Alternative 2 (No Project) would not result in any new impacts related to biological resources and is not discussed further in this analysis.

Impact BIO-1	**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 Wildlife or U.S. Fish and Wildlife Service**
Applicable Policies and Regulations	Federal Endangered Species Act Migratory Bird Treaty Act California Endangered Species Act California Fish and Game Code Sections 3503, 3503.5, 3511, 3513, 3800 City of Roseville General Plan 2035, Open Space and Conservation Element
Significance with Policies and Regulations	Proposed Project: Potentially Significant Alternative 1: Potentially Significant
Mitigation Measures	Proposed Project and Alternative 1: Mitigation Measure BIO-1.1: Install Fencing and/or Flagging to Protect Sensitive Biological Resources Mitigation Measure BIO-1.2: Conduct Environmental Awareness Training for Construction Personnel Mitigation Measure BIO-1.3: Retain a Qualified Biologist to Conduct Preconstruction Surveys and Periodic Monitoring during Construction in Sensitive Habitats Mitigation Measure BIO-1.4: Protect Water Quality and Minimize Sedimentation Runoff in Wetlands and Non-Wetland Waters Mitigation Measure BIO-1.5: Compensate for Direct Impacts on Vernal Pool Branchiopod Habitat (Phase 2 only) Mitigation Measure BIO-1.6: Install a No-Disturbance Buffer around the Elderberry Shrub (Phase 2 only) Mitigation Measure BIO-1.7: Conduct a Preconstruction Survey for Northern Western Pond Turtle and Exclude Turtles from the Work Area Mitigation Measure BIO-1.8: Conduct Vegetation Removal during the Non-breeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds and Raptors

	Mitigation Measure BIO-1.9: Conduct Preconstruction Surveys for Roosting Bats and Implement Protection Measures Mitigation Measure BIO-1.10: Modify Existing Structures during the Non-Breeding Season for Structure-Nesting Migratory Birds or Implement Exclusion Measures to Deter Nesting
Significance after Mitigation	Proposed Project: Less than Significant with Mitigation Alternative 1: Less than Significant with Mitigation

Proposed Project

Vernal Pool Fairy Shrimp

Based on the known presence of vernal pool fairy shrimp in the project vicinity (within 1 mile of the project area), it was determined that vernal pool fairy shrimp may occur in suitable habitat (two artificially created seasonal pools and one seasonal wetland) within the project area. For the purpose of this impact analysis, habitat in the project area that supports suitable habitat characteristics is presumed to be occupied by vernal pool fairy shrimp. Two artificially created seasonal pools that provide suitable habitat for vernal pool fairy shrimp would be directly affected (filled) during construction of the temporary shoofly (associated with Phase 2 of the project).

As indicated in the *Environmental Setting* section, several seasonal wetlands west of the project area (in City open space) and one seasonal wetland within the project area (along the UPRR track) could provide suitable habitat for vernal pool fairy shrimp. Phase 2 construction of the proposed UPRR temporary shoofly track would require ground disturbance and grade modifications in the right-of-way and within 200 feet of these habitat features. The seasonal wetlands in the open space are topographically higher than the low-lying UPRR track where the temporary shoofly would be installed. Potential indirect effects on these seasonal wetlands would be avoided by restricting construction access to the right-of-way. The seasonal wetland that provides suitable habitat in the project area (along the east side of the railroad tracks; Figure 3.4-1b) would be separated from project activities by the existing railroad and is not hydrologically connected to the area where the proposed shoofly track would be constructed; therefore, indirect effects on this habitat would be avoided.

Ground disturbance (excavating and grading) would be limited to the minimum necessary to complete installation of the temporary shoofly track within the UPRR right-of-way. Construction to key in placed fill material would occur horizontally against the existing railroad berm; excavation below initial construction grade elevation would occur only if unsuitable material (i.e., material that is too high in moisture or organic content) was encountered. Therefore, impacts on the surrounding topography and outside the project area are assumed to be negligible.

Habitat modification resulting from Phase 2 of the proposed project would result in the loss of 0.08 acre of suitable vernal pool fairy shrimp habitat, which is considered an adverse effect on the species. A biological assessment has been submitted to the USFWS to support FESA Section 7 consultation between Caltrans (on behalf of the Federal Highway Administration) and USFWS for project effects on vernal pool fairy shrimp.

This would be a Phase 2 construction significant impact. Implementation of Mitigation Measures BIO-1.1, BIO-1.2, BIO-1.3, BIO-1.4, and BIO-1.5 during Phase 2 construction would reduce impacts to a less-than-significant level.

Mitigation Measure BIO-1.1: Install Fencing and/or Flagging to Protect Sensitive Biological Resources

Prior to construction, the City's contractor will install high-visibility orange construction fencing and/or flagging, as appropriate, along the perimeter of the work area adjacent to Environmentally Sensitive Areas (ESAs) (e.g., riparian vegetation, wetlands, streams, special-status species habitat, elderberry shrub, and active bird nests). The City will ensure that the final construction plans show the locations where fencing will be installed. The plans also will define the fencing installation procedure. The City or contractor (at the discretion of the City) will ensure that the fencing is maintained throughout the duration of the construction period. If the fencing is removed, damaged, or otherwise compromised during the construction period, construction activities will cease until the fencing is repaired or replaced. The project's special provisions package will provide clear language regarding acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within ESAs. All temporary fencing will be removed upon completion of construction.

Mitigation Measure BIO-1.2: Conduct Environmental Awareness Training for Construction Personnel

Before any work occurs within the project limits, including equipment staging, grading, and tree and/or vegetation removal (clear and grub), the City will retain a qualified biologist (familiar with the resources in the area) to conduct a mandatory contractor/worker environmental awareness training for construction personnel. The awareness training will be provided to all construction personnel (contractors and subcontractors) prior to beginning construction to brief them on the need to avoid effects on sensitive biological resources adjacent to construction areas and the penalties for not complying with applicable state and federal laws and permit requirements. The biologist will inform all construction personnel about the life history and habitat requirements of special-status species with potential for occurrence onsite, the importance of maintaining habitat, and the terms and conditions of the Biological Opinion or other authorizing document (e.g. letter of concurrence). The environmental training will also cover general restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on sensitive biological resources during project construction.

Mitigation Measure BIO-1.3: Retain a Qualified Biologist to Conduct Preconstruction Surveys and Periodic Monitoring during Construction in Sensitive Habitats

The City will retain a qualified biologist to conduct periodic site visits during construction activities that involve ground disturbance (e.g., vegetation removal, grading, excavation, shoofly track construction) within or adjacent to ESAs. The timing and frequency of this monitoring will be determined through coordination with the City or as determined by the project permits. The purpose of the monitoring is to ensure that measures identified in this report are properly implemented to avoid and minimize effects on sensitive biological resources and to ensure that the project complies with all applicable permit requirements and agency conditions of approval. The biologist will ensure that fencing around ESAs remains in place during construction and that no construction personnel, equipment, or runoff/sediment from the construction area enters ESAs.

Mitigation Measure BIO-1.4: Protect Water Quality and Minimize Sedimentation Runoff in Wetlands and Non-Wetland Waters

The City will comply with all construction site BMPs specified in the Storm Water Pollution Prevention Plan, and any other permit conditions to minimize the introduction of construction-related contaminants and mobilization of sediment in wetlands and non-wetland waters in and adjacent to the project area. These BMPs will address soil stabilization, sediment control, wind erosion control, vehicle tracking control, non-stormwater management, and waste management practices. The BMPs will be based on the best conventional and best available technology.

The City will obtain a Section 401 Water Quality Certification from the Central Valley RWQCB and a Lake or Streambed Alteration Agreement from CDFW, which will contain BMPs and water quality measures to ensure the protection of water quality. These permit condition and BMPs will be implemented as part of the project.

Mitigation Measure BIO-1.5: Compensate for Direct Impacts on Vernal Pool Branchiopod Habitat

The City will compensate for direct impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp (vernal pool branchiopod) habitat by purchasing the appropriate habitat credits at a USFWS-approved mitigation or conservation bank. The habitat impacts will be mitigated at a 2:1 ratio (2 acres preserved for every 1 acre affected). Mitigation and conservation banks in Placer County that sell vernal pool branchiopod credits are Locust Road Mitigation Bank, Toad Hill Ranch Mitigation Bank, and Western Placer Schools Conservation Bank.

Based on the current project design, the City will purchase 0.16 acre of mitigation credits to compensate for direct impacts on 0.08 acre of vernal pool branchiopod habitat. The mitigation ratio and associated acreage may be modified based on the Biological Opinion, which will dictate the ultimate compensation for this federally listed species.

Vernal Pool Tadpole Shrimp

It was determined that vernal pool tadpole shrimp may occur in suitable habitat within the project area on the basis of the known presence of vernal pool tadpole shrimp in the project vicinity (within 1 mile of the project area). The project's direct effects on vernal pool tadpole shrimp are expected to be the same as those described above for vernal pool fairy shrimp. The impacts on this species are associated with the construction of the railroad shoofly associated with Phase 2 of the project.

Habitat modification as a result of the proposed project would result in the loss of 0.08 acre of suitable vernal pool tadpole shrimp habitat, which is considered an adverse effect on the species. A biological assessment has been submitted to the USFWS to support FESA Section 7 consultation between Caltrans and USFWS for project effects on vernal pool tadpole shrimp.

This would be a Phase 2 construction significant impact. Implementation of Mitigation Measures BIO-1.1, BIO-1.2, BIO-1.3, BIO-1.4, and BIO-1.5 during Phase 2 construction would reduce impacts to a less-than-significant level.

Valley Elderberry Longhorn Beetle

Railroad shoofly construction activities associated with Phase 2 of the proposed project could indirectly affect the elderberry shrub in the project area that provides potential habitat for the valley elderberry longhorn beetle. Heavy equipment and haul trucks are anticipated to operate within 15 feet of the dripline of the elderberry shrub. Other indirect effects that could result from construction activities are modification of the shrub's hydrology, exposure to contaminants and dust, and changes in moisture availability as a result of dust control. Activities that could modify shrub hydrology are fill placement along the existing railroad track to construct the temporary track berm, grading within the UPRR right-of-way to maintain an access road for construction vehicles, excavation or other ground disturbance (i.e., compaction) within 20 feet of the shrub dripline, and possible removal of adjacent vegetation or fence posts (disturbance of the root system) for access through the vacant lot directly adjacent to the UPRR right-of-way. Temporary fill placement and grading are not expected to substantially change the hydrology of the shrub but would occur within 20 feet of the shrub dripline. Operation of heavy equipment and increased vehicle access within 20 feet of the shrub dripline would also result in dust generation and potential increased exposure to contaminants such as hydraulic fluid, grease, oil, gasoline, and diesel fuel. Water applied during construction activities to control dust could also affect the shrub and may result in increased soil pathogens (e.g., fungi) and susceptibility to colonization by Argentine ants, a predator of valley elderberry longhorn beetle.

Direct impacts associated with removal of the shrub are not anticipated. Based on the preliminary design drawings, the proposed project would not involve the pruning or removal of the shrub or ground disturbance within the dripline. A biological assessment has been submitted to the USFWS to support FESA Section 7 consultation between the Caltrans and USFWS for project effects on valley elderberry longhorn beetle.

This would be a Phase 2 construction potentially significant indirect impact. Implementation of Mitigation Measures BIO-1.1, BIO-1.2, BIO-1.3, and BIO-1.6 during Phase 2 construction would reduce impacts to a less-than-significant level.

Mitigation Measure BIO-1.6: Install a No-Disturbance Buffer around the Elderberry Shrub

In conjunction with Mitigation Measure BIO-1.1, *Install Fencing and/or Flagging to Protect Sensitive Biological Resources*, the City will ensure that a minimum 4-foot-tall, temporary plastic mesh-type construction fence (Tensor Polygrid or equivalent) is installed between the work area and the elderberry shrub to be protected. In addition to the exclusion fencing, k-rail (concrete or plastic) will be installed between the elderberry shrub and the work area to protect this shrub from inadvertent damage during construction and removal of the shoofly track. The biologist shall monitor the installation of k-rail protection.

This fencing is intended to prevent encroachment by construction vehicles and personnel. The exact location of the fencing and k-rail shall be determined by a qualified biologist, with the goal of protecting habitat for valley elderberry longhorn beetle. The fencing shall be strung tightly on posts set at a maximum interval of 10 feet. The fencing shall be checked regularly and maintained until all construction is complete. This exclusion fencing shall be marked by a sign stating:

This is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the federal Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment.

No construction activity, including grading, will be allowed until this condition is satisfied. The fencing and a note reflecting this condition will be shown on the construction plans and specifications.

Western Spadefoot Toad

Proposed project construction activities such as excavation, grading, compacting, and stockpiling of soil could fill, remove, or otherwise alter potential habitat for western spadefoot toad, and could result in their injury or mortality. Western spadefoot toads could also become entrapped in open trenches or other project features. Construction associated with roadway and culvert expansion, associated with construction Phases 1 and 2, would result in permanent and temporary impacts on aquatic habitat (streams, wetland streams, and ditches), including suitable breeding habitat (artificially created seasonal pools), and permanent and temporary impacts on upland habitat (nonnative annual grassland, riparian scrub, and riparian woodland) that could be used by spadefoot toads. Annual grasslands, riparian scrub, and riparian woodland within 1,200 feet of potential aquatic breeding habitat in the project area is considered potential upland habitat for western spadefoot toad.

This would be a potentially significant impact of both construction phases. Implementation of Mitigation Measures BIO-1.1, BIO-1.2, BIO-1.3, and BIO-1.4 during both construction phases would reduce impacts to a less-than-significant level.

Northern Western Pond Turtle

Proposed project construction activities associated with construction Phases 1 and 2 roadway and culvert expansion, drainage and floodplain improvements, and utility relocation adjacent to South Branch Pleasant Grove Creek and its associated tributaries would result in permanent and temporary impacts on suitable aquatic and upland habitat for northern western pond turtle. In-water work within and near stream and wetland stream habitat could cause entrapment of pond turtles, resulting in their injury or mortality. Additionally, pond turtles and hatchlings or eggs in nests could be crushed and killed during the movement of construction equipment in upland habitats (i.e., nonnative annual grassland, riparian scrub, and riparian woodland) that are typically within 1,500 feet of aquatic sites.

This would be a significant impact of both construction phases. Implementation of Mitigation Measures BIO-1.1, BIO-1.2, BIO-1.3, BIO-1.4, and BIO-1.7 during both construction phases would reduce impacts to a less-than-significant level.

Mitigation Measure BIO-1.7: Conduct a Preconstruction Survey for Northern Western Pond Turtle and Exclude Turtles from the Work Area

To avoid and minimize impacts on northern western pond turtles, the City will retain a qualified wildlife biologist to conduct a preconstruction survey within 48 hours of disturbance in suitable aquatic and upland habitats. The survey objectives are to determine the presence or absence of pond turtles in the vicinity of the construction work area and to determine if additional monitoring for pond turtles is necessary during construction to avoid entrapment of pond turtles during installation of stream diversion materials. If possible, the survey will be timed to coincide with the time of day and year when turtles are most likely to be active (during the cooler part of the day from 8:00 a.m. to 12:00 p.m. during spring, summer, and late summer). Prior to conducting presence/absence surveys, the biologist will locate the microhabitats for turtle basking (logs, rocks, and brush thickets) and determine a location to quietly observe turtles. The survey will include a 15-minute wait time after arriving on site to allow startled turtles to return to open basking areas. The survey will consist of a minimum 15-minute observation time per area where turtles could be observed.

If turtles are observed during the preconstruction survey or at any time during construction and they cannot be avoided, they will be either hand-captured or trapped and then relocated outside the construction area to appropriate aquatic habitat by a biologist with a valid memorandum of understanding from CDFW and as determined during coordination with CDFW. If an active turtle nest is found, the biologist will coordinate with CDFW to determine the appropriate avoidance measures.

White-Tailed Kite and Other Migratory Bird and Raptors

Mature trees that could provide suitable nesting habitat would be removed from the construction footprint, primarily along Washington Boulevard, west of the existing UPRR track, and within the area bordered on the north by Emerald Oak Road (primarily associated with Phase 2 construction activities). White-tailed kite would not be expected to nest along the existing roadway or railroad corridors; however, many migratory birds can, and do, become acclimated to existing levels of disturbance and may nest in trees along these corridors. Phase 1 and Phase 2 construction activities would occur during the nesting season for white-tailed kite and other migratory birds (generally March through August) and could result in the disturbance of active nests. Construction disturbance (noise or activity) during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Removal of suitable nest trees in the project area would reduce the amount of available nesting habitat for white-tailed kite and migratory birds and a temporal loss of nesting habitat would continue until replacement trees mature.

Phase 1 and Phase 2 roadway construction would result in indirect impacts on white-tailed kite through temporary and permanent loss of nonnative annual grassland that provides suitable foraging habitat. Because only a small area of suitable foraging habitat would be permanently lost, the proposed project is not expected to affect foraging white-tailed kites.

Direct effects of Phase 1 and Phase 2 construction on nesting white-tailed kites and other nesting migratory birds would be a potentially significant impact. Implementation of Mitigation Measures BIO-1.1, BIO-1.2, BIO-1.3, and BIO-1.8 during both construction phases would reduce impacts to a less-than-significant level.

Mitigation Measure BIO-1.8: Conduct Vegetation Removal during the Non-breeding Season and Conduct Preconstruction Surveys for Nesting Migratory Birds and Raptors

Where vegetation removal is required to construct project features, the City will conduct this activity during the nonbreeding season for migratory birds and raptors (generally between September 1 and February 28), to the extent feasible.

If construction activities (including vegetation removal) cannot be confined to the nonbreeding season, the City will retain a qualified wildlife biologist with knowledge of the relevant species to conduct nesting surveys before the start of construction. The migratory bird and raptor nesting surveys will include a minimum of two separate surveys to look for active migratory bird and raptor nests. Surveys will include a search of all trees and shrubs that provide suitable nesting habitat in the construction area. In addition, a 500-foot area around the construction area will be surveyed for nesting raptors and a 50-foot area around the construction area will be surveyed for songbirds. One survey should occur within 14 days prior to construction and the second survey within 48 hours prior to the start of construction or vegetation removal. If no active nests are detected during these surveys, no additional measures are required.

If an active nest is found in the survey area, a no-disturbance buffer will be established around the nest site to avoid disturbance or destruction of the nest until the end of the breeding season (August 31) or until after a qualified wildlife biologist determines that the young have fledged and moved out of the project area (this date varies by species). The extent of these buffers will be determined by the biologist in coordination with USFWS and CDFW, and will depend on the level of construction disturbance, line-of-sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. Suitable buffer distances may vary between species.

Pallid Bat, Western Red Bat and Non-Special-Status Bats

Construction of the proposed project would occur during the maternity season of bats (April 1 through September 15). Construction of Phases 1 and 2 of the proposed project would result in the removal or disturbance of trees that may provide suitable roosting habitat (cavities, crevices, furrowed bark, and foliage) for pallid bat and western red bat. Removal or disturbance of trees providing suitable roosting habitat could result in the injury to or mortality of roosting pallid bat and western red bat, if present during removal or disturbance of the tree. Removal of occupied roost habitat would also displace bats, causing them to relocate to another roost site, and potentially competing with other bats for the roost site.

Both construction phases of the proposed project would result in the disturbance of culverts that may provide suitable habitat for non-special-status bats. Disturbance of structures providing suitable roosting habitat could result in the injury to or mortality of non-special-status bats, if present during disturbance of the structure. Temporary removal or disturbance of occupied roost habitat would also displace bats, causing them to relocate to another roost site and potentially compete with other bats for the roost site.

Baseline data are not available or are limited regarding how bats use the project area, their individual numbers, and how they vary seasonally. Bat species with potential to occur in the project area use a variety of roosting strategies, from solitary roosting in foliage or bark of trees to colonial roosting in tree cavities. Daily and seasonal variations in habitat use are also common.

A potential indirect impact of the proposed project could be the degradation of foraging habitat for special-status bats from the wider road, because bat activity near large roads has been found to be lower than activity at a distance of 984 feet from large roads (Kitzes and Merenlender 2014).

Direct and indirect effects on roosting bats during both construction phases would be a potentially significant impact. Implementation of Mitigation Measures BIO-1.1, BIO-1.2, BIO-1.3, BIO-1.8, and BIO-1.9 during both construction phases would reduce impacts to a less-than-significant level.

Mitigation Measure BIO-1.9: Conduct Preconstruction Surveys for Roosting Bats and Implement Protection Measures

To obtain the highest likelihood of detection, the following preconstruction bat surveys will be conducted within and adjacent to the construction area for each construction season. If the surveys determine that bats are roosting in the construction area, the City will implement the protective measures described below.

- Conduct Preconstruction Tree Surveys

  Prior to tree removal or pruning, qualified biologists will examine trees to be removed or pruned for suitable bat roosting habitat. High-value habitat features (e.g., large tree cavities, basal hollows, loose or peeling bark, and larger snags,) will be identified, and the area around these features will be searched for bats and bat sign (e.g., guano, culled insect parts, and staining). All mature broadleaf trees should be considered potential habitat for solitary foliage-roosting bat species.

If bat sign is detected, biologists will conduct evening visual emergence survey of the source habitat feature, from a half hour before sunset to 1–2 hours after sunset for a minimum of 2 nights during the season that construction would be taking place. Night-vision goggles and/or full-spectrum acoustic detectors will be used during emergence surveys to assist in species identification. All emergence surveys will be conducted during favorable weather conditions (calm nights with temperatures conducive to bat activity and no precipitation predicted). Survey methodology may be supplemented as new research identifies advanced survey techniques and equipment that would aid in bat detections.

- Identify Protective Measures for Bats Using Trees

  If it is determined that bats are using trees within or adjacent to the construction area as roost sites, the City (or its designated contractor) will coordinate with CDFW to identify protective measures to avoid and minimize impacts on roosting bats based on the type of roost and timing of activities. These measures could include the following measures.

  - If feasible, tree removal and pruning of trees containing an active roost will be avoided between April 1 and September 15 (the maternity period) to avoid impacts on reproductively active females and dependent young.
  - If a maternity roost is located, whether solitary or colonial, that roost will remain undisturbed until September 15 or until a qualified biologist has determined that the roost is no longer active.
  - If avoidance of nonmaternity roost trees is not possible, tree removal or pruning will be monitored by a qualified biologist. Prior to removal or pruning, the tree will be gently shaken, and several minutes should pass before felling trees or pruning limbs to allow bats time to arouse and leave the tree. The tree then will be removed in pieces, rather than felling the entire tree. The biologists will search downed vegetation for dead and injured bats. The presence of dead or injured bats that are species of special concern will be reported to CDFW.

- Conduct Preconstruction Surveys of Culverts

  Prior to any work to replace, extend, or remove culverts, a qualified biologist will inspect box and pipe culverts for the presence of roosting bats. The biologist will conduct a daytime inspection/survey of box culverts for bat sign or occupancy to determine whether the structure is being used as a roost. Biologists conducting daytime surveys will listen for audible bat calls and will use the naked eye, binoculars, telescoping inspection mirror, and a high-powered spotlight to inspect culverts, and mud nests if present, for bats.

  Surfaces and the ground around the culvert will be surveyed for bat sign, such as guano, staining, and prey remains. Pipe culverts will be inspected from the exterior using the methods listed. If no suitable features are found, and no bats or bat sign are present, then a preconstruction survey within 24 hours prior to construction will be conducted. If suitable features are found, and bats or bat sign are present, additional surveys may be conducted to determine how the culvert is used by bats (i.e., whether it is used as a night roost, maternity roost, migration stopover, or for hibernation).

- Implement Protective Measures for Bats Using Culverts

  To avoid disturbance, injury, or mortality of bats utilizing culverts for roosting, the City (or its contractor) will conduct all work on these structures during the day (to the extent possible and where appropriate). If this is not possible, portable lights will be used to illuminate the roosting areas prior to and after sunset to deter bats from roosting during nights when work will occur.

Structure-Nesting Migratory Birds

Proposed project construction activities to extend, abandon, or replace box culverts would occur during the breeding season for birds (generally February 1 through August 31). Swallows and phoebes that are nesting in box culverts could be disturbed during culvert construction. These activities would be associated with construction Phases 1 and 2 and could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbances that result in the loss of a migratory bird egg, nestling, or adult would violate the Migratory Bird Treaty Act and California Fish and Game Code Section 3503.

Construction activities under the Pleasant Grove Boulevard overcrossing are not anticipated to disturb structure-nesting birds because no modifications to the existing structure are proposed.

Loss of structure-nesting migratory birds would be a potentially significant impact of both construction phases. Implementation of Mitigation Measures BIO-1.1, BIO-1.2, BIO-1.3, and BIO-1.10 would reduce impacts to a less-than-significant level.

Mitigation Measure BIO-1.10: Modify Existing Structures during the Non-Breeding Season for Structure-Nesting Migratory Birds or Implement Exclusion Measures to Deter Nesting

To avoid impacts on nesting swallows and other structure-nesting migratory birds that are protected under the Migratory Bird Treaty Act and the California Fish and Game Code, the City will modify existing structures after the conclusion of the bird nesting period (February 1 through August 31). Construction, modification, or disturbance of existing box culvert structures after the nesting period has concluded is strongly preferred; however, if this is not possible, the City will implement the following avoidance measures.

- Prior to the start of each phase of construction, the City (or its contractor) will hire a qualified wildlife biologist to inspect any box culvert that would be modified or disturbed during the nonbreeding season (September 1 through February 1). If nests are found and are determined to be inactive (abandoned), they shall be removed.
- After inactive nests are removed and prior to construction from February 1 to August 31, the undersides of the portion of the culvert to be modified or disturbed will be covered with a suitable exclusion material that will prevent birds from nesting (i.e.,

0.5- to 0.75-inch mesh netting, plastic tarp, expandable foam sealant, or other suitable material safe for wildlife). All exclusion devices will be installed before February 1 and will be monitored throughout the breeding season (typically several times a week). The exclusion material will be anchored so that swallows cannot attach their nests to the structures through gaps in the net.

- Exclusion devices for birds will be installed in a manner that does not entrap day-roosting bats.
- As an alternative to installing exclusion materials on a culvert, the City may hire a qualified biologist or qualified wildlife management specialist to remove nests as the birds construct them and before any eggs are laid. Visits to the site would need to occur daily throughout the breeding season (February 1 through August 31) because swallows can complete a nest in a 24-hour period.
- If exclusion material is not installed on structures prior to February 1 or manual removal of nests is not conducted daily, and migratory birds colonize a culvert, removal or modification to that portion of the culvert may not occur until after August 31, or until a qualified biologist has determined that the young have fledged and the nest is no longer in use.
- If appropriate steps are taken to prevent swallows from constructing new nests as described in the preceding measures, work can proceed at any time of the year.

Alternative 1

Alternative 1 would have the same physical characteristics as the proposed project and, therefore, would result in the same potentially significant impacts on special-status species associated with Phases 1 and 2 construction activities. Implementation of Mitigation Measures BIO-1.1 through BIO-1.10 would reduce these impacts to a less-than-significant level.

Impact BIO-2	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service
Applicable Policies and Regulations	California Fish and Game Code Section 1602 City of Roseville General Plan 2035, Open Space and Conservation Element City of Roseville Municipal Code Chapter 19.66 Tree Preservation Ordinance
Significance with Policies and Regulations	Proposed Project: Potentially Significant Alternative 1: Potentially Significant
Mitigation Measures	Proposed Project and Alternative 1: Mitigation Measure BIO-1.1: Install Fencing and/or Flagging to Protect Sensitive Biological Resources

	Mitigation Measure BIO-1.2: Conduct Environmental Awareness Training for Construction Personnel Mitigation Measure BIO-1.3: Retain a Qualified Biologist to Conduct Preconstruction Surveys and Periodic Monitoring during Construction in Sensitive Habitats Mitigation Measure BIO-2.1: Compensate for the Loss of Riparian Communities
Significance after Mitigation	Proposed Project: Less than Significant with Mitigation Alternative 1: Less than Significant with Mitigation

Proposed Project

Proposed project construction would result in the removal of 1.73 acres of riparian communities (1.44 acres of riparian woodland and 0.29 acre of riparian scrub). The removal of riparian communities is primarily associated with the Phase 2 construction activities which involve installation of the temporary shoofly and, to a lesser extent, the Phase 1 widening of Washington Boulevard (as shown in Figures 3.4-1b through 3.4-1d). For the purposes of this analysis, all riparian woodland disturbance and tree removal within the shoofly work area are considered permanent impacts because of the time required for habitat regeneration.

State and federal agencies would require avoidance, minimization, and compensatory mitigation for the loss of riparian habitat during each project phase. The loss or disturbance of riparian vegetation would be adverse because this vegetation provides a variety of important ecological functions and values.

This would be a significant impact on riparian habitat during both construction phases (with the majority of impact occurring during Phase 2). Implementation of Mitigation Measures BIO-1.1, BIO-1.2, BIO-1.3 (above), and BIO-2.1 (below) during both construction phases would reduce impacts to a less-than-significant level.

Mitigation Measure BIO-2.1: Compensate for the Loss of Riparian Communities

To compensate for the total loss of approximately 1.73 acres of riparian communities, prior to commencement of each construction phase, the City will purchase credits at an approved mitigation bank to ensure no net loss of riparian habitat functions and values. The City will purchase credits at a 3:1 ratio, which would require purchasing a total of approximately 5.19 acres of riparian habitat credits from an approved mitigation bank. This ratio and acreage will be confirmed during the review of future engineering drawings for each project phase and may be modified during the CDFW Section 1602 permitting process (if actual increase or decrease) which will dictate the ultimate compensation. The City will provide written evidence to the resource agencies that compensation has been established through the purchase of mitigation credits. The amount to be paid will be the fee that is in effect at the time the fee is paid.

Alternative 1

Alternative 1 would have the same physical characteristics as the proposed project and, therefore, would result in the same potentially significant impacts on riparian communities. Implementation of Mitigation Measures BIO-1.1, BIO-1.2, BIO-1.3, and BIO-2.1 would reduce these impacts to a less-than-significant level.

Impact BIO-3	**Have a substantial adverse effect on federally protected wetlands and non-wetland waters as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, streams etc.) through direct removal, filling, hydrological interruption, or other means**
Applicable Policies and Regulations	Executive Order 11990 Protection of Wetlands Clean Water Act Sections 401 and 404 California Fish and Game Code Section 1602 Porter-Cologne Water Quality Control Act City of Roseville General Plan 2035, Open Space and Conservation Element
Significance with Policies and Regulations	Proposed Project: Potentially Significant Alternative 1: Potentially Significant
Mitigation Measures	Proposed Project and Alternative 1: Mitigation Measure BIO-1.1: Install Fencing and/or Flagging to Protect Sensitive Biological Resources Mitigation Measure BIO-1.2: Conduct Environmental Awareness Training for Construction Personnel Mitigation Measure BIO-1.3: Retain a Qualified Biologist to Conduct Preconstruction Surveys and Periodic Monitoring during Construction in Sensitive Habitats Mitigation Measure BIO-1.4: Protect Water Quality and Minimize Sedimentation Runoff in Wetlands and Non-Wetland Waters Mitigation Measure BIO-3.1: Avoid and Minimize Disturbance of Waters of the United States/Waters of the State Mitigation Measure BIO-3.2: Compensate for the Permanent Loss of Waters of the United States/Waters of the State
Significance after Mitigation	Proposed Project: Less than Significant with Mitigation Alternative 1: Less than Significant with Mitigation

Proposed Project

Construction of Phases 1 and 2 of the proposed project would result in direct temporary and permanent impacts on waters of the United States, including seasonal wetland, marsh, and stream, and ditches that are waters of the State (Table 3.4-3 and Figures 3.4-1b through 3.4-1d). The aquatic resources delineation was verified by the USACE in March 2019.

Impacts were considered to be permanent if they would result in the placement of permanent fill in these wetland and non-wetland waters. Impacts were considered to be temporary if fill would be removed following completion of construction and temporarily disturbed portions of wetlands and non-wetland waters would be restored.

Table 3.4-3. Impacts on Waters of the United States/Waters of the State

Wetland Type	Temporary (acre)	Permanent (acre)
Seasonal Wetland	0.00	0.09
Marsh	0.09	0.00
Stream (Non-wetland Waters)	0.07	0.10
Ditch	<0.01	0.00
Total	**0.16**	**0.19**

Indirect impacts on water quality, such as increased turbidity and chemical runoff, may also result from both phases of project construction within the downstream portions of streams that are outside the project area.

This would be a significant impact on federally protected wetlands and non-wetland waters and on waters of the State. Implementation of Mitigation Measures BIO-1.1, BIO-1.2, BIO-1.3 and BIO-1.4 (above) and BIO-3.1 and BIO-3.2 (below) would reduce impacts to a less-than-significant level. Each project phase would be constructed under separate USACE and RWQCB permit authorizations. Compensation associated with Mitigation Measure BIO-3.2 for the placement of fill material into wetlands and non-wetland waters would be determined during each phase of regulatory permitting.

Mitigation Measure BIO-3.1: Avoid and Minimize Disturbance of Waters of the United States/Waters of the State

To the extent possible, the City will avoid and minimize impacts on waters of the United States and waters of the State by implementing the following measures. These measures will be incorporated into contract specifications and implemented by the construction contractor.

- Avoid construction activities in saturated or ponded natural wetlands and drainages during the wet season (spring and winter) to the maximum extent possible.
- Stabilize streams/drainages immediately upon completion of construction activities. Other waters of the United States will be restored in a manner that encourages vegetation to re-establish to its pre-project condition and reduces the effects of erosion on the drainage system.

- Remove any trees, shrubs, debris, or soils that are inadvertently deposited below the OHWM of streams/drainages in a manner that minimizes disturbance of the bed and bank.
- Complete all activities promptly to minimize their duration and resultant impacts.

Mitigation Measure BIO-3.2: Compensate for the Permanent Loss of Waters of the United States/Waters of the State

To compensate for the total (Phases 1 and 2) permanent loss of approximately 0.19 acre of waters of the United States and waters of the State, prior to each project phase and consistent with permit requirements the City will purchase credits at an approved mitigation bank to ensure no net loss of wetland functions and values. Mitigation banks with service areas for Placer County that sell credits that satisfy USACE wetland and USFWS requirements include Sacramento River Ranch Mitigation Bank, Locust Road Mitigation Bank, and Toad Hill Ranch Mitigation Bank. The wetland compensation ratio will be a minimum of 1:1 (1 acre of wetland habitat credit for every 1 acre of impact) to ensure no net loss of wetland habitat functions and values.

The City will also implement the conditions and requirements of state and federal permits that will be obtained for the proposed project. The actual mitigation ratio and associated credit acreage may be modified based on USACE and RWQCB permitting which will dictate the ultimate compensation for permanent impacts to waters of the United States/waters of the State.

Alternative 1

Alternative 1 would have the same physical characteristics as the proposed project and, therefore, would result in the same potentially significant impacts on federally protected wetlands and non-wetland waters and on waters of the State. Implementation of Mitigation Measures BIO-1.1, BIO-1.2, BIO-1.3, BIO-1.4, BIO-3.1, and BIO-3.2 would reduce these impacts to a less-than-significant level.

Impact BIO-4	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
Applicable Policies and Regulations	California Fish and Game Code City of Roseville General Plan 2035, Open Space and Conservation Element
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

The project area consists of natural, disturbed, and developed areas along Washington Boulevard and the UPRR track. These routes generally do not provide wildlife migration corridors; however, resident wildlife species may traverse the project area along streams that culvert under or parallel these routes. These features may be used as movement corridors to access larger open space areas outside the project area. Therefore, streams and associated uplands in the project area provide important wildlife dispersal and movement corridors between established open spaces. Culverts at streams crossed by the proposed project would be replaced, extended, and constructed in new locations to accommodate widening of the roadway and the temporary shoofly track as part of construction Phases 1 and 2. The widened roadway and temporary track would not substantially alter the project area in a way that would impede wildlife movement. However, tree removal, particularly along Sierra View Tributary and the temporary shoofly track would reduce the available cover through this corridor until replacement vegetation sufficiently matures.

Native fish may be present and disperse through the stream channels in the project area; their movements would be temporarily impeded in South Branch Pleasant Grove Creek and Sierra View Tributary by construction of the proposed temporary shoofly and new pipe and box culverts. Culvert construction in the unnamed tributary channels is anticipated when the channel is dry; therefore, culvert construction is not expected to affect native fish.

The proposed project would have a less-than-significant impact on the movement of any native resident or migratory fish or wildlife species. No mitigation is required.

Alternative 1

Alternative 1 would have the same physical characteristics as the proposed project and, therefore, would similarly have a less than significant impact on the movement of any native resident or migratory fish or wildlife species. No mitigation is required.

Impact BIO-5	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
Applicable Policies and Regulations	City of Roseville Municipal Code Chapter 19.66 Tree Preservation Ordinance
Significance with Policies and Regulations	Proposed Project: Less Than Significant Alternative 1: Less Than Significant
Mitigation Measures	Proposed Project and Alternative 1: None Required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

Several native oak trees (greater than 6-inch diameter at breast height [dbh]) associated with riparian woodlands occur in the project area. Based on the current design, the proposed project would result in the loss or disturbance of native oak trees during installation of the temporary shoofly (Phase 2) and widening of Washington Boulevard (Phase 1). An arborist survey is being conducted to identify the location and size of native trees that would be removed or disturbed during construction of the two phases of the proposed project. Native oak trees (at least 6 inches dbh) are protected under the City's tree preservation ordinance and therefore the loss or disturbance of native oak trees could be a significant impact. However the project would be implemented and conditioned consistent with provisions of the City's tree preservation ordinance which requires inch for inch dbh compensation as well as protection measures for potential indirect impacts. Therefore, potential conflict with local policies or ordinances protecting biological resources is considered less than significant.

Alternative 1

Alternative 1 would have the same physical characteristics as the proposed project and, therefore, would result in the same potentially significant impacts on protected native oak trees. Implementation of Mitigation Measure -1.2 would reduce these impacts to a less-than-significant level.

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Figure 3.4-1a
Biological Resources in the Project Area

Figure 3.4-1b
Biological Resources in the Project Area

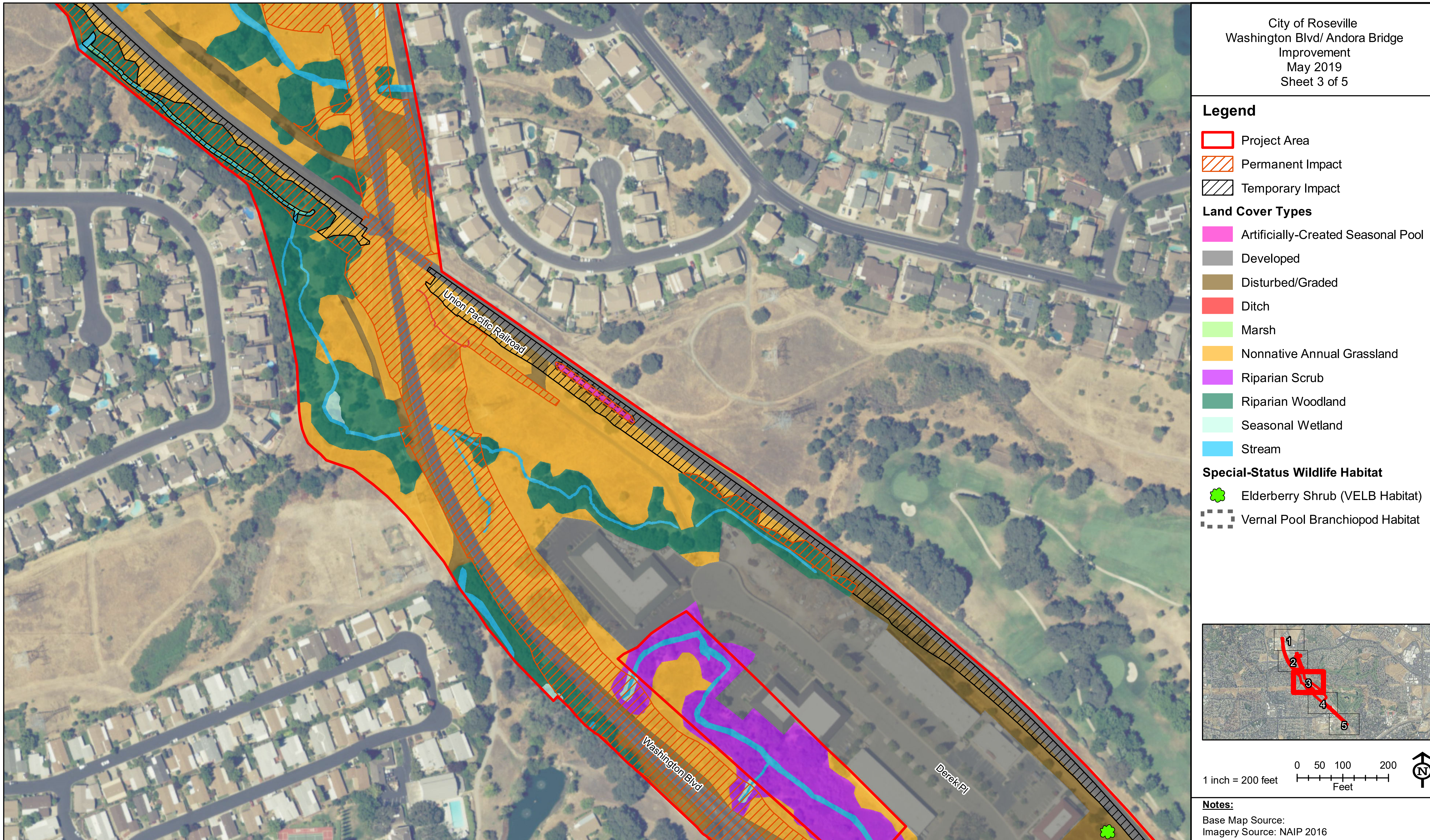

Figure 3.4-1c
Biological Resources in the Project Area

Figure 3.4-1d
Biological Resources in the Project Area

Figure 3.4-1e
Biological Resources in the Project Area

3.5 Cultural and Tribal Resources

This section evaluates and analyzes the impacts of the proposed project on known and potential but unknown cultural and tribal resources in the project area. Cultural resources may include the following: sites, structures, districts, buildings, or any built objects that are more than 50 years old. Cultural resources are also considered important to communities, cultures or subcultures for their traditional, historical, scientific, religious, or other reasons.

Archaeological resources are the material remains of past human use from the prehistoric and historic-era. Archaeological resources may include, but are not limited to, stone tools, structure foundations, habitation features, and associated debris. Historical (or architectural) resources may include standing buildings, infrastructure (roads, dams, railroads, bridges), and intact built features.

The primary source of information for this section is the *Archaeological Survey Report for the Washington Boulevard/Andora Bridge Improvement Project* and the *Finding of Effect Report for the Washington Boulevard/Andora Bridge Improvement Project*, prepared by ICF (2019).

One comment letter was received in response to the Notice of Preparation related to cultural resources. In a letter received by the City on October 7, 2016, Gene Whitehouse, Chairman of the United Auburn Indian Community (UAIC) of the Auburn Rancheria, expressed concern about development within ancestral territory. Mr. Whitehouse recommended a tribal monitor be present during any ground disturbing activities and requested copies of any archaeological and future environmental reports completed for the project. He also requested a tribal monitor be present during the field survey. Additional Native American consultation efforts related to the project are described below in the “Correspondence” section below.

3.5.1 Existing Conditions

Regulatory Setting

This section describes the federal, state, and local regulations related to cultural resources that would apply to implementation of the proposed project.

A cultural resource may be designated as significant by national, state, or local authorities. For a resource to qualify for listing in the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR), it must meet one or more established criteria.

Federal

National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) requires that, before beginning any undertaking, a federal agency must take into account the effects of the undertaking on historic properties and offer the Advisory Council on Historic Preservation and other interested parties an opportunity to comment on these actions. The NHPA applies to federal actions and is most commonly invoked at the local level when a development project is subject to federal permits. It is also invoked when local projects, such as road projects, receive federal funds. Specific regulations regarding compliance with Section 106 state that, although the tasks necessary to comply with Section 106 may be delegated to others, the federal agency is ultimately responsible for ensuring that the Section 106 process is completed.

The Section 106 review process involves a five-step procedure.

1. Initiate the Section 106 process (assess the potential for the undertaking to affect historic properties, identify consulting parties, and plan to involve interested parties).
2. Identify historic properties in the area of potential effect (APE).
3. Assess adverse effects.
4. Resolve adverse effects.
5. Implement the project according to the memorandum of agreement, or implement the project without a memorandum of agreement if one is unnecessary.

Section 106 requires federal agencies or those they fund or permit to consider the effects of their actions on properties that are determined eligible for listing or are listed in the NRHP. To determine whether an undertaking could affect NRHP-eligible properties, cultural resources (archaeological, historical, architectural, and traditional cultural properties) must be inventoried and evaluated for the NRHP.

To be listed in the NRHP, a property must be at least 50 years old (or be of exceptional historic significance if less than 50 years old) and meet one or more of the NRHP criteria. To qualify for listing, a historic property must represent a significant theme or pattern in history, architecture, archaeology, engineering, or culture at the local, state, or national level. It must meet one or more of the four criteria listed below and have sufficient integrity to convey its historic significance. The criteria for evaluating the eligibility of a historic property for listing in the NRHP are defined as follows (36 Code of Federal Regulations [CFR] Part 60.4).

- Criterion A—Association with events that have made a significant contribution to the broad patterns of our history.
- Criterion B—Association with the lives of persons significant to our past.
- Criterion C—Resources that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D—Resources that have yielded, or may be likely to yield, information important to history or prehistory.

In addition to meeting the significance criteria, a significant historic property must possess integrity to be considered eligible for listing in the NRHP. *Integrity* refers to a property's ability to convey its historic significance. Integrity is a quality that applies to historical resources in seven specific ways: location, design, setting, materials, workmanship, feeling, and association. To be considered a significant historic property, a resource must possess two, and usually more, of these kinds of integrity, depending on the context and the reasons why the property is significant. The National Park Service's *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (National Park Service 1995) discusses the types of integrity.

- **Location**—the place where the historic property was constructed or the place where the historic event took place.
- **Design**—the combination of elements that create the form, plan, space, structure, and style of a property.
- **Setting—**the physical environment of a historic property.
- **Materials—**the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- **Workmanship—**the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- **Feeling**—a property's expression of the aesthetic or historic sense of a particular period of time.
- **Association—**the direct link between an important historic event or person and a historic property.

The NRHP criteria also limit the consideration of moved properties because significance is embodied in locations and settings. Under the NRHP, moving a building destroys the integrity of location and setting. A moved property can be eligible for listing if it is significant primarily for architectural value or if it is the surviving property most importantly associated with a historic person or event (National Park Service 1995).

Section 106 regulations define an adverse effect as an effect that alters, directly or indirectly, the qualities that make a resource eligible for listing in the NRHP (36 CFR 800.5[a][1]). Consideration must be given to the property's location, design, setting, materials, workmanship, feeling, and association, to the extent that these qualities contribute to the integrity and significance of the resource. Adverse effects may be direct and reasonably foreseeable, or they may be more remote in time or distance (36 CFR 8010.5[a][1]). Examples of adverse effects are listed below.

- Physical destruction of or damage to all or part of the property.
- Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the *Secretary's Standards for the Treatment of Historic Properties* (Weeks and Grimmer 1995) and applicable guidelines.
- Removal of the property from its historic location.
- Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance.
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features.

- Neglect of a property that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to a Native American tribe or Native Hawaiian organization.
- Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

State

The State of California implements the NHPA through its statewide comprehensive cultural resource preservation programs. The California Office of Historic Preservation (OHP), an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historical Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the state's jurisdiction.

California Environmental Quality Act

Two categories of cultural resources are specifically called out in the State CEQA Guidelines. The categories are historical resources (State CEQA Guidelines 15064.5[b]) and unique archaeological sites (State CEQA Guidelines 15064.5[c]; California Public Resources Code Section 21083.2). Different legal rules apply to the two different categories of cultural resources. However, the two categories sometimes overlap where "an archaeological historical resource also qualifies as a "unique archaeological resource." In such an instance, the more stringent rules for unique archaeological resources apply, as explained below. In most situations, resources that meet the definition of a unique archaeological resource also meet the definition of a historical resource. As a result, it is current professional practice to evaluate cultural resources for significance based on their eligibility for listing in the CRHR.

Historical resources are those meeting the following requirements.

- Resources listed in or determined eligible for listing in the CRHR (State CEQA Guidelines 15064.5[a][1]).
- Resources included in a local register as defined in Public Resources Code Section 5020.1(k), "unless the preponderance of evidence demonstrates" that the resource "is not historically or culturally significant" (State CEQA Guidelines 15064.5[a][2]).
- Resources that are identified as significant in surveys that meet the standards provided in Public Resources Code Section 5024.1[g] (State CEQA Guidelines 15064.5[a][3]).
- Resources that the lead agency determines are significant, based on substantial evidence (State CEQA Guidelines 15064.5[a][3]).

Unique archaeological resources, on the other hand, are defined in Public Resources Code Section 21083.2 as a resource that meets at least one of the following criteria.

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.

- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person. (Public Resources Code Section 21083.2[g])

The process for identifying historical resources is typically accomplished by applying the criteria for listing in the CRHR (14 California Code of Regulations [CCR] Section 4852). This section states that a historical resource must be significant at the local, state, or national level under one or more of the following four criteria.

1. It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. It is associated with the lives of persons important in our past.
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values.
4. It has yielded, or may be likely to yield, information important in prehistory or history.

To be considered a historical resource for the purpose of CEQA, the resource must also have integrity. Integrity is the authenticity of a resource's physical identity, evidenced by the survival of characteristics that existed during the resource's period of significance.

Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling and association. It must also be judged with reference to the particular criteria under which a resource is eligible for listing in the CRHR (14 CCR 4852[c]). Integrity assessments made for CEQA purposes typically follow the National Park Service guidance used for integrity assessments for NRHP purposes.

Even if a resource is not listed or eligible for listing in the CRHR, in a local register of historical resources, or identified in an historical resource survey, a lead agency may still determine that the resource is an historical resource as defined in Public Resources Code Section 5020.1j or 5024.1 (State CEQA Guidelines 15064.5[a][4]).

Resources that meet the significance criteria and integrity considerations must be considered in the impacts analysis under CEQA. Notably, a project that causes a substantial adverse change in the significance of an historical resource is a project that may have significant impact under CEQA (State CEQA Guidelines 15064.5[b]). A substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired. The significance of an historical resource is materially impaired if the project demolishes or materially alters any qualities as follows.

- Qualities that justify the inclusion or eligibility for inclusion of a resource on the CRHR (State CEQA Guidelines 15064.5[b][2][A],[C]).
- Qualities that justify the inclusion of the resource on a local register (State CEQA Guidelines 15064.5[b][2][B]).

Assembly Bill 52

AB 52 (Chapter 532, Statutes of 2014) establishes a formal consultation process for California Native American tribes as part of CEQA and equates significant impacts on tribal cultural resources with significant environmental impacts (Public Resources Code Section 21084.2). Public Resources Code Section 21074 defines tribal cultural resources as follows:

- Sites, features, places, sacred places, and objects with cultural value to descendant communities or cultural landscapes defined in size and scope that are either:
  - Included in or eligible for listing in the CRHR
  - Included in a local register of historical resources
- 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.

Sacred places can include Native American sanctified cemeteries, places of worship, religious or ceremonial sites, and sacred shrines. In addition, both unique and non-unique archaeological resources, as defined in Public Resources Code Section 21083.2, can be tribal cultural resources if they meet the criteria detailed above. The lead agency relies upon substantial evidence to make the determination that a resource qualifies as a tribal cultural resource when it is not already listed in the CRHR or a local register.

AB 52 defines a “California Native American Tribe” (Tribe) as a Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission (NAHC) (Public Resources Code Section 21073). Under AB 52, formal consultation with Tribes is required prior to determining the level of environmental document if a Tribe has requested to be informed by the lead agency of proposed projects and if the Tribe, upon receiving notice of the project, accepts the opportunity to consult within 30 days of receipt of the notice. AB 52 also requires that consultation, if initiated, address project alternatives and mitigation measures for significant effects, if specifically requested by the Tribe. AB 52 states that consultation is considered concluded when either the parties agree to measures to mitigate or avoid a significant effect to tribal cultural resources, or when either the Tribe or the agency concludes that mutual agreement cannot be reached after making a reasonable, good-faith effort. Under AB 52, any mitigation measures recommended by the agency or agreed upon with the Tribe may be included in the final environmental document and in the adopted mitigation monitoring program if they were determined to avoid or lessen a significant impact on a tribal cultural resource. If the recommended measures are not included in the final environmental document, then the lead agency must consider the four mitigation methods described in Public Resources Code Section 21084.3 (Public Resources Code Section 21082.3[e]). Any information submitted by a Tribe during the consultation process is considered confidential and is not subject to public review or disclosure. It will be published in a confidential appendix to the environmental document unless the Tribe consents to disclosure of all or some of the information to the public.

State Law Governing Human Remains

California law sets forth special rules that apply where human remains are encountered during project construction. As set forth in State CEQA Guidelines Section 15064.5(e), in the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, no further excavation or disturbance of the site or any nearby area suspected of overlying adjacent human remains should take place until the following measures are implemented.

1. The coroner of the county in which the remains are discovered is contacted to determine that no investigation of the cause of death is required (as required under California Health and Safety Code Section 7050.5).
2. If the coroner determines the remains to be Native American:
    a. The coroner will contact the NAHC within 24 hours.
    b. The NAHC will identify the person or persons it believes to be the most likely descended from the deceased Native American.
    c. The most likely descendant (MLD) may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods (as provided in Public Resources Code Section 5097.98), or
        1) Where the following conditions occur, the landowner or his authorized representative will rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.
            a) The NAHC is unable to identify a MLD or the MLD failed to make a recommendation within 24 hours after being notified by the commission.
            b) The descendant identified fails to make a recommendation; or
            c) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the NAHC fails to provide measures acceptable to the landowner.

Local

City General Plan 2035

The goal and policy listed below is relevant to the project and cultural resources in the city and are excerpted from the Open Space and Conservation Element in the City’s *General Plan 2035* (City of Roseville 2016).

Goal 1. Strengthen Roseville's unique identify through the protection of its archaeological, historic and cultural resources.

Policy 1. When items of historical, cultural or archaeological significance are discovered within the City, a qualified archaeologist or historian shall be called to evaluate the find and to recommend proper action.

Policy 2. When feasible, incorporate significant archaeological sites into open space areas.

Policy 3: Subject to approval by the appropriate federal, state, local agencies, and Native American Most Likely Descendant (MLD), artifacts that are discovered and subsequently determined to be "removable" should be offered for dedication to the Maidu Interpretive Center.

Environmental Setting

Prehistoric Context

Although the Sacramento Valley may have been inhabited by humans as early as 10,000 years ago, the evidence for early human use likely is buried under deep alluvial sediments that accumulated rapidly during the late Holocene epoch. Archaeological remains of this early period, although rare, have been identified in and around the Central Valley (Johnson 1967; Peak 1981; Treganza and Heizer 1953). Johnson (1967) presents evidence for some use of the Mokelumne River area, under what is now Camanche Reservoir, during the late Pleistocene. Archaeologists working at the reservoir found a number of lithic cores and a flake associated with Pleistocene gravels. These archaeological remains have been grouped into what is called the *Farmington Complex*, characterized by core tools and large, reworked percussion flakes (Treganza and Heizer 1953). The economy of this early period is generally thought to be based on exploitation of large game. Later periods are better understood due to more abundant representation in the archaeological record.

The taxonomic framework of the Sacramento Valley has been described in terms of archaeological patterns (Moratto 1984 [2004]). A *pattern* is a general mode of life characterized archaeologically by technology, particular artifacts, economic systems, trade, burial practices, and other aspects of culture. Fredrickson (1973) identified three general patterns of resource use for the period between 4,500 and 3,500 years before present (BP): the Windmiller, Berkeley, and Augustine Patterns.

The Windmiller Pattern (4,500–3,000 BP) shows evidence of a mixed economy of game procurement and use of wild plant foods. Windmiller archaeological assemblages include numerous projectile points and a wide range of faunal remains. Hunting was not limited to terrestrial animals; fishing hooks and spears have been found in association with the remains of sturgeon, salmon, and other fish (Moratto 1984 [2004]). Plants also were used, as indicated by ground stone artifacts and clay balls used for boiling acorn mush. Settlement strategies reflect seasonal adaptations: habitation sites in the valley were occupied during winter with populations moving into the foothills during summer (Moratto 1984 [2004]).

The Windmiller Pattern ultimately changed to a more specialized adaptation entitled the Berkeley Pattern (3,500–2,500 BP). At Berkeley Pattern sites, the use of manos and metates declines in favor of mortars and pestles, indicating greater dependence on acorns.

Although gathered resources gained importance during this period, the continued presence of projectile points and atlatls (spear-throwers) in the archaeological record indicates that hunting was still an important activity (Fredrickson 1973).

The Berkeley Pattern was superseded by the Augustine Pattern around AD 500. The Augustine Pattern reflects a change in subsistence and land use patterns to those of the ethnographically known people, the Nisenan, of the historic era. This pattern exhibits high elaboration of ceremonial and social organization, including the development of social stratification. Augustine Pattern assemblages show that well-developed exchange networks were present, along with an increased emphasis on acorn use, evidenced by abundant shaped mortars and pestles, along with hopper mortars. Other notable elements of Augustine Pattern assemblages include flanged tubular smoking pipes, harpoons, clamshell disc beads, and an elaborate baked clay industry that included figurines and pottery vessels (Cosumnes Brownware). The use of the bow and arrow is suggested by the presence of small projectile point types (Gunther Barbed). Mortuary ritual of Augustine Pattern sites includes the introduction of pre-interment burning of offerings in grave pits. Also indicated by Augustine Pattern assemblages are increased village sedentism, population growth, and an incipient monetary economy in which beads were used as a standard of exchange (Moratto 1984 [2004]).

Ethnographic Context

The Nisenan occupied the project area at the time of Euroamerican contact and spoke a Maiduan language (Wilson and Towne 1978:387). The Maiduan family of languages is part of the Penutian stock (Shipley 1978:82, 83). Penutian speakers occupied the Central Valley, Central Sierra Nevada, and the San Francisco Bay area at the time of Euroamerican contact.

The Nisenan occupied the lower Feather River drainage and the drainages of the Yuba, Bear, and American Rivers. The boundary with the Miwok to the south was near the Cosumnes River. The western boundary was the Sacramento River, and the eastern boundary was the crest of the Sierra Nevada (Wilson and Towne 1978:387; Kroeber 1925 [1976]: Plate 37).

The principal Nisenan villages and associated smaller settlements controlled resources within a territory containing between 20 and 500 residents (Wilson and Towne 1978:388). Families in each territory controlled specific oak groves and fishing sites. A headman who lived in the principal village arbitrated disputes, directed festivities, provided advice, and consulted with family leaders. His authority was limited, however, absent the support of the family leaders and the shamans (Wilson and Towne 1978:393).

In the Sacramento Valley, principal villages were located on low natural rises along rivers and streams. In the project vicinity, villages were located along the American River, approximately 5 miles southeast of the project area at the nearest approach. Valley villages consisted of 5 to 50 houses that were dome-shaped and covered with earth, mats, and grass. Brush shelters were used in the summer and when people were away from the village. Major villages had semi-subterranean dance houses with post-and-beam construction (Wilson and Towne 1978:388).

Villages in the foothills were located on ridges and on flats along streams. Houses were conical and covered with brush bark and skins. Most villages had bedrock milling stations. Other site types included seasonal camps, quarries, ceremonial grounds, fishing stations, trading sites, and cemeteries (Wilson and Towne 1978:389). Some people lived away from the main village.

Early Nisenan contact with Europeans appears to have been limited to the southern reaches of Nisenan territory. Spanish expeditions began to cross Nisenan territory in the early 1800s. Unlike the Valley Nisenan, Hill Nisenan groups remained relatively unaffected by the European presence until the discovery of gold at Coloma in 1848. In the 2 or 3 years following the gold discovery, Nisenan territory was overrun by settlers from throughout the world. Gold seekers and the settlements established to support them, as well as the disease and violence accompanying them, almost caused extinction of the area's native inhabitants. Nisenan survivors worked as wage laborers and domestic help, living on the edges of foothill towns. Despite severe depredations, descendants of the Nisenan still live in Placer County and maintain their cultural identity.

Historic Context

Early History

Placer County was established on April 25, 1851, from portions of Sutter and Yuba Counties. Placer refers to the "alluvial or glacial deposits containing gold particles" obtained by washing. The place name was appropriate for the county because placer mining was the principal employment in the area (Hoover et al. 2002:271). James Marshall's discovery of gold on January 24, 1848, along the South Fork of the American River brought thousands of miners and emigrants into the foothills of the Sierra Nevada. In Placer County, one of the more lucrative mining districts was the Secret Ravine area from present-day Roseville to Newcastle (Barry-Schweyer and Alvarez 2005:7). Despite their initial high hopes, the vast majority of prospectors were unsuccessful and left the area disillusioned, with little to show for their efforts; however, many remained to stake out homesteads and to establish farms. The population of the county at its time of organization was about 10,000, of which 8,000 were Euroamerican and mostly men (Thompson & West 1882:101).

By the early 1850s, surface mining was already in decline, as permanent settlements, homesteads, and farms began to replace the temporary camps and transient mining communities. In southwestern Placer County, one of the first areas settled was the rich farmland around present-day Roseville. Farmers in the area engaged in commercial cultivation of wheat, fruit trees, and grapes. In addition to farming, many landowners were involved in raising cattle. By the mid-1870s, a number of large ranches were in the Rocklin area, including those of R.M. Nixon, D. C. Allen, and Joel Parker Whitney (Davis 1981:33).

The Coming of the Railroad

The community of Roseville has its origins at the junction of two railroads, the California Central Railroad and the Central Pacific Railroad. The earlier of the two, the California Central Railroad, completed its line through southwestern Placer County in 1861. On January 29, 1864, the Central Pacific Railroad crossed the tracks of the California Central

Railroad as it continued eastward over the Sierra Nevada to complete the nation's first transcontinental line (Davis 1975:25).

The junction between the two railroads was favorably located within a rich agricultural region and rapidly developed into a major shipping center. O.D. Lombard platted the town site of "Roseville Junction" in 1864 with blocks laid out and numbered from one to 55. Only five streets were named: Atlantic, Pacific, Vernon, Washington, and Lincoln Streets. The Central Pacific Railroad freight depot was the first building constructed in the new town. Other businesses such as a bank, blacksmith shop, shoe repair shop, butcher shop, dry goods stores, hotels, and saloons soon followed. Housed in wood-frame buildings, these businesses sprang up along Atlantic, Pacific, and Lincoln Streets. Overall development of the town from 1870 to 1906 was slow but steady (Davis 1975:29, 33).

In 1885, the Central Pacific Railroad was acquired by the Southern Pacific Railroad and consolidated into a vast national transportation system. By the early 1900s, the railroad's facility in the town of Rocklin had become inadequate to meet the demands of the Southern Pacific Railroad system. Consequently, in 1906 Southern Pacific Railroad officials made the decision to transfer the rail yard, roundhouse, and other maintenance facilities to Roseville. The removal of the terminal facilities also resulted in a substantial exodus of residents, homes, and businesses to Roseville. One contemporary estimated that in 1908 at least 100 businesses and residential buildings were transported to Roseville on trucks (Davis 1981:59–61).

Development of the City of Roseville

During the first quarter of the twentieth century, Roseville continued to have slow and steady growth as a fully established railroad community. The City proceeded to establish increased municipal services to support its growing population. By 1913 a new state highway was routed through the city, starting at Riverside Avenue and continuing to Vernon and Lincoln Streets. Only a limited portion of city streets was paved at this time, as local landowners were responsible for paving sections of streets in front of their businesses.

Roseville did not escape the economic wrath of the Great Depression, ushered in by the stock market crash of 1929. By the end of 1930, the Southern Pacific Railroad, the city's leading employer, had reduced its workforce from 1,360 to 1,128. Southern Pacific Railroad cut employee wages by 10% the following year.

As Placer County was transitioning out of the Great Depression, the Japanese attack on Pearl Harbor on December 7, 1941, led to the official U.S. entry into World War II. However, like many cities and towns across the nation, Roseville had already begun preparing for the possibility of war in 1940. In June of that year, City leaders announced that men who were drafted would retain their jobs upon returning from the war. At the same time, Southern Pacific Railroad began to make preparations for the ever-increasing movement of troops and munitions trains through the Roseville rail yard.

A Period of Transition

Roseville experienced a slow but steady expansion of the downtown commercial and industrial center following World War II. By the 1960s, the wave of growth would move to the northern part of the state. Roseville's location only 18 miles northeast of Sacramento, coupled with newly completed highways and the existing junction between Southern Pacific's north- and eastbound railroad lines, made Roseville a hot spot for business and residential development in Placer County.

The project area is situated within what is now suburban Roseville, but historically was northwest of Roseville. According to historical aerials and U.S. Geological Survey (USGS) topographic maps, suburban expansion began in the late 1970s and early 1980s with a development off Diamond Oaks Drive. Prior to suburban tract development, the area was best known as the home of the 180-acre Sierra View Country Club, founded in the early 1950s with a circa 1953 nine-hole golf course.

Existing Conditions

Records Search

Cultural resources records searches were conducted at the California Historical Resources Information System's North Central Information Center (NCIC) at California State University, Sacramento on July 22, 2016 (Record Search #PLA-16-75), March 16, 2018 (Record Search #PLA-18-27), and April 24, 2019 (Record Search #PLA-19-38). The records searches covered the project area and all areas within a 0.5-mile radius. The purpose was to identify any previously recorded cultural resources within the project area and within a 0.5-mile radius to assess the potential for cultural resources to be present.

According to the records searches, 43 previous cultural resources studies have been conducted within 0.5 mile of the project area. Of the 43 previous studies, all or a portion of 19 studies were conducted within the project area covering approximately 20% of the area within 0.5 mile. The studies within the project area consisted of linear surveys associated with the Western Area Power Administration (WAPA) transmission lines that intersect the project area, fiber-optic studies following along the UPRR, road improvement projects along Washington Boulevard, and development projects in the northern portion of the project area.

The records searches revealed that 23 previously recorded cultural resources are located within 0.5 mile of the project area. Of those 23, four are within the project area; of those four, one is an archaeological site, and the other three resources are built environment resources. Table 3.5-1 details these resources.

Table 3.5-1. Cultural Resources Previously Recorded in the Project Area

Primary (P-31-)	Trinomial (CA-PLA-)	Type	Description	Previous NRHP Finding	Recorder
816 (portion w/in project area also recorded as -2687)	690H	BE	Central Pacific Railroad (UPRR)	Not evaluated: portions outside of project area eligible	Herbert and Blosser (2001) portion w/in project area; Blosser and Walters (2002) portion recorded as -2687
1462	1128H	A	Historic artifact scatter	Not evaluated	Russell, Cook, and Rice (1994)
3280	[none]	BE	Western Area Power Administration transmission lines	Not evaluated: portions outside of project area evaluated as not eligible	Windmiller (2012) portion w/in project area
5467	[none]	BE	Asphalt-paved driveway remnant	Not evaluated	Windmiller (2012)

BE = built environment.
A = archaeological.

Correspondence

Native American

Identification efforts included consultation with Native American groups and a search of the NAHC's sacred lands file. On September 13, 2016, a request was sent to the NAHC requesting a sacred lands file search of the project area and a list of Native American representatives who may be able to provide information about resources of concern located within or adjacent to the project area.

The NAHC replied on September 13, 2016, stating that no cultural resources were listed in NAHC's sacred lands file. The NAHC also provided a list of four tribes/individuals:

- Nicholas Fonseca, Chairperson, Shingle Springs Band of Miwok Indians (SSBMI)
- Grayson Coney, Cultural Director, Tsi Akim Maidu
- Don Ryberg, Chairperson, Tsi Akim Maidu
- Gene Whitehouse, Chairperson, United Auburn Indian Community (UAIC)

Letters for Section 106 consultation were sent by certified mail on October 12, 2016, to each of the four Native American contacts and follow-up phone calls were conducted on November 30 and December 1, 2016. The only response to the phone calls came from Don Ryberg, Chairperson of the Tsi Akim Maidu, who stated that the tribe does not have any concerns with the proposed project.

ICF received two letters as a result of the Section 106 consultation. One letter dated November 29, 2016 (postmarked December 2, 2016) was from Daniel Fonseca on behalf of the SSBMI. The letter stated that the SSBMI was not aware of any known cultural resources in the project area, and made the following requests:

- Continued consultation through updates as the project progresses.
- Any and all completed record searches and/or surveys done in or around the project area up to and including environmental, archaeological, and cultural reports.
- If new information or human remains are found during the course of the project, the SSBMI would like to go over the process to protect such important and sacred artifacts (especially near rivers and streams).

Attempts were made to contact Nicholas Fonseca on December 18, 2017 by phone and email; however, the phone number was not in service, and the email was undeliverable to the account provided by the NAHC, and the letter sent to Mr. Fonseca was returned to ICF. Although previous attempts to contact Nicholas Fonseca failed, an additional E-mail was sent on June 4, 2018 to Nicholas Fonseca with a copy to Daniel Fonseca, Kara Perry (Cultural Outreach Coordinator), and Daniel Burnett (Lead Native American Inspector). The E-mail detailed the cultural identification efforts to date, notified that the letter from Nicholas Fonseca was received, that the requests outlined in the letter would be addressed, and that the SSBMI would be updated on any project advancements. Upon submittal of this report, no additional response has been received from SSBMI.

The second letter was from Gene Whitehouse on behalf of the UAIC. The letter dated November 18, 2016 (postmarked December 14, 2016) stated that the UAIC's preservation committee has identified cultural resources in and around the project area, and made the following requests.

- Copies of any archaeological reports and future environmental documents (for the opportunity to comment on potential impacts and proposed mitigation measures related to cultural resources).
- The opportunity to accompany the crew during the field survey.
- Recommendation to engage a tribal monitor during any ground-disturbing activities.

A follow-up phone call was made to Gene Whitehouse on December 18, 2017 to notify him that ICF had received his response letter. On June 4, 2018, ICF sent an electronic mail (E-mail) to Marcos Guerrero on behalf of Gene Whitehouse, detailing the cultural identification efforts to date including the record search at the NCIC and the pedestrian survey of the APE. The E-mail also notified that the letter from Chairman Whitehouse was received, and that copies of the archaeological and environmental reports were still in review and will be distributed when approved. That same day, Marcos Guerrero replied, thanking for the updated information. Upon submittal of this study, no additional responses have been received from UAIC.

Other Interested Parties

On September 15, 2016, letters were sent to the California State Railroad Museum; the Folsom, El Dorado, and Sacramento Historical Railroad Association; the Amtrak Historical Society; the Placer County Museum; Placer County Historical Society; Gold Country Museum; Colfax Area Historical Society; Auburn Joss House Museum; and the Roseville

Historical Society. The letters briefly described the proposed project and requested information about cultural resources near the proposed project area. To date, no responses have been received.

Tribal Consultation

In compliance with AB 52, the City offered the Ione Band of Miwok Indians, UAIC, and the Torres Martinez Desert Cahuilla Indians the opportunity to consult with the City over the potential for this project to affect tribal cultural resources of concern to these Tribes. On July 5, 2016, certified letters were sent to the Tribes that included a project description, maps of the project, and an invitation to consult under AB 52. The letters requested a response within 30 days. No responses requesting consultation were received in that time. However, the City received a letter on August 24, 2017 from the UAIC dated August 8, 2016. In that letter, Gene Whitehouse (on behalf of the UAIC) requested an opportunity to discuss the project's alternatives, significant effects, and mitigation measures for any potential impacts to tribal cultural resources. Mr. Whitehouse also requested that UAIC tribal representatives be allowed to observe and participate in cultural resources surveys conducted for the project and that the UAIC be provided with records searches and reports. Finally, he advised that it is UAIC's policy that Tribe representatives be present for monitoring ground-disturbing activities should any cultural resources be identified within the project area and that subsurface testing must not occur without first consulting with UAIC. The letter did not recommend any mitigation measures or identify any tribal cultural resources. E-mail correspondence between the City's Environmental Coordinator and UAIC's Tribal Historic Preservation Department on September 27, 28 and 29, 2016 concluded that although UAIC did not respond within the AB 52 deadline, the Tribe still requested to consult under CEQA.

Fieldwork

Archaeological and built environment pedestrian surveys of the project area were conducted on June 7, September 7, and December 20, 2016. Due to the varied environments in the project area (riparian, open space, and a developed industrial business park and modern roads) the surveys were conducted using both complete and cursory survey strategies, depending on the nature of the landscape.

The June survey was conducted along the corridor of the project area within and adjacent to the UPRR ROW. The entire length of the UPRR ROW within the project area was surveyed. The majority of the UPRR ROW consisted of a raised grade of crushed ballast; however, some portions of the original ground surface were located at the base of the raised grade. Most of these areas were overgrown with weeds, but there were patches of soil cleared of vegetation. The surface visibility throughout the UPRR ROW was approximately 30%.

During the June survey, one isolate consisting of two amethyst-tinted fragments of bottle glass (ISO-WASH-001) was found at the eastern base of the UPRR ROW south of the intersection between Washington Boulevard and the UPRR tracks.

The December survey covered all remaining portions of the project area with the exception of the extended Class 1 trail. The December survey included areas along Washington Boulevard, an industrial park, and open space and riparian areas. The complete pedestrian survey consisted of one archaeologist walking transects spaced at no more than 45 feet apart in portions of the project area where ground surface was exposed, including all riparian areas and open grasslands within the project area.

The NCIC identified 19 previously recorded cultural resources within 0.5 mile of the project area, 4 of which were recorded within the project area. However, as a result of the cultural surveys, only two of those previously recorded cultural resources were identified. The historic artifact scatter (P-31-1462; CA-PLA-1128H) could not be located and was most likely destroyed as a result of residential development adjacent to the project area. No indications of the previously recorded asphalt-paved driveway remnant (P-31-5467) were observed. As a result of the field survey, no archaeological resources were observed within the project area.

A total of two built environment cultural resources were located in the project area (Andora Subway and UPRR grade/Shasta Route). Summaries of these findings are provided below.

Findings

Built Environment Resources

Three built environment resources over the age of 50 years were identified in the project area; two of these required evaluation under NRHP and CRHR criteria. The WAPA Transmission Lines qualify for exemption under the 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, 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* (2014 PA) and are exempt. The UPRR grade/Shasta Route and Andora Subway required evaluation.

UPRR Grade/Shasta Route (P-31-00816 and P-31-002687)

The segment of the Shasta Route in the APE is part of the original Folsom to Lincoln line and the Shasta Route. John Snyder prepared a HAER for the Shasta Route, which links California and Oregon, in 1998 and concluded the resource is eligible for listing in the NRHP under Criteria A and B for its significance in themes of engineering, transportation, and economic development in California and for its association with railroad magnate E. H. Harriman.

For the exclusive purpose of this project, pursuant to the 2014 PA Stipulation VIII.C.4., Caltrans assumes NRHP/CRHR eligibility for the 1.3–mile-long subject segment of the Shasta Route and is considered a historical resource for the purposes of CEQA.

The approximately 1.3 miles of railroad tracks within the APE have steel rails, wooden ties, and gravel ballast. Heading south 0.75 mile, the grade crosses a railroad bridge, historically known as the Andora Subway, which is a contributor to the subject segment but not individually eligible. The UPRR grade was originally part of the former Folsom to Lincoln Route of the Central California Railroad that was built between 1857 and 1861. The line left Folsom and headed northwest through Orangevale and Junction before it curved northwards towards Lincoln. It was approximately 18.5 miles long. The Central California Railroad went bankrupt and its assets were bought in 1868 by the California and Oregon

Railroad, which tore up the Folsom to Junction section and continued to use the Roseville to Lincoln spur. This spur was the first northbound stretch of rail that was destined to reach Oregon as part of the Shasta Route. The California and Oregon (controlled by the Central Pacific) also acquired the Yuba Railroad Company's Lincoln to Marysville Route. The connection of these two railroads created what became the Marysville Route. By 1870, the Central Pacific Railroad had completed its takeover of the California and Oregon, and continued both of these lines north to Chico by 1870 and Tehama by 1871. The Central Pacific built as far as Redding, a town which it founded in order to avoid higher altitude Shasta in 1872. The Central Pacific was bought out by the Southern Pacific Railroad in 1884. The Southern Pacific and the Oregon and California (building south from Portland) eventually met at Ashland in 1887, and the Shasta Route was complete (Boyd 1981: 33-38, 85, 95-96; Snyder 1998:7–15).

The UPRR Grade/Shasta Route retains its integrity of location, design, workmanship, feeling, association, and a sufficient amount of its integrity of materials. The resource appears to meet the criteria for listing in the CRHR. The property was evaluated in accordance with Section 15064.5(a)(2)(3) of the State of California CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code and is determined to be a historical resource under CEQA.

Andora Subway

The Andora Subway is not individually eligible for listing in the NRHP or the CRHR. The Andora Subway (Caltrans Bridge Number 19C0192) is a category 4 bridge, and information on the status of the bridge such as bridge health were not noted in the Caltrans Local Agency Bridge Inventory. The Andora Subway has not been previously evaluated but serves as part of a larger linear feature, in this case, a railroad. Also known as the Andora bridge, the subway was built in 1916 and is likely a replacement for an earlier bridge; the date stamp on the current Andora Subway dates the structure to 1916 but earlier bridge inspection records from 1911 record a crossing at Andora (Southern Pacific Railroad 1963:657–658; Southern Pacific Railroad Sacramento Division 1911; Southern Pacific Railroad Company Pacific System 1924). The bridge is a beam-style, plate-girder type supported by concrete wing-wall abutments. The bridge is of common type and construction and is of modest size. Beam-style bridges that serve as bridges for rail traffic are extremely common, and the Andora Subway presents no special engineering, design, or construction features that distinguish it from other bridges of the same period. The bridge was likely built during massive capital improvements made to the Southern Pacific by Chairman E. H. Harriman, who made dozens of improvements, including bridge replacements and constructions, to the Shasta Route, of which this alignment is part. Originally the alignment was part of the Folsom-Lincoln line of the Central California Railroad, which began service in 1861. In 1868, the California and Oregon Railroad bought the line as part of an effort to create what became the Shasta Route, which connected California and Oregon. The Andora Subway appears in USGS topographic maps as early as 1891 (California, Sacramento Sheet 1:125,000 scale) closely paralleling a road, which became Highway 99 (now relocated). The bridge now serves as an overcrossing of Washington Boulevard. Industrial Avenue, located 1.3 miles north of the Andora Subway, is the closest approximate to the old alignment of Highway 99. The road has been re-aligned several times in response to growth in northern Roseville, slightly changing the approach to the overcrossing and its general setting, as depicted in maps from 1953 (U.S. Geological Survey 1953; AA Roads 2016).

Overall it is a common bridge type (beam, plate-girder) that is likely a replacement for an earlier iteration associated with the Central California or Central Pacific Railroad and presents a common size and structure of no individual significance. It does, however, serve as part of the Shasta Route.

The Andora Subway does not appear to meet the criteria for listing in the CRHR individually. It is, however, a contributor to the UPRR Grade/Shasta Route. The property was evaluated in accordance with Section 15064.5(a)(2)(3) of the State of California CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code and is determined not to be a historical resource under CEQA.

Archaeological Resources

ISO-WASH-001

As a result of the pedestrian surveys, one isolate was identified within the project area and was temporarily designated number ISO-WASH-001.ISO-WASH-001 consists of two fragments of amethyst-tinted bottle glass located directly east of the base of the UPRR grade, approximately 965 feet southeast of the intersection of the railroad track and Washington Boulevard. The fragments consisted of one rounded body fragment and one base fragment with indications of a circular suction scar. The two fragments were isolated without any indications of additional pieces in the area. The bottle may have been dropped at the location or dumped sometime after the construction of the railroad. ISO-WASH-001, consisting of two glass fragments, is considered an isolated find. Isolates are, by definition, not considered eligible for listing in the CRHR.

Traditional Cultural Properties

No traditional cultural properties were identified within the project area through survey or consultation efforts.

3.5.2 Environmental Impacts

Methods for Analysis

Cultural resources inventories prepared as part of the *Historic Properties Survey Report* (ICF 2018), and its results, the results of the sacred lands file search, and discussions with Native American tribes provided the basis for this analysis. Impacts would typically be the result of site preparation activities such as grading, trenching, removal of existing vegetation, and other ground disturbance.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect on cultural or tribal resources if it would result in any of the conditions listed below.

- A substantial adverse change in the significance of a historical resource as defined in Section 15064.5.
- A substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
- Disturbance of any human remains, including those interred outside of formal cemeteries.
- Potential to 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 listed or eligible for listing in the CRHR or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).
- Potential to 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 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.

Impacts and Mitigation Measures

This section describes impacts expected to result from project implementation and provides mitigation measures, where applicable. The cultural resources impacts associated with both phases of the proposed project and Alternative 1 (One Lane Closure during Construction) would be generally the same. Alternative 2 (No Project) would not result in any impacts on cultural resources and is not discussed further in this section.

Impact CUL-1	**Potential to cause a substantial adverse change in the significance of a historical resource**
Applicable Policies and Regulations	Section 15064.5(a)(2)(3) of the State of California CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code City General Plan 2035 Goal 1 Policy 1
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

UPRR Grade/Shasta Route

The UPRR grade (P-31-00816 and P-31-002687) is eligible for listing in the CRHR.

The proposed project would widen the Andora Underpass below the UPRR bridge. However, the UPPR grade/Shasta Route would retain its historic physical features that enable it to convey its historic identity. The structure would remain at its current location in its historic setting, retain its historic alignment, continuing to demonstrate the evolution of railroad construction, and would continue to function as a railroad. As a result, the project would not cause a substantial adverse change in the significance of a historical resource and the UPRR grade would retain its significance. There would be no impact and no mitigation is required.

Andora Subway

Based on the cultural resources inventory and evaluation conducted for the project, the Andora Subway does not appear to meet the criteria for listing in the CRHR and is not a CEQA historical resource. Consequently there would be no impact and no mitigation is required.

Alternative 1

Similar to the proposed project, Alternative 1 does not have the potential to cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5. There would be no impact and no mitigation is required.

Impact CUL-2	**Potential to cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5**
Applicable Policies and Regulations	Section 15064.5(a)(2)(3) of the State of California CEQA Guidelines, using the criteria outlined in Section 5024.1 of the California Public Resources Code City General Plan 2035 Goal 1 Policy 1
Significance with Policies and Regulations	Proposed Project: Potentially Significant Alternative 1: Potentially Significant
Mitigation Measures	Proposed Project and Alternative 1: Mitigation Measure CUL-2.1: Stop Work if Cultural Resources are Encountered During Ground-Disturbing Activities
Significance after Mitigation	Proposed Project: Less than Significant with Mitigation Alternative 1: Less than Significant with Mitigation

Proposed Project

Although no archaeological resources were identified either in the records search or during the intensive pedestrian survey, the potential exists for encountering previously unrecorded prehistoric or historic-period archaeological (subsurface) resources during project construction. Any previously unrecorded archaeological resource encountered would be potentially CRHR-eligible and thus a historical resource for the purposes of CEQA. In that situation, the project would have potential to cause a substantial adverse change in its significance, thereby resulting in an impact on a historical resource. This impact is considered potentially significant, but would be reduced to a less-than-significant level by implementing Mitigation Measure CUL-2.1.

Mitigation Measure CUL-2.1: Stop Work if Cultural Resources are Encountered During Ground-Disturbing Activities

If buried cultural resources such as chipped or ground stone, historic debris, or building foundations, are inadvertently discovered during ground-disturbing activities, work will stop in that area and within a 100-foot radius of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop a response plan, with appropriate treatment measures, in consultation with the City, SHPO, and other appropriate agencies. Preservation in place shall be the preferred treatment method per State CEQA Guidelines Section 15126.4(b) (avoidance, open space, capping, easement). Data recovery of important information about the resource, research, or other actions determined during consultation, is allowed if it is the only feasible treatment method.

Alternative 1

Alternative 1 would have the same level and severity of significant impact as discussed for the proposed project. Implementation of Mitigation Measure CUL-2.1 would reduce this impact to a less-than-significant level.

Impact CUL-3	Disturbance of any human remains, including those interred outside of formal cemeteries
Applicable Policies and Regulations	Section 15064.5(e) of the State of California CEQA Guidelines
Significance with Policies and Regulations	Proposed Project: Potentially Significant Alternative 1: Potentially Significant
Mitigation Measures	Proposed Project and Alternative 1: Mitigation Measure CUL-3.1: Implement appropriate treatment for discovery of human remains
Significance after Mitigation	Proposed Project: Less than Significant with Mitigation Alternative 1: Less than Significant with Mitigation

Proposed Project

The project area may have been inhabited by Native Americans during pre-European times. Accordingly, Native American burials may be found in the future on sites where no record of such burials exists. Buried human remains that were not identified during previous research and field studies could be inadvertently unearthed during ground-disturbing activities, possibly resulting in damage to the human remains. In the absence of regulations, this impact would be significant; however, state regulations discussed above relating to the treatment of burials would reduce the potential for significant impacts. Implementation of measures required under state law would reduce impacts on human remains to a less-than-significant level.

A cultural resources inventory of the area entailed consultation with Native American tribes, records searches at the NCIC, a search of the NAHC sacred lands file, historic map research, and a pedestrian survey. The inventory did not identify any recorded finds of human remains within the project area. However, the possibility always exists that unmarked burials may be unearthed during project construction. This impact would be significant. Implementation of Mitigation Measure CUL-3.1 would reduce this impact to a less-than-significant level.

Mitigation Measure CUL-3.1: Implement appropriate treatment for discovery of human remains

In the event that human remains are discovered, all work will cease in the vicinity (minimum of 100 feet) of the find and the Placer County coroner will be notified immediately. If the coroner determines the remains to be Native American in origin, the coroner will be responsible for notifying the NAHC, which will appoint a MLD (Public Resources Code Section 5097.99). The City and MLD will make all reasonable efforts to develop an agreement for the dignified treatment of human remains and associated or unassociated funerary objects (14 CCR 15064.5[d]). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. The MLD will have 48 hours after notification by the NAHC to make their recommendation (Public Resources Code Section 5097.98). If the MLD does not agree to the reburial method, the project will follow Public Resources Code Section 5097.98(b), which states, “The landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance.”

Alternative 1

Alternative 1 would have the same level and severity of significant impact as discussed for the proposed project. Implementation of Mitigation Measure CUL-3.1 would reduce this potential impact to a less-than-significant level.

Impact CUL-4	Potential to cause a substantial adverse change in the significance of a tribal cultural resource pursuant to Public Resources Code Section 21074
Applicable Policies and Regulations	Section 15064.5(e) of the State of California CEQA Guidelines
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

<u>Proposed Project</u>

As described in Section 3.5.1 under *Tribal Consultation*, AB 52 consultation with the Ione Band of Miwok Indians, UAIC, and the Torres Martinez Desert Cahuilla Indians did not result in identification of areas of sensitivity for the potential to find unknown tribal cultural resources. No tribal cultural resources were identified through these consultation efforts. Therefore, it is expected that the project would not result in impacts on tribal cultural resources. There would be no impact and no mitigation is required.

<u>Alternative 1</u>

Similar to the proposed project, Alternative 1 does not have the potential to cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074. There would be no impact and no mitigation is required.

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3.6 Geology and Soils

This section discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures such as those included in the proposed project.

No comments related to geology and soils were received in response to the Notice of Preparation for this EIR.

3.6.1 Existing Conditions

Regulatory Setting

Federal

For unique geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features."

State

Geologic and soil hazards are regulated under state laws as described below.

Alquist-Priolo Earthquake Fault Zoning Act

California's Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) (PRC Section 2621 et seq.), originally enacted in 1972 as the Alquist-Priolo Special Studies Zones Act and renamed in 1994, is intended to reduce risks to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location of most types of structures intended for human occupancy[1] across the traces of active faults and strictly regulates construction in the corridors along active faults (earthquake fault zones). It also defines criteria for identifying active faults, giving legal weight to terms such as active, and establishes a process for reviewing building proposals in and adjacent to earthquake fault zones.

Under the Alquist-Priolo Act, faults are zoned, and construction along or across them is strictly regulated if they are "sufficiently active" and "well defined." A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during Holocene time (defined for purposes of the act as referring to approximately the last 11,000 years). A fault is considered well defined if its trace can be identified clearly by a trained geologist at the ground surface, or in the shallow subsurface using standard professional techniques, criteria, and judgment (California Geological Survey 2016a).

[1] With reference to the Alquist-Priolo Act, a *structure for human occupancy* is defined as one "used or intended for supporting or sheltering any use or occupancy, which is expected to have a human occupancy rate of more than 2,000 person-hours per year" (CCR Title 14, Div. 2, Section 3601[e]).

Seismic Hazards Mapping Act

Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act of 1990 (PRC Sections 2690–2699.6) is intended to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction, and seismically induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Act; the state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards; and cities and counties are required to regulate development within mapped seismic hazard zones.

Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing development permits for sites within seismic hazard zones until appropriate site-specific geologic and/or geotechnical investigations have been carried out and measures to reduce potential damage have been incorporated into the development plans. Geotechnical investigations conducted within Seismic Hazard Zones must incorporate standards specified by California Geological Survey Special Publication 117a, Guidelines for Evaluating and Mitigating Seismic Hazards (California Geological Survey 2008).

Clean Water Act Section 402 General Permit for the National Pollutant Discharge Elimination System Stormwater Discharges Associated with Construction and Land Disturbance Activities (General Order 2010-0014-DWQ)

The Clean Water Act (CWA) is discussed in detail in Section 3.9, *Hydrology and Water Quality*. However, because CWA Section 402 is directly relevant to grading activities, additional information is provided here.

Section 402 of the CWA mandates that certain types of construction activity comply with the requirements of the Environmental Protection Agency's National Pollutant Discharge Elimination System (NPDES) program. The federal agency has delegated to the State Water Resources Control Board the authority for the NPDES program in California, where it is implemented by the state's nine Regional Water Quality Control Boards.

Dischargers whose projects disturb one or more acres of soil, or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the state General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (General Construction Permit) (General Order 2010-0014-DWQ). Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. General Construction Permit applicants are required to prepare and submit a Notice of Intent and storm water pollution prevention plan (SWPPP) and implement and maintain best management practices (BMPs) to avoid adverse effects on receiving water quality as a result of construction activities, including earthwork.

Coverage under the General Construction Permit is obtained by submitting Permit Registration Documents to the State Water Quality Control Board that include a risk-level assessment and a site-specific SWPPP that identifies an effective combination of erosion control, sediment control, and non-storm water BMPs. The General Construction Permit requires that the SWPPP define a program of regular inspections of the BMPs and, in some cases, sampling of water quality parameters.

2016 California Building Standards Code

The minimum standards for structural design and construction in California are specified in the California Building Standards Code (CBSC) (Title 24, California Code of Regulations). The CBSC is based on the 2015 International Building Code. The CBSC states that “the soil classification and design-bearing capacity will be shown on the (building) plans, unless the foundation conforms to specified requirements.” The CBSC provides standards for various aspects of construction, including excavation, grading, and earthwork construction; fills and embankments; expansive soils; foundation investigations; and liquefaction potential and soil strength loss. In accordance with California law, certain aspects of the project would be required to comply with all provisions of the CBSC.

Local

City General Plan 2035

The City’s *General Plan 2035* addresses seismic and geologic hazards in its Safety Element (City of Roseville 2016). The following goal and policies are applicable to the project.

Goal 1. Minimize injury and property damage due to seismic activity and geologic hazards.

Policy 3. Minimize soil erosion and sedimentation by maintaining compatible land uses, suitable building designs, and appropriate construction techniques.

Policy 4. Comply with state seismic and building standards in the design and siting of critical facilities including police and fire stations, school facilities, hospitals, hazardous material manufacture and storage facilities, bridges, and large public assembly halls.

Policy 5. Create and adopt slope development standards prior to or as part of the planning process for any area identified as having significant slope.

Environmental Setting

Regional Geology

Placer County is on the eastern margin of the Great Valley Physiographic Province. The Great Valley Physiographic Province is bounded by the Cascade Range Physiographic Province and Klamath Mountains Physiographic Province to the north, the Coast Ranges Physiographic Province to the west, and the Sierra Nevada Physiographic Province to the east. Thick sequences of alluvial lacustrine and marine sediments are deposited on the valley floor of the Great Valley Physiographic Province. The thickness of these deposits ranges from a thin veneer at the margins of the valley to thousands of feet in the middle of the valley (DeCourten 1988). Roseville is primarily underlain by alluvial deposits from the Sierra Nevada which are underlain by Plio-Pleistocene, non-marine sediments which were formed during the Cenozoic Period (Wagner et al. 1981).

Site Geology

The project site is flat to gently sloping, with elevations ranging from approximately 120 to 170 feet above mean sea level.

The northern part of the project site is underlain by the Riverbank formation, which consists of alluvium on low terraces. The southern part of the project site is underlain by the Quaternary Turlock Lake formation, which consists of sand, silt, and gravel. (Wagner et al. 1981). Miocene age Mehrten Formations, which consist of andesitic conglomerate, sandstone, and breccia, are found east of the project site. Geotechnical drilling conducted in May 2017 did not encounter this formation during the deepest boring at a depth of approximately 100 feet (Crawford & Associates 2017).

More recent alluvial deposits are likely present in the shallow drainages that cross the project site, such as South Branch Pleasant Grove Creek, Sierra View Tributary, and an unnamed tributary. These shallow deposits are made up primarily of loose sand and gravel.

The nearest seismic faults are the Spenceville fault, the Deadman fault, and the DeWitt fault. These faults are contained in the Foothills fault zone and are approximately 11 miles northeast of the project site (Crawford & Associates 2017). There are no known unique paleontological resources or sites or unique geologic features at the project site.

Soils

Review of the soil survey mapping by the U.S. Department of Agriculture, Natural Resources Conservation Service Web Soil Survey (Natural Resources Conservation Service 2017) indicates that the project site is underlain by three soil map units. In many places, the soil profile has been disturbed by the construction of roads and grading for development. The characteristics of the three soil map units are summarized in Table 3.6-1 below.

Table 3.6-1. Summary of Soil Map Unit Characteristics

Soil Map Unit (map symbol)	Acres in Project Site	Typical Profile	Landform	Drainage Class	Seasonal High Depth to Groundwater	Runoff Rate	Erosion Hazard	Expansion Potential
Cometa-Fiddyment complex, 1 to 5 percent slopes (141)	31.5	Sandy loam over clay over sandy loam and Loam over clay loam over silica-cemented siltstone	Terraces and ridges	Well drained	>80 inches	Very high	Slight	Low to high
Cometa-Ramona sandy loams, 1 to 5 percent slopes (142)	95.7	Sandy loam over clay over sandy loam and Sandy loam over sandy clay loam over gravelly sandy clay loam	Terraces	Well drained	>80 inches	Medium to very high	Slight	Low to high

Soil Map Unit (map symbol)	Acres in Project Site	Typical Profile	Landform	Drainage Class	Seasonal High Depth to Groundwater	Runoff Rate	Erosion Hazard	Expansion Potential
Xerofluvents frequently flooded	7.9	Stratified gravelly, loamy soils grading to sand and gravel with depth	Adjacent to drainageways	Poorly drained	30–57 inches	Very low	Slight	(not rated)
Source: Natural Resources Conservation Service 2017.								

Primary Seismic Hazards

The State of California considers two primary aspects of earthquake-induced seismic hazards: surface fault rupture (disruption at the ground surface as a result of fault activity) and seismic ground shaking.

Surface Fault Rupture

No faults are mapped within or near the project site, and the site is not in a Fault Rupture Hazard Zone, as defined by the State of California (California Geological Survey 2017a). Therefore, the risk of fault rupture occurring within the project site is very low.

Seismic Ground Shaking

The peak ground acceleration at the project site is 0.243 acceleration of gravity (g) (where one g is equal to the force of gravity), with a return period of 2% in 50 years. This is a relatively low level of ground-shaking hazard for California. As a point of comparison, probabilistic peak horizontal ground acceleration values for the San Francisco Bay area range from 0.4g to more than 0.8g (California Geological Survey 2017b).

Secondary Seismic Hazards

Secondary seismic hazards refers to seismically induced landsliding, liquefaction, and related types of ground failure. These hazards are addressed briefly below.

Seismically Induced Landsliding

The potential for seismic slope instability, such as landslides and mudslides, is very low at the project site. This assessment is based on the presence of shallow slopes at the site and low seismic shaking hazard.

Liquefaction

Liquefaction is the process in which soils and sediments temporarily lose shear strength and fail during seismic ground shaking. The susceptibility of an area to liquefaction is determined largely by the depth to groundwater and the properties (e.g., texture and density) of the soil and sediment within and above the groundwater, as well as the strength of seismic ground shaking.

The potential for detrimental liquefaction at the project site is low. This assessment is based on the soils and consolidated alluvium present in the shallow subsurface. In these locations, the soils are medium dense to very dense granular soils; very stiff to hard, cohesive soils; and/or soft rock. These soils are not subject to liquefaction.

Seismic Settlement

Seismic settlement is the densification of granular soil above the water table caused by seismic ground shaking. This process results in lowering of the ground surface. Ground settlement may lead to large differential and/or total settlement and cause damage to facilities, lifelines, and other utilities.

The potential for significant seismic settlement at the project site is low. This assessment is based on the soil and rock types that occur in the shallow subsurface at the project site, which are medium dense to dense soils and rock, and the relatively low seismic ground motions projected for the area.

Landslides

The risk of landslides and other forms of slope instability triggered by (nonseismic) factors, such as heavy precipitation, is low because of the gentle slopes at the project site. However, small streambank failures could occur as a result of high soil moisture levels during periods of high rainfall.

Erosion

The sheet and rill erosion hazard for the soils on the project site is slight.

Expansive Soil

Soils with a high smectite clay content tend to be the most expansive soils, which are defined by their coefficient of linear extensibility and loosely referred to as shrink-swell potential. The soil swells from water absorption and shrinks when it dries. The amount of seasonal shrinking and swelling is influenced by the amount and kind of clay in the soil. These soils are not preferred when building foundations, roads, and other structures because there is a higher potential for hazards or failure. Subsoil layers in some of the soils on the project site have a high shrink-swell potential (Natural Resources Conservation Service 2017) and therefore probably meet the criteria for expansive soil as defined by the Uniform Building Code.

Paleontological Resources

A portion of the project site is underlain by the Riverbank formation. Vertebrate fossils have been found in the Riverbank formation in the Sacramento area and at other locations of the formation. For example, fossil specimens recovered from excavations at the Sleep Train Arena north of Sacramento in the Riverbank formation included specimens of Harlan's ground sloth, bison, coyote, horse, camel, squirrel, antelope or deer, mammoth, and several plant species. Additionally, a Pleistocene-age mammoth specimen was recovered from the Riverbank formation during excavation for a natural gas line in Elk Grove in Sacramento

County (City of Roseville 2013). Fossils could occur in the Riverbank formation at the project site.

3.6.2 Environmental Impacts

This section describes the CEQA impact analysis relating to geology and soils for the proposed project. It describes the methods used to determine the project's potential impacts and lists the criteria thresholds used to conclude whether an impact would be significant. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion where applicable.

Methods for Analysis

The analysis of geologic, seismic, and soil hazards that could increase the risk to human health and loss of property during the construction and operational phases of the project is primarily based on a review of geologic and seismic hazards mapping published by the California Geological Survey and soil survey information published by the Natural Resources Conservation Service (2017).

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - 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.
  - Strong seismic ground shaking
  - Seismic-related ground failure, including liquefaction
  - Landslides
- Result in substantial soil erosion or the loss of topsoil.
- 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 an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.
- 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.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Impacts and Mitigation Measures

In general, both phases of the proposed project and Alternative 1 (one lane closure during construction) would result in the same types and levels of geology and soils impacts. Alternative 2 (No Project) would not result in any new impacts related to geology and soils and is not discussed further in this analysis.

Impact GEO-1	**Exposure of people or structures to potential substantial adverse effects involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides**
Applicable Policies and Regulations	Alquist-Priolo Earthquake Fault Zoning Act Seismic Hazards Mapping Act of 1990 California Building Standards Code City of Roseville General Plan 2035, Safety Element
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

<u>Proposed Project</u>

The project site is not identified as being within an Alquist-Priolo Fault Zone (California Geological Survey 2016a). The closest active fault, the Dunnigan Hills fault, is 30 miles west of the site.

A geotechnical investigation was conducted to assess the potential for seismically related ground failure, including liquefaction, to occur in an effort to identify the need for special design and construction methods which would help to avoid potential effects on life and property.

The investigation was conducted by Crawford and Associates (2017) using the U.S. Geological Survey (USGS) Unified Hazard Program and the Caltrans Acceleration Response Spectra website. These tools calculate both deterministic and probabilistic acceleration response spectra based on criteria provided in the Caltrans seismic design criteria (Crawford & Associates 2017). The geotechnical investigation concluded that the peak ground acceleration for the project site was on the order of 0.23g. The potential for seismically related ground failure, including liquefaction, is expected to be less than significant, and no mitigation is required. (Crawford & Associates 2017).

The hazard of a seismically induced landslide occurring at the site is considered low because there are no known landslides on the project site, which contains gentle slopes, and there is limited ground-shaking potential. The impact would be less than significant, and no mitigation is required.

Alternative 1

Alternative 1 would occupy the same location as the proposed project. Therefore, this impact for Alternative 1 would be the same as described above for the proposed project. The impact would be less than significant, and no mitigation is required.

Impact GEO-2	**Potential to result in substantial soil erosion or the loss of topsoil**
Applicable Policies and Regulations	Clean Water Act Section 402 National Pollutant Discharge Elimination System Construction General Permits City of Roseville General Plan 2035, Open Space and Conservation Element
Significance with Policies and Regulations	Proposed Project: Potentially Significant Alternative 1: Potentially Significant
Mitigation Measures	Proposed Project and Alternative 1: Mitigation Measure WQ-2.1: Provide a System to Meet NPDES Post-Construction Stormwater Runoff Requirements
Significance after Mitigation	Proposed Project: Less than Significant with Mitigation Alternative 1: Less than Significant with Mitigation

Proposed Project

Grading, excavation, and removal of vegetation associated with construction could temporarily increase erosion rates. Construction activities also could result in soil compaction and wind erosion effects that could adversely affect topsoil and reduce the revegetation potential in the construction and staging areas. Some topsoils would be covered. This impact would be significant; however, implementation of Mitigation Measure WQ-2.1, described in Section 3.9, *Hydrology and Water Quality*, would reduce this impact to a less-than-significant level.

Alternative 1

Alternative 1 would result in the same potential soil erosion and loss of top soil as described for the proposed project. This impact would be significant; however, implementation of Mitigation Measure WQ-2.1, described in Section 3.9, *Hydrology and Water Quality*, would reduce this impact to a less-than-significant level.

Impact GEO-3	**Placement of project-related facilities on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse**
Applicable Policies and Regulations	Alquist-Priolo Earthquake Fault Zoning Act Seismic Hazards Mapping Act of 1990 California Building Standards Code City of Roseville General Plan 2035, Safety Element
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

<u>Proposed Project</u>

Because the Riverbank and Turlock Lake formations that underlie the site generally consist of consolidated sediments and given the gentle slopes on the site, there appear to be no unstable ground conditions present. The impact would be less than significant, and no mitigation is required.

<u>Alternative 1</u>

Alternative 1 would occupy the same location as the proposed project. Therefore, this impact for Alternative 1 would be the same as described above for the proposed project. The impact would be less than significant, and no mitigation is required.

Impact GEO-4	**Placement of project-related facilities on expansive soil, creating substantial risks to life or property**
Applicable Policies and Regulations	California Building Standards Code City of Roseville General Plan 2035, Safety Element
Significance with Policies and Regulations	Proposed Project: Potentially Significant Alternative 1: Potentially Significant
Mitigation Measures	Proposed Project and Alternative 1: Mitigation Measure GEO-4.1: Prepare Soil Report or Geotechnical Investigation and Implement Recommendations
Significance after Mitigation	Proposed Project: Less than Significant with Mitigation Alternative 1: Less than Significant with Mitigation

Proposed Project

Subsoil layers in some of the soils found on the project site have a high shrink-swell potential (Natural Resources Conservation Service 2017) and therefore probably meet the criteria for expansive soil as defined by the Uniform Building Code. Without proper engineering, the new roadways, sound wall, and other features constructed on such soils would be susceptible to damage or failure caused by seasonal shrinkage and swelling of such soil layers. The impact would be significant. Implementation of Mitigation Measure GEO-1 would reduce this impact to a less-than-significant level.

Mitigation Measure GEO-4.1: Prepare Soil Report or Geotechnical Investigation and Implement Recommendations

The City will ensure that a soil report or geotechnical investigation be prepared that identifies the locations of expansive soils on the site. The project design will include the recommendations of the studies, such as a soil replacement and lime treatment, to avoid the effects of excessive soil expansion and contract on pavements, sound walls, and project elements.

Alternative 1

Alternative 1 would occupy the same location as the proposed project and would therefore result in the same potential to place facilities on expansive soil, creating substantial risks to life or property. The impact would be significant. Implementation of Mitigation Measure GEO-4.1 would reduce this impact to a less-than-significant level.

Impact GEO-5	**Placement of facilities on soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater**
Applicable Policies and Regulations	None
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

The proposed project would not entail installation of septic tanks or alternative wastewater disposal systems; therefore, there would be no impact. No mitigation is required.

Alternative 1

As described for the proposed project, Alternative 1 would not involve the installation of septic tanks or alternative wastewater disposal systems. There would be no impact. No mitigation is required.

Impact GEO-6	**Direct or indirect destruction of a unique paleontological resource or site or unique geologic feature**
Applicable Policies and Regulations	None
Significance with Policies and Regulations	Proposed Project: Potentially Significant Alternative 1: Potentially Significant
Mitigation Measures	Proposed Project and Alternative 1: Mitigation Measure GEO-6.1: Cease Work until Review Conducted by Qualified Paleontologist and Recommendations Implemented Mitigation Measure GEO-6.2: Prepare and Implement a Worker Education Program for those Involved with Earthwork
Significance after Mitigation	Proposed Project: Less than Significant with Mitigation Alternative 1: Less than Significant with Mitigation

Proposed Project

There are no known unique paleontological resources or sites or unique geologic features on the project site. However, the Riverbank formation, which underlies part of the project site, is known to contain paleontologically sensitive resources at some locations. Excavation work to construct the project could directly or indirectly destroy such resources or alter their stratigraphic context. This impact is potentially significant, but would be reduced to a less-than-significant level by implementing Mitigation Measures GEO-6.1 and GEO-6.2.

Mitigation Measure GEO-6.1: Cease Work until Review Conducted by Qualified Paleontologist and Recommendations Implemented

Should any evidence of paleontological materials (e.g., fossils) be encountered during grading and excavation, work will be suspended within 100 feet of the find, and the City will be immediately notified. At that time, the City will coordinate all necessary investigations of the site with a qualified paleontologist to assess the resource and provide proper management recommendations. Possible management recommendations for important resources could include resource avoidance or data recovery excavations. The contractor will implement any measures deemed necessary by the paleontologist for the protection of paleontological resources.

Mitigation Measure GEO-6.2: Prepare and Implement a Worker Education Program for those Involved with Earthwork

A worker education program, prepared by a qualified professional paleontologist, will review applicable local, state, and federal ordinances, laws, and regulations pertaining to paleontological resources, the types of fossils that can be encountered and their general appearance, discuss site avoidance requirements and notification procedures to be followed in the event that unanticipated paleontological resource is found during construction, and discussion disciplinary and other actions that can be taken against persons violating such laws.

Alternative 1

Alternative 1 would occupy the same location as the proposed project and would therefore result in the same potential for direct or indirect destruction of a unique paleontological resource or site or unique geologic feature. This impact is potentially significant, but would be reduced to a less-than-significant level by implementing Mitigation Measures GEO-6.1 and GEO-6.2.

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3.7 Greenhouse Gas Emissions

This section describes the regulatory and environmental setting for greenhouse gas (GHG) emissions in the vicinity of the proposed project. This section also describes the impacts from GHG emissions (and thus contributions to climate change) that would result from implementation of the project. Air quality impacts are discussed separately in Section 3.3, *Air Quality*.

No comments related to greenhouse gas emissions were received in response to the Notice of Preparation for this EIR.

3.7.1 Existing Conditions

Regulatory Setting

Relevant regulatory agencies for GHG emissions include the U.S. Environmental Protection Agency (EPA), California Air Resources Board (CARB), and Placer County Air Pollution Control District (PCAPCD). This section summarizes federal, state, regional, and local regulations related to GHGs and climate change and applicable to the proposed project.

Federal

There is currently no federal overarching law specifically related to climate change or the reduction of GHG emissions. Under the Obama Administration, the EPA had been developing regulations under the Clean Air Act pursuant to EPA's authority. There have also been settlement agreements between EPA, several states, and nongovernmental organizations to address GHG emissions from electric generating units and refineries, as well as the EPA's issuance of an "Endangerment Finding" and a "Cause or Contribute Finding." EPA has also adopted a Mandatory Reporting Rule and Clean Power Plan. Under the Clean Power Plan, EPA issued regulations to control carbon dioxide (CO_2) emissions from new and existing coal-fired power plants. However, on February 9, 2016 the Supreme Court issued a stay of these regulations pending litigation. Former EPA Administrator Scott Pruitt also signed a measure to repeal the Clean Power Plan. The fate of the proposed regulations is uncertain given the change in federal administrations and the pending deliberations in federal courts.

State

California has adopted statewide legislation addressing various aspects of climate change and GHG emissions reduction. The legislation establishes a broad framework for the state's long-term GHG reduction and climate change adaptation program. The Governor of California has also issued several executive orders related to the state's evolving climate change policy. Summaries of key policies, regulations, and legislation at the state levels that are relevant to the proposed project are provided in the following sections.

Executive Order S-3-05

California Executive Order (EO) S-3-05 sets forth a series of target dates by which statewide emissions of GHGs need to be progressively reduced, as follows: by 2010, reduce GHG emissions to 2000 levels (approximately 457 million metric tons of carbon dioxide equivalent [CO_2e]); by 2020, reduce emissions to 1990 levels (approximately 427 million metric tons CO_2e); and by 2050, reduce emissions to 80% below 1990 levels (approximately 85 million metric tons CO_2e). Executive orders are binding only on state agencies. Accordingly, California EO S-03-05 will guide state agencies' efforts to control and regulate GHG emissions, but will have no direct binding effect on local government or private actions. The Secretary of the California Environmental Protection Agency is required to report to the Governor and state legislature biannually on the impacts of global warming on California, mitigation and adaptation plans, and progress made toward reducing GHG emissions to meet the targets established in this executive order.

Assembly Bill 1493, Pavley Rules/Advanced Clean Cars

Known as "Pavley I," Assembly Bill (AB) 1493 outlines the nation's first GHG standards for automobiles. Additional strengthening of the Pavley standards (referred to previously as "Pavley II," and now referred to as the "Advanced Clean Cars" measure) has been proposed for vehicle model years 2017–2020. Together, the two standards are expected to increase average fuel economy to roughly 43 miles per gallon by 2020 and reduce GHG emissions from the transportation sector in California by approximately 14%. EPA and CARB have also adopted joint rulemaking to establish GHG emissions standards for 2017–2025 model year passenger vehicles.

Assembly Bill 32 and California Climate Change Scoping Plan

In 2006, the California legislature passed AB 32 (California Health and Safety Code Division 25.5, § 38500 et seq.), also known as the California Global Warming Solutions Act. AB 32 requires CARB to implement emission limits, regulations, and other feasible and cost-effective measures such that statewide GHG emissions are reduced to 1990 levels by 2020.

Pursuant to AB 32, CARB adopted the Climate Change Scoping Plan (Scoping Plan) in December 2008, which outlines measures for meeting the 2020 GHG emissions reduction limits. The Scoping Plan must be updated every 5 years to evaluate AB 32 policies and ensure that California is on track to achieve the 2020 GHG emissions reduction goal. In 2014, CARB released the First Update to the Climate Change Scoping Plan (First Update), which builds upon the initial scoping plan with new strategies and recommendations. The First Update identifies opportunities to leverage existing and new funds and drive GHG emissions reductions through strategic planning and targeted low-carbon investments. This update defines CARB's climate change priorities for the next 5 years and sets the groundwork for reaching the long-term goals set forth in California EO S-3-05. The First Update highlights California's progress toward meeting the near-term 2020 GHG emissions reduction goals in the initial scoping plan. It also evaluates actions to align the state's longer-term GHG emissions reduction strategies with other state policy priorities for water, waste, natural resources, clean energy, transportation, and land use.

CARB adopted the revised *2017 Climate Change Scoping Plan* in November 2017. It outlines policies and actions for the state's 2030 GHG emission target, as outlined under Senate Bill (SB) 32.

Executive Order S-01-07, Low Carbon Fuel Standard

California EO S-01-07 mandates (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020, and (2) that a low-carbon fuel standard for transportation fuels be established in California. The EO initiates a research and regulatory process at CARB.

Senate Bill 375 (Steinberg)

SB 375, also known as the Sustainable Communities and Climate Protection Act of 2008, will reduce carbon emissions from land use. SB 375 requires regional transportation plans (RTPs) developed by each of the state's 18 metropolitan planning organizations (MPOs) to incorporate a sustainable communities strategy (SCS) in each RTP to achieve the GHG emissions reduction targets set by CARB. The per-capita GHG emissions reduction targets for the Sacramento Area Council of Governments (SACOG) are 7% by 2020 and 19% by 2035 from 2005 levels (California Air Resources Board 2018a). SACOG adopted an SCS as part of its Metropolitan Transportation Plan (MTP) in 2016 and is currently working on the 2020 update.

Senate Bill 32 and Assembly Bill 197

SB 32 requires CARB to ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by 2030. The companion bill, AB 197, creates requirements to form a Joint Legislative Committee on Climate Change Policies, requires CARB to prioritize direct emission reductions and consider social costs when adopting regulations to reduce GHG emissions beyond the 2020 statewide limit, requires CARB to prepare reports on sources of GHGs and other pollutants, establishes 6-year terms for voting members of CARB, and adds two legislators as non-voting members of CARB.

Executive Order B-55-18

EO B-55-18 acknowledges the environmental, community, and public health risks posed by future climate change. It further recognizes the climate stabilization goal adopted by 194 states and the European Union under the Paris Agreement. While the United States was not party to the agreement, California is committed to meeting the Paris Agreement goals and going beyond them wherever possible. Based on the worldwide scientific agreement that carbon neutrality must be achieved by midcentury, EO B-55-18 establishes a new state goal to achieve carbon neutrality as soon as possible, and no later than 2045, and to achieve and maintain net negative emissions thereafter. The EO charges CARB with developing a framework for implementing and tracking progress towards these goals. This EO extends EO S-3-05, but is only binding on state agencies.

Senate Bill 743

SB 743 requires revisions to the CEQA Guidelines that establish new impact analysis criteria for the assessment of a project's transportation impacts. The intent behind SB 743 and revising the CEQA Guidelines is to integrate and better balance the needs of congestion management, infill development, active transportation, and GHG emissions reduction. The Office of Planning and Research (OPR) recommends that vehicle miles traveled (VMT) serve as the primary analysis metric, replacing the existing criteria of delay and level of service. In 2018, OPR released a technical advisory outlining potential VMT significance thresholds for different project types. For example, it would be reasonable to conclude that residential and office projects demonstrating a VMT level that is 15 percent less than existing (2015-2018 average) conditions are consistent with statewide GHG reduction targets. With respect to retail land uses, any net increase of VMT may indicate a significant transportation impact.

Local

Neither Placer County nor the City have adopted a Climate Action Plan for the purposes of reducing local community GHG emissions. The City is currently conducting a General Plan Update, which will include GHG reduction policies. PCAPCD's *CEQA Air Quality Handbook* (2017) provides guidance for evaluating project-level GHG impacts, and identifies significance thresholds for land use development projects (i.e., residential, commercial, and stationary source projects).

Environmental Setting

This section describes the environmental setting related to GHGs and climate change. The study area is much broader than for the air quality analysis due to the global nature of climate change. While the GHG analysis focuses on the project area, the analysis considers potential regional and global GHG effects.

Climate Change

The phenomenon known as the *greenhouse effect* keeps the atmosphere near the Earth's surface warm enough for the successful habitation of humans and other life. Present in the Earth's lower atmosphere, GHGs play a critical role in maintaining the Earth's temperature. Sunlight including infrared, visible, and ultraviolet radiation passes through the atmosphere. Some of the sunlight striking the earth is absorbed and converted to heat, which warms the surface. The surface emits infrared radiation to the atmosphere, where some of it is absorbed by GHGs and re-emitted toward the surface; some of the heat is not trapped by GHGs and escapes into space. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and amplifying the warming of the earth (Center for Climate and Energy Solutions 2011).

Increases in fossil fuel combustion and deforestation have increased concentrations of GHGs in the atmosphere since the Industrial Revolution. Rising atmospheric concentrations of GHGs in excess of natural levels enhance the greenhouse effect, which contributes to global warming of the Earth's lower atmosphere. This warming induces large-scale changes in earth surface temperatures, ocean circulation patterns, precipitation patterns, global ice cover, biological distributions, and other changes to the earth system that are collectively referred to as *climate change*.

Principal Greenhouse Gases

As defined in AB 32, GHGs include the following gases: CO_2, methane (CH_4), nitrous oxide (N_2O), perfluorinated carbons, sulfur hexafluoride, and hydrofluorocarbons. The state CEQA Guidelines (§ 15364.5) also identify these six gases as GHGs.[1] The primary GHGs of concern associated with the project are CO_2, CH_4, and N_2O. The principal characteristics of these pollutants are discussed in this section.

- **CO_2** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, as well other chemical reactions (e.g., manufacture of cement). CO_2 is also removed from the atmosphere (or *sequestered*) when it is absorbed by plants as part of the biological carbon cycle.
- **CH_4** is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and other agricultural practices and the decay of organic waste in municipal solid waste landfills.
- **N_2O** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.

Methods have been set forth to describe emissions of GHGs in terms of a single gas to simplify reporting and analysis. The most commonly accepted method to compare GHG emissions is the global warming potential (GWP) methodology defined in the Intergovernmental Panel on Climate Change (IPCC) reference documents. The IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of CO_2e, which compares the gas in question to that of the same mass of CO_2 (CO_2 has a GWP of 1 by definition).

Table 3.7-1 lists the GWP of CO_2, CH_4, and N_2O and their atmospheric lifetimes in the atmosphere.

Table 3.7-1. Lifetimes and Global Warming Potentials of Key Greenhouse Gases

Greenhouse Gases	Global Warming Potential (100 years)	Lifetime (years)
CO_2	1	-
CH_4	25	12
N_2O	298	114

Sources: California Air Resources Board 2018a

CH_4 = methane.
CO_2 = carbon dioxide.
N_2O = nitrous oxide.
ppb = parts per billion.
ppm = parts per million.

[1] Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic (human-made) sources.

Greenhouse Gas Emissions Inventories

A GHG inventory is a quantification of all GHG emissions and sinks[2] within a selected physical and/or economic boundary. GHG inventories can be performed on a large scale (e.g., for global and national entities) or on a small scale (e.g., for a particular building or person). Although many processes are difficult to evaluate, several agencies have developed tools to quantify emissions from certain sources. Table 3.7-2 outlines the most recent global, national, statewide, and local GHG inventories to help contextualize the magnitude of potential project-related emissions.

Table 3.7-2. Global, National, State, and Local Greenhouse Gas Emissions Inventories

Emissions Inventory	CO_2e (metric tons per year)
2010 IPCC Global GHG Emissions Inventory	52,000,000,000
2017 EPA National GHG Emissions Inventory	6,456,700,000
2016 CARB State GHG Emissions Inventory	429,400,000
2015 Placer County GHG Emissions Inventory	1,181,195

Sources: Intergovernmental Panel on Climate Change 2014; U.S. Environmental Protection Agency 2019; California Air Resources Board 2018b; Sierra Business Council 2018.

ARB = Air Resources Board.
CO_2e = carbon dioxide equivalent.
EPA = U.S. Environmental Protection Agency.
GHG = greenhouse gas.
IPCC = Intergovernmental Panel on Climate Change.

Potential Effects of Climate Change

Climate change is a complex phenomenon that has the potential to alter local climatic patterns and meteorology. Although modeling indicates that climate change will result in sea level rise (both globally and regionally) as well as changes in climate and rainfall, among other effects, there remains uncertainty with regard to characterizing precise local climate characteristics and predicting precisely how various ecological and social systems will react to any changes in the existing climate at the local level. Regardless of this uncertainty, it is widely understood that substantial climate change is expected to occur in the future, although the precise extent will take further research to define.

3.7.2 Environmental Impacts

This section describes the environmental impacts of the proposed project on GHG. This section also describes the methods used to evaluate the impacts and the thresholds used to determine whether an impact would be significant.

Methods for Analysis

GHG impacts associated with construction and operation of the proposed project were assessed and quantified using standard and accepted software tools, techniques, and emission factors. A summary of the methodology is provided below. A full list of assumptions is provided in Appendix C.

[2] A GHG sink is a process, activity, or mechanism that removes a GHG from the atmosphere.

Construction

Construction is a source of temporary exhaust emissions, primarily generated by the use of heavy equipment and vehicles. Construction emissions of CO_2, CH_4, and N_2O were estimated using the Sacramento Metropolitan Air Quality Management District's (SMAQMD) Road Construction Emissions Model (RCEM) (Version 9.0) and the assumptions discussed in subsection 3.3.2 in Section 3.3, *Air Quality*. It was assumed that Phase 1 construction would require 8 months in 2020, and that Phase 2 would require 13 months, beginning in spring 2023. Please refer to Section 3.3, *Air Quality*, and Appendix C for additional information on the construction analysis.

Operation

CO_2, CH_4, and N_2O emissions were modeled for existing year (2016) and design year (2035) conditions using daily VMT data provided in the *Final Transportation Study for the Washington/Andora Widening Project* (see Appendix B) and Caltrans' CT-EMFAC2017 model. This information was supplemented with a related Fehr & Peers technical memorandum dated April 10, 2019 and which reviewed the effects of newly proposed project phasing (Appendix B). This memo confirmed that VMT following Phase 1 improvements would be less than that identified for full project buildout. VMT data were not provided for opening year (2025) conditions and are, therefore, not evaluated in the analysis of project-related GHG emissions. The data included vehicle activity for affected roadways in the immediate project region. Yearly GHG emissions were calculated by multiplying daily emissions by 347, consistent with CARB methodology to extrapolate yearly traffic emissions from daily (California Air Resources Board 2008).

Note that the only differences between the proposed project and Alternative 1 would occur during construction. Traffic volumes, speeds, and other operational conditions under the proposed project and Alternative 1 would be identical. Accordingly, the operational impact assessment is based on a single set of traffic conditions, which is representative of both the proposed project and Alternative 1 (collectively referred to as the "build alternatives").

Appendix C presents the daily VMT data and CT-EMFAC emission factor outputs.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

GHG emissions are a cumulative impact. That is, individual projects contribute to this impact, but do not have significant direct impacts on GHG emissions on their own.

The State CEQA Guidelines do not indicate what amount of GHG emissions would constitute a significant impact on the environment. Instead, they authorize the lead agency to consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence (State CEQA Guidelines Sections 15064.4(a) and 15064.7(c)). The California Supreme Court decision in the *Centers for Biological Diversity et al. vs. California Department of Fish and Wildlife, the Newhall Land and Farming Company* (November 30, 2015, Case No. S217763) confirmed that there are multiple potential pathways for evaluating project-level GHG emissions consistent with CEQA, depending on the circumstances of a given project, including reliance on numeric thresholds and compliance with regulatory programs.

There are currently no drafted, adopted, or recommended numeric thresholds relevant to the analysis of GHG emissions from transportation projects. Within the transportation sector, about two-thirds of GHG emissions come from on-road passenger vehicles (i.e., light-duty vehicles). Between 2013 and 2016, statewide passenger vehicle GHG emissions increased 7 percent, mainly due to VMT growth outpacing improvements in fuel efficiency of the vehicle fleet (CARB 20188). CARB's 2017 Scoping Plan recognizes that while vehicle technologies and low carbon fuels will continue to reduce transportation sector emissions, VMT reductions are necessary to achieve California's 2030 GHG reduction target. While CARB's climate change planning scenarios show that California can meet its GHG goals despite an increase of about 6.5% in total statewide VMT between existing conditions (2015-2018 average) and 2050, substantial VMT reduction relative to business-as-usual conditions (i.e., the future forecast with no action to reduce GHG emissions) is required (CARB 2019).

As discussed in Section 3.7.1, *Existing Conditions*, California adopted SB 375 to integrate transportation planning, regional housing allocation, and GHG reduction. The GHG reduction targets adopted by CARB and incorporated by MPOs in their RTP/SCS were expected to achieve much of the required VMT reduction needed for the State to meet their long-term GHG reduction targets. Yet a recent CARB assessment makes clear that the state "is not on track to meet greenhouse gas reductions expected under SB 375" (CARB 2018c). Accordingly, while SACOG's EIR for their 2035 MTP/SCS demonstrates that the proposed land use changes and transportation projects would achieve CARB's 2010 SB 375 GHG targets for the Sacramento region, based on recent CARB (2018b, 2019) analysis, additional GHG reduction may needed to meet the state's climate change objectives. SACOG is currently working on their 2020 MTP/SCS, which will address CARB's updated and more stringent 2018 SB 375 GHG targets, as well as potentially deeper VMT and GHG reductions called for under SB 743 and recent CARB climate change analysis. Adoption of the 2020 MTP/SCS is expected in February 2020.

In absence of an applicable numeric threshold or regional plan reflective of CARB's and OPR's current recommendations for VMT and GHG reduction, the City has determined that for the purposes of this analysis, any increase in GHG emissions above net zero (0) would result in a significant impact. A project-level net zero threshold represents a conservative assessment considering that the project is part of the region's larger land use and transportation network, and associated GHG emissions and required reductions are assessed through SACOG's MTP/SCS planning process. Regardless, the City selected a net zero threshold out of an abundance of caution to avoid underrepresenting potential project impacts.

Impacts and Mitigation Measures

In general, the proposed project and Alternative 1 (one lane closure during construction) would result in the same type of GHG impact. When impacts of phase would be different, the differences are noted in the analysis. Alternative 2 (No Project) would not result in any impacts related to GHG and is not discussed further in this analysis.

Impact GHG-1	**Generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment**
Applicable Policies and Regulations	SB 375, SB 32, and AB 197 PCAPCD's CEQA Air Quality Handbook SACOG's Metropolitan Transportation Plan/Sustainable Communities Strategy
Significance with Policies and Regulations	Proposed Project: Significant Alternative 1: Project: Significant
Mitigation Measures	Proposed Project and Alternative 1: None feasible
Significance after Mitigation	Proposed Project: Significant and Unavoidable Alternative 1: Significant and Unavoidable

Proposed Project

The SMAQMD's RCEM (Version 9.0) and information provided by the project engineers were used to estimate CO_2, CH_4, and N_2O emissions generated during construction of Phases 1 and 2. During Phase 2, Washington Boulevard would be closed to all vehicular traffic from south of Diamond Oaks Road to north of Kaseberg Drive in 2023. The road closure and associated detour would cause an estimated 10,600 VMT increase during the weekdays over a five-month period (Gard pers. comm.). Emissions associated with the traffic detour were quantified using the CT-EMFAC2017 model assuming a posted speed limit of 40 mph on the detour route. Table 3.7-3 summarizes the estimated GHG emissions.

Table 3.7-3. GHG Emissions from Construction of the Proposed Project (metric tons per year)

Year	Source	CO_2	CH_4	N_2O	CO_2e
2020	Phase 1 Construction	278	0	0	284
2023	*Phase 2 Construction*	*868*	*0*	*0*	*886*
	Traffic Detour	*380*	*0*	*0*	*386*
	Total	1,247	0	0	1,272
2024	Phase 2 Construction	207	0	0	212
Total (all years)		1,733	0	0	1,767

GHG = greenhouse gas
CO_2 = carbon dioxide
CH_4 = methane
N_2O = nitrous oxide
CO_2e = carbon dioxide equivalent

As shown in Table 3.7-3, construction of the proposed project would generate 284 metric tons CO_2e in 2020, 886 metric tons CO2e in 2023, and 212 metric tons CO2e in 2024. Vehicle emissions from the Washington Boulevard traffic detour would generate an additional 386 metric tons CO_2e, resulting in a total annual estimate of 1,272 metric tons CO_2e in 2023. Total construction emissions for the proposed project with the detour would be 1,767 metric tons CO_2e.

Operational emissions for existing (2016) and design year (2035) conditions were modeled using Caltrans' CT-EMFAC2017 model and traffic data provided by Fehr & Peers (2017). As noted above, the operational impact assessment is based on a single set of traffic conditions, which is representative of both build alternatives (the proposed project and Alternative 1). Only emissions under full build (i.e., after completion of Phase 2) were modeled as traffic volumes, and thus emissions would be lower with only completion of Phase 1.

Table 3.7-4. Estimated Greenhouse Gas Emissions from Project Operation (metric tons per year)

Condition	Annual VMT	CO_2	CH_4	N_2O	CO_2e
2016 Existing	18,078,162,844	7,519,026	220	395	7,642,102
2016 Existing Plus Project	18,080,129,640	7,520,172	220	395	7,643,268
Cumulative (2035) No Project	25,674,732,648	7,003,174	102	372	7,116,456
Cumulative (2035) Plus Project	25,675,003,655	7,003,344	102	372	7,116,626
Incremental Project Impact					
2016 Existing Plus Project vs. 2016 Existing	1,966,796	1,146	0	0	1,165
Cumulative (2035) Plus Project vs. Cumulative (2035) No Project	271,007	170	0	0	170
Cumulative Change					
Cumulative (2035) Plus Project vs. 2016 Existing	7,596,840,811	-515,682	-117	-23	-525,476

VMT = vehicle miles traveled
CO_2 = carbon dioxide
CH_4 = methane
N_2O = nitrous oxide
CO_2e = carbon dioxide equivalent

The emissions analysis presented in Table 3.7-4 indicates that operation of the project would decrease GHG emissions relative to existing conditions. This result is due to factors external to the project. Vehicular emission rates are anticipated to lessen in future years due to continuing improvements in engine technology and the retirement of older, higher-emitting vehicles. Emissions effects directly resulting from implementation of the project are obtained through a comparison of with-project emissions to without-project emissions. As shown in Table 3.7-4, implementation of the project would increase VMT, resulting in a slight increase in GHG emission compared with no project conditions.

As previously discussed, the proposed project is included in SACOG's 2016 MTP/SCS and will be included in the 2020 MTP/SCS. Although long-term operation of the project would be part of SACOG's regional planning framework that is expected to achieve GHG reductions consistent with those needed to support statewide attainment of California's GHG reduction goals, because implementation of the project would increase GHG emissions relative to no project conditions, this impact is conservatively concluded significant. The impact would be a result of increased VMT, and there is no feasible mitigation to reduce this significant and unavoidable impact.

Alternative 1

Similar to the proposed project, construction activities associated with Alternative 1 would also generate short-term emissions of CO_2, CH_4, and N_2O from the use of equipment (e.g., graders) and on-road vehicles (e.g., employee commuter cars). Table 3.7-5 summarizes the estimated GHG emissions for Alternative 1.

Table 3.7-5. GHG Emissions from Construction of Alternative 1 (metric tons per year)

Year	CO_2	CH_4	N_2O	CO_2e
2020	278	<1	<1	284
2023	890	<1	<1	907
2024	596	<1	<1	606
Total GHG Emissions	1,764	<1	<1	1,797

GHG = greenhouse gas.
CO_2 = carbon dioxide.
CH_4 = methane.
N_2O = nitrous oxide.
CO_2e = carbon dioxide equivalent.

Emissions generated from construction of Alternative 1 would be 1,797 metric tons CO_2e, as shown in Table 3.7-5. The traffic detour would not be required under Alternative 1. However, traffic congestion would occur through the construction site because of temporary lane closures that would occur under Alternative 1. Specifically, as described in Section 3.16, *Transportation/Traffic*, peak-hour vehicle delay for northbound traffic on Kaseberg Drive and southbound traffic from Diamond Oaks Road through the Washington Boulevard/Pleasant Grove Boulevard intersection would be around 300 and 220 seconds per vehicle, respectively. Due to this congestion, individuals may alter their travel route to avoid the project area, even if the roadway remains officially open. The traffic diversion and additional delay may increase emissions generated during the construction period, but the specific quantity cannot be quantified because it is unknown how individuals will choose to change their travel habits.

The operational emissions increase associated with Alternative 1 would be the same as described for the proposed project. Because implementation of Alternative 1 would increase GHG emissions relative to no project conditions, this impact is conservatively concluded significant. The impact would be a result of increased VMT, and there is no feasible mitigation to reduce this significant and unavoidable impact.

Impact GHG-2	Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases
Applicable Policies and Regulations	SB 375, SB 743, SB 32, EO S-3-05, EO B-55-18 SACOG's Metropolitan Transportation Plan/Sustainable Communities Strategy
Significance with Policies and Regulations	Proposed Project: Significant Alternative 1: Project: Significant
Mitigation Measures	Proposed Project and Alternative 1: None feasible
Significance after Mitigation	Proposed Project: Significant and Unavoidable Alternative 1: Significant and Unavoidable

Proposed Project

The most applicable regulations for the purpose of reducing transportation related GHG emissions are SB 375 and SB 743. These legislations were adopted to support attainment of the state's GHG reduction goals articulated under SB 32 and expressed under EO S-3-05 and EO B-55-18.

SACOG's 2016 MTP/SCS meets their CARB allocated GHG targets (as expressed in 2010). The proposed project is identified in SACOG's 2016 MTP/SCS; therefore, project emissions would not conflict with SB 375. However, as previously discussed, recent CARB analysis indicates that additional transportation emissions reductions beyond those achieved by SB 375 are required to meet the state's long-term GHG reduction goals. The project would increase VMT relative to no project conditions; regional VMT at full build (2035) would also grow considerably compared to existing conditions (see Table 3.7-4). Long-term operation of the project will be part of SACOG's regional planning framework, which through updates to the MTP/SCS is expected to achieve GHG reductions consistent with those needed to support statewide attainment of California's GHG reduction goals (SB 32, EO targets). However, in the interim, because implementation of the project would increase GHG emissions relative to no project conditions, this impact is conservatively concluded significant and unavoidable.

Alternative 1

Alternative 1 would result in similar conditions and impacts as the proposed project. Consequently, although Alternative 1 would not conflict with SB 375, it could conflict with the state's GHG reduction goals articulated under SB 32 and expressed under EO S-3-05 and EO B-55-18. This impact is conservatively concluded significant and unavoidable.

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3.8 Hazards and Hazardous Materials

This section discusses hazards and hazardous materials that have been previously recorded or have the potential to occur in the project area. This section also identifies relevant state and local regulations and policies, and discusses potential impacts related to hazards and hazardous materials.

Hazardous materials are substances that are dangerous to the public's health and safety, particularly if they are improperly used, stored, transported, or disposed. Hazardous materials include substances known to be toxic, flammable, explosive, corrosive, infectious, carcinogenic, or radioactive. The primary concerns pertaining to hazardous materials in the project area are their use, transportation, storage, and handling (i.e., potential accidents or spills). Additionally, hazardous materials (e.g., gasoline, diesel fuel, hazardous waste) are conveyed along roads and railways in the region.

Comments regarding hazards and hazardous materials that were received in response to the Notice of Preparation for this EIR discussed the potential for oil spills and fires as a result of increased train traffic and emergency access/response to the Diamond K Mobile Home community. These comments are addressed under impacts HAZ-2 and HAZ-7 below and in the cumulative impacts analysis portion of Chapter 4, *Other CEQA Considerations*.

3.8.1 Existing Conditions

Regulatory Setting

Federal

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Resource Conservation and Recovery Act of 1976 (RCRA).

The U.S. Environmental Protection Agency (EPA) is the principal federal regulatory agency responsible for the safe use and handling of hazardous materials. The key federal regulations pertaining to hazardous wastes relevant to the project are described below.

Comprehensive Environmental Response, Compensation, and Liability Act

The purpose of CERCLA, often referred to as *Superfund*, is to clean up contaminated sites so that public health and welfare are not compromised. CERCLA maintains a national trust for hazardous waste-related industries to be able to fund and coordinate large cleanup activities for hazardous waste spills and accidents and to clean up older abandoned waste sites. Amended in 1986, the act establishes two primary actions: (1) to coordinate short-term removal of hazardous materials; and (2) to coordinate and manage the long-term removal of hazardous materials identified on EPA's National Priorities List (NPL). The NPL is a record of known or threatened releases of hazardous substances, pollutants, or contaminants. A national database and management system, known as the Comprehensive Environmental Response, Compensation, and Liability Information System, is used by EPA to track activities at hazardous waste sites considered for cleanup under CERCLA. CERCLA also maintains provisions and guidelines dealing with closed and abandoned waste sites and tracks amounts of liquid and solid media treated at sites on the NPL or sites that are under consideration for the NPL.

Resource Conservation and Recovery Act of 1976

RCRA (42 United States Code 6901–6987) provides for *cradle to grave* regulation of hazardous wastes and includes the Hazardous and Solid Waste Amendments of 1984 (HSWA). RCRA and HSWA protect human health and the environment, and impose regulations on hazardous waste generators, transporters, and operators of treatment, storage, and disposal facilities. HSWA also requires EPA to establish a comprehensive regulatory program for underground storage tanks. The corresponding regulations in 40 Code of Federal Regulations (CFR) Parts 260–299 provide the general framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste.

Toxic Release Inventory

The Emergency Planning and Community Right-to-Know Act of 1986 and the Pollution Prevention Act of 1990 established the Toxic Release Inventory, a publicly available database that has information on toxic chemical releases and other waste management activities. The inventory is updated annually and lists chemical releases by industry groups and federal facilities managed by EPA.

Chemical Accident Prevention Provisions

Under the authority of Section 112(r) of the Clean Air Act, the Chemical Accident Prevention Provisions require facilities that produce, handle, process, distribute, or store certain chemicals to develop a Risk Management Program, prepare a Risk Management Plan (RMP), and submit the RMP to EPA.

Occupational Safety and Health Standards

Occupational safety standards exist in federal and state laws to minimize worker safety risks from both physical and chemical hazards in the workplace. The Occupational Safety and Health Administration (OSHA) is responsible for assuring worker safety in the workplace.

OSHA asbestos regulations are contained in CFR Title 29. Lead-based paint regulations are described in the Lead-Based Paint Elimination Final Rule (24 CFR 33), governed by the U.S. Department of Housing and Urban Development.

State

California hazardous materials and wastes regulations are equal to or more stringent than federal regulations. EPA has granted the state primary oversight responsibility to administer and enforce hazardous waste management programs. State regulations require planning and management to ensure that hazardous materials are handled, stored, and disposed of properly to reduce risks to human health and the environment. State laws pertaining to hazardous materials and wastes are discussed below.

California Accidental Release Prevention Program

As specified in 19 California Code of Regulations (CCR) 2, Chapter 4.5, Articles 1 through 11, all businesses that handle specific quantities of hazardous materials are required to prepare a California Accidental Release Prevention (CalARP) Program RMP. The CalARP RMP is the state equivalent of the federal RMP. CalARP RMPs include the preparation of an offsite consequence analysis of worst-case release of the stored chemicals and the preparation of emergency response plans, including coordination with local emergency response agencies. CalARP RMPs are required to be updated at least every 5 years and when there are significant changes to the stored chemicals.

Hazardous Materials Release Response Plans and Inventory Act

The Hazardous Materials Release Response Plans and Inventory Act (also referred to as the Business Plan Act) requires a business using hazardous materials to prepare a business plan describing the facility, inventory, emergency response plans, and training programs. The owner or operator of any business that has specified amounts of liquid and solid hazardous materials, compressed gases, extremely hazardous substances, or underground storage tanks onsite, or that generates or treats hazardous waste, is required to develop and submit a business plan to the local Certified Unified Program Agency (CUPA), which, in the project area, is the Roseville Fire Department.

California Health and Safety Codes

The California Environmental Protection Agency (Cal-EPA) has been granted primary responsibility by EPA for administering and enforcing hazardous materials management plans within California. Cal-EPA, more generally than EPA, defines a hazardous material as a material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released (26 CCR 25501).

State regulations include detailed planning and management requirements to ensure that hazardous materials are properly handled, stored, and disposed of to reduce human health risks. In particular, the state has acted to regulate the transfer and disposal of hazardous waste. Hazardous waste haulers are required to comply with regulations that establish numerous standards, including criteria for handling, documenting, and labeling the shipment of hazardous waste (26 CCR 25160 et seq.).

Worker Safety

The California Division of Occupational Safety and Health (Cal/OSHA) is the state agency responsible for assuring worker safety in the workplace.

Cal/OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices within the state. At sites known to be contaminated, a site safety plan must be prepared to protect workers. The site safety plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at the contaminated site.

California Public Resources Code Sections 4201–4204

This section of the Public Resources Code was amended in 1982 to require the California Department of Forestry and Fire Protection (CAL FIRE) to classify Fire Hazard Severity Zones within state responsibility areas (SRAs). Lands within SRAs are classified in accordance with the severity of fire hazard present to identify measures to be used to retard the rate of spreading and reduce the potential intensity of uncontrolled fires that threaten to destroy resources, life, or property (California Department of Forestry and Fire Protection 2012).

Very High Fire Hazard Severity Zones

Government Code Section 51178 requires CAL FIRE to identify very high fire hazard severity zones in the state. Government Code Section 51179 requires a local agency to designate, by ordinance, very high fire hazard severity zones in its jurisdiction.

Storm Water Pollution Prevention Plan Best Management Practices

As discussed in Section 3.9, *Hydrology and Water Quality*, a project that would disturb 1 or more acres of soil or that would disturb less than 1 acre but is part of a larger common plan of development must obtain coverage under General Permit Order 2010-0014-DWQ. Coverage under the General Permit requires the development and implementation of a storm water pollution prevention plan (SWPPP). A SWPPP includes plans for erosion and sediment control and adheres to the applicable local grading ordinance and best management practices (BMPs). Standard BMPs used during construction for erosion control include the following.

- Limit construction access routes and stabilize designated access points.
- No cleaning, fueling, or maintaining vehicles onsite, except in a designated area where washwater is contained and treated.
- Properly store, handle, and dispose of construction materials/wastes to prevent contact with stormwater.
- Train and provide instruction to all construction contract employees/subcontractors on implementation of the BMPs.
- Control and prevent the discharge of all potential pollutants, including pavement cutting wastes, paints, concrete, petroleum products, chemicals, washwater or sediments, rinse water from architectural copper, and non-stormwater discharges to storm drains and watercourses.

Local

Certified Unified Program Agency

Cal-EPA can delegate responsibility for many of its programs to a local government through certification as a CUPA. A CUPA is responsible for implementing a unified hazardous materials and hazardous waste management program. This program was established under the amendments to the California Health and Safety Code made by Senate Bill 1082 in 1994. Health and Safety Code 25505 requires handlers of hazardous materials to submit business plans to the CUPA if hazardous materials inventories meet or exceed established thresholds. A CUPA can be a county, city, or joint powers authority that demonstrates its ability to administer the program.

Roseville Fire Department

The Roseville Fire Department has been designated by Cal-EPA as the CUPA for the City. As the CUPA, the department is responsible for implementing CalARP and permitting Hazardous Waste Generators. In addition, the department implements programs for hazardous materials emergency response and the Hazardous Materials Business Plans program and regulates the construction, operation, repair and removal of both aboveground storage tanks and underground storage tanks.

The department performs community services including: hazardous materials storage consultation, responding to hazardous materials complaints or emergencies, conducting inspections of facilities which store chemicals, or generate hazardous waste, and enforcing the Stormwater Management Program in coordination with the Environmental Utilities Department.

City of Roseville Multi-Hazard Mitigation Plan

The City of Roseville *2016 Multi-Hazard Mitigation Plan* describes the type, location, and extent of all natural hazards that can affect the City; describes the City's vulnerability to these hazards; and includes a mitigation strategy that provides the City's blueprint for reducing the potential losses (City of Roseville 2016a). The City's Multi-Hazard Mitigation Plan is subject to Federal Emergency Management Agency review and certification every 5 years.

City General Plan 2035

The following goal and policy excerpted from the Safety Element of the City's *General Plan 2035* pertain to hazards and hazardous materials (City of Roseville 2016b).

> **Goal Hazardous Materials.** Protect the community's health, safety, natural resources, and property through regulation of use, storage, transport, and disposal of hazardous materials.
>
> > **Policy 1.** Develop a hazardous materials truck route through the City of Roseville and limit pickup and delivery of hazardous materials during peak traffic hours.

Environmental Setting

Information presented below for the records review, historical use of the property, site reconnaissance, and hazardous materials was compiled from the *Draft Initial Site Assessment/Preliminary Site Investigation, Washington/Andora Widening Project* (Crawford & Associates 2017).

Airports

Airport-related hazards are generally associated with aircraft accidents, particularly during takeoff and landing. Airport operation hazards include incompatible land uses, power transmission lines, wildlife hazards (e.g., bird strikes), and tall structures that penetrate the imaginary surfaces surrounding an airport.

The closest public use airports are McClellan Airfield, located approximately 8.4 miles southwest of the project site, and Lincoln Regional Airport, which is approximately 8.9 miles north of the project site. The closest private airport to the proposed project site is Van Dyke Strip Airport, located approximately 11.3 miles northwest.

Schools-Related Hazards

State CEQA Guidelines Section 15186 requires consideration of projects within 0.25 mile of a school to ensure that potential health impacts resulting from exposure to hazardous materials, wastes, and substances are evaluated. Hazardous emissions and accidental release or combustion of hazardous materials near existing schools could result in health risks or other dangers to students. The closest schools are Roseville Community Preschool, located at 50 Corporation Yard Road (approximately 0.31 mile south of the project area) and Arbor View Montessori located at 7441 Foothills Boulevard (approximately 0.36 mile west of the project area).

Records Review

A database search, compiled pursuant to Government Code Section 65962.5, was conducted for the project area by Environmental Data Resources (Crawford & Associates 2017). This includes all available federal, state, regional, and local agency database listings. The search did not identify any hazardous materials sites within the project alignment, and indicates there are no hazardous materials facilities in the vicinity that may have potential to impact the project area. Based on the review of regulatory records, discussion with Placer County, and reconnaissance observations, the likelihood of encountering hazardous materials or wastes within the project alignment appears low.

Historical Use of the Property

Historical aerial photographs and topographic maps were reviewed for information about historical conditions and land uses within the project area.

The railroad tracks and the Washington/Andora undercrossing are visible in 1937. Washington Boulevard runs northwest-southeast in the vicinity of the undercrossing, and is parallel with and adjacent to the north side of the railroad tracks west of the Andora Underpass; east of the Andora Underpass Washington Boulevard runs parallel with and adjacent to the south side of the railroad tracks. Except for the Andora Underpass, the current alignment of Washington Boulevard is undeveloped. A cluster of residential and ranching structures is present approximately 1,250 feet south of the Andora Underpass.

Sometime before 1958, Washington Boulevard appears to have been re-routed to its current alignment. The Sierra View Country Club golf course is visible.

In the 1966 aerial photograph and topographic map, Diamond Oaks Road, north of the railroad tracks, is now visible extending east from Washington Boulevard. Several small streets extend off Diamond Oaks Road, but no structures have been constructed. An additional cluster of residential and ranching structures is present south of the railroad tracks, approximately 750 feet west of the Andora Underpass.

Historical land usage has changed significantly in the project vicinity, predominantly construction of residential and commercial development along Washington Boulevard starting in the late 1970s and early 1980s.

Pleasant Grove Boulevard appears to be under construction by 1993 and additional residential development is visible. Sawtell Road has been constructed. Some light commercial development has been constructed along Derek Place between Washington Boulevard and the railroad tracks.

Site Reconnaissance

A site reconnaissance visit was conducted for the project area by Crawford & Associates on May 12, 2017. The reconnaissance visit consisted of walking and driving along Washington Boulevard and its intersections with Sawtell Road, Derek Place, Diamond Oaks Road, Emerald Oaks Road, and Pleasant Grove Boulevard. Visual observations were conducted of road rights-of-way, the Andora Underpass, and of properties bordering the project site.

Washington Boulevard, Pleasant Grove Boulevard, Emerald Oaks Road, Diamond Oaks Road, Kaseberg Drive, Sawtell Road, and Derek Place are asphalt-paved, with yellow and white traffic striping. Foglines, turn pocket striping, and arrows consisting of white thermoplastic material were observed although yellow paint striping was not identified within the project alignment.

Overhead utilities were not observed within the project alignment. High voltage power transmission lines on steel towers cross the alignment south of the UPRR track, but the steel towers do not appear to be within the existing ROW.

Chemically-treated wood was observed on traffic sign and guard rails posts.

No other hazardous conditions/indications such as staining; waste or garbage piles; soil stockpiles; mining activity, pits, or lagoons; stressed or seasonally unhealthy vegetation; agricultural chemical mixing or storage; drums or aboveground storage tanks; indications of underground storage tanks; batteries; or tires were observed within the Washington Boulevard corridor.

Hazardous Materials

Asbestos-Containing Materials

Asbestos-containing materials may be present in materials used to construct the existing bridge, such as bridge railings, rail shim sheet packing, bearing pads, support piers, and expansion joint material of bridges. Therefore, an asbestos inspection was performed by a Certified Asbestos Consultant on July 5, 2017. A total of six bulk samples were collected for analysis. No asbestos was detected in any of the six samples analyzed.

Lead-Based Paint

Potential hazards exist to workers who remove or cut through lead-based paint (LBP) coatings during demolition. Dust containing hazardous concentrations of lead may be generated during scraping or cutting materials coated with LBP. Torching of these materials may produce lead oxide fumes. Therefore, air monitoring or respiratory protection may be required during demolition of materials coated with LBP.

The surfaces of the Andora Underpass abutments and associated structural elements may contain LBP. A lead inspection was performed on July 5, 2017. The assessment consisted of a visual inspection and evaluation of suspect areas with a portable X-ray fluorescence analyzer. The inspection identified white, gray, and tan paint on the concrete abutment, and orange paint on the metal truss guard rail system, all of which was noted to be cracking. Based on the visual inspection, the lead contents of the white, gray, and tan paint at 10 locations on the concrete abutments and orange paint at 3 locations on the metal truss guard rail system were measured. The results indicated the presence of lead in the white paint samples (2.8 to 3.9 milligrams/square centimeter [mg/cm^2]), in one sample of the gray paint (0.23 mg/cm^2), and in all three samples of orange paint from the metal truss guard rail system.

White paint was observed on the vertical walls of the concrete Andora Underpass abutments. In several locations, the white paint was painted over with a gray paint. Paint was cracked and peeling, and flakes of paint were observed on the ground at the base of the abutment. Because LBP has historically been used on transportation structures, a materials evaluation was conducted to determine if lead content in the paint would require special handling.

Two paint samples were collected on June 14, 2017. Total lead concentrations in both paint samples were above the 1,000 milligrams/kilogram (mg/kg) hazardous waste threshold. As indicated in CCR Title 22, Section 66261.24(a)(2), the lead concentration of the bridge paint samples is greater than 1,000 mg/kg lead, which is the regulatory threshold for wastes containing lead to be classified as hazardous.

Aerially-Deposited Lead

Aerially deposited lead (ADL) can be found in the surface and near-surface soils along nearly all roadways because of the historical use of tetraethyl lead in motor vehicle fuels. Areas of primary concern are soils along routes that have had high vehicle emissions from large traffic volumes or congestion during the period when leaded gasoline was in use (generally prior to 1986). ADL is typically found in shoulder areas and has high solubility when subjected to the low pH conditions of waste characterization tests. Shoulder soils along urban and heavily travelled rural highways are commonly above the soluble threshold limit concentration criteria. Washington Boulevard was part of the State Highway system (Routes 3, 99E, and 65) from 1909 into the 1990s.

Soil samples to screen for the presence of ADL were collected on June 14, 2017, from four locations in the shoulder areas on both sides of Washington Boulevard, both north of and south of the Andora Underpass. At each location, soil samples were collected from 0–6 inches below ground surface (bgs), and from 12–18 inches bgs to assess vertical distribution of lead in the soil at each location. Lead may also accumulate from other sources such as leachate from flakes of LBP. Because paint on the abutments was observed to be peeling and flaking, two soil samples were collected adjacent to the painted abutment walls to assess the lead impact in the soil. Soil samples were collected at two depths at both locations to assess vertical distribution of lead in the soil.

As indicated above, waste with total lead concentrations greater than or equal to 1,000 mg/kg is considered hazardous. If total lead concentrations are less than 1,000 mg/kg, waste with soluble lead concentrations less than 5 milligrams/liter (mg/L) is deemed non-hazardous. Because soluble lead analysis uses a 10:1 dilution ratio, wastes with total lead concentrations less than 50 mg/kg are assumed to have soluble lead concentrations less than 5 mg/L, and no further characterization of the lead is required.

Total lead was reported in all soil samples, at concentrations ranging from 2.8 to 1,200 mg/kg. Five samples with total lead concentrations greater than 50 mg/kg were further analyzed for soluble lead. Seven samples had total lead concentrations below the 50 mg/kg threshold limit requiring additional analytical data to evaluate soil handling, reuse, or disposal options. Data and sample locations are shown in Table 3.8-1.

Table 3.8-1. Aerially Deposited Lead Soil Sample Locations

Sample ID	Total Lead (mg/kg)	STLC (mg/L)	pH	Sample Location	Depth (inches bgs)
ADL-1a	1,200	65	–	East shoulder, north of underpass	0–6
ADL-1B	11	–	–	East shoulder, north of underpass	12–18
ADL-2A	630	32	6.33	West shoulder, north of underpass	0–6
ADL-2B	15	–	–	West shoulder, north of underpass	12–18
ADL-3A	19	–	–	West shoulder, south of underpass	0–6
ADL-3B	4.8	–	–	West shoulder, south of underpass	12–18
ADL-4A	220	10	–	East shoulder, south of underpass	0–6
ADL-4B	19	–	5.97	East shoulder, south of underpass	12–18
ADL-5A	800	100	–	Western abutment, south side	0–6
ADL-5B	32	–	–	Western abutment, south side	12–18
ADL-6A	84	3.9	6.82	Eastern abutment, south side	0–6
ADL-6B	13	–	–	Eastern abutment, south side	12–18

mg/kg = milligrams per kilogram.
mg/L = milligrams per liter.
bgs = below ground surface.
STLC = Soluble Threshold Limit Concentration.
– = not analyzed.

Treated Wood Waste

Treated wood waste (TWW) comes from old wood that has been treated with chemical preservatives. These chemicals help protect the wood from insect attack and fungal decay while in use. Fence posts, sill plates, landscape timbers, pilings, guardrails, and decking are all examples of chemically treated wood. TWW must be disposed of as hazardous waste. Traffic signs and metal guardrails in the project alignment are supported by treated wood posts.

Yellow and White Traffic Striping

Yellow and white traffic striping and markings are located along Washington Boulevard, Pleasant Grove Boulevard, Emerald Oaks Road, Diamond Oaks Road, Kaseberg Drive, Sawtell Road, and Derek Place. Yellow and white thermoplastic striping and painted markings may contain elevated concentrations of lead and chromium, depending on the age of the striping (manufactured before 2005) and painted markings (manufactured before 1997). Disturbing either yellow or white pavement markings by grinding or sandblasting can expose workers to lead and/or chromium. A sample of the fogline thermoplastic striping material was collected and analyzed for lead. The lead concentration in the sample was less than the 50 mg/kg threshold that would require further testing of soluble lead concentrations. At the existing concentration, paint stripe material removed from the pavement surface could be handled and disposed of with no special requirements.

Fire-Related Hazards

The project site is primarily along roads near urban and residential land uses. The Roseville Fire Department operates eight fire stations that provide hazardous material management and other services. The project site is served by Fire Station No. 2, located approximately 0.9 mile west of the project site at 1398 Junction Boulevard (City of Roseville 2013). The project site is not located in a very high fire hazard severity zone (California Department of Forestry and Fire Protection 2008).

3.8.2 Environmental Impacts

This section describes the CEQA impact analysis relating to hazards and hazardous materials for both phases of the proposed project. It describes the methods used to determine the project's potential impacts and lists the criteria thresholds used to conclude whether an impact would be significant. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion where applicable.

Methods for Analysis

The analysis of hazards and hazardous materials is based on the information contained in the *Draft Initial Site Assessment/Preliminary Site Investigation, Washington/Andora Widening Project* (Crawford & Associates 2017).

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- 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.

- Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site that 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.
- Be located within an airport land use plan area or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area.
- Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- 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.

Impacts and Mitigation Measures

The impacts associated with both phases of the proposed project and Alternative 1 (One Lane Closure during Construction) would be generally the same. Alternative 2 (No Project) would not result in any impacts related to hazards and hazardous materials and is not discussed further in this section.

Impact HAZ-1	Creation of a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, including lead based paint, aerially deposited lead, traffic striping, and treated wood waste
Applicable Policies and Regulations	Comprehensive Environmental Response, Compensation and Liability Act of 1980 Resource Conservation and Recovery Act of 1976 Federal Clean Air Act Federal OSHA and Cal/OSHA regulations California Accidental Release Prevention Program California Hazardous Materials Release Response Plans and Inventory Act California Health and Safety Code City of Roseville General Plan 2035, Safety Element City of Roseville Design and Construction Standards City of Roseville Stormwater Quality BMP Guidance Manual for Construction
Significance with Policies and Regulations	Proposed Project: Significant Impact Alternative 1: Significant Impact

Mitigation Measures	Proposed Project and Alternative 1: Mitigation Measure HAZ-1.1: Develop a Lead Abatement Plan Mitigation Measure HAZ-1.2: Perform Soil Testing and Appropriately Dispose of Soils Contaminated with ADL
Significance after Mitigation	Proposed Project: Less than Significant with Mitigation Alternative 1: Less than Significant with Mitigation

Proposed Project

Construction and operation of the proposed project would involve small quantities of commonly used hazardous materials such as fuels, lubricants, and oils to operate construction equipment and motor vehicles. Standard construction BMPs, including preparation and implementation of a SWPPP and a hazardous material spill prevention and countermeasure plan, would be implemented to reduce exposure to, or potential for, accidental spills involving these materials. No hazardous materials would be disposed of onsite. Therefore, this impact would be less than significant.

The initial site assessment (Crawford & Associates 2017) records search and site reconnaissance indicated that most of the properties in the project area have a low-risk related to hazardous materials and wastes. However, LBP on the concrete Andora Underpass abutments and associated structural elements was found to contain lead at concentrations greater than 1,000 mg/kg lead, above the EPA and California Public Health Department threshold of 1.0 mg/cm^2. Disturbance and/or removal of LBP during project construction could release hazardous wastes and materials thereby exposing construction workers, the public and the environment to these hazards. This is a significant impact. However, implementation of the BMPs described above as well as Mitigation Measure HAZ-1.1 would reduce this impact to a less-than-significant level.

In addition to LBP, the total and soluble lead concentrations in soil samples collected from the uppermost foot of soil in the shoulder area adjacent to Washington Boulevard and the Andora Underpass, exceeded California's hazardous waste threshold in four soil samples. ADL screening did not delineate the extent of ADL impact. As a result, further evaluation of ADL would be necessary. Soil with ADL concentrations above California's hazardous waste threshold would require special handling and disposal. Exposure of construction workers to lead contaminated soil would be a significant impact. However, implementation of the BMPs described above as well as Mitigation Measures HAZ-1.1 and HAZ-1.2 would reduce this impact to a less-than-significant level.

Yellow and white traffic striping and markings are located along Washington Boulevard, Pleasant Grove Boulevard, Emerald Oaks Road, Diamond Oaks Road, Kaseberg Drive, Sawtell Road, and Derek Place. Although testing results indicate lead levels below the thresholds for special handling, any exposure to lead can be hazardous. Therefore, removal or disturbance of these materials should be included in a lead abatement plan.

Implementation of Mitigation Measure HAZ-1.1 would reduce this impact to a less-than-significant level.

During the site visit, it was noted that the traffic signs and metal guardrails within the project alignment appeared to be constructed of chemically treated wood. TWW contains hazardous chemicals used to preserve wood such as arsenic, chromium, copper, creosote, and pentachlorophenol are among the chemicals added to preserve wood. These chemicals are known to be toxic or carcinogenic. Harmful exposure to these chemicals may result from dermal contact with TWW, or from inhalation or ingestion of TWW particulate (e.g., sawdust and smoke). This would be a significant impact. However, the City and its contractors would handle and dispose of any TWW in a manner compliant with regulations enforced by the CUPA, Cal-OSHA, and California Department of Toxic Substances Control (DTSC) which would reduce this potential impact to a less-than-significant level.

Mitigation Measure HAZ-1.1: Develop a Lead Abatement Plan

Any thermoplastic traffic striping, soils affected by lead, and painted concrete on the Andora Underpass to be removed for disposal, or other waste material from the painted portions of the bridge (e.g., sandblasting waste) must be handled and disposed of prior to demolition or significant renovation. The abatement plan will provide for a California-certified asbestos consultant and California Department of Health Services-certified lead project designer to prepare hazardous materials specifications for abatement of the LBP, ADL, and traffic striping. This specification should be the basis for selecting qualified contractors to perform the proposed lead abatement work. Abatement of hazardous materials will be completed prior to any work on structures and facilities.

Mitigation Measure HAZ-1.2: Perform Soil Testing and Appropriately Dispose of Soils Contaminated with ADL

Construction contract specifications will provide that if soils adjacent to the roadway are to be disturbed, the City or its contractors will conduct further investigations and screening for ADL to assess the extent of hazardous ADL concentrations within the project alignment along shoulder areas on both sides of Washington Boulevard, beyond the Andora Underpass. If soils contain ADL in excess of established thresholds, soils will be handled in a manner compliant with the City CUPA regulatory requirements and disposed of properly.

<u>Alternative 1</u>

Alternative 1 would involve the same types of construction activities and the same operation as the proposed project. Thus, it would have the same types of significant impacts as discussed for the proposed project. Implementation of the BMPs described previously as well as Mitigation Measures HAZ-1.1 and HAZ-1.2 would reduce impacts to a less-than-significant level.

Impact HAZ-2	Creation of 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
Applicable Policies and Regulations	Comprehensive Environmental Response, Compensation and Liability Act of 1980 Resource Conservation and Recovery Act of 1976 Federal Clean Air Act Federal OSHA and Cal/OSHA regulations California Accidental Release Prevention Program California Hazardous Materials Release Response Plans and Inventory Act California Health and Safety Code City of Roseville Multi-Hazard Mitigation Plan City of Roseville Design and Construction Standards City of Roseville Stormwater Quality BMP Guidance Manual for Construction
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Notice of Preparation comments raised concern for potential oil spills and fires as a result of increased train traffic. The proposed project would not result in any change in the amount of train traffic or transport of hazardous materials. The project would improve the existing Washington Boulevard substandard clearance below the Andora Underpass thereby improving safety and reducing risk of upset conditions for both vehicular and rail transport of hazardous materials. Therefore, the project would not contribute to the potential for increased spills or fires related to rail operations and there would be no impact.

Proposed Project

Site workers, the public, and the environment could be inadvertently exposed to existing contaminants onsite during project construction. Small quantities of potentially toxic substances, such as petroleum and other chemicals used to operate and maintain construction equipment, would be used at the project site and transported to and from the area during construction.

However, the handling and disposal of these materials would be governed according to regulations enforced by the CUPA, Cal-OSHA, and DTSC.

In addition, the following plans and special provisions would be followed.

- Compliance with the City's *2016 Multi-Hazard Mitigation Plan* (approved by the Federal Emergency Management Agency), which requires contractors to transport and store materials in approved containers along designated truck routes, maintain required clearances, and handle materials using fire department–approved protocols, as illustrated in Roseville Fire Code Ordinance 4594.

- Implementation of a hazardous material spill prevention and countermeasure plan to minimize the exposure of people and the environment to potentially hazardous materials. The plan is intended to ensure transport, storage, and handling of hazardous materials required for construction is conducted in a manner consistent with relevant regulations and guidelines.
- Compliance with the City's Design and Construction Standards and the City's Stormwater Quality BMP Guidance Manual for Construction.

In addition, the Roseville Fire Department would review construction plans and would respond to hazardous materials complaints or emergencies, if any, during construction. Because hazardous materials discovered or accidentally released during construction would be handled as required by federal, state, and local regulations, the impact would be less than significant. No mitigation is required.

Alternative 1

Alternative 1 would have the same impacts as the proposed project and the impacts would be less than significant. No mitigation is required.

Impact HAZ-3	Emission of hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school
Applicable Policies and Regulations	City of Roseville Multi-Hazard Mitigation Plan City of Roseville Design and Construction Standards
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

There are no public or private K–12 schools within 0.25 mile of the project site. The closest school, Roseville Community Preschool, is more than 0.25 mile from the project site. It is unlikely that hazardous materials would be emitted or released within 0.25 mile of any school. Also, implementation of the standard BMPs and plans described under Impact HAZ-2 would reduce the potential for a hazardous materials spill. There would be no impact, and no mitigation is required.

Alternative 1

Alternative 1 would be similar to the proposed project and located on the same site, and would not result in effects related to the emission of hazardous substances and effects on existing or proposed schools within 0.25 mile of the project site. There would be no impact, and no mitigation is required.

Impact HAZ-4	Placement of project-related facilities on a site that is included on a list of hazardous materials sites, and resulting creation of a significant hazard to the public or the environment
Applicable Policies and Regulations	California Health and Safety Code City of Roseville Multi-Hazard Mitigation Plan City of Roseville Design and Construction Standards
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

The project site is not located on a known hazardous material site (Crawford & Associates 2017). Any hazardous materials encountered on the site would be handled and disposed of in compliance with state and local regulations that protect the public and the environment from exposure to such materials. There would be no impact, and no mitigation is required.

Alternative 1

Alternative 1 would be similar to the proposed project and located on the same site, and would not result in the placement of project-related facilities on a site that is included on a list of hazardous materials sites. Therefore, it would not result in the creation of a significant hazard to the public or the environment. There would be no impact, and no mitigation is required.

Impact HAZ-5	Placement of project-related facilities within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, resulting in a safety hazard for people residing or working in the project area
Applicable Policies and Regulations	City of Roseville General Plan 2035, Safety Element City of Roseville Design and Construction Standards
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

The project site is not located within an airport land use plan area or within 2 miles of a public airport. There would be no impact, and no mitigation is required.

Alternative 1

Alternative 1 would have the same location as the proposed project and similarly would not result in the placement of project-related facilities within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, resulting in a safety hazard for people residing or working in the project area. There would be no impact, and no mitigation is required.

Impact HAZ-6	Placement of project-related facilities in the vicinity of a private airstrip, resulting in a safety hazard for people residing or working in the project area
Applicable Policies and Regulations	City of Roseville General Plan 2035, Safety Element City of Roseville Design and Construction Standards
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

The closest private airport to the proposed project site is Van Dyke Strip Airport, located approximately 11.3 miles northwest. The project site is not located within the vicinity of a private airstrip. There would be no impact, and no mitigation is required.

Alternative 1

Alternative 1 would have the same location as the proposed project and would therefore have the same impact. Like the proposed project, Alternative 1 would not result in the placement of project-related facilities in the vicinity of a private airstrip, resulting in a safety hazard for people residing or working in the project area. There would be no impact, and no mitigation is required.

Impact HAZ-7	Impairment of implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan
Applicable Policies and Regulations	City of Roseville General Plan 2035, Safety Element
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

Construction would temporarily affect traffic on Washington Boulevard and auxiliary streets. As part of the proposed project, Washington Boulevard would be closed to vehicular traffic for up to 6 months. The City would require the construction contractor to implement a traffic management plan (TMP), including a construction schedule and plan to meet the City's notice procedures, before construction activities are initiated. The City of Roseville Police and Fire Departments would also coordinate with the City Public Works Engineering Division and Development Services Department to ensure that all potential effects of the closure have been addressed, including emergency vehicle routing, temporary changes in fire station servicing areas, and emergency vehicle pre-emption at signalized intersections. The TMP also would specifically address emergency access to and from the Diamond K Mobile Home Park, which is only accessible from Washington Boulevard via a private drive at the Washington Boulevard/Kaseberg Drive intersection. The TMP would include special provisions to ensure maintenance of emergency access, particularly during the Phase 2 construction temporary closure of Washington Boulevard. Implementation of the TMP as part of the proposed project would ensure that the project would have a less-than-significant impact on emergency vehicles and emergency response or evacuation plans. No mitigation is required.

Alternative 1

As part of Alternative 1, one lane would remain open during construction activities that could have some physical interference with an adopted emergency response plan or emergency evacuation plan. Alternative 1 would constrain, but not obstruct, through traffic during the construction period. And, as discussed above for the proposed project, the City would implement a TMP. Furthermore, because Washington Boulevard would remain open to a limited degree during construction, the impact of Alternative 1 on emergency vehicles and emergency response or evacuation plans would be less than the impact of the proposed project. This would be a less-than-significant impact. No mitigation is required.

Impact HAZ-8	Exposure of people or structures to a significant risk involving wildland fires
Applicable Policies and Regulations	Cal-OSHA standards California Public Resources Code Section 4290 City of Roseville Multi-Hazard Mitigation Plan City of Roseville Design and Construction Standards
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

The Roseville Fire Department would provide fire protection, with the closest station approximately 0.9 mile east of the project site (Fire Station No. 2). In addition, the Roseville Fire Department has mutual and automatic aid agreements with the CAL FIRE /Placer County Fire Department, the Sacramento Metropolitan Fire District, the South Placer Fire Protection District, and the Rocklin Fire Department.

The contractor would comply with Cal-OSHA standards for the storage and handling of fuels, flammable materials, and common construction-related hazardous materials and for fire prevention. Also, implementation of the standard BMPs and plans described under Impact HAZ-2 would further reduce the potential for fire. The project would meet the minimum standards set forth by Public Resource Code Section 4290, Title 14, for fire protection and emergency water standards. As a result, impacts associated with wildland fires would be less than significant, and no mitigation is required.

Alternative 1

As described for the proposed project impacts above, under Alternative 1 the contractor would comply with Cal-OSHA standards for the storage and handling of fuels, flammable materials, and common construction-related hazardous materials and for fire prevention. Also, implementation of the standard BMPs and plans described under Impact HAZ-2 would further reduce the potential for fire. The impact would be less than significant, and no mitigation is required.

3.8.3 References Cited

City of Roseville. 2013. *Location of City of Roseville Police and Fire Stations* map. Roseville, CA.

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California Department of Forestry and Fire Protection. 2008. *Fire Hazard Severity Zones, Placer County*. Available: http://www.fire.ca.gov/fire_prevention/fhsz_maps_placer. Accessed: March 17, 2017.

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Crawford & Associates, Inc. 2017. September 15. *Draft Initial Site Assessment/Preliminary Site Investigation, Washington/Andora Widening Project*. Prepared for Mark Thomas. Sacramento, CA.

3.9 Hydrology and Water Quality

This section describes the regulatory and environmental setting for hydrology and water quality in the project area. It also describes the impacts on hydrology and water quality that would result from implementation of the proposed project, and presents mitigation for significant impacts where feasible and appropriate. The following analysis relies in part on the draft *Washington/Andora Widening Project Hydrology and Hydraulics Study* (hydrology and hydraulics study) prepared for the project (Wood Rodgers 2017).

Comments received in response to the Notice of Preparation for this EIR related to hydrology and water quality discussed analyzing potential impacts on surface water and groundwater, as well as the need to acquire and comply with various state and federal permits related to water quality. These comments are addressed in Section 3.9.2, Environmental Impacts, under Impacts WQ-1 and WQ-6.

3.9.1 Existing Conditions

Regulatory Setting

Federal

Floodplain Management

Executive Order 11988 directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative.

The Federal Highway Administration (FHWA) requirements for compliance (Federal Highway Administration 1994) are outlined in 23 CFR 650, Subpart A. To comply with the FHWA's policies and procedures of "*Location and Hydraulic Design of Encroachments on Flood Plains*" the proposed project must adhere to the following guidelines:

- Encourage a broad and unified effort to prevent uneconomic, hazardous or incompatible use and development of the Nation's flood plains,
- Avoid longitudinal encroachments, where practicable,
- Avoid significant encroachments, where practicable,
- Minimize impacts of highway agency actions which adversely affect base flood plains,
- Restore and preserve the natural and beneficial flood-plain values that are adversely impacted by highway agency actions,
- Avoid support of incompatible flood-plain development,
- Be consistent with the intent of the Standards and Criteria of the National Flood Insurance Program, where appropriate, and
- Incorporate "A Unified National Program for Floodplain Management" of the Water Resources Council into FHWA procedures.

The *base floodplain* is defined as "the area subject to flooding by the flood or tide having a 1% chance of being exceeded in any given year." An *encroachment* is defined as "an action within the limits of the base floodplain."

Federal Emergency Management Agency Regulatory Floodway

Federal regulations (60.3 (d) (3)) of the National Flood Insurance Program require that a Conditional Letter of Map Revision (CLOMR) be approved by the Federal Emergency Management Agency (FEMA) prior to approving any project that would cause any rise in water surface elevation resulting from fill in a FEMA Regulatory Floodway. However, the project may be approved by the City if it is determined that its implementation would not cause a rise in water surface elevation.

As directed by FEMA (https://www.fema.gov/no-rise-certification-floodways): "Any project in a floodway must be reviewed to determine if the project will increase flood heights. An engineering analysis must be conducted before a permit can be issued. The community's permit file must have a record of the results of this analysis, which can be in the form of a No-rise Certification. This No-rise Certification must be supported by technical data and signed by a registered professional engineer. The supporting technical data should be based on the standard step-backwater computer model used to develop the 100-year floodway shown on the Flood Insurance Rate Map (FIRM) or Flood Boundary and Floodway Map (FBFM)."

The hydrology and hydraulic study prepared for the project states that standard step-backwater computer modeling does not provide appropriate results and recommends that the City use unsteady-state hydraulic analysis to confirm the no-rise determination that will also be supported using steady-state analysis (Wood Rodgers 2017).

Clean Water Act

In 1972, Congress amended the federal Water Pollution Control Act, making the addition of pollutants to waters of the United States from any point source unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections. The goal of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge would comply with other provisions of the act.
- Section 402 establishes the NPDES, a permitting system for discharges (except for dredge or fill material) of any pollutant into waters of the United States. Regional Water Quality Control Boards (RWQCBs) administer this permitting program in California.

Section 402(p) requires permits for discharges of storm water from industrial/construction sites and municipal separate storm sewer systems (MS4s).

State

Central Valley Flood Protection Plan

The Central Valley Flood Protection Plan provides a framework for system-wide flood management and flood risk reduction in the Sacramento and San Joaquin River Basins. The Central Valley Flood Projection Board is the agency responsible for the implementation of this plan. Projects are required to apply for a Central Valley Flood Protection Board encroachment permit if any of the following apply to a project or work plan.

- Project is within an Adopted Plan of Flood Control, as defined by the California Code of Regulations, Title 23, Section 4.
- Project is within the flood control right-of-way for levees.
- Project is on a regulated Central Valley stream.
- Project may impact the current or future State Plan on Flood Control.

Porter-Cologne Water Quality Control Act

California's Porter-Cologne Water Quality Control Act (Porter-Cologne Act), enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the State include more than just waters of the United States, such as groundwater and surface waters not considered waters of the United States. Additionally, it prohibits discharges of "waste" as defined and this definition is broader than the CWA definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (State Water Board) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA, and for regulating discharges to ensure compliance with the water quality standards. Details about water quality standards at a project site are included in the applicable RWQCB Basin Plan. In California, the RWQCBs designate beneficial uses for all water body segments and then set the criteria necessary to protect these uses. As a result, the water quality standards developed for particular water body segments are based on the designated use and vary depending on that use. In addition, the State Water Board identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and that the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Board and Regional Water Quality Control Boards

The State Water Board administers water rights; sets water pollution control policy; issues water board orders on matters of statewide application; and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollutant Discharge Elimination System Program

Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the CWA requires issuance of NPDES permits for five categories of storm water discharges, including MS4s. An MS4 is defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water.” The State Water Board or the RWQCB issues NPDES permits for 5 years, and permit requirements remain active until a new permit has been adopted.

State of California Phase II Small MS4 General Permit (Order No: 2013-0001-DWQ, Permit No. CAS0000004)

Adopted on February 5, 2013 and effective on July 1, 2013, the State of California Phase II Small MS4 General Permit Order No: 2013-0001-DWQ regulates storm water discharges from small municipal separate storm sewer systems. The proposed project is regulated by this permit because it would result in the creation of 5,000 square feet of newly-constructed contiguous impervious surface. As a result, the project’s post-construction requirements are:

- Infiltrate impervious surface runoff on-site from the post-construction 85th percentile 24-hour storm event.
- Treatment of runoff that cannot be infiltrated on-site shall follow U.S. Environmental Protection Agency (EPA) guidance regarding green infrastructure to the extent feasible (U.S. Environmental Protection Agency 2008).
- Where the addition of traffic lanes results in an alteration equal to or greater than 50% of the impervious surface of an existing street or road, runoff from the entire project (consisting of all existing, new, and/or replaced impervious surfaces) must be included in the treatment system design.
- Where the addition of traffic lanes results in an alteration of less than 50% of the impervious surface of an existing street or road, only runoff from the new, and/or replaced impervious surface must be included in the treatment system design.

In addition, because the project would create more than one acre of impervious surface and because infiltration is not feasible, the project must also meet the hydromodification management criteria and the EPA guidance regarding green infrastructure must be followed to the extent feasible. The hydromodification management criteria states, “Post project runoff shall not exceed estimated pre-project flow rate for the 2-year, 24-hour storm.” The EPA guidance details a wide variety of design elements including street trees, permeable pavements, and bioretention measures, as specified in the Managing Wet Weather with Green Infrastructure – Municipal Handbook – Green Streets (U.S. Environmental Protection Agency 2008).

Construction General Permits

Construction General Permit (Order No. 2009-009-DWQ)

Adopted on September 2, 2009 and effective on July 1, 2010, the Construction General Permit was amended by 2010-0014-DWQ and 2012-0006-DWQ on February 14, 2011 and July 17, 2012, respectively. The permit regulates storm water discharges from construction sites that result in a disturbed soil area (DSA) of 1 acre or greater or are smaller sites that are part of a larger common plan of development that have a DSA of 1 acre or greater. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least 1 acre must comply with the provisions of the Construction General Permit. Construction activity that results in soil disturbances of less than 1 acre is subject to this Construction General Permit if the activity has the potential to result in significant water quality impairment, as determined by the RWQCB. Operators of regulated construction sites are required to develop and submit Storm Water Pollution Prevention Plans (SWPPPs) and other Permit Registration Documents; to implement sediment, erosion, and other pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. A project's risk level is determined in conjunction with SWPPP preparation, and are based on potential erosion and transport to receiving waters and the sensitivity of the receiving waters. BMP and water quality sampling requirements vary according to the risk level. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring and pre-construction and post-construction benthic macroinvertebrate assessments during specified seasonal windows.

Clean Water Act Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the United States must obtain a Section 401 Water Quality Certification, which certifies that the project would be in compliance with state water quality standards. The most common federal permits triggering a 401 Certification are CWA Section 404 permits issued by the U.S. Army Corps of Engineers (USACE). The 401 Certifications are obtained from the appropriate RWQCB are required before USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as WDRs under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

Local

City General Plan 2035

The City's *General Plan 2035* contains the following goals and policies in the Open Space and Conservation and Safety elements pertaining to water quality and flood protection (City of Roseville 2016).

Groundwater Recharge and Water Quality

Goal 1. Continue to improve surface water quality and accommodate water flow increases.

Policy 2. Implement erosion control and topsoil conservation measures to limit sediments within watercourses.

Goal 2. Enhance the quantity and quality of groundwater resources.

Policy 4. Continue to monitor and participate in, as appropriate, regional activities affecting water resources, groundwater, and water quality.

Flood Protection

Goal 1. Minimize the potential for loss of life and property due to flooding.

Policy 5. Minimize the potential for flood damage to public and emergency facilities, utilities, roadways, and other infrastructure.

Policy 6. Require new developments to provide mitigation to insure that the cumulative rate of peak run-off is maintained at pre-development levels.

Goal 2. Pursue flood control solutions that are cost-effective and minimize environmental impacts.

Policy 1. Continue to regulate, through land use zoning, and other restrictions, all uses and development in areas subject to potential flooding and require new development to comply with the State Plan of Flood Control.

The City also has Design Standards which state that *"Encroachments shall not result in any off-site increase in water surface elevation*." The City requires that a hydraulic study be performed to determine project effects of encroachments into the City's Regulatory Floodplain. The hydrology and hydraulics study (Wood Rodgers 2017) contains the analysis used to support the design of project drainage features other than the roadway storm drains.

City Municipal Code – Chapter 9.8 Flood Damage Prevention

Section 9.80.010 Findings of Fact

A. The flood hazard areas of the City of Roseville are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.

B. These flood losses are caused by the cumulative effect of obstructions in areas of special flood hazards which increase flood heights and velocities, and when inadequately anchored, damage uses in other areas. Uses that are inadequately floodproofed, elevated or otherwise protected from flood damage also contribute to the flood loss. (Ord. 3066 § 1, 1997; Ord. 2374 § 1, 1990.)

Section 9.80.020 Statement of Purpose

It is the purpose of this chapter to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed:

A. To protect human life and health;

B. To minimize expenditure of public money for costly flood control projects;

C. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

D. To minimize prolonged business interruptions;

E. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazard;

F. To help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;

G. To insure that potential buyers are notified that property is in an area of special flood hazard; and

H. To insure that those who occupy the areas of special flood hazard assume responsibility for their actions. (Ord. 3066 § 1, 1997; Ord. 2374 § 1, 1990.)

City Stormwater Management Program

To comply with the requirements of the EPA's NPDES, the City of Roseville partnered with the County of Placer, the City of Lincoln, the City of Auburn and the town of Loomis to produce the West Placer Storm Water Quality Design Manual (WPSWQDM), which was adopted by the Roseville City Council on May 5, 2016. The WPSWQCD provides the framework for public outreach, public involvement, illicit discharge and detection, management of construction site runoff, new development and redevelopment, and municipal operation.

Environmental Setting

Climate, Topography, and Soils

The project site has a Mediterranean climate characterized by cool, wet winters and hot, dry summers. Climate data prepared by the Natural Resources Conservation Service at the Auburn National Weather Service cooperative weather station (CA383) [15.5 miles northeast of the project site at an elevation of 1,292 feet above mean sea level (AMSL)] indicates that the mean annual precipitation at the project site is approximately 22.21

inches, which typically consists entirely of rainfall (California Department of Water Resources 2017).

The project site is gently sloping, with elevations ranging from approximately 120 to 170 feet AMSL. Comparatively steeper slopes occur in the vicinity of the railroad tracks and on the banks of the riparian corridors. The project site supports a developed landscape with commercial buildings, roads, and railroad rights-of-way, as well as riparian corridors, wetlands, and annual grasslands.

Review of the soil survey mapping by the U.S. Department of Agriculture, NRCS Web Soil Survey (Natural Resources Conservation Service 2017) indicates that the project site is underlain by three soil map units, which are discussed in more detail in Section 3.6, *Geology and Soils*. The map unit Cometa-Fiddyment complex, 1 to 5% slopes consists of well drained soils with very high runoff rates and slight erosion hazard. Cometa-Ramona sandy loams, 1 to 5% slopes consists of well drained soils with medium to very high runoff rates and slight erosion hazard. Xerofluvents, frequently flooded consists of soils typically found along drainageways. They are somewhat poorly drained soils with very low runoff rates and slight erosion hazard. Erosion from runoff is the dominant erosion process rather than wind erosion.

Hydrology

Surface Water Hydrology

The project site is within the Lower Sacramento watershed hydrologic unit (hydrologic unit code 18020109) (U.S. Environmental Protection Agency 2017). The primary stream in the project site is South Branch Pleasant Grove Creek, which ultimately drains into the Sacramento River. Two tributaries to South Branch Pleasant Grove Creek, Sierra View Tributary and an unnamed tributary, also run through the project site (Wood Rodgers 2017).

The project site is located within the City of Roseville which has the chief responsibility to govern streams and waterways within its jurisdiction. The City of Roseville Municipal Code, Title 9 – Health and Safety, Chapter 9.80 – Flood Damage Prevention Ordinance – guides development within Roseville floodplains. Portions of the project site associated with South Branch Pleasant Grove Creek are also located within a 100-year floodplain designated by FEMA (Zone A and Zone AE). FEMA Zone A and Zone AE are described as areas having a 1% annual chance of flooding and a 26% chance of flooding over a 30-year period. (Wood Rodgers 2017)

Groundwater

The project site is within the North American sub-basin of the Sacramento Valley groundwater basin. The sub-basin is bounded by the Bear River to the north, the Feather River to the west, and the Sacramento River to the south. The eastern boundary represents the approximate edge of the alluvial basin, where little or no groundwater flows into or out of the groundwater basin from the rock of the Sierra Nevada. Groundwater generally flows southwesterly toward the Feather and Sacramento Rivers (California Department of Water Resources 2003).

Water Quality

Surface Water Quality

The existing quality of stormwater runoff from the project site is likely typical of urban watersheds with similar land uses and may contain constituents such as landscaping chemicals (e.g., nitrates, phosphates, herbicides, and pesticides), automotive and traffic pollutants (e.g., oil, grease, metal brake dust, metal wear), trash and debris, pathogens (e.g., pet and wildlife waste), sediment with associated attached pollutants from soil erosion and aerial deposition of dust, and chemicals leaching from structures (e.g., calcium from limestone, metal from metal roofs and architectural features).

The Central Valley RWQCB's Water Quality Control Plan (Basin Plan) has designated the following beneficial uses for the Lower American HSA (519.21) (U.S. Environmental Protection Agency 2016).

- MUN—Municipal & Domestic Water Supply
- AGR—Agricultural Supply
- IND—Industrial Service Supply
- REC-1—Water Contact Recreation
- REC-2—Non-contact Water Recreation
- WARM—Warm Freshwater Habitat
- COLD—Cold Freshwater Habitat
- MIGR—Fish Migration
- SPWN—Fish Spawning
- WILD—Wildlife Habitat

South Branch Pleasant Grove Creek and the unnamed tributary, which cross through the project site, are receiving bodies listed on the CWA Section 303(d) List of Impaired Water Bodies. This list identifies all waters where required pollution controls are not sufficient to attain or maintain applicable water quality standards and the development of a TMDL is required. A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards. Impairments for these streams are listed below (Table 3.9-1).

Table 3.9-1. 303(d) Impairments for the Unnamed Tributary and South Branch Pleasant Grove Creek Crossing the Project Site

Stream Name	Pollutant/Stressor	Source	TMDL Completion Date
Unnamed Tributary	Bifenthrin	Source unknown	Estimated 2027
	Cyfluthrin	Source unknown	Estimated 2027
	Cypermethrin	Source unknown	Estimated 2027
	Toxicity	Source unknown	Estimated 2021
South Branch Pleasant Grove Creek	Bifenthrin	Source unknown	Estimated 2027
	Cyfluthrin	Source unknown	Estimated 2027
	Cypermethrin	Source unknown	Estimated 2027
	Deltamethrin	Source unknown	Estimated 2027
	Dissolved oxygen	Source unknown	Estimated 2021
	Pyrethroids	Source unknown	Estimated 2021
	Toxicity	Source unknown	Estimated 2021

Source: State Water Resources Control Board

Groundwater Quality

The Basin Plan has identified narrative and numerical groundwater objectives for the region including bacteria, chemical constituents, radioactivity, taste and odors, and toxicity. Unless otherwise stated, all groundwaters have the following beneficial uses: at a minimum, for municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply.

Groundwater quality in the North American sub-basin varies from good to marginal. Analysis of groundwater quality data with respect to applicable water quality standards and guidelines for drinking and irrigation shows that elevated levels of total dissolved solids (TDS)/specific conductance, chloride, sodium, bicarbonate, boron, fluoride, nitrate, iron manganese, and arsenic may be of concern in some areas. Significant groundwater contamination issues exist at three sites within the sub-basin: the former McClellan Air Force Base (9.5 miles southwest of the project site), the UPRR railyard in Roseville (approximately 0.4 mile south of the project site), and the Aerojet Superfund site (near Rancho Cordova, 10.5 miles southeast of the project site) (California Department of Water Resources 2003). The UPRR railyard is the closest to the project site.

3.9.2 Environmental Impacts

This section describes the CEQA impact analysis relating to hydrology and water quality for the proposed project. It describes the methods used to determine the project's potential impacts and lists the criteria thresholds used to conclude whether an impact would be significant. Measures to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion where applicable.

Methods for Analysis

The analysis of hydrologic conditions at the project site and potential hydrologic and water quality impacts is based on a review of the hydrology and hydraulics study (Wood Rodgers 2017), soil survey information (Natural Resources Conservation Service 2017), and other literature published by state and federal agencies.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in 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 that would not support existing land uses or planned uses for which permits have been granted).
- 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 that would result in substantial erosion or siltation onsite or offsite.
- 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 that would result in flooding onsite or offsite.
- 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.
- Otherwise substantially degrade water quality.
- 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.
- Place within a 100-year flood hazard area structures that would impede or redirect floodflows.
- 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.
- Contribute to inundation by seiche, tsunami, or mudflow.

Impacts and Mitigation Measures

Impacts from both phases of project activities would be avoided or minimized because all construction activities would comply with the necessary permits and requirements from regulatory agencies and municipalities, including the State Water Board, Central Valley RWQCB, FEMA, Central Valley Flood Protection Board, USACE, California Department of Fish and Wildlife, and the City.

In addition to agency coordination and permit compliance, drainage improvements have been incorporated into the project design. As described below, and with more detail in the hydrology and hydraulics study (Wood Rodgers 2017), the project drainage improvements would include the following which would reduce impacts to a less-than-significant level because the recommendations identified in this technical report would be implemented as part of the project.

- The City will install a bioretention basin at the southwest corner of the Washington Boulevard and Emerald Oaks Road intersection as part of Phase 2 improvements. The basin will receive runoff from a diversion from the adjacent Washington Boulevard storm drain. It will be connected to South Branch Pleasant Grove Creek with pipes and a weir which support the discharge of low flows through an underdrain, allow the surface storage in the basin to drain relatively quickly, provide some peak flow attenuation, and protect the embankment in the case of overtopping flows. The diversion manhole will be installed in Phase 1 to allow additional interim biofiltration along native ground before the Phase 2 basin is installed.
- The City will construct a pump station to manage runoff into the sag (low point) that cannot be drained to the streams by gravity. Grading adjacent to the roadway and culvert headwalls would be designed to prevent overflow into the sag in a 100-year event. Elevations will be set to overtop onto the roadway during flood flows that exceed the 100-year design event. The pump station will need to have a capacity of 4,600 gallons per minute. The pump station would be constructed as part of Phase 2 improvements, would be located south of the railroad tracks and will discharge into Sierra View Tributary.
- The City will replace and extend two box culverts, in addition to the inclusion of a headwall and grading that prevents overtopping associated with Sierra View Tributary and South Branch Pleasant Grove Creek.

In general, both phases of the proposed project and Alternative 1 (one lane closure during construction) would result in the same types and levels of impacts on hydrology and water quality. When impacts of the phases would be different, differences are noted in the analysis. Alternative 2 (No Project) would not result in any new impacts related to hydrology and water quality and is not discussed further in this analysis.

Impact WQ-1	Violation of any water quality standards or waste discharge requirements
Applicable Policies and Regulations	Clean Water Act Porter-Cologne Water Quality Control Act National Pollutant Discharge Elimination System Program State of California Phase II Small MS4 General Permit Order No: 2013-0001-DWQ Construction General Permits Section 401 Water Quality Certification West Placer Storm Water Quality Design Manual City of Roseville Design and Construction Standards City of Roseville Stormwater Quality BMP Guidance Manual for Construction
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Notice of Preparation comments received from the Central Valley Regional Water Quality Control Board requested the EIR review potential impacts to surface water and groundwater quality as well as compliance with applicable state and federal permit requirements. As discussed below and under Impact WQ-6, the project would comply with permit requirements, and related water quality impacts have been found less than significant.

<u>Proposed Project</u>

The proposed project would not be expected to result in the violation of water quality standards or water discharge requirements. However, construction activities may have the potential for releases of sediments and other construction-related pollutants (such as oils, fuels, and chemical substances) to natural waters or the storm drain system, as a result of accidental discharges. This impact would be significant; however, as required by the General Construction Permit, a SWPPP would be developed by a Qualified SWPPP Developer and implemented as part of the project before and during construction. The SWPPP would be kept onsite during construction activity and made available upon request to representatives of the Central Valley RWQCB. The SWPPP must identify pollutant sources that may affect the quality of stormwater associated with construction activity and specify BMPs to reduce pollutants in stormwater discharges during and after construction. Therefore, the SWPPP would include a description of potential pollutants, the management of dredged sediments, and hazardous materials present on the site during construction (including vehicle and equipment fuels). The SWPPP also must include details of how the erosion and sediment control practices (i.e., BMPs) would be implemented. Implementation of the SWPPP would comply with state and federal water quality regulations.

To avoid or minimize impacts on water quality, the City would implement appropriate water quality measures (stormwater management measures and best management practices [BMPs]). Such measures may include the following:

- Prepare and implement a SWPPP.
- To the extent possible, equipment and materials would be staged in areas that have already been disturbed.
- Minimize ground disturbance and the disturbance/destruction of existing vegetation through establishing designated equipment staging areas, ingress and egress corridors and equipment exclusion zones prior to the commencement of any grading operations, and protection of existing trees.
- Install silt fences as necessary to prevent sediment-laden water from leaving the construction area.
- Implement temporary and permanent erosion and sediment control BMPs, such as seeding, mulching, bonded fiber matrices, erosion control blankets, and silt fencing to control erosion and sedimentation.
- Minimize the potential for erosion by limiting land disturbances such as clearing, grading, and cut and fill.
- Limit disturbance of natural drainage features and vegetation.
- Ensure proper storage and disposal of toxic material.
- Implement the following measures to reduce the potential for accidental spills of hazardous materials.
  - Refueling and servicing will be conducted in designated areas located away from drainages to prevent runoff.
  - Drip pans will be placed under equipment and vehicles during servicing to catch potential spills.
  - Refueling will be conducted using only approved pumps and hoses.
  - All disconnected hoses will be stored in containers to catch residual fluids that may remain in the hoses.
  - Vehicles and equipment engines will be turned off during refueling.
  - Fire extinguishers and spill containment equipment will be kept onsite during construction activities.
  - No open flames or smoking will be allowed in designated refueling or servicing areas.
  - Should any hazardous material spills occur, contaminated soil will be placed in containers and disposed of in accordance with federal, state, and local regulations.
  - All hazardous material containers will be inspected at least weekly and all servicing and refueling areas will be inspected monthly. Inspection information will be recorded in a logbook that would be stored onsite.

Compliance with the West Placer Stormwater Quality Design Manual and compliance with the project's General Construction Permit would result in a less-than-significant impact. No mitigation is required.

Alternative 1

The impact associated with Alternative 1 would be the same as described above for the proposed project. The impact would be considered less than significant through compliance with the West Placer Stormwater Quality Design Manual and the project's General Construction Permit requirements. No mitigation is required.

Impact WQ-2	Substantial depletion of groundwater supplies or substantial interference with groundwater recharge
Applicable Policies and Regulations	Porter-Cologne Water Quality Control Act City of Roseville General Plan 2035, Open Space and Conservation Element
Significance with Policies and Regulations	Proposed Project: Potentially Significant Alternative 1: Potentially Significant
Mitigation Measures	Proposed Project and Alternative 1: Mitigation Measure WQ-2.1: Provide a System to Meet NPDES Post-Construction Stormwater Runoff Requirements
Significance after Mitigation	Proposed Project: Less than Significant with Mitigation Alternative 1: Less than Significant with Mitigation

Proposed Project

The proposed project would result in the creation of an additional 10.1 acres of impervious surfaces. This increase could reduce infiltration of rainfall and therefore could reduce groundwater recharge. Phase 1 improvements would include installation of roadside water quality swales and Phase 2 improvements include a bio-retention pond within open space north of the Andora Underpass. Although these improvements would improve infiltration and minimize interference with groundwater recharge, because of the amount of impervious surface created by the project, potential infiltration and related groundwater recharge impacts would be potentially significant. Implementation of Mitigation Measure WQ-2.1 would reduce this impact to a less-than-significant level.

Mitigation Measure WQ-2.1: Provide a System to Meet NPDES Post-Construction Stormwater Runoff Requirements

The City will prepare a post-construction stormwater management plan as a separate document to demonstrate how the integrated measures of each construction phase will satisfy NPDES requirements.

The post-construction requirements of the West Placer Stormwater Quality Design Manual, which was prepared consistent with the State of California Phase II Small MS4 General Permit, are:

- Infiltrate impervious surface runoff on-site from the post-construction 85th percentile 24-hour storm event.
- Treatment of runoff that cannot be infiltrated on-site shall follow EPA guidance regarding green infrastructure to the extent feasible (U.S. Environmental Protection Agency 2008).
- Where the addition of traffic lanes results in an alteration equal to or greater than 50% of the impervious surface of an existing street or road, runoff from the entire project (consisting of all existing, new, and/or replaced impervious surfaces) must be included in the treatment system design.
- Where the addition of traffic lanes results in an alteration of less than 50% of the impervious surface of an existing street or road, only runoff from the new, and/or replaced impervious surface must be included in the treatment system design.

Alternative 1

The impact associated with Alternative 1 would be the same as described above for the proposed project. This would be a significant impact. Implementation of Mitigation Measure WQ-2.1 would reduce this impact to a less-than-significant level.

Impact WQ-3	**Substantial alteration of existing drainage patterns in a manner that would result in substantial erosion or siltation onsite or offsite**
Applicable Policies and Regulations	Clean Water Act Porter-Cologne Water Quality Control Act National Pollutant Discharge Elimination System Program State of California Phase II Small MS4 General Permit Order No: 2013-0001-DWQ Construction General Permits Section 401 Water Quality Certification West Placer Storm Water Quality Design Manual City of Roseville Design and Construction Standards City of Roseville Stormwater Quality BMP Guidance Manual for Construction
Significance with Policies and Regulations	Proposed Project: Potentially Significant Alternative 1: Potentially Significant
Mitigation Measures	Proposed Project and Alternative 1: Mitigation Measure WQ-2.1: Provide a System to Meet NPDES Post-Construction Stormwater Runoff Requirements
Significance after Mitigation	Proposed Project: Less than Significant with Mitigation Alternative 1: Less than Significant with Mitigation

Proposed Project

The proposed project could alter existing drainage patterns to the extent that it would cause some level of erosion or siltation onsite or offsite. This would be a potentially significant impact. Implementation of Mitigation Measure WQ-2.1 (described above) would reduce this impact to a less-than-significant level.

Alternative 1

The impact associated with Alternative 1 would be the same as described above for the proposed project. This would be a significant impact. Implementation of Mitigation Measure WQ-2.1 would reduce this impact to a less-than-significant level.

Impact WQ-4	Substantial alteration of existing drainage patterns in a manner that would result in flooding onsite or offsite
Applicable Policies and Regulations	Floodplain Management Executive Order 11988 Federal Emergency Management Agency Regulatory Floodway Clean Water Act Construction General Permits West Placer Storm Water Quality Design Manual City of Roseville Design and Construction Standards City of Roseville Stormwater Quality BMP Guidance Manual for Construction
Significance with Policies and Regulations	Proposed Project: Potentially Significant Alternative 1: Potentially Significant
Mitigation Measures	Proposed Project and Alternative 1: Mitigation Measure WQ-2.1: Provide a System to Meet NPDES Post-Construction Stormwater Runoff Requirements
Significance after Mitigation	Proposed Project: Less than Significant with Mitigation Alternative 1: Less than Significant with Mitigation

Proposed Project

The proposed project would lengthen culverts, lower the profile grade of Washington Boulevard, temporarily construct a shoofly, replace culverts, place fill into the FEMA Regulatory Floodway, and make other permanent changes to the streams in the proposed project. This would be a significant impact. With implementation of Mitigation Measure WQ-2.1, this impact would be reduced to a less-than-significant level.

Alternative 1

The alteration of existing drainage patterns under Alternative 1 would be the same as described above for the proposed project. The impact would be considered significant. Implementation of Mitigation Measure WQ-2.1 would reduce this impact to a less-than-significant level.

Impact WQ-5	Creation of or contribution to runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
Applicable Policies and Regulations	Clean Water Act Porter-Cologne Water Quality Control Act National Pollutant Discharge Elimination System Program State of California Phase II Small MS4 General Permit Order No: 2013-0001-DWQ California Accidental Release Prevention Program Construction General Permits Section 401 Water Quality Certification West Placer Storm Water Quality Design Manual City of Roseville Design and Construction Standards City of Roseville Stormwater Quality BMP Guidance Manual for Construction
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

Approximately 27.7 acres of the 41.9 acres of the project site within the Lower Sacramento watershed are tributary to the storm drain along Washington Boulevard just east of the proposed bioretention basin site. As specified in the hydrology and hydraulics study (Wood Rodgers 2017), the City would divert low flows from the pipe near the corner of Emerald Oaks Road and Washington Boulevard into the basin as part of ultimate Phase 2 improvements. This diversion would provide detention and treatment of the increased runoff to the storm drain system. Phase 1 drainage improvements would be sized to accommodate drainage from the ultimate project and would incorporate road side water quality swales as interim treatment measures consistent with requirements of the West Placer Storm Water Quality Design Manual. The bioretention basin would be constructed as part of Phase 2 ultimate improvements. There would be no impact. No mitigation is required.

Alternative 1

Alternative 1 would result in construction of the same drainage facilities as the proposed project. There would be no impact. No mitigation is required.

Impact WQ-6	Other substantial degradation of water quality
Applicable Policies and Regulations	Clean Water Act Porter-Cologne Water Quality Control Act National Pollutant Discharge Elimination System Program State of California Phase II Small MS4 General Permit Order No: 2013-0001-DWQ California Accidental Release Prevention Program Construction General Permits Section 401 Water Quality Certification West Placer Storm Water Quality Design Manual City of Roseville Design and Construction Standards City of Roseville Stormwater Quality BMP Guidance Manual for Construction
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

All potential impacts on water quality have been presented above. The proposed project would not contribute to any other substantial degradation of water quality, therefore there would be no impact. No mitigation is required.

Alternative 1

Similar to the proposed project, Alternative 1 would not contribute to any other substantial degradation of water quality, therefore there would be no impact. No mitigation is required.

Impact WQ-7	**Placement of housing within a 100-year flood hazard area**
Applicable Policies and Regulations	Floodplain Management Executive Order 11988 Federal Emergency Management Agency Regulatory Floodway City of Roseville Design and Construction Standards City of Roseville General Plan 2035, Open Space and Conservation Element
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

The proposed project would not involve the construction of housing within a 100-year flood hazard area; therefore, there would be no impact. No mitigation is required.

Alternative 1

Similar to the proposed project, Alternative 1 would not place housing within a 100-year flood hazard area; therefore, there would be no impact. No mitigation is required.

Impact WQ-8	**Placement of structures that would impede or redirect floodflows within a 100-year flood hazard area**
Applicable Policies and Regulations	Floodplain Management Executive Order 11988 Federal Emergency Management Agency Regulatory Floodway City of Roseville Design and Construction Standards City of Roseville General Plan 2035, Open Space and Conservation Element
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

The proposed project would result in the widening of a roadway at the culvert crossing along South Branch Pleasant Grove Creek, within a FEMA Regulatory Floodway. The placement of pavement and fill into the FEMA Regulatory Floodway would be unavoidable. The proposed project would also involve lowering the roadway under the Andora bridge. The low point of the new roadway would be too low to drain by gravity. These two influences could contribute to the impediment of floodflows within the 100-year flood hazard area. However, because the project includes implementation of the improvements described in the hydrology and hydraulics study (Wood Rodgers 2017), this would be a less-than-significant impact. No mitigation is required.

Alternative 1

Because the construction activities and location would be the same, the impact associated with Alternative 1 would be the same as described above for the proposed project. This would be a less-than-significant impact. No mitigation is required.

Impact WQ-9	**Exposure of people or structures to significant risk involving flooding, including flooding as a result of the failure of a levee or dam**
Applicable Policies and Regulations	Floodplain Management Executive Order 11988 Federal Emergency Management Agency Regulatory Floodway City of Roseville Design and Construction Standards City of Roseville General Plan 2035, Open Space and Conservation Element
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

The project site is not in a dam failure inundation area, nor it is it protected by levees. Therefore, there would be no impact. No mitigation is required.

Alternative 1

Because Alternative 1 would be located on the same site as the proposed project, it would not expose people or structures to significant risk of flooding as a result of a failure of a levee or dam. There would be no impact. No mitigation is required.

Impact WQ-10	Contribution to inundation by seiche, tsunami, or mudflow
Applicable Policies and Regulations	City of Roseville Design and Construction Standards City of Roseville General Plan 2035, Open Space and Conservation Element
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

The proposed project site is not located in a tsunami zone. No part of the proposed project would contribute to seiches, which occur in certain lakes and other water bodies, or to mudflow inundation. The project would not contribute to inundation by seiche, tsunami, or mudflow; therefore, there would be no impact. No mitigation is required.

Alternative 1

Alternative 1 would be located on the same site as the proposed project and would therefore not contribute to inundation by seiche, tsunami, or mudflow. There would be no impact. No mitigation is required.

3.9.3 References Cited

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3.10 Land Use and Planning

This section discusses existing land use designations and zoning, describes the City's *General Plan 2035* policies related to land use planning, and discloses the potential impacts of the proposed project on land use planning in the project area. This includes analysis of potential conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental affect. This section is based in part on the *Washington Boulevard/Andora Bridge Improvement Project Community Impact Assessment* (California Department of Transportation 2017), a Caltrans required technical study.

Comments received in response to the Notice of Preparation for this EIR related to land use and planning discussed adding bike and multiuse paths to improve mobility and provide a safe environment, and steps toward bike friendliness. Additional Class I bike trail facilities have been added to the project since release of the Notice of Preparation and are addressed in Chapter 2, *Project Description*.

3.10.1 Existing Conditions

Regulatory Setting

There are no federal or state regulations that pertain to the project area. The following local regulations are applicable.

City General Plan 2035

Land use planning in the project area is governed by the City's *General Plan 2035* (City of Roseville 2016). The City adopted the general plan on June 15, 2016. Goals and policies that are directly related to the proposed project are listed below.

Circulation Element

Level of Service

Goal 1. Maintain an adequate level of transportation service for all of Roseville's residents and employees through a balanced transportation system, which considers automobiles, transit, bicyclists, and pedestrians.

Policy 1. Maintain a level of service (LOS) "C" standard at a minimum of 70 percent of all signalized intersections and roadway segments in the City during the a.m. and p.m. peak hours. Exceptions to the LOS "C" standard may be considered for intersections where the City finds that the required improvements are unacceptable based on established criteria identified in the implementation measures. In addition, Pedestrian Districts may be exempted from the LOS standard.

Policy 2. Strive to meet the LOS standards through a balanced transportation system that reduces the auto emissions that contribute to climate change by providing alternatives to the automobile and avoiding excessive vehicle congestion through roadway improvements, Intelligent Transportation Systems, and transit improvements.

Policy 5. Enable the City to designate a Pedestrian District over a geographic area for the purpose of implementing measures that promote pedestrian walkability and reduce total vehicle miles traveled and resultant air pollution emissions that contribute to climate change. In these districts, the City recognizes that pedestrian travel takes a higher priority than automobile travel, which could reduce the vehicular level of service.

Bikeways/Trails

Goal 1. Increase the percentage of all trips made by bicycles in Roseville.

Goal 2. Establish and maintain a safe, comprehensive and integrated bikeway and trail system that encourages the use of bikes and walking for commuting, recreational and other trips.

Policy 1. Develop a comprehensive and safe system of recreational and commuter bicycle routes and trails that provides connections between the City's major employment and housing areas and between its existing and planned bikeways.

Open Space and Conservation Element

Open Space System

Goal 1. Establish a comprehensive system of public and private open space, including interconnected open space corridors that should include oak woodlands, riparian areas, grasslands, wetlands, and other open space resources.

Policy 1. Provide an interconnecting system of open space corridors that, where feasible, incorporate bikeways and pedestrian paths.

Policy 2. Provide interconnected open space corridors between open space and habitat resources, recreation areas, schools, employment, commercial service and residential areas.

Policy 10. Consider the use of open space for the location of flood control facilities where such facilities allow compatible passive recreational use and resource preservation.

City Open Space Preserve Overarching Management Plan

To standardize monitoring and management of the City's vernal pool and wetland preserves, the *City of Roseville Open Space Preserve Overarching Management Plan* (OSPOMP) was approved by the U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service (USFWS) in August 2011 (City of Roseville 2011). The OSPOMP applies to all open space managed by the City within the city limits and provides a city-wide approach to open space management, maintenance, and monitoring.

The OSPOMP identifies two types of open space lands: Open Space Preserve and General Open Space. The OSPOMP and related deed restrictions govern allowed uses within the designated open space areas. Open Space Preserve is land that was required to be set aside as part of a regulatory permit action. These lands are primarily vernal pool grassland or riparian corridors protected because of the presence of waters of the United States and/or endangered species. General Open Space is land owned by the City and was set aside because of City policy or to meet City development requirements. Section 10.14 of the

OSPOMP states that activities prohibited by the OSPOMP may occur with U.S. Army Corps of Engineers and USFWS approval, and that such approval may include a permit.

Open space in the vicinity of the proposed project is shown in Figure 2-1. A portion of the South Branch Pleasant Grove Creek open space located west of the UPRR and adjacent the proposed project is improperly identified as “Preserve” Open Space in the City of Roseville OSPOMP. After additional research and consultation with the USFWS, it was determined that this area is actually “General” Open Space and this error would be corrected as part of the next City of Roseville OSPOMP update. It should be noted that even if the adjacent open space was designated “Preserve,” OSPOMP Figure 9-1, *Future Road Widening Projects*, recognizes the proposed project as a future allowed use.

Placer County Transportation Planning Agency Regional Transportation Plan

Regional transportation planning for the project area is generally conducted by the Placer County Transportation Planning Agency. The *Placer County 2036 Regional Transportation Plan* (RTP) was designed to be a blueprint for the systematic development of a balanced, comprehensive, multi-modal transportation system, including but not limited to, regional roadways, public transit, passenger rail, aviation, goods movement, non-motorized facilities, transportation systems management, transportation safety and security, and intelligent transportation systems in Placer County. The RTP identified the project, titled “Washington Boulevard/Andora Undercrossing Improvement Project,” in the Programmed Master Projects List (Placer County Transportation Planning Agency 2016).

Environmental Setting

The proposed project is in the city of Roseville, along Washington Boulevard. The southern limit of the project boundary is Washington Boulevard and All-America City Boulevard, and the northern limit of the project boundary is Pleasant Grove Boulevard. In the project area, the land uses are primarily industrial, residential, and open space. Industrial uses include TF Semiconductor Solutions as well as two industrial parks. There are open space/recreational land uses (e.g., Sierra View Country Club) and single-family residential and multi-family residential development.

The City’s General Plan 2035 Land Use Map (City of Roseville 2017a) designates land uses surrounding the project limits as Light Industrial, Business Professional, Low Density Residential, Open Space, Parks and Recreation, and High Density Residential (Figure 3.10-2). Land uses surrounding the project limits are zoned as L1 (Light Industrial), GC (General Commercial), M2 (General Industrial), R1/DS (Single Family Residential/Development Standards), RS (Small Lot Residential), VP/SA (Business Professional/Special Area), OS (Open Space), and PR (Parks and Recreation) (City of Roseville 2017b). Zoning designations are shown in Figure 3.10-3.

3.10.2 Environmental Impacts

This section discusses the methods for analysis, potential environmental impacts, and impact determinations. The impact analysis is based on whether implementation of the proposed project would result in land use conflicts.

Methods for Analysis

The City's *General Plan 2035* was reviewed to determine conflicts with land use plans and policies. Existing land use maps were compared to the project plans to identify any changes in land use.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant impact if it would result in any of the conditions listed below.

- Physically divide an established community.
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

Impacts and Mitigation Measures

In general, both phases of the proposed project and Alternative 1 (one lane closure during construction) would result in the same types and levels of land use impacts. Alternative 2 (No Project) would not result in any new impacts related to land use and is not discussed further in this analysis.

Impact LU-1	**Physical division of an established community**
Applicable Policies and Regulations	City of Roseville General Plan 2035, Open Space and Conservation Element
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

Cohesive communities are indicated by characteristics such as long average lengths of residency, home ownership, frequent personal contact, ethnic homogeneity, high levels of community activity, and shared goals. The UPRR tracks divide the project area in half and approximately 25 trains per day pass through the project area. Currently, vehicles travel under the UPRR tracks by using the Andora Underpass. The parkland to the west of the proposed project is designated open space and contains a bike path. There are no major gathering areas where community members interact and the project area functions primarily as a residential and commercial transportation corridor within the city.

Land use and zoning designations in the immediate and surrounding areas would not change as a result of the proposed project. Access and mobility would be improved throughout the project area. Traffic flow would improve, and pedestrian and bicycle facilities would be modified but improved in the project area. The overall community character would not change, and the project would not divide an established community. This impact would be less than significant and no mitigation is required.

Alternative 1

Alternative 1 would result in the same types of impacts as described above for the proposed project. The impacts are less than significant and no mitigation is required.

Impact LU-2	**Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect**
Applicable Policies and Regulations	City of Roseville General Plan 2035, Circulation Element and Open Space and Conservation Element City or Roseville Open Space Preserve Overarching Management Plan
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

The transportation goals and policies related to the proposed project include maintaining a safe and efficient transportation system in the city. The project would contribute to the City's General Plan 2035 (City of Roseville 2016) transportation goals regarding LOS. The purpose and need of the project is centered on improving existing and future traffic circulation and enhancing motorist, pedestrian and bicyclist safety in the project area. Current traffic demand exceeds the capacity of Washington Boulevard, creating delays and safety issues. The proposed project would widen Washington Boulevard to reduce delays, and improve traffic safety by reconstructing the Andora Underpass to increase width and increase vertical clearance.

The City's General Plan 2035 contains various goals and policies related to pedestrian, bikeway, and trail facilities. The proposed project supports these goals and policies because the project improvements would enhance pedestrian and bicycle facilities by offering a better and more continuous route. Other benefits including improving traffic safety and connectivity for all modes, including pedestrians and bicyclists. The proposed project is consistent with the City's General Plan and there would be no impact.

The proposed project includes both permanent and temporary use of designated General Open Space lands. Permanent conversion of 0.06 acre of City owned General Open Space would be used to construct a bioretention basin (see Figure 2-1). The bioretention site contains annual grassland habitat and is adjacent to South Branch Pleasant Grove Creek and associated riparian woodland habitat. The project would also require temporary use of General Open Space for the following improvements: 1) a temporary staging area and access road west of Washington Boulevard; 2) the installation of a shoofly culvert in an unnamed South Branch Pleasant Grove Creek tributary along the west side of the UPRR tracks within existing UPRR right-of-way; and 3) extension of the box culvert in South Branch Pleasant Grove Creek to support the temporary shoofly on the west side of the UPRR tracks (see Figure 2-1).

General Open Space lands are not protected by deed restrictions or conservation easements associated with the City's OSPOMP and stormwater treatment is considered an allowed use within general open space by both the General Plan and OSOPMP. Related biological impacts would be mitigated consistent with this EIR's biological resource mitigation measures and any required compensatory mitigation for permanent or temporal losses would be implemented via the state and federal permit processes. Finally, the proposed road widening project is identified as an allowed use in the OSPOMP (see Section 9.1.9, Future Roadway Widening Projects, and Figure 9-1: Bike Trail System and Future Road Widening Projects) and therefore the project is found consistent with the City's OSPOMP and General Plan and there would be no impact.

Alternative 1

Alternative 1 would also result in no impacts as described above for the proposed project. No mitigation is required.

Impact LU-3	**Conflict with any applicable habitat conservation plan or natural community conservation plan**
Applicable Policies and Regulations	City of Roseville General Plan 2035, Open Space and Conservation Element
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

Local regulations that pertain to the proposed project are discussed above. The project area is not covered by a habitat conservation plan or a natural community conservation plan. Therefore, there would be no impact. No mitigation is required.

Alternative 1

Alternative 1 would result in the same type of impacts as described above for the proposed project. The project would not conflict with any habitat conservation plans or a natural community conservation plans. No mitigation is required.

3.10.3 References Cited

California Department of Transportation. 2017. *Washington Boulevard/Andora Bridge Improvement Project Community Impact Assessment*. October.

City of Roseville. 2011. *City of Roseville Open Space Preserve Overarching Management Plan*. Available: https://www.roseville.ca.us/UserFiles/Servers/Server_7964838/File/Government/Departments/Parks%20&%20Recreation/About%20Us/Reports%20and%20Plans/OSPOMP_8.3.2011_Final.pdf. Accessed: December 18, 2017.

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———. 2017a. City of Roseville General Plan 2035 Land Use Map. Adopted May 5, 2010. Last updated: March 2017. Available: https://www.roseville.ca.us/common/pages/DisplayFile.aspx?itemId=8939739. Accessed: March 13, 2017.

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Placer County Transportation Planning Agency. 2016. *Placer County 2036 Regional Transportation Plan*. Final. February. Available: http://www.pctpa.net/library/rtp/2036/RTP/Final_2036_RTP_Full.pdf. Accessed: December 13, 2017.

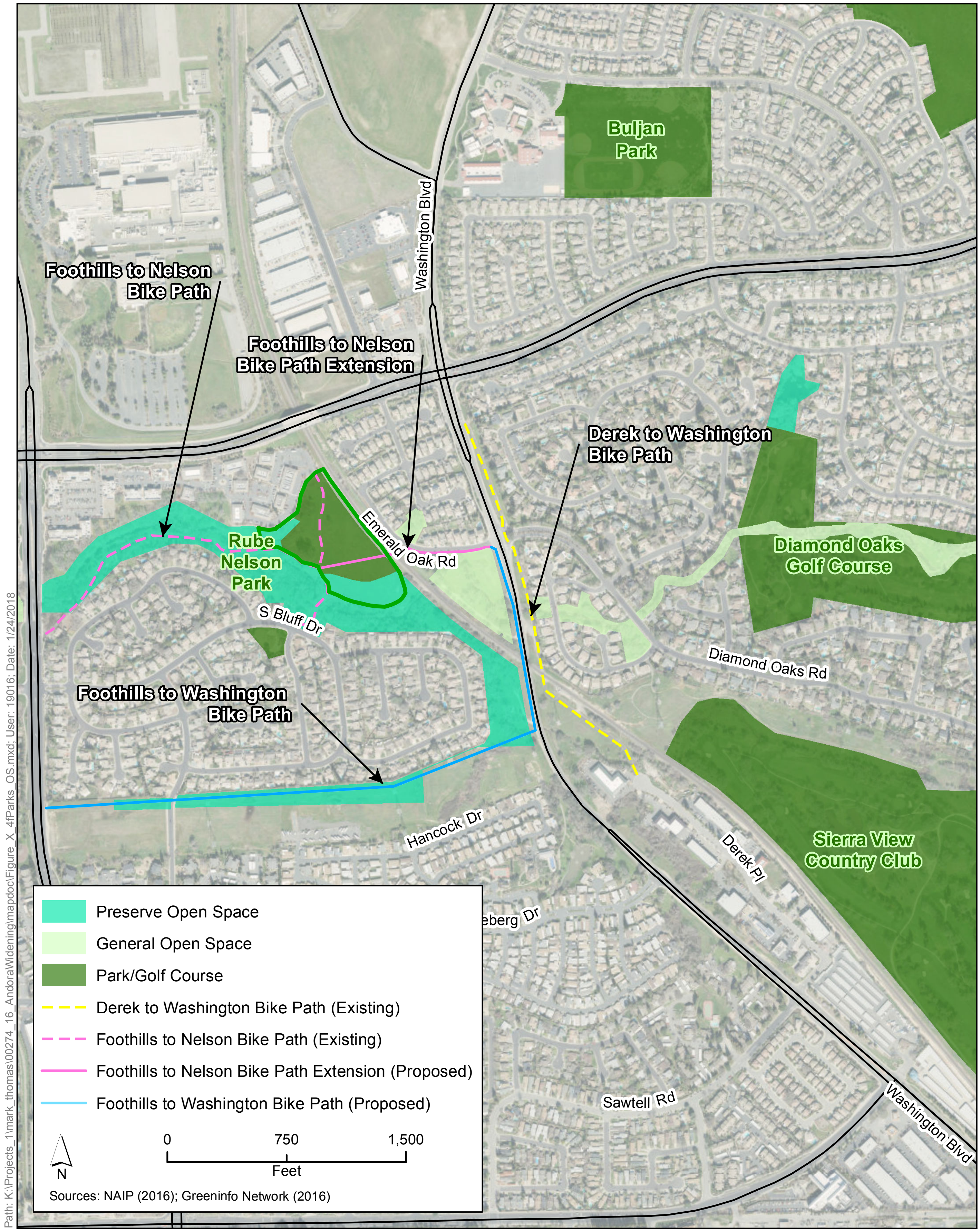
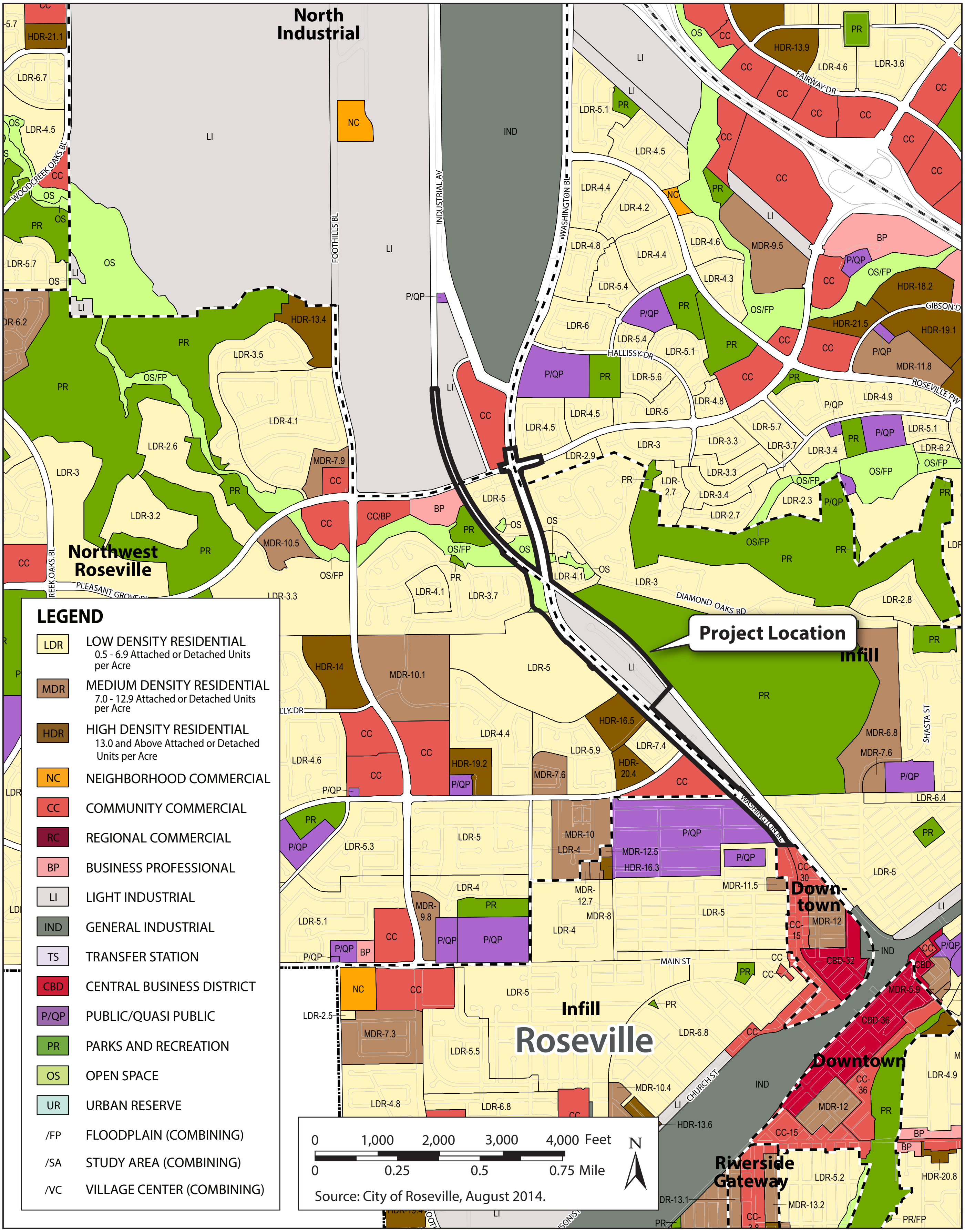
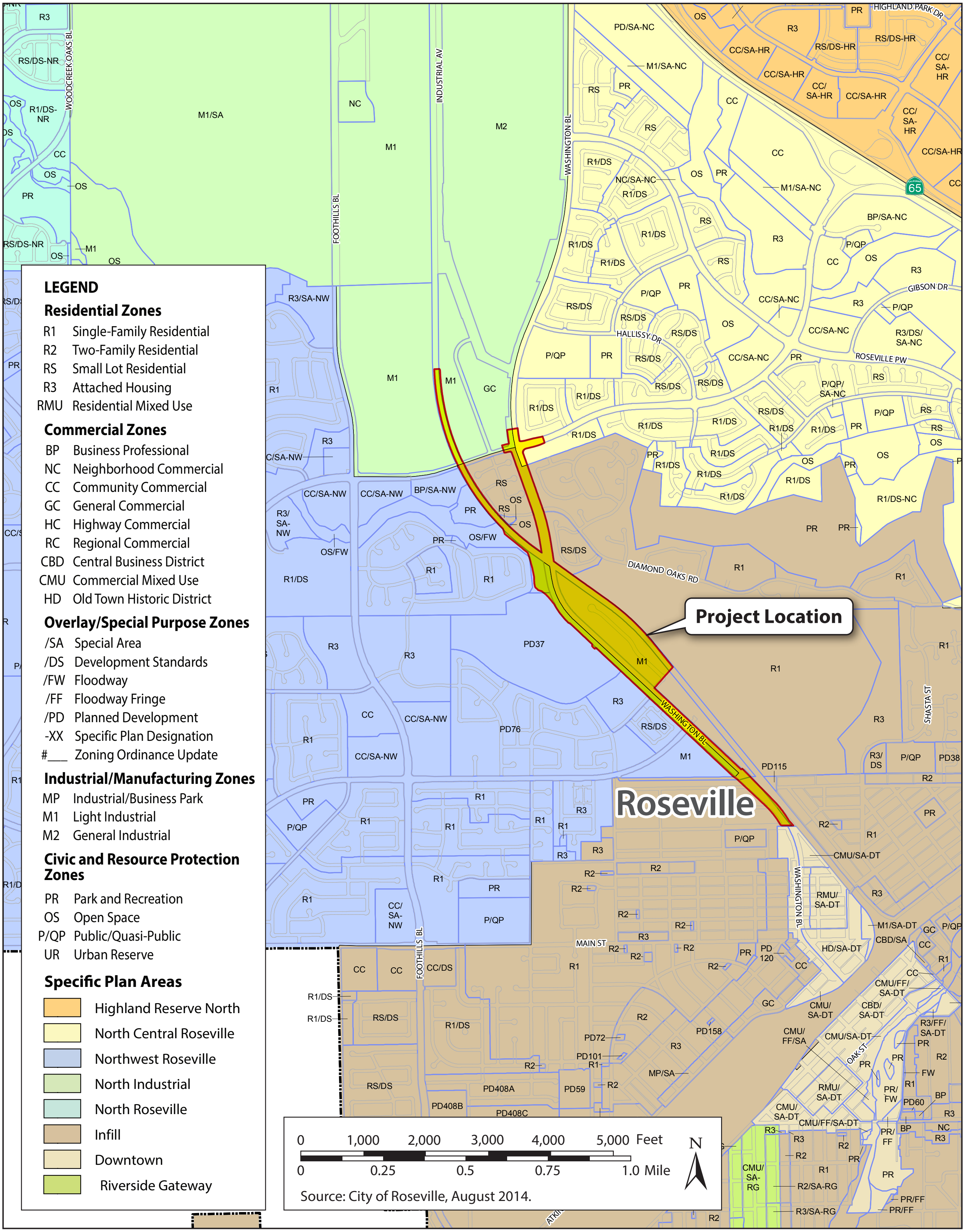


Figure 3.10-1
Parks and Recreation



Graphics ... 00274.16 (6-4-2019)

Figure 3.10-2
City of Roseville Land Use Map



Graphics ... 00274.16 (6-4-2019)

Figure 3.10-3
City of Roseville Zoning Map

3.11 Mineral Resources

This section discusses mineral resources in the project area, identifies relevant state and local policies, and addresses the potential impacts of the proposed project on mineral resources.

No comments related to mineral resources were received in response to the Notice of Preparation for this EIR.

3.11.1 Existing Conditions

Regulatory Setting

California Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act of 1975 (SMARA) (Public Resources Code Sections 2710–2719) is the state's principal legislation addressing mineral resources. SMARA is intended to limit land use conflicts between urban growth and essential mineral production. It provides a comprehensive surface mining and reclamation policy that encourages the production and conservation of mineral resources while minimizing adverse environmental effects and promoting reclamation once mining has ceased.

SMARA provides for the evaluation of an area's mineral resources using a system of mineral resource zone (MRZ) classifications that reflect the known or inferred presence and significance of a given mineral resource. MRZ classifications are based on geologic mapping and other information on surface exposures, drilling records, mine data, and socioeconomic factors such as market conditions and urban development patterns. There are four MRZ classifications.

- MRZ-1—Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- MRZ-2—Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.
- MRZ-3—Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
    - MRZ-3a—Areas containing known mineral deposits that may qualify as mineral resources. Further exploration work within these areas could result in the reclassification of specific localities into the MRA-2 categories.
    - MRZ-3b—Areas containing inferred mineral deposits that may qualify as mineral resources. Land classified MRZ-3b represents areas in geologic settings which appear to be favorable environments for the occurrence of specific mineral deposits. Further exploration work could result in the reclassification of all or part of these areas into the MRZ-3a or MRA-2 categories.
- MRZ-4—Areas where available information is inadequate for assignment into any other MRZ.

The project area and vicinity are classified as MRZ-4.

City General Plan 2035

The City's *General Plan 2035* contains no policies regarding mineral resources. Mineral resources, specifically sand and gravel, are limited, and no mineral extraction operations exist or are anticipated to commence in the foreseeable future (City of Roseville 2016:V-2). The general plan designates lands in and adjacent to the project area for light industrial, community commercial, business professional, parks and recreation, open space, low-density residential, and high-density residential uses (City of Roseville 2017). No land in or near the project area is designated for extraction or protection of mineral resources.

Environmental Setting

Much of the project area consists of right-of-way for roadways or UPRR tracks. The southern end of the project area, south of Sawtell Road to All-America City Boulevard, is limited to existing Washington Boulevard right-of-way along the east side of the road. This portion of the project site is bordered by existing Washington Boulevard followed by residential, commercial and fairground uses to the west, and self-storage and rail road uses to the east. North of Sawtell Road, the site is bordered by commercial development and the Sierra View Country Club to the east and residential land uses to the west. The Diamond Oaks and Kaseberg-Kingswood neighborhoods are adjacent to the central and northern portions of the project area. City General Open Space lands occupy the area immediately west and north of the Andora Underpass. Residential development is located east of Washington Boulevard from the Andora Underpass to Diamond Oaks Road, and on both sides of Washington Boulevard from Diamond Oaks/Emerald Oaks Roads to Pleasant Grove Boulevard. An existing off-street bike path along the east side of Washington Boulevard connects Diamond Oaks Road to Derek Place.

The project area and vicinity are classified MRZ-4, which means that there is little knowledge of mineral resources. There are no mineral extraction operations anywhere in the city limits.

3.11.2 Environmental Impacts

This section describes the environmental impacts of the proposed project on mineral resources. This section also describes the methods used to evaluate the impacts and the thresholds used to determine whether an impact would be significant.

Methods for Analysis

This analysis addresses the project's potential adverse impacts on the natural and built physical environment. Existing conditions serve as the baseline for measuring the project's potential impacts on mineral resources.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- 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.
- 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.

Impacts and Mitigation Measures

Both phases of the proposed project and Alternative 1 (one lane closure during construction) would result in no impacts on mineral resources. Because it would not change existing conditions, Alternative 2 (No Project) would also not result in any impacts related to mineral resources, and is not considered further in this analysis.

Impact MIN-1	**Contribution to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state**
Applicable Policies and Regulations	California Surface Mining and Reclamation Act of 1975 (SMARA) (Public Resources Code Sections 2710–2719)
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

<u>Proposed Project</u>

There are no known mineral resources in or near the project area, which is classified as MRZ-4. Therefore, the proposed project would have no impact on the availability of a known mineral resource. No mitigation is required.

<u>Alternative 1</u>

Alternative 1 would be in the same location as the proposed project. There would be no impact and no mitigation is required.

Impact MIN-2	Contribution to 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
Applicable Policies and Regulations	City of Roseville General Plan 2035
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

Mineral resources in Roseville are limited, and no local plan designates the area as a mineral resource site or as likely to contain mineral resources. Therefore, the proposed project would have no impacts on the availability of a locally important mineral resources. No mitigation is required.

Alternative 1

Alternative 1 would be in the same location as the proposed project. There would be no impact and no mitigation is required.

3.11.3 References Cited

City of Roseville. 2016. *General Plan 2035, Open Space and Conservation Element*. Adopted June 15.

———. 2017. *General Plan 2035—Land Use Map*. Last updated March 2017.

3.12 Noise

The section discusses existing noise levels and sources in and around the project area, provides an overview of applicable noise terms and regulations, and identifies potential noise-related impacts associated with the proposed project and alternatives.

Two comments were received in response to the Notice of Preparation for this EIR related to noise. These comments discussed increased noise resulting from the project (including potential noise from additional trains using the improved train tracks), and the potential need for sound walls to be built to shield homes along Washington Boulevard south of Pleasant Grove Boulevard (near Diamond Oaks Road). Temporary construction-related train noise increases (due to trains running on the temporary shoofly) are addressed below under Impact NOI-4. Long-term train noise is addressed in Section 4.2.3 *Cumulative Impact Analysis by Resource.* The potential need for sound walls is addressed under Impact NOI-1 in Section 3.12.3, *Environmental Impacts*.

3.12.1 Fundamentals of Environmental Noise and Vibration

Terminology

A brief description of the noise and vibration concepts and terminology used in this assessment is provided below.

- **Sound**. A vibratory disturbance transmitted by pressure waves through a medium such as air or water that is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micropascals. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion; rather, they combine logarithmically. For instance, if two identical noise sources each produce noise levels of 50 dBA (see definition immediately following), the combined sound level would be 53 dBA, not 100 dBA.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear. The dBA scale is the most widely used for environmental noise assessments.
- **C-Weighted Decibel (dBC).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear at very high noise levels. The C-weighting scale is flat and therefore includes more of the low-frequency sound energy than the A scale.
- **Maximum Sound Levels (L_{max}).** The maximum sound level measured during a given measurement period.

- **Equivalent Sound Level (L_{eq}).** The equivalent steady-state sound level that, in a stated period of time, would contain the same acoustical energy. The 1-hour A-weighted equivalent sound level (L_{eq} 1h) is the energy average of A-weighted sound levels occurring during a 1-hour period.
- **Day-Night Level (L_{dn}).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with a 10 dB penalty added to sound levels between 10:00 p.m. and 7:00 a.m.
- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added to the sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the sound levels occurring during the period from 10:00 p.m. to 7:00 a.m. L_{dn} and CNEL are typically within 1 dBA of each other and, for all intents and purposes, interchangeable.
- **Vibration Velocity Level (or Vibration Decibel Level, VdB).** The root-mean-square velocity amplitude for measured ground motion expressed in dB.
- **Peak Particle Velocity (PPV).** A measurement of ground vibration, defined as the maximum speed at which a particle in the ground is moving, expressed in inches per second (in/sec).

Overview of Noise and Sound

Noise is commonly defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health. Because noise is an environmental pollutant that can interfere with human activities, an evaluation of noise is necessary when considering the environmental impacts of a proposed project.

Sound is characterized by various parameters, including the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient (existing) sound level. Although the decibel scale, a logarithmic scale, is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing. The human ear is not equally sensitive to all frequencies in the entire spectrum; therefore, noise measurements are weighted more heavily toward frequencies to which humans are sensitive through a process referred to as A-weighting. Table 3.12-1 on the following page summarizes typical A-weighted sound levels for different noise sources.

Table 3.12-1. Typical A-Weighted Sound Levels

Common Outdoor Activities	Sound Level (dBA)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 mph at 50 feet		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower at 100 feet	70	Vacuum cleaner at 3 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban area, daytime	50	Dishwasher in next room
Quiet urban area, nighttime	40	Theater, large conference room (background)
Quiet suburban area, nighttime		
	30	Library
Quiet rural area, nighttime		Bedroom at night, concert hall (background)
Rustling of leaves	20	
		Broadcast/recording studio
	10	
Lowest threshold of human hearing	0	Lowest threshold of human hearing

Source: California Department of Transportation. 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol.* September. Available: http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013A.pdf. Accessed: October 6, 2015.

Human sound perception, in general, is such that a change in sound level of 1 dB cannot typically be perceived by the human ear, a change in sound level of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level. A doubling of actual sound energy is required to result in a 3 dB (i.e., barely noticeable) increase in noise; in practice, for example, this means that the volume of traffic on a roadway would typically need to double to result in a noticeable increase in noise (California Department of Transportation 2013).

The decibel level of a sound decreases (or attenuates) exponentially as the distance from the source of that sound increases. For a point source, such as a stationary compressor or construction equipment, sound attenuates at a rate of 6 dB per doubling of distance. For a line source, such as free-flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance. Atmospheric conditions, including wind, temperature gradients, and humidity, can change how sound propagates over distance and affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface, such as grass, attenuates at a greater rate than sound that travels over a hard surface, such as pavement. The increased attenuation is typically in the range of 1 to 2 dB per doubling of distance. Barriers, such as buildings and topography, which block the line of sight between a source and receiver also increase the attenuation of sound over distance.

In urban environments, simultaneous noise from multiple sources may occur. Because sound pressure levels in decibels are based on a logarithmic scale, they cannot be added or subtracted in the usual arithmetical way. Adding a new noise source to an existing noise source, with both producing noise at the same level, will not double the noise level. If the difference between two noise sources is 10 dBA or more, the higher noise source will dominate, and the resultant noise level will be equal to the noise level of the higher noise source. In general, if the difference between two noise sources is 0 to 1 dBA, the resultant noise level will be 3 dBA higher than the higher noise source, or both sources if the sources are equal. If the difference between two noise sources is 2 to 3 dBA, the resultant noise level will be 2 dBA above the higher noise source. If the difference between two noise sources is 4 to 10 dBA, the resultant noise level will be 1 dBA higher than the higher noise source.

Community noise environments are generally perceived as quiet when the 24-hour average noise level is below 45 dBA, moderate in the 45 to 60 dBA range, and loud above 60 dBA. Very noisy urban residential areas are usually around 70 dBA CNEL. Along major thoroughfares, roadside noise levels are typically between 65 and 75 dBA CNEL. Incremental increases of 3 to 5 dB to the existing 1-hour L_{eq}, or to the CNEL, are common thresholds for an adverse community reaction to a noise increase. However, there is evidence that incremental thresholds in this range may not be sufficiently protective in areas where noise-sensitive uses are located and CNEL is already high (i.e., above 60 dBA). In these areas, limiting noise increases to 3 dB or less is recommended (Federal Transit Administration 2006). Noise intrusions that cause short-term interior levels to rise above 45 dBA at night can disrupt sleep. Exposure to noise levels greater than 85 dBA of 8 hours or longer can cause permanent hearing damage.

Overview of Ground-borne Vibration

The operation of heavy construction equipment, particularly pile-driving equipment and other impact devices (e.g., pavement breakers), creates seismic waves that radiate along the surface of the ground and downward. These surface waves can be felt as ground vibration. Vibration from the operation of this type of equipment can result in effects that range from annoyance for people to damage for structures.

Perceptible ground-borne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they cause rock and soil particles to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is referred to as peak particle velocity (PPV), the commonly accepted descriptor of vibration amplitude.

Vibration amplitude attenuates (or decreases) over distance. This attenuation is a complex function of how energy is imparted into the ground as well as the soil or rock conditions through which the vibration is traveling (variations in geology can result in different vibration levels).

The following equation is used to estimate the vibration level at a given distance for typical soil conditions (Federal Transit Administration 2006). PPV_{ref} is the reference PPV at 25 feet (Table 3.12-2, below).

$$PPV = PPV_{ref} \times (25/Distance)^{1.5}$$

Table 3.12-2 summarizes typical vibration levels generated by construction equipment at a reference distance of 25 feet and other distances, as determined with use of the attenuation equation above.

Table 3.12-2. Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 Feet	PPV at 50 Feet	PPV at 75 Feet	PPV at 100 Feet	PPV at 175 Feet
Pile driver (impact)	1.518	0.5367	0.2921	0.1898	0.0820
Pile driver (sonic/vibratory)	0.734	0.2595	0.1413	0.0918	0.0396
Hoe ram	0.089	0.0315	0.0171	0.0111	0.0048
Large bulldozer	0.089	0.0315	0.0171	0.0111	0.0048
Loaded trucks	0.076	0.0269	0.0146	0.0095	0.0041
Jackhammer	0.035	0.0124	0.0067	0.0044	0.0019
Small bulldozer	0.003	0.0011	0.0006	0.0004	0.0002

Source: Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*. FTA-VA-90-1003-06. Office of Planning and Environment. Available: http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf. Accessed: October 6, 2015.

Tables 3.12-3 and 3.12-4, summarize the guidelines developed by Caltrans for damage and annoyance from the transient and continuous vibration that is usually associated with construction activity. Impact pile drivers, “pogo stick” compactors (small hand-held soil compactors), crack-and-seat equipment (equipment that breaks and re-seats pavement), excavation equipment, static compaction equipment, tracked vehicles, vehicles on highways, vibratory pile drivers, pile-extraction equipment, and vibratory compaction equipment are typically associated with continuous vibration. The activities that are typically associated with single-impact (transient) or low-rate, repeated impact vibration include blasting and the use of drop balls or dropped metal plates (California Department of Transportation 2013).

Table 3.12-3. Vibration Damage Potential, Threshold Criteria Guidelines

	Maximum PPV (in/sec)	
Structure and Condition	Transient Sources	Continuous/ Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Note: Transient sources create a single, isolated vibration event (e.g., blasting or drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: California Department of Transportation. 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. September. Available: http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013A.pdf. Accessed: October 6, 2015.

Table 3.12-4. Vibration Annoyance Potential, Criteria Guidelines

	Maximum PPV (in/sec)	
Human Response	Transient Sources	Continuous/ Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Note: Transient sources create a single, isolated vibration event (e.g., blasting or drop balls). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: California Department of Transportation. 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. September. Available: http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013A.pdf. Accessed: October 6, 2015

3.12.2 Existing Conditions

Regulatory Setting

Federal

No federal noise standards are directly applicable to the project.

State of California

No state noise standards are directly applicable to the project.

Local

City's General Plan 2035

The City's *General Plan 2035* (City of Roseville 2016) establishes acceptable noise level criteria for both transportation and non-transportation noise sources. For transportation noise sources, such as roadway traffic, the City's *General Plan 2035* Noise Element establishes an acceptable exterior noise level standard for residential uses of 60 L_{dn}, which is applied in the outdoor activity areas. Where it is not possible to reduce noise in outdoor activity areas to 60 L_{dn} or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 75 L_{dn} may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with allowable levels. The transportation noise source standards presented in Table 3.12-5 are applicable to project operation.

Table 3.12-5. City's General Plan 2035 Maximum Allowable Noise Exposure for Transportation Noise Sources

Land Use	Outdoor Activity Areas[a] L_{dn}/CNEL, DB	Interior Spaces	
		L_{dn}/CNEL, dB	L_{eq}, dB[b]
Residential	60[c]	45	–
Transient Lodging	60[c]	45	–
Hospitals, Nursing Homes	60[c]	45	–
Theaters, Auditoriums, Music Halls	–	–	35
Churches, Meeting Halls	60[c]	–	40
Office Buildings	65	–	45
Schools, Libraries, Museums	–	–	45
Playground, Neighborhood Parks	70	–	–

[a] Outdoor activity areas for residential developments are considered to be the back yard patios or decks of single family dwelling, and the patios or common areas where people generally congregate for multi-family development.

Outdoor activity areas for non-residential developments are considered to be those common areas where people generally congregate, including pedestrian plazas, seating areas and outside lunch facilities.

Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use

[b] As determined for a typical worst-case hour during periods of use.

[c] Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 75 dB L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels area in compliance with this table.

Note: Where a proposed use is not specifically listed on this table, the use shall comply with the noise exposure standards for the nearest similar use as determined by the Planning Department. Commercial and industrial uses have not been listed because such uses are not considered to be particularly sensitive to noise exposure.

Source: Table IX.1 of the City's *General Plan 2035* Noise Element, 2010.

City of Roseville Municipal Code – Noise Ordinance

The City of Roseville Noise Ordinance (Chapter 9.24 of the City Code) was developed as an implementation measure of the *General Plan 2035* Noise Element. The ordinance is designed to prohibit unnecessary, excessive, and annoying sound levels. Key provisions of the ordinance include:

- Section 9.24.030 provides exemptions for certain activities, including but not limited to: sound sources typically associated with residential uses (e.g., children at play, air conditioning and similar equipment, but not including barking dogs); property maintenance activities between the hours of 8:00 a.m. and 9:00 p.m.; and private construction between the hours of 7:00 a.m. and 7:00 p.m. Monday-Friday, and between 8:00 a.m. and 8:00 p.m. on Saturdays and Sundays, provided that all construction equipment is fitted with factory installed muffling devices and maintained in good working order (City of Roseville 2014).
- Section 9.24.100 establishes specific operational sound level standards by which exposure of sensitive receptors to noise is regulated for area-wide sources, including fixed sources, non-transportation sources, and amplified music. Hourly sound levels are limited to 50 dB L_{eq} in the daytime (7:00 a.m. to 10:00 p.m.) and 45 dB L_{eq} at nighttime (10:00 p.m. to 7:00 a.m.). Hourly sound levels are limited to 70 dB L_{max} in the daytime (7:00 a.m. to 10:00 p.m.) and 65 dB L_{max} at nighttime (10:00 p.m. to 7:00 a.m.).
- Section 9.24.140 exempts City operations and activities from the provisions of Chapter 9.24.

Construction noise is not considered a “fixed noise source” and therefore Noise Ordinance Section 9.24.100 does not apply to project generated construction noise. Further, Noise Ordinance Section 9.24.030 exempts private construction from noise regulation during certain hours and Section 9.24.140 provides a full exemption for all City operations and activities from Noise Ordinance regulation provided all construction equipment is fitted with factory installed muffling devices and maintained in good working order.

Environmental Setting

Project Site Noise Sources

Existing Noise Levels

A field investigation was conducted to identify land uses that could be subject to traffic and construction noise impacts from the proposed project, and to measure and document existing noise levels in the project area (with measurements taken between September 27 and September 30, 2016). Short-term noise measurement locations were selected to be representative of the types of land use categories in the project area. Long-term measurement sites were selected to capture the diurnal traffic noise level patterns in the project area. The short-term measurements were used to validate/calibrate the traffic noise modeling used in the investigation and were used as noise modeling receivers (where applicable) for the traffic noise analysis. Additional receivers were added to the traffic noise model to be representative of actual noise sensitive uses in the project area. Refer to Tables 3.12-6 and 3.12-7 for the results of the short- and long-term measurements, respectively.

Table 3.12-6. Summary of Short-Term Measurements

Receiver	Address/Location and Approximate GPS Coordinates	Land Use	Start Date/ Time	Leq (dBA)[a]
ST-1	Across fence from 123 Silverado Circle, Roseville, CA 95678 GPS: 38°46'21.13"N, 121°18'10.53"W	Public Right-of-Way	09-27-2016/ 12:40 p.m.	68.3/ NA[b]
ST-2	Between 465 Elmwood Court and 464 Elmwood Court, Roseville, CA 95678 GPS: 38°46'18.49"N, 121°18'11.67"W	Residential	09-27-2016/ 11:48 a.m.	56.4/ 56.7
ST-3	Vacant Lot adjacent to 120 Glenwood Circle, Roseville, CA 95678 GPS: 38°46'11.37"N, 121°18'6.53"W	Undeveloped Land	09-27-2016/ 02:45 p.m.	54.8/ 55.2
ST-4	1228 Hawthorne Loop, Roseville, CA 95678 GPS: 38°46'5.26"N, 121°18'10.51"W	Residential	09-27-2016/ 10:55 a.m.	49.9/ 50.1
ST-5	30 feet east of 35 Hancock Drive, Roseville, CA 95678 and Washington Boulevard GPS: 38°45'58.96"N, 121°18'5.18"W	Open Space	09-27-2016/ 03:35 p.m.	59.8/ 59.9

[a] Two simultaneous measurements were taken at each location, one with the Larson Davis LxT sound level meter and one with the Larson Davis 831 meter. Both are listed here, with the Larson Davis LxT measurement listed first and the Larson Davis 831 listed second.

[b] During ST-1, the LD-831 meter did not capture 15 minutes of data.

Table 3.12-7. Summary of Long-Term Measurements

Measurement Location		Noise Level		
		September 28	September 29	September 30
LT-1	L_{dn}	75.7	75.9	76.4
	L_{max}	75.7	76.4	76.0
	L_{min}	61.6	43.7	61.0
LT-2	L_{dn}	75.2	75.7	73.9
	L_{max}	75.3	77.9	76.0
	L_{min}	62.2	45.1	63.4
LT-3	L_{dn}	76.0	76.6	77.6
	L_{max}	76.0	78.2	77.4
	L_{min}	61.9	45.2	61.7

3.12.3 Environmental Impacts

Methods for Analysis and Assumptions

This noise impact analysis evaluates the temporary noise increase associated with construction activities associated with the proposed project, and operational noise associated with potential project-related traffic noise and train noise increases.

Noise impacts associated with on-site demolition and construction activities were evaluated using the noise calculation method and construction equipment noise data in the FHWA roadway construction noise model (RCNM). The noise data include the A-weighted L_{max}, measured at a distance of 50 feet from the construction equipment and the utilization factors for the equipment. The utilization factor is the percentage of time each piece of construction equipment is typically operated at full power over the specified time period and is used to estimate L_{eq} values from L_{max} values. For example, the L_{eq} value for a piece of equipment that operates at full power over 50% of the time is 3 dB less than the L_{max} value (Federal Highway Administration 2006).

For the purposes of this analysis, it is assumed that all construction by the City contractors and along Washington Boulevard for Phase 1 and Phase 2 would be limited to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday and 8:00 a.m. to 8:00 p.m. Saturday and Sunday. During these hours, construction noise is exempt from the City noise limits provided that all equipment is fitted with factory installed muffling devices.

In addition to the above assumptions, Phase 2 construction may involve some minor and short-term construction activities that would need to be conducted by the UPRR outside of exempt hours. The City has no control when and where UPPR conducts work on its rail facilities and related UP operations are not subject to the City’s noise ordinance exemption.

Phase 2 construction may also require limited pile driving near the existing Andora bridge in order to provide temporary shoring or bracing during construction activities in this area. Between 6 and 12 sheet piles would be installed, if required, and pile driving activities would not take more than a few hours on a single day.

With regard to traffic noise modeling, noise impacts associated with increased traffic volumes generated by the project were evaluated for the following conditions:

- Existing conditions.
- Existing plus project conditions (existing plus year 2035 project trips).
- Cumulative (2035) no project conditions.
- Cumulative (2035) plus project conditions.

Modeling was conducted using the FHWA Traffic Noise Model (TNM) Version 2.5, and selected representative noise-sensitive receptors in the project area. This model calculates the traffic noise level of a roadway at specific receptors based on the traffic volume, roadway alignment (including topography and elevation changes), roadway speed, and vehicle mix that is predicted to occur under each condition. Peak-hour traffic volumes shown in Section 3.16, *Transportation/ Traffic*, and received from Fehr & Peers (for the cumulative

(2035) no project conditions, see Appendix B) were utilized to determine the traffic noise impacts along the project alignment. This information was supplemented with a related Fehr & Peers technical memorandum dated April 10, 2019, which reviewed the effects of newly proposed project phasing (Appendix B). This memo confirmed that operational level of service (LOS) impacts at study area intersections following Phase 1 improvements would be less than that identified for full project buildout.

The vehicle mix (i.e., the proportion of automobiles, trucks, buses, and other vehicles) used for existing, future, and project-related traffic that was included in the model was based on information from the project engineer. Traffic noise was evaluated in terms of how project-related traffic noise increases could affect existing noise-sensitive land uses along the project alignment. If the project would result in traffic noise that exceeds the compatibility guidelines for that land use (e.g., 60 L_{dn}/CNEL for residential land uses) and result in an increase of 3 dB or more, the impact would be considered significant. A change in 3 dB is considered to be the threshold of human perception for changes in noise levels.

Noise from point sources (e.g., construction equipment) was estimated using point-source attenuation of 6 dB per doubling of distance.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies.
- Expose persons to or generate excessive groundborne vibration or groundborne noise levels.
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels.
- Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels.

Impacts and Mitigation Measures

In general, both phases of the proposed project and Alternative 1 (one lane closure during construction) would result in the same types and levels of noise impacts. When impacts of phase would be different, the differences are noted in the impact summary table and analysis. Under Alternative 1, construction noise impacts would last for a longer period than would impacts of the proposed project. Alternative 2 (No Project) would not result in any new noise impacts and is not discussed further in this analysis.

Impact NOI-1	**Exposure of persons to or generation of noise levels in excess of applicable standards**
Applicable Policies and Regulations	City of Roseville General Plan 2035, Noise Element City of Roseville Noise Ordinance
Significance with Policies and Regulations	Proposed Project Construction: Phase 1: Less than Significant Phase 2: Potentially Significant Alternative 1: Potentially Significant Proposed Project Operation Phase 1: Less than Significant Phase 2: Less than Significant
Mitigation Measures	Proposed Project Construction Phase 1: Mitigation Measure NOI-1.1: Employ Noise-Reducing Construction Practices Phase 2: Mitigation Measure NOI-1.1: Employ Noise-Reducing Construction Practices Alternative 1: Mitigation Measure NOI-1.1: Employ Noise-Reducing Construction Practices
Significance after Mitigation	Proposed Project Construction Phase 1: Less than Significant Phase 2: Significant and Unavoidable with Mitigation (for nighttime construction noise). Alternative 1: Significant and Unavoidable with Mitigation (for nighttime construction noise).

<u>Proposed Project</u>

Construction Noise

Daytime Construction Noise

Construction activities for the proposed project could increase noise levels at nearby noise sensitive land uses in the project area. A variety of construction equipment would be used for project construction. Refer to Table 3.12-8 for a list of proposed construction equipment and associated dBA L_{max} noise levels at a distance of 50 feet. The typical utilization factor is also shown. This is the percentage of time each piece of construction equipment is typically operated at full power over the specified time period and is used to estimate L_{eq} values from

L_{max} values. For example, the L_{eq} value for a piece of equipment that operates at full power over 50% of the time is 3 dB less than the L_{max} value (Federal Highway Administration 2006).

Table 3.12-8. Project Construction Equipment L_{max} Noise Levels

Equipment	dBA L_{max} at 50 feet	Acoustical Utilization Factor (%)[a]
Excavator	81	40
Grader	85	40
Roller	80	20
Loader	79	40
Scraper	84	40
Tractors/Backhoe	78	40
Air Compressor	78	40
Generator Set	81	50
Hoe Ram	90	20
Plate Compactor	83	20
Pump	81	50
Forklift	79	40
Pavers	77	50
Pile driver	101	20

[a] Acoustical Utilization Factor (%) is the percentage of time each piece of construction equipment is typically operated at full power over the specified time period and is used to estimate L_{eq} values from L_{max} values

During Phase 2 construction, limited pile driving may need to occur near the existing Andora bridge in order to provide temporary shoring or bracing during construction activities in this area. If pile driving were to occur, it would occur for a period of less than one day. To provide a conservative analysis, it is assumed that pile driving may be conducted near the Andora bridge. Because pile driving would only be expected to occur during Phase 2 for one day, if at all, potential construction noise impacts from pile driving are analyzed separately from the reasonable worst-case construction noise impacts.

To model reasonable worst-case noise levels for project construction activities (excluding pile driving) for both Phase 1 and Phase 2, three of the loudest pieces of equipment proposed for project construction (a grader, a hoe ram, and a scraper) were assumed to be operating simultaneously and in close proximity to one another. Using the methodology described above, the simultaneous operation of a grader, a hoe ram and a scraper would result in noise levels of approximately 86 dBA L_{eq} at a distance of 50 feet. Refer to Table 3.12-9 below for the combined noise levels of the construction equipment at various distances.

Table 3.12-9. Reasonable Worst-Case Combined Construction Noise Levels

Source Data		Utilization Factor	Leq Sound Level (dBA)
Source 1: Grader - Sound level (dBA) at 50 feet =		40%	81
Source 2: Scraper - Sound level (dBA) at 50 feet =		40%	80
Source 3: Mounted Impact Hammer/Hoe Ram - Sound level (dBA) at 50 feet =		20%	83
All Sources Combined - Lmax sound level (dBA) at 50 feet =			92
All Sources Combined - Leq sound level (dBA) at 50 feet =			86
Distance Between Source and Receiver (ft.)	**Geometric Attenuation (dB)**	**Calculated Lmax Sound Level (dBA)**	**Calculated Leq Sound Level (dBA)**
50	0	92	86
100	-6	86	80
200	-12	80	74
250	-14	77	72
300	-16	76	71
400	-18	74	68
500	-20	72	66
600	-22	70	65
685	-23	69	64
700	-23	69	63
800	-24	68	62
900	-25	67	61
1,000	-26	66	60
1,200	-28	64	59
1,400	-29	63	57
1,600	-30	62	56
1,800	-31	61	55
2,000	-32	60	54
2,500	-34	58	52
3,000	-36	56	51

As discussed previously, it is possible that a pile driver would be used on a single day during Phase 2 project construction. If required for project construction, the pile driver would be located southwest of the existing Andora bridge. This would put the pile driver as close as 85 feet away from the nearest residential property line. A pile driver at this location could generate noise levels of about 96 dBA L_{max} and 89 dBA L_{eq} at the nearest residential land use.

Although project construction (both combined worst-case noise, and pile driving noise by itself) would generate noise that could be audible at nearby sensitive land uses, all construction along Washington Boulevard, as well as all construction activities completed by the City's construction contractor, would be limited to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday and 8 a.m. to 8 p.m. Saturday and Sunday. During these hours, private construction noise is exempt from the City noise limits provided that all equipment is fitted with factory installed muffling devices. Furthermore, under the noise ordinance, City operations and activities are entirely exempt from City noise regulation and therefore daytime project construction noise (and therefore all construction noise generated during Phase 1 and most construction noise generated during Phase 2) would not exceed applicable standards and related impacts would be less than significant. Although the impact would be less than significant, Mitigation Measure NOI-1.1 would be implemented to minimize construction noise to the degree feasible.

Nighttime Construction Noise

Although the vast majority of construction activities for the proposed project would occur during exempt daytime hours, it is possible that some limited construction by the UPRR would need to occur outside of these exempt hours. During Phase 2 construction, the UPRR would need to tie the temporary shoofly track into the existing permanent railroad track at the start of the construction window, and remove the tie-in at the end of the construction window. This activity, which would take place during a single day at the beginning and a single day at the end of the Phase 2 project construction window, would likely occur when the least amount of trains are likely to require access to the track, which could be during non-exempt (nighttime or early morning) hours.

To tie the shoofly into the existing railroad track, the UPRR would be expected to use two rubber-tired backhoes per tie-in (one tie-in at the north and one in the south) for most of the work, including setting ties and moving rails. This type of work would also require the use of a track-mounted tamper. This machine sets the ties and tamps (compacts) the ballast between the ties. For the purposes of this analysis, it is assumed that the rubber-tired backhoes and the track-mounted tamper would be operating simultaneously. It is estimated that the tamping machine would be operating for a total of approximately 4 hours at each of the two shoofly tie-in locations.

Although it is likely this will be daytime work, it cannot be known with certainty at this time. Should this work occur outside of the exempt daytime hours, noise levels at nearby noise sensitive receptors could be in excess of the thresholds that govern non-transportation noise during nighttime hours.

The nearest noise sensitive-land use to either of the proposed tie-in locations (one in the north and one in the south) is the residence at the northwestern end of Lone Oak Court, south of Pleasant Grove Boulevard, near the northern tie-in. The tie-in construction activities could occur as close as 70 feet from the closest residence in this area. There are no residential land uses located in close proximity to the tie-in location in the south.

The concurrent operation of two backhoes and a tamper could result in noise levels of approximately 81 dBA Leq at a distance of 50 feet.[1] Refer to Table 3.12-10 for a summary of the combined construction noise levels for the railroad tie-in activities.

[1] Note that a “ballast tamper” was used to represent a track-mounted tamper for this construction analysis.

Table 3.12-10. Railroad Tie-In Construction Noise Levels

Source Data	Maximum Sound Level (dBA)	Utilization Factor	Leq Sound Level (dBA)
Source 1: Backhoe - Sound level (dBA) at 50 feet =	78	40%	74.0
Source 2: Backhoe - Sound level (dBA) at 50 feet =	78	40%	74.0
Source 3: Ballast Tamper - Sound level (dBA) at 50 feet =	83	40%	79.0
Calculated Data:			
All Sources Combined - L_{max} sound level (dBA) at 50 feet =			85
All Sources Combined - L_{eq} sound level (dBA) at 50 feet =			81

Noise from construction tie-in activities would reduce to a level of 78 dBA L_{eq} at a distance of 70 feet, which is the potential closest distance to nearby noise-sensitive land uses. As mentioned previously, should this activity occur during daytime hours, the construction noise would be considered exempt from regulation and impacts would be less than significant. However, should these activities occur during non-exempt hours by UPRR crews (which are not afforded the same noise ordinance exemption as “city operations”), noise from these construction activities would likely exceed nighttime Noise Ordinance standards of 45 dBA L_{eq} and the 65 dBA L_{max}.

Even though UPRR construction activities at tie-in locations would only be expected to occur two times during Phase 2 construction, and even though these activities may occur during exempt daytime hours, it is possible that it could occur during non-exempt hours. Therefore, since it is possible that private construction by UPRR could occur outside of the exempt hours, and construction noise from these activities would result in noise levels of 78 dBA L_{eq} at nearby noise-sensitive land uses, construction activities for these tie-in installations could potentially exceed Noise Ordinance standards resulting in a significant Phase 2 construction noise impact.

Although Mitigation Measure NOI-1.1 would reduce the amount of noise generated by nighttime construction, Phase 2 private construction activities conducted by UPRR occurring outside of exempt hours would likely still result in noise levels in excess of the City’s 45 dBA L_{eq} nighttime threshold. Therefore, potential impacts related to Phase 2 nighttime construction noise are considered to be significant and unavoidable. Mitigation Measure NOI-1 would reduce the severity of the impact but not to a less-than-significant level.

Mitigation Measure NOI-1.1: Employ Noise-Reducing Construction Practices

When possible, the use of noise-generating construction equipment will be avoided outside of exempt hours in the City of Roseville. When not possible, construction contractors will specify noise-reducing construction practices that will be employed to reduce construction noise from construction activities that would occur during non-exempt hours. Measures specified by the contractors will be reviewed and approved by the City prior to construction activities. Measures that can be used to limit noise include, but are not limited to, those listed below.

- Locate construction equipment as far as feasible from noise-sensitive uses.
- Require that all construction equipment powered by gasoline or diesel engines have sound control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation.
- Do not idle inactive construction equipment for prolonged periods (i.e., more than 5 minutes).
- Prohibit gasoline or diesel engines from having unmuffled exhaust systems.
- Ensure that equipment and trucks used for project construction utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, intake silencers, ducts, engine enclosures, acoustically attenuating shields or shrouds) wherever feasible.

Traffic Noise

The proposed project would lead to an increase in traffic in the vicinity of the project area, as detailed in Section 3.16, *Transportation/Traffic*. Most of the noise-sensitive land uses in the project vicinity are residential land uses. According to the City's *General Plan 2035* Maximum Allowable Noise Exposure for Transportation Noise Sources (refer to Table 3.12-5), a noise level of up to 60 L_{dn}/CNEL at "Outdoor Activity Areas" associated with residential land uses is considered compatible (City of Roseville 2016).

As described in the *Methods for Analysis and Assumptions* subsection, if the proposed project would result in traffic noise that exceeds the compatibility guidelines for that land use (e.g., 60 L_{dn}/CNEL for residential land uses) and results in an increase of 3 dB or more, the impact would be considered significant. This is because a change in sound level of 3 dB is considered to be the threshold of human perception for changes in noise levels. As shown in Table 3.12-11, the traffic modeling results indicated that full buildout (Phases 1 and 2 combined) of the proposed project would not result in an increase of 3 dB or more (the delta from existing to existing plus project conditions) at any modeled sensitive receptor.

Table 3.12-11. Modeled Traffic Noise Levels at Noise-Sensitive Receptors

Receiver	Land Use	Existing (L_{dn})	Existing Plus Project (L_{dn})	Compatibility	Delta between Existing and Existing Plus Project	Potential Significant Impact (>3 dB increase in areas where compatibility is exceeded?)
M1	Residential	60.4	60.6	60	0.2	No
M2	Residential[a]	60.2	61.4	60	1.2	No
M3	Residential[a]	55.6	56.6	60	1.0	No
M4	Residential[a]	52.7	53.6	60	0.9	No
M5	Residential	58.1	59.1	60	1.0	No
M6	Residential[a]	55.3	55.9	60	0.6	No
M7	Residential[a]	49.6	50.5	60	0.9	No
M8	Residential	60.4	61.3	60	0.9	No
M9	Residential	62.1	63.0	60	0.9	No
M10	Residential	55.1	56.4	60	1.3	No
M11	Residential	54.5	55.5	60	1.0	No
M12	Residential[a]	57.3	58.0	60	0.7	No
M13	Residential	52.2	53.2	60	1.0	No
M14	Residential	50.2	51.1	60	0.9	No
M15	Residential[a]	61.2	61.8	60	0.6	No
M16	Residential	66.4	67.4	60	1.0	No
M17	Public Right-of-Way	68.5	69.7	NA	1.2	No
M18	Residential[a]	66.9	68.1	60	1.2	No
M19	Residential[a]	67.6	68.9	60	1.3	No
M20	Residential	66.3	68.0	60	1.7	No
M21	Residential	64.8	66.8	60	2.0	No
M22	Residential	53.8	54.5	60	0.7	No
M23	Residential	50.0	50.8	60	0.8	No
M24	Residential	55.4	57.2	60	1.8	No
M25	Residential	56.8	59.3	60	2.5	No
M26	Residential[a]	60.0	61.8	60	1.8	No
M27	Residential[a]	59.4	61.3	60	1.9	No
M28	Residential[a]	59.5	61.2	60	1.7	No
M29	Residential	58.6	60.5	60	1.9	No
M30	Residential	55.3	57.8	60	2.5	No
M31	Residential	52.5	53.2	60	0.7	No
M32	Residential[a]	46.3	47.3	60	1.0	No
M33	Residential	44.9	46.0	60	1.1	No
M34	Residential	44.2	45.3	60	1.1	No
M35	Residential	54.9	55.7	60	0.8	No

Receiver	Land Use	Existing (L_{dn})	Existing Plus Project (L_{dn})	Compatibility	Delta between Existing and Existing Plus Project	Potential Significant Impact (>3 dB increase in areas where compatibility is exceeded?)
M36	Residential	55.6	56.7	60	1.1	No
M37	Residential	56.7	58.0	60	1.3	No
M38	Residential	58.3	59.4	60	1.1	No
M39	Residential	57.7	58.8	60	1.1	No
M40	Residential[a]	58.0	59.2	60	1.2	No
M41	Residential	58.3	59.3	60	1.0	No
M42	Residential	58.3	59.6	60	1.3	No
M43	Residential	58.2	59.0	60	0.8	No
M44	Residential	64.4	64.5	60	0.1	No
M45	Residential[a]	65.1	65.2	60	0.1	No
M46	Trail	65.3	65.1	70	-0.2	No
M47	Residential	64.7	64.9	60	0.2	No
M48	Residential	62.6	63.3	60	0.7	No
M49	Residential	58.2	59.4	60	1.2	No
M50	Residential	61.0	62.1	60	1.1	No
M51	Residential	55.7	57.1	60	1.4	No
M52	Residential	66.9	67.3	60	0.4	No
M53	Residential	64.0	65.0	60	1.0	No
M54	Residential	63.9	64.5	60	0.6	No
M55	Residential[a]	49.2	50.4	60	1.2	No

[a] This receptor represents 2 to 3 total residences.

Because no noise-sensitive receptors would be exposed to a project-related operational traffic noise increase of 3 dB or more in areas where the compatibility standard is exceeded (or in areas where it is not exceeded), full buildout (Phases 1 and 2 combined) project traffic noise impacts would be less than significant. No mitigation is required.

Furthermore, the Fehr & Peers technical memorandum dated April 10, 2019 which reviewed the effects of project phasing on traffic and circulation (Appendix B) confirmed that: 1) Phase 1 improvements alone would not result in operational LOS impacts at study area intersections; and, 2) roadway volumes would be slightly less than those identified for full project buildout (because the Andora Underpass would not be widened). Because operational noise impacts are based on projected traffic volumes and because Phase 1 Washington Boulevard traffic volumes were found to be slightly less than full buildout volumes, Phase 1 operational noise impacts are also considered less than significant.

Note that although operational traffic noise impacts under CEQA would be less than significant, a sound wall may be installed adjacent to one residential area based on the noise analysis contained in the *Washington Boulevard/Andora Bridge Improvement Project Noise Study Report* for the proposed project (California Department of Transportation 2017).

As discussed in Chapter 2, *Project Description,* the potential wall would be located along residential property lines to the east of Washington Boulevard between Diamond Oaks Road and an existing concrete masonry wall just south of Pleasant Grove Boulevard.

Alternative 1

Construction Noise

Daytime Construction Noise

Although Phase 2 project construction would occur over a longer period of time under Alternative 1 due to one lane on Washington Boulevard remaining open during construction, worst-case daytime noise levels would be comparable to those analyzed under the proposed project. This is because, although the duration of construction may increase, the intensity of construction to occur on any given day would not be expected to increase. Further, under Alternative 1, as with the proposed project, all construction along Washington Boulevard as well as all construction activities completed by the City's construction contractor would be limited to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday and 8:00 a.m. to 8:00 p.m. Saturday and Sunday. During these hours, construction noise is exempt from the City noise limits provided that all equipment is fitted with factory installed muffling devices. Therefore, construction noise from all project construction activities completed by the City's construction contractor (including pile driving on a single day during Phase 2 construction) would occur during exempt daytime hours consistent with City noise regulations, and would result in less-than-significant noise impacts under Alternative 1.

Nighttime Construction Noise

Although overall project construction would occur over a longer period of time under Alternative 1 due to one lane on Washington Boulevard remaining open during construction, worst-case nighttime noise levels would be comparable to those analyzed under the proposed project as no additional nighttime construction would be proposed under this alternative. As with the proposed project, during Phase 2 construction it is possible under Alternative 1 that UPRR private construction activities at tie-in locations may occur during non-exempt nighttime hours. This type of nighttime construction activity would only be expected to occur a maximum of two times/two nights, and may even occur during daytime exempt hours. However, it is possible that construction would occur outside of the exempt hours. Because construction noise from these activities would result in noise levels of 78 dBA L_{eq} at nearby noise-sensitive land uses, potential nighttime construction activities for these tie-in installations could be inconsistent with City noise regulation resulting in potentially significant noise impacts for Alternative 1.

Although Mitigation Measure NOI-1.1 would reduce the amount of noise generated by nighttime construction, construction activities occurring outside of exempt hours would likely exceed applicable noise standards. Therefore, as was the case with the proposed project, potential impacts related to nighttime construction noise would be significant and unavoidable for Alternative 1.

Traffic Noise

Traffic noise impacts resulting from implementation of Alternative 1 would be the same as those described for the proposed project. No noise-sensitive receptors would be exposed to a project-related traffic noise increase of 3 dB or more in areas where the compatibility standard is exceeded or in areas where it is not exceeded. Therefore, as was the case for the proposed project, project traffic noise impacts would be less than significant for Alternative 1.

As discussed for the proposed project, although traffic noise impacts under CEQA would be less than significant for Alternative 1, a sound wall may be installed adjacent to one residential area based on the noise analysis contained in the Caltrans Noise Study Report for the proposed project. The potential wall would be located along residential property lines to the east of Washington Boulevard between Diamond Oaks Road and an existing concrete masonry wall just south of Pleasant Grove Boulevard.

Impact NOI-2	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels
Applicable Policies and Regulations	City of Roseville General Plan 2035, Noise Element City of Roseville Noise Ordinance
Significance with Policies and Regulations	Proposed Project: Potentially Significant Alternative 1: Potentially Significant
Mitigation Measures	Proposed Project and Alternative 1: Mitigation Measure NOI-2.1: Construction Vibration Control Measures
Significance after Mitigation	Proposed Project: Significant and Unavoidable with Mitigation (for vibration-related annoyance). Alternative 1: Significant and Unavoidable with Mitigation (for vibration-related annoyance).

<u>Proposed Project</u>

Vibration-Related Building Damage

With regard to potential vibration-related damage impacts, the damage threshold for older residential buildings is 0.3 PPV in/sec for continuous/frequent intermittent sources; the threshold for newer residential buildings is 0.5 PPV in/sec. Most of the proposed equipment for project construction would not generate substantial vibration. A pile driver, which may be used during Phase 2 construction near the railroad overcrossing, could generate enough vibration to have potential effects on nearby residences. This piece of equipment could be located as close as 100 feet from a nearby residential building and approximately 80 feet from the residential property line. However, at a distance of 100 feet, an impact pile driver would be expected to generate a vibration level of approximately 0.19 PPV in/sec, which is below the damage threshold of 0.3 PPV in/sec for older residential buildings and of 0.5 PPV in/sec for newer residential buildings. Therefore, pile driving operations would result in less-than-significant vibration impacts related to building damage.

A hoe ram is proposed to be used for bridge removal during Phase 2 project construction. The hoe ram would be used for approximately one week to remove the existing concrete bridge during the daytime. The nearest residential building (not property line) is located approximately 100 feet from the construction areas where the closest hoe ram activity may occur. A hoe ram has the potential to generate vibration levels of 0.011 PPV at a distance of 100 feet, which is well below the damage threshold for older residential buildings (0.3 PPV in/sec). Therefore, a hoe ram would result in less-than-significant vibration impacts related to building damage.

A vibratory roller, proposed for use during both phases of project construction, could generate vibration as well; however, this equipment would generate even less vibration than an impact pile driver. A vibratory roller could generate vibration levels of up to 0.026 PPV in/sec at a distance of 100 feet, which is well below the damage threshold for older residential buildings. Because none of the equipment proposed for use in either phase of project construction is expected to result in vibration impacts, vibration impacts related to building damage would be less than significant. No mitigation is required.

Vibration-Related Annoyance

Excessive levels of groundborne vibration of either a regular or an intermittent nature could result in annoyance to residential uses. As shown in Table 3.12-4, a vibration level of 0.04 PPV is considered “distinctly perceptible” for continuous/frequent intermittent sources of vibration (e.g., construction activity). Vibration that is distinctly perceptible at a residential land use is considered excessive and would be considered to result in a potentially significant impact related to vibration annoyance.

The hoe ram proposed to be used for bridge removal during Phase 2 construction would generate vibration. The nearest residential property line is located approximately 80 feet from the construction areas where the closest hoe ram activity may occur. A hoe ram has the potential to generate vibration levels of 0.015 PPV at a distance of 80 feet, which is below the “distinctly perceptible” (0.04 PPV) vibration level defined in Table 3.12-4. As a hoe ram is not expected to operate closer than 80 feet from a residential property line, vibration impacts related to annoyance from hoe ram activity to remove the existing bridge would be less than significant.

All construction equipment other than a pile driver are predicted to result in vibration levels of less than the 0.04 PPV in/sec distinctly perceptible level at distances of 100 feet. However, it is possible that vibration-generating construction equipment, such as a vibratory roller, could be operating as close as 25 feet from residential property lines during both Phases 1 and 2. A vibratory roller could generate vibration levels of 0.210 PPV in/sec at a distance of 25 feet, which is in excess of the distinctly perceptible level of 0.04 PPV in/sec. Therefore, non-impact construction equipment could generate excessive vibration levels at nearby residences.

In addition, with regard to vibration effects from impact equipment, the nearest residential property line is located approximately 80 feet from Phase 2 construction areas where pile driving may occur. An impact pile driver has the potential to generate vibration levels of 0.26 PPV at a distance of 80 feet, which is in excess of the "distinctly perceptible" (0.04 PPV) vibration level defined in Table 3.12-4. Although pile driving is only expected to occur during Phase 2 construction for a single day, making any potential vibration impacts from this activity very temporary, vibration levels from pile driving may be considered excessive at the residential land uses located east of the Andora bridge.

Because operation of non-impact construction equipment could potentially result in vibration that is excess of the distinctly perceptible threshold at nearby residences, and because pile driving activity could potentially result in vibration that is in excess of the distinctly perceptible threshold at the nearest residential property line (80 feet), Phase 1 and 2 construction vibration impacts related to annoyance would be potentially significant.

Implementation of Mitigation Measure NOI-2.1 would reduce potential vibration impacts at nearby residences by requiring measures that would reduce construction vibration. However, it may not be feasible to employ sufficient vibration control strategies to reduce vibration levels from project construction to below 0.04 PPV in/sec at nearby residences. For example, if pile driving is required during Phase 2 at the railroad overcrossing, or if a vibratory roller is used within 80 feet of an existing residential property line, implementation of this mitigation measure would not be expected to reduce vibration impacts to less-than-significant levels. Therefore, this impact would be significant and unavoidable.

Mitigation Measure NOI-2.1: Construction Vibration Control Measures

A construction vibration control plan will be prepared to reduce construction vibration levels at the adjacent residential land uses. The plan will require that the construction contractor conduct project construction such that groundborne vibration generated by construction is not readily perceptible at the adjacent residences (less than 0.04 PPV in/sec), where feasible. Measures specified by the contractors will be reviewed and approved by the City for feasibility prior to construction activities utilizing a pile driver or vibratory roller. Measures that can be employed to reduce vibration include:

- Operating heavy equipment as far as practical from residential uses.
- The use of smaller equipment or equipment that generates less vibration (e.g. using a non-vibratory roller in place of a vibratory roller) when construction activity must occur within approximately 80 feet of an existing residence.
- Limiting pile-driving activity to the extent feasible, and implementing "quiet" pile-driving technology (such as predrilling piles or using sonic or vibratory pile drivers) to the extent possible.

Alternative 1

Vibration-Related Building Damage

As this alternative would not bring any vibration-generating equipment closer to sensitive land uses than would occur with implementation of the proposed project, impacts related to vibration-related building damage would be the same under Alternative 1 as described for the proposed project. Because the same construction equipment in the same locations would be used for implementation of Alternative 1, and because none of the equipment analyzed above under the proposed project would be expected to result in vibration impacts related to building damage, this impact would be less than significant for Alternative 1.

Vibration-Related Annoyance

As this alternative would not bring any vibration-generating equipment closer to sensitive land uses than would occur with implementation of the proposed project, impacts related to vibration-related annoyance would be the same under Alternative 1. The operation of non-impact construction equipment could potentially result in vibration that is in excess of the distinctly perceptible threshold at nearby residences. Further, pile driving activity could potentially result in vibration that is in excess of the distinctly perceptible threshold at the nearest residential property line (80 feet). For these reasons, and as with the proposed project, vibration impacts related to annoyance would be potentially significant for Alternative 1.

Implementation of Mitigation Measure NOI-2.1 would reduce potential vibration impacts at nearby residences by requiring measures that would reduce construction vibration. However, it may not be feasible to employ sufficient vibration control strategies to reduce vibration levels from project construction to below 0.04 PPV in/sec at nearby residences for Alternative 1. For example, if pile driving is required during Phase 2 at the Andora bridge, or if a vibratory roller is used within 80 feet of an existing residential property line, implementation of this mitigation measure would not be expected to reduce vibration impacts to less-than-significant levels. Therefore, as is the case for the proposed project, this impact would be significant and unavoidable with mitigation under Alternative 1.

Impact NOI-3	**Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity**
Applicable Policies and Regulations	City of Roseville General Plan 2035, Noise Element City of Roseville Noise Ordinance
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

As described under Impact NOI-1, the proposed project would not result in traffic noise increases of 3 dB or more at any modeled sensitive receptor. Because no noise-sensitive receptors would be exposed to a project-related traffic noise increase of 3 dB or more in areas where the compatibility standard is exceeded (or in areas where it is not exceeded), project traffic noise impacts related to a substantial permanent increase in noise would be less than significant. No mitigation is required.

Alternative 1

Alternative 1 would result in the same operational traffic as the proposed project, and would similarly not result in a substantial permanent increase in traffic noise. As was the case for the proposed project, this impact would be less than significant for Alternative 1 and no mitigation is required.

Impact NOI-4	Creation of a substantial temporary or periodic increase in existing ambient noise levels in the project vicinity
Applicable Policies and Regulations	City of Roseville General Plan 2035, Noise Element City of Roseville Noise Ordinance
Significance with Policies and Regulations	Proposed Project: Potentially Significant Alternative 1: Potentially Significant
Mitigation Measures	Proposed Project and Alternative 1: Mitigation Measure NOI-1.1: Employ Noise-Reducing Construction Practices
Significance after Mitigation	Proposed Project: Significant and Unavoidable with Mitigation (for nighttime construction noise). Alternative 1: Significant and Unavoidable with Mitigation (for nighttime construction noise).

Temporary Train Noise Increases

Proposed Project

In addition to the roadway realignment associated with the proposed project, a temporary shoofly would be added to divert train traffic off the main UPRR track and overcrossing during Phase 2 project construction. This shoofly would be located up to 40 feet west/southwest of the existing UPRR track.

Because it would be located adjacent to and west/southwest of the existing railroad track, the shoofly track would be located closer to existing residences in the project vicinity. Specifically, the use of the temporary shoofly would bring train traffic closer to residences located along Hawthorne Loop west of the existing Andora bridge.

The centerline for the existing UPRR track is located approximately 115 feet away from the nearest residential land use (along Hawthorne Loop). It is possible that the shoofly track could bring trains as much as 25 to 30 feet closer to this residential area. For a line source, such as a railroad track, sound attenuates at a rate of 3 dB per doubling of distance. In addition, a change in sound level of 3 dB is considered to be just noticeable. Therefore, for the increase in train noise associated with the use of the shoofly to result in a perceptible difference (3 dB) in train noise to nearby residences, the distance between the train tracks at the sensitive receptor would have to be cut in half.

Because the shoofly would be bringing trains only 25 to 30 feet closer to noise-sensitive receptors from a starting distance of approximately 115 feet, trains operating along the temporary shoofly would not be expected to result in a perceptible difference in noise at residential land uses. Therefore, the use of a temporary shoofly track during Phase 2 construction would not be expected to result in a substantial temporary increase in train noise. Also, note that no permanent train noise increases would occur, as the improvements to the tracks would not directly result in an increased frequency of train trips on this track. Impact related to temporary train noise increases would be less than significant and no mitigation is required.

Alternative 1

Alternative 1 would result in the placement of the temporary shoofly in the same location as for the proposed project during Phase 2 construction. Therefore, like the proposed project, Alternative 1 would not result in a substantial temporary increase in train noise. This impact would be less than significant and no mitigation is required.

Temporary Construction Noise Increases

Proposed Project

As discussed under Impact NOI-1 above, all construction activities completed by the City's construction contractor would be limited to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday and 8:00 a.m. to 8:00 p.m. Saturday and Sunday. During these hours, construction noise is exempt from the City noise regulation provided that all equipment is fitted with factory installed muffling devices. Temporary noise increases that comply with the Noise Ordinance are not considered to be substantial. Therefore, as construction noise from activities completed by the City's construction contractor would occur during exempt daytime hours, temporary noise increases from these activities would not be considered substantial. Construction noise impacts related to a substantial temporary increase in noise during daytime hours would be less than significant.

As described under Impact NOI-1, it is possible that some construction activity for Phase 2 would be conducted by the UPRR outside of exempt hours (to tie the existing railroad track into the temporary shoofly track, and eventually remove the connection). This construction could result in noise levels of as much as 81 dBA L_{eq} at a distance of 50 feet, or 78 dBA L_{eq} at a distance of 70 feet (the nearest residential land use). Because construction is not exempt during nighttime hours, construction noise that occurs outside of exempt hours and is in excess of the nighttime 45 dBA L_{eq} threshold would constitute a substantial temporary increase in noise. Therefore, even though nighttime construction noise would only be expected to occur on two specific days during the entire project construction window, construction noise impacts related to a substantial temporary increase in noise during nighttime hours would be potentially significant.

Although implementation of Mitigation Measure NOI-1.1 would reduce construction noise (including construction noise during nighttime hours), construction occurring outside of exempt hours would likely still result in noise levels in excess of the City's 45 dBA L_{eq}

nighttime threshold, and would therefore not comply with the applicable noise regulations. For this reason, the increase in noise during nighttime hours would be expected to constitute a substantial temporary increase in noise, and impacts related to a substantial temporary increase in noise during nighttime hours would be significant and unavoidable

Alternative 1

Although the overall duration of construction activities would be longer for Alternative 1 than for the proposed project, the intensity of construction activities on any given day would not be expected to increase, resulting in comparable short-term and periodic increases in construction noise. Therefore, and as described for the proposed project above, daytime construction activities would be expected to comply with the applicable noise regulations, and construction noise impacts related to a substantial temporary increase in noise during daytime hours would be less than significant.

As also described for the proposed project above and under Impact NOI-1 above, it is possible that some private construction activity would be conducted by the UPRR outside of exempt hours in order to tie in the existing railroad track to the temporary shoofly track, and to subsequently remove the connection. This construction could result in noise levels of as much as 81 dBA L_{eq} at a distance of 50 feet, or 78 dBA L_{eq} at a distance of 70 feet (the nearest residential land use). Because construction is not exempt during nighttime hours, construction noise that occurs outside of exempt hours and therefore does not comply with the City Noise Ordinance would constitute a substantial temporary increase in noise. Therefore, even though nighttime construction noise would only be expected to occur on two specific days during the entire project construction window, construction noise impacts related to a substantial temporary increase in noise during nighttime hours for Alternative 1 would be the same as they would be under the proposed project, and would be potentially significant.

Although implementation of Mitigation Measure NOI-1.1 would reduce construction noise (including construction noise during nighttime hours) for Alternative 1, construction occurring outside of exempt hours would likely still result in noise levels in excess of the City's 45 dBA L_{eq} nighttime threshold, and would therefore not comply with the applicable noise regulations. For this reason, the increase in noise during nighttime hours would be expected to constitute a substantial temporary increase in noise, and impacts related to a substantial temporary increase in noise during nighttime hours would be significant and unavoidable.

Impact NOI-5	Presence of project-related activities within an airport land use plan area or within 2 miles of a public airport or public use airport, resulting in exposure of people residing or working in the project area to excessive noise levels
Applicable Policies and Regulations	City of Roseville General Plan 2035, Noise and Safety Elements City of Roseville Noise Ordinance
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

The nearest public airport to the project area is the McClellan Airfield, which is located over 7.5 miles southwest of the project area. According to the Noise Contour figure included in the Comprehensive Land Use Plan for the McClellan Airfield, the 60 dB CNEL airport noise contour does not encompass the project area; the edge of the project site is located over 2 miles away from the closest portion of the 60 dB CNEL contour, so noise levels at the project site would be much lower than 60 dB CNEL. Sacramento International Airport is located over 15 miles to the southwest of the project; no aircraft related noise impacts would occur at this distance. Therefore, there would be no impact related to noise from public use airports. No mitigation is required.

Alternative 1

Alternative 1 would be constructed in the same location as the proposed project and would similarly have no impact related to noise from public use airports. No mitigation is required.

Impact NOI-6	Presence of project-related activities in the vicinity of a private airstrip, resulting of exposure to people residing or working in the project area to excessive noise levels
Applicable Policies and Regulations	City of Roseville General Plan 2035, Noise and Safety Elements City of Roseville Noise Ordinance
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

There are no private airstrips located within two miles of the project site. As such, no effects related to airport noise from private airstrips would occur at the project site. There would be no impact related to noise from private airstrips. No mitigation is required.

Alternative 1

Alternative 1 would be constructed in the same location as the proposed project and would similarly have no impact related to airport noise from private airstrips. No mitigation is required.

3.12.4 References Cited

Printed References

California Department of Transportation. 2013. *Technical Noise Supplement*. September. Sacramento, CA: Environmental Program, Noise, Air Quality, and Hazardous Waste Management Office. Sacramento, CA. Available: http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013B.pdf. Accessed: October 6, 2015.

———. 2017. *Washington Boulevard/Andora Bridge Improvement Project Noise Study Report*. July. Roseville, CA.

Federal Highway Administration. 2006. Traffic Noise Model, Version 2.5. February. Washington D.C.

Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment*. FTA-VA-90-1003-06. Office of Planning and Environment. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf. Accessed: October 6, 2015.

3.13 Population and Housing

This section describes population and housing characteristics in the project area, and analyzes whether the proposed project would significantly change population or housing.

No comments related to population and housing were received in response to the Notice of Preparation for this EIR.

3.13.1 Existing Conditions

Regulatory Setting

No federal or state regulations regarding population and housing apply to the proposed project.

The following goal and policy from the Land Use Element of the City's *General Plan 2035* apply to the proposed project (City of Roseville 2016).

Goal 7, Growth Management. Potential population growth in Roseville must be based on the long-term carrying capacities and limits of the roadway system, sewer and water treatment facilities, and electrical utility service, as defined in the Circulation Element and the Public Facilities Element.

Policy 5. The City shall accommodate projected population and employment growth in areas where the appropriate level of public infrastructure and services are planned or will be made available concurrent with development.

Environmental Setting

The city of Roseville, along with the entire South Placer/Sacramento region, has and continues to experience significant growth. The City proactively manages and plans for growth, primarily through implementation of general plan land use policies. In January 2017, the population of Roseville was 135,868, which was a 1.7% increase from January 2016. Table 3.13-1 lists the population changes in Placer County and its incorporated cities between January 2016 and January 2017. Table 3.13-2 compares the populations of the census tracts and block groups that intersect with the project area with the city of Roseville, using the most current data available at the block-group level (2014). Figure 3.13-1 shows the census tracts and block groups.

Table 3.13-1. Population Changes for Placer County and Incorporated Cities between January 2016 and January 2017

County/City	January 2016 Population	January 2017 Population	% Change
Placer	376,203	382,837	1.8
Auburn	14,066	14,096	0.2
Colfax	2,054	2,070	0.8
Lincoln	47,268	48,165	1.9
Loomis	6,715	6,775	0.9
Rocklin	61,672	64,417	4.5
Roseville	133,618	135,868	1.7
Balance of County	110,810	111,446	0.6

Source: California Department of Finance 2017.

Table 3.13-2. Populations of the City of Roseville and the Census Tracts and Block Groups in the Study Area

Area	Total Population
City of Roseville	115,374
Tract 210.43	3,355
Block Group 1	1,500
Tract 210.46	4,754
Block Group 2	1,825
Block Group 3	2,119
Tract 210.03	6,210
Block Group 5	1,750
Tract 266	4,840
Block Group 1	4,840
Tract 210.34	4,369
Block Group 3	1,897

Source: U.S. Census Bureau, 2010–2014 American Community Survey, 5-Year Estimates.

3.13.2 Environmental Impacts

This section discusses the methods for analysis, potential environmental impacts, and impact determinations. The impact analysis for population and housing is based on whether implementation of the proposed project would result in changes to population trends or displacements.

Methods for Analysis

Identifying the project's impacts on population and housing involved a review of the City's General Plan 2035 and U.S. Census data for the project area, as well as a comparison of the project limits to existing right-of-way and ownership data.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure).
- Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere.
- Displace a substantial number of people, necessitating the construction of replacement housing elsewhere.

Impacts and Mitigation Measures

Both phases of the proposed project and Alternative 1 (one lane closure during construction) would result in similar impacts on population and housing. Alternative 2 (No Project) would not result in any impacts related to population and housing and is not discussed further in this section.

Impact POP-1	**Creation of substantial population growth either directly or indirectly**
Applicable Policies and Regulations	City of Roseville General Plan 2035, Land Use Element
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

Implementing the proposed project would involve widening 0.85 mile of Washington Boulevard from two to four lanes, widening the Andora Underpass, and improving bicycle and pedestrian facilities in the project area. The proposed project is intended to meet existing and future travel demand on Washington Boulevard. The proposed project would also provide a better and more continuous route for pedestrians and bicyclists. This type of change in access would not result in land use changes, and would not cause new businesses to relocate to the area, and would not stimulate additional development. The City has a strong, integrated structure that discourages premature and unplanned growth. In addition the City has provided land use designations to guide future growth in the study area, and new development must adhere to these land use designations.

Therefore, the proposed project would not create substantial population growth, and this impact would be less than significant. No mitigation is required.

Alternative 1

Alternative 1 would result in the same types of effects as described above for the proposed project. This impact would be less than significant and no mitigation is required.

Impact POP-2	**Displacement of a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere**
Applicable Policies and Regulations	City of Roseville General Plan 2035, Land Use Element
Significance with Policies and Regulations	Proposed Project: No impact Alternative 1: No impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No impact Alternative 1: No impact

Proposed Project

The proposed project would entail widening Washington Boulevard, replacing the Andora Underpass, and modifying the bicycle lanes and trails in the study area. Because the project would not remove housing, no displacement would result. There would be no impact. No mitigation is required.

Alternative 1

Alternative 1 would result in the same types of effects as described for the proposed project. There would be no impact and no mitigation is required.

Impact POP-3	Displacement of a substantial number of people, necessitating the construction of replacement housing elsewhere
Applicable Policies and Regulations	City of Roseville General Plan 2035, Land Use Element
Significance with Policies and Regulations	Proposed Project: No impact Alternative 1: No impact
Mitigation Measures	Proposed Project: None required Alternative 1: None required
Significance after Mitigation	Proposed Project: No impact Alternative 1: No impact

Proposed Project

As stated under Impact Pop-2, the proposed project would not remove housing or result in any displacement, and would not necessitate the construction of replacement housing. There would be no impact and no mitigation is required.

Alternative 1

Similar to the proposed project, Alternative 1 would not remove housing or result in any displacement, and would not necessitate the construction of replacement housing. There would be no impact and no mitigation is required.

3.13.3 References Cited

California Department of Finance. 2017. Report E-1. *Population Estimates for Cities, Counties, and the State*. January 1, 2016 and 2017. Available: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/. Accessed: December 18, 2017.

City of Roseville. 2016. *General Plan 2035*. Available: https://www.roseville.ca.us/UserFiles/Servers/Server_7964838/File/Government/Departments/Development%20Services/Planning/General%20Plan/02_Land_Use_Element%20%20ver.%202017-09.pdf. Accessed: December 18, 2017.

U.S. Census Bureau. *2010–2014 American Community Survey 5-Year Estimates*. Race. Available: https://factfinder.census.gov.

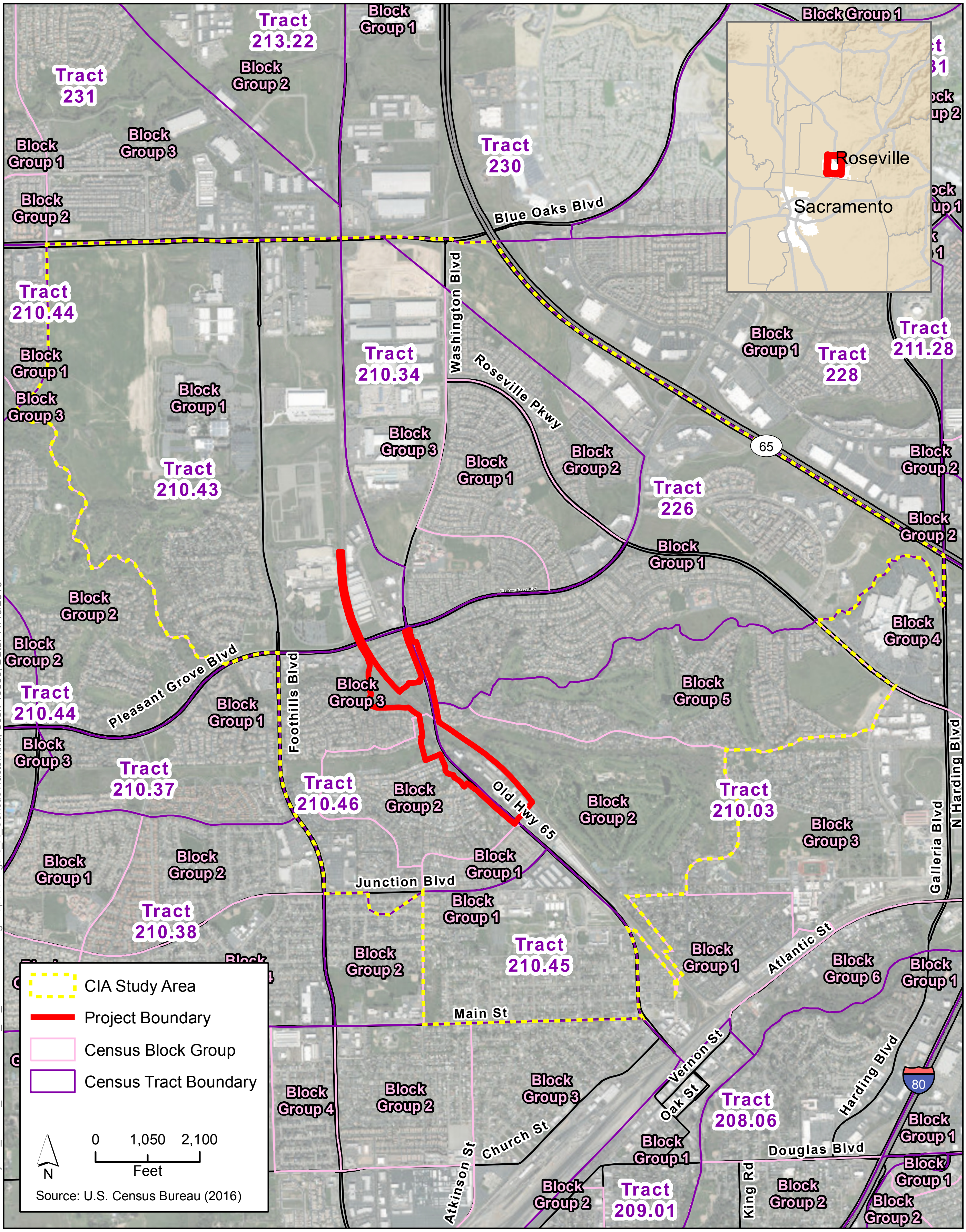


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Figure 3.13-1
CIA Study Area

3.14 Public Services

This section describes the regulatory and environmental setting for public services. It also describes the impacts on public services that would result from implementation of the proposed project.

No comments related to public services were received in response to the Notice of Preparation for this EIR.

3.14.1 Existing Conditions

Regulatory Setting

There are no relevant federal or state regulations for public facilities and services.

City General Plan 2035

The Land Use and Public Facilities Elements of the City's *General Plan 2035* contain goals and policies related to the provision of public services (City of Roseville 2016). The following goal and policies are applicable to the proposed project.

Land Use Element

Community Form Policy G3. Continue to provide a full range of public services and maintain high levels of service, as specified in other elements of this Plan, including the Public Facilities, Open Space and Conservation, Safety, Circulation and Parks and Recreation Elements.

Growth Management Policy G4. Growth shall be managed to ensure that adequate public facilities and services, as defined in the Public Facilities Element, are planned and provided and the public health, safety and welfare is protected.

Public Facilities Element

Public Library System Goal 2. Provide library services and locate library facilities to adequately serve all City residents.

The City's *General Plan 2035* contains no goals or policies specifically related to the provision of fire protection services, law enforcement services, or parks that are relevant to the proposed project.

3.14.2 Environmental Setting

Fire Protection

The City Fire Department provides fire protection services to the project area and operates 8 fire stations staffed by 133 personnel. The City Fire Department primarily responds to medical emergency calls but also provides fire protection and suppression, hazardous material management, and rescue services within Roseville, including the project area. The project site is within Fire Protection District 2, served by Fire Station No. 2, approximately

0.9 mile east of the project site at 1398 Junction Boulevard. Additional information on fire protection in the project area is presented in Section 3.8, *Hazards and Hazardous Materials*. The project's relationship to emergency access is addressed in Section 3.16, *Transportation/Traffic*.

Law Enforcement

The City Police Department, headquartered approximately 0.2 mile from the project area at 1051 Junction Boulevard, provides police protection services to Roseville. The department maintains a full service police department with approximately 197.5 full-time equivalent staff including 130 sworn officers. The City Police Department is responsible for patrol duty within the city limits, including parks and open space areas, responding to and investigating crimes and other calls for service, providing animal control services, and traffic safety (i.e., enforcing the Vehicle Code and responding to traffic collision or traffic hazard calls). The project's relationship to emergency access is addressed in Section 3.16, *Transportation/ Traffic*.

Schools

The project area is within the Roseville City Elementary School District and the Roseville Joint Union High School District. Over a dozen schools, including preschools, as well as elementary, middle, and high schools, are within a 2-mile radius of the project area. The nearest schools are Roseville Community Preschool, approximately 0.31 mile south of the project area, and Arbor View Montessori, approximately 0.36 mile west of the project area. The nearest elementary and middle schools are Woodbridge Elementary School and Buljan Middle School, approximately 0.5 mile south and 0.25 mile east of the project area, respectively. The nearest high schools to the project site are Roseville High School and Independence High School, on a shared campus approximately 1 mile east of the project area, and Woodcreek High School approximately 1.6 miles west of the project area.

Parks and Libraries

Roseville contains numerous recreational facilities, including open space preserves, parks, and other developed recreation facilities. The nearest park to the project area is Nelson Park, approximately 0.15 mile west of the project area. In addition, Buljan Park, an 8-acre neighborhood park adjacent to Buljan Middle School, is approximately 0.25 mile east of the project site, Webber Park, an approximately 5-acre neighborhood park located on the south side of Main Street, is approximately 0.4 mile south of the project site, and Woodbridge Park, an approximately 5-acre neighborhood park near Roseville High School is approximately 0.3 mile east of the project site. Two public golf courses, Diamond Oaks Municipal Golf Course and Woodcreek Golf Club, and one private golf and tennis club, Sierra View Country Club, are near the project area. Diamond Oaks Municipal Golf Course is adjacent to the project area, just east of Derek Place. Woodcreek Golf Club is approximately 0.7 mile northwest of the project area, and Sierra View Country Club is immediately south of Diamond Oaks Golf Course, southeast of the project area. Parks and recreational facilities are discussed in detail in Section 3.15, *Recreation*.

The project area is in the Roseville Public Library system, which has three facilities in Roseville. The nearest library is the Martha Riley Community Library, approximately 1.4 miles west of the project area at 1501 Pleasant Grove Boulevard.

3.14.3 Environmental Impacts

This section discusses the methods for analysis, potential environmental impacts, and impact determinations. The impact analysis for public services is based on whether implementation of the proposed project would result in a need for additional services, which could in turn lead to the need for additional staffing or facilities.

Methods for Analysis

Identifying the project's impacts on public services involved a review of the City's General Plan 2035, as well as identifying the relevant local public services and the locations of their facilities.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a 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 following public services:
    - Fire protection
    - Police protection
    - Schools
    - Parks
    - Other public facilities

Impacts and Mitigation Measures

Both phases of the proposed project and Alternative 1 (one lane closure during construction) would result in similar impacts on public services. Alternative 1 is distinguished by having a less severe impact on emergency response times during construction. Alternative 2 (No Project) would not result in any impacts on public services and is not discussed further in this section.

Impact PS-1	Creation of a need for new or physically altered governmental facilities to maintain acceptable service ratios, response times, or other performance objectives for fire protection, police protection, schools, parks, or other public facilities
Applicable Policies and Regulations	City of Roseville General Plan 2035, Land Use Element City of Roseville General Plan 2035, Public Facilities Element
Significance with Policies and Regulations	Proposed Project: No impact Alternative 1: No impact
Mitigation Measures	Proposed Project: None required Alternative 1: None required
Significance after Mitigation	Proposed Project: No impact Alternative 1: No impact

Proposed Project

Fire Protection and Police Protection

Project construction would require the complete closure of Washington Boulevard to all vehicular traffic from directly north of Kaseberg Drive to directly south of Diamond Oaks Road for up to 6 months, potentially affecting fire department response times in the area. However, as described in Chapter 2, Section 2.5.7, *Best Management Practices*, the City would implement a construction traffic management plan (TMP) as part of the project. The construction TMP would address emergency vehicle response, and would include performance standards related to the adequacy of emergency vehicle response that must be maintained at all times during construction. As part of the construction TMP, the City Police and Fire Departments would coordinate with the City's Engineering and Development Services Departments to ensure that all potential effects of the closure have been addressed, including emergency vehicle routing, temporary changes in fire station servicing areas, and emergency vehicle pre-emption at signalized intersections. The construction TMP also would require notifications to the City Police and Fire Departments 48 hours in advance of any temporary lane restrictions or closures to install utility improvements for the project.

Upon completion of construction, the proposed project would result in the widening of an existing roadway, reducing traffic congestion and allowing for formal passing opportunities. This would be safer, more reliable, and more efficient for emergency service providers. Furthermore, because the proposed project would not increase the population in the project vicinity or include operational elements that would contribute to increased fire risk, no increase in police or fire department staffing or facilities would be necessary to serve the project. Therefore, the proposed project would not result in a need for new or physically altered facilities in order to maintain acceptable police and fire protection service ratios, response times, or other performance objectives. There would be no impact, and no mitigation is required.

Schools, Parks and Other Public Facilities

Because the proposed project would not result in a population increase that would affect demand for schools or park facilities, it would not result in the need for new or physically altered schools, parks, or other public facilities. There would be no impact, and no mitigation is required.

Alternative 1

Fire Protection and Police Protection

Construction activities associated with Alternative 1 would involve the closure of one lane of Washington Boulevard between Kaseberg Drive and Diamond Oaks Road for approximately 20 to 24 months, rather than the full closure associated with the proposed project. As with the proposed project, the City would implement a construction TMP (described in Section 2.5.7, *Best Management Practices*). The construction TMP would address emergency vehicle access and response, and would include performance standards related to the adequacy of police and fire protection response that must be maintained at all times during construction. Furthermore, because Washington Boulevard would remain open to a limited degree during construction, the impact of Alternative 1 on emergency vehicle response would be less than the impact of the proposed project.

Operation of a widened 0.85-mile segment of Washington Boulevard would not increase the number of residents in the project vicinity or include operational elements that would affect the need for police protection or fire protection. Therefore, the proposed project would not result in a need for new or physically altered police or fire protection facilities in order to maintain acceptable service ratios, response times, or other performance objectives. There would be no impact, and no mitigation is required.

Upon completion of construction, Alternative 1 would have physical conditions similar to those of the proposed project. However, because Alternative would not result in full closure of Washington Boulevard during construction, it would have a less severe impact on fire and police emergency response times than the proposed project. There would be no impact, and no mitigation is required.

Schools, Parks and Other Public Facilities

Because Alternative 1, like the proposed project, would not result in a population increase that would affect demand for schools or park facilities, it would not result in the need for new or physically altered schools, parks, or other public facilities. There would be no impact, and no mitigation is required.

3.14.4 References Cited

City of Roseville. 2016. *General Plan 2035, Land Use and Public Facilities Elements*. Available: https://www.roseville.ca.us/government/departments/development_services/planning/general_plan_development_guidelines/. Accessed: December 5, 2017.

3.15 Recreation

This section describes existing recreational uses in the project area and vicinity, and impacts that would result from the proposed project. This section is based in part on the *Washington Boulevard/Andora Bridge Widening Project Section 4(f)*, a technical study prepared by the California Department of Transportation (2017).

Comments related to recreation were received in response to the Notice of Preparation for this EIR, and requested the addition of bicycle and multiuse paths. Additional Class I bike trail facilities have been added to the project since release of the Notice of Preparation and are addressed in Chapter 2, *Project Description*.

3.15.1 Existing Conditions

Regulatory Setting

No federal or state regulations regarding recreation apply to the project area. The following goals and policies from the City's *General Plan 2035* apply to the proposed project (City of Roseville 2016).

Open Space and Conservation Element

Open Space System

Goal 1. Establish a comprehensive system of public and private open space, including interconnected open space corridors that should include oak woodlands, riparian areas, grasslands, wetlands, and other open space resources.

Policy 1. Provide an interconnecting system of open space corridors that, where feasible, incorporate bikeways and pedestrian paths.

Policy 2. Provide interconnected open space corridors between open space and habitat resources, recreation areas, schools, employment, commercial service and residential areas.

Policy 10. Consider the use of open space for the location of flood control facilities where such facilities allow compatible passive recreational use and resource preservation.

Circulation Element

Bikeways/Trails

Goal 1. Increase the percentage of all trips made by bicycles in Roseville.

Goal 2. Establish and maintain a safe, comprehensive and integrated bikeway and trail system that encourages the use of bikes and walking for commuting, recreational and other trips.

Policy 1. Develop a comprehensive and safe system of recreational and commuter bicycle routes and trails that provides connections between the City's major employment and housing areas and between its existing and planned bikeways.

Environmental Setting

The project vicinity contains several park, recreational, and open space areas.

Buljan Park is an 8-acre neighborhood park owned and maintained by the City at 150 Hallissy Drive. The park is adjacent to and east of the George A. Buljan Middle School. Facilities include picnic areas with barbeques, restrooms, paved pathways, a play area, baseball/softball fields, soccer overlay, and off-street parking (City of Roseville 2017a). Buljan Park is approximately 0.3 mile northeast of the road widening segment and approximately 0.4 mile east of the temporary shoofly that would be north of Pleasant Grove Boulevard.

Nelson Park is a neighborhood park owned and maintained by the City. The park is at 1213 South Bluff Drive and contains 1.5 acres of developed parklands and 8 acres of undeveloped parklands. The developed portion of the park is south of South Bluff Drive, approximately 0.16 mile west of the UPRR and 0.27 mile west of Washington Boulevard. Facilities include a half court for basketball, picnic areas, a play area with swings, and a water play area (City of Roseville 2017a). The playground area is planned to undergo rehabilitation that will include replacing the existing play equipment and swings, water feature, and new independent fitness features (City of Roseville 2017b).

The undeveloped portion of Nelson Park is north of South Bluff Drive and in the open space area along South Branch Pleasant Grove Creek. This portion extends north to the Arbor View Village business park on Pleasant Grove Boulevard, is adjacent to the UPRR right-of-way, and approximately 0.13 mile west of Washington Boulevard. The undeveloped portion of the park consists primarily of annual grasslands with scattered seasonal wetlands.

Webber Park, an approximately 5-acre neighborhood park located on the south side of Main Street, is approximately 0.4 miles south of the project site. The park has playgrounds, baseball and basketball facilities, picnic areas with barbeques, restrooms, swings, and open turf (City of Roseville 2017a).

Buljan Park is located off Washington Boulevard and Hallissy Drive, approximately 0.3 mile northeast of the road widening segment and approximately 0.4 mile east of the temporary shoofly that would be north of Pleasant Grove Boulevard. Facilities include a baseball field, playground, restrooms, soccer field, swings, open turf and picnic and barbeque area.

Woodbridge Park, an approximately 5-acre neighborhood park near Roseville High School is approximately 0.3 miles east of the project site off Sequoia Avenue and Sierra Boulevard. Facilities include a playground, basketball half court, restrooms, horseshoe pit, swings, a multiuse field, open turf, tennis courts, and covered picnic areas.

Diamond Oaks Golf Course is under the jurisdiction of the City's Parks and Recreation Department. It is adjacent to the project limits, just east of Derek Place. Woodcreek Golf Club is approximately 0.7 mile northwest of the project limits.

Pedestrian and bicycle facilities in the project area include a paved bike path that travels from Derek Place under the UPRR structure, and existing Class I bicycle facilities on the east side of Washington Boulevard.

3.15.2 Environmental Impacts

This section describes the CEQA impact analysis relating to recreation for the proposed project. It describes the methods used to determine the project's potential impacts and lists the criteria thresholds used to conclude whether an effect would be significant.

Methods for Analysis

The City's *General Plan 2035* (City of Roseville 2016) was reviewed to determine conflicts with recreational goals and policies. Existing land use maps were compared with the project description to identify any changes in land use.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant impact if it would result in any of the conditions listed below.

- 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.
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Impacts and Mitigation Measures

Both phases of the proposed project and Alternative 1 (one lane closure during construction) would result in similar impacts on recreational facilities. Alternative 2 (No Project) would not result in any impacts on recreational facilities and is not discussed further in this section.

Impact REC-1	**Increased use of existing recreational facilities, resulting in substantial physical deterioration**
Applicable Policies and Regulations	City of Roseville General Plan 2035, Circulation Element City of Roseville General Plan 2035, Open Space and Conservation Element
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project: None required Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

There would be no increase in population associated with the proposed project that would result in deterioration or over-use of existing recreational facilities. Rather, the project would improve existing pedestrian and bicycle facilities in the project area, and provide new facilities to enhance connectivity and safety. The parks and recreational facilities in the vicinity may experience some temporary construction noise and views of construction equipment, but there would be no changes in access. The construction noise and the presence of construction equipment and activity would be intermittent and short term. This impact would be less than significant, and no mitigation is required.

Alternative 1

Alternative 1 would result in the same types of impacts on existing recreational facilities as described for the proposed project. This impact would be less than significant, and no mitigation is required.

Impact REC-2	**Construction or expansion of recreational facilities that might have an adverse physical effect on the environment**
Applicable Policies and Regulations	City of Roseville General Plan 2035, Circulation Element City of Roseville General Plan 2035, Open Space and Conservation Element
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project: None required Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

The proposed project would entail improving bicycle and pedestrian facilities in the project area. The project would provide a more continuous route for pedestrians and bicyclists on Washington Boulevard than the existing detour on Derek Place. The project would also add Class II bike lanes along both sides of Washington Boulevard, expand the existing Class I bike path on the east side of Washington Boulevard south to All-America City Boulevard, and add a new multiuse path on the west side of Washington Boulevard between Emerald Oaks Road and Kaseberg Drive. Although the existing bicycle/pedestrian crossing under UPRR would be removed, a new connection between the existing Derek Place bike path to the new Class I bike path along Washington Boulevard would be constructed.

The proposed project consists of transportation enhancements for all modes. Most of the work would take place within existing right-of-way. The new bicycle and pedestrian pathways would be located along the widened Washington Boulevard, primarily within nonnative annual grassland and would not result in adverse physical effects on the environment. This impact would be less than significant, and no mitigation is required.

Alternative 1

Alternative 1 would result in the same type of impacts related to the construction or expansion of recreational facilities as described for the proposed project. The impact would be less than significant, and no mitigation is required.

3.15.3 References Cited

California Department of Transportation. 2017. *Washington Boulevard/Andora Bridge Improvement Project Section 4(f): Resources Evaluated Relative to the Requirements of Section 4(f)*. May.

City of Roseville. 2016. *General Plan 2035*. Adopted June 15, 2016. Available: https://www.roseville.ca.us/government/departments/development_services/planning/general_plan_development_guidelines/. Accessed December 20, 2017.

———. 2017a. Parks in Roseville webpage. Available: http://www.roseville.ca.us/parks/parks_n_facilities/parks_in_roseville/default.asp. Accessed: January 18, 2017.

———. 2017b. Parks and Facilities in the Works. Available: http://www.roseville.ca.us/parks/parks_n_facilities/planning_our_parks/parks_in_the_works.asp. Accessed January 31, 2017.

3.16 Transportation/Traffic

This section describes the regulatory and environmental setting in the study area for transportation and traffic. It also describes the impacts on transportation and traffic that would result from project implementation, and presents mitigation for significant impacts where feasible and appropriate. The information presented in this section is based on the Fehr & Peers 2018 *Final Transportation Study for the Washington/Andora Widening Project* and related technical memorandum dated April 10, 2019, both of which are in Appendix B.

The following Notice of Preparation transportation and circulation comments are addressed in this section.

- Existing difficulty with accessing the Diamond K Estates from Washington Boulevard and the potential for the proposed project to increase that difficulty (see Impact TRA-1).
- Limited emergency egress from Diamond K Estates (see Impact TRA-5).
- Diamond K Estates access during the Phase 2 Washington Boulevard construction closure (see Impact TRA-1).
- Installing a traffic signal or stop sign at the intersection of Washington Boulevard and Kaseberg Drive (see Impact TRA-1).
- Closing Washington Boulevard for 4 months to speed project completion (see Impact TRA-1).

3.16.1 Existing Conditions

Regulatory Setting

Federal

No federal transportation regulations directly apply to the proposed project.

State

No state transportation regulations directly apply to the proposed project.

Local

The following transportation plans, policies, and regulations that guide transportation planning in Roseville are applicable to the proposed project.

Placer County 2036 Regional Transportation Plan

The Placer County Transportation Planning Agency (PCTPA) is the designated congestion management agency and regional transportation planning agency for unincorporated Placer County and its six incorporated cities, excluding the Tahoe basin. PCTPA is also the designated administrator of the South Placer Regional Transportation Authority, which is a

Joint Powers Authority consisting of the Cities of Lincoln, Rocklin, and Roseville, and the County of Placer.

The PCTPA's *Placer County 2036 Regional Transportation Plan* (RTP) establishes goals, objectives, policy direction, and an implementation plan to guide the development of the region's transportation system for a 20-year period (Placer County Transportation Planning Agency 2016). The RTP is intended to address a variety of motorized and non-motorized transportation system issues within Placer County, including traffic congestion, traffic safety, roadway design, public transit, and bicycle and pedestrian facilities. The RTP contains the following relevant goals, objectives, and policies.

Goal 1. Highways/Streets/Roadways. Maintain and upgrade a safe, efficient, and convenient countywide roadway system that meets the travel needs of people and the movement of goods through and within the region.

Objective 1.A. Identify and prioritize improvements to the roadway system.

Policy 1.A.1. Work with Caltrans and local jurisdictions to identify roadways in need of major upgrading to meet standards for safety and design, maximize system efficiency and effectiveness, and plan their improvement through regional planning, corridor system management planning, and capital improvement programming.

Objective 1.B. Construct, maintain, and upgrade roadways to meet current safety standards.

Policy 1.B.2. Prioritize roadway projects, including maintenance and repair, required to maintain safety standards.

Goal 6: Active and Alternative Transportation (NEVS). Promote a safe, convenient, and efficient transportation system for bicyclists, pedestrians, and users of low speed vehicles, as part of a balanced overall transportation system.

Objective 6.A. Plan and develop a continuous and easily-accessible bicycle, pedestrian, and low-speed vehicle system within the region.

Policy 6.A.3. Consider Class I and II bikeways as preferred linkages in the bicycle facilities network. Use Class III bike routes as connectors only when necessary.

Objective 6.B. Provide a bicycle, pedestrian, and low-speed vehicle system that emphasizes the safety of people and property.

Objective 6.C. Integrate pedestrian, bicycle, and low-speed vehicle facilities into a multi-modal transportation system that encourages alternatives to driving alone.

Policy 6.C.1. Improvements to the existing roadway network should consider provisions to properly accommodate bicycles, pedestrians, and NEVs.

Policy 6.C.2. Priority should be placed on roadway and street designs that avoid collisions between bicycles, autos, NEVs, and pedestrians.

Policy 6.C.3. Encourage jurisdictions to build complete street improvement projects, which incorporate bicycle, pedestrian, and transit facilities.

Placer County Congestion Management Program

As the designated Congestion Management Agency for Placer County, PCTPA, in partnership with the City, implements the Placer County Congestion Management Program (CMP). Through the CMP, PCTPA provides employers, residents, and schools with educational and outreach efforts about alternative transportation modes. The CMP promotes the benefits of alternative transportation modes, with the goal of reducing single-occupant automobile commute trips and vehicle miles traveled (VMT). The CMP provides incentives to encourage the use of pedestrian and bikeway facilities by commuters, including bicycle safety and maintenance clinics, a Spare the Air campaign, and participation in regional campaigns such as May is Bike Month and Smart Commute Month. In addition, the CMP includes an emergency ride home program for employees that use alternative transportation, and educates schoolchildren and their parents about the benefits of walking to school and using alternative transportation. The CMP also educates residents about public transit services in Placer County.

City General Plan 2035

The Circulation Element of the City's *General Plan 2035* establishes the functional classifications and level of service (LOS) goals for roadways within Roseville and contains goals and policies related to the provision of public services (City of Roseville 2016). The Circulation Element contains a list of intersections that operate at LOS D or worse during the AM and PM peak hours. This list includes the Washington Boulevard/Pleasant Grove Boulevard intersection, the Foothills Boulevard/Pleasant Grove Boulevard intersection, the Roseville Parkway/Galleria Boulevard intersection, and the Roseville Parkway/Reserve Drive intersection, all of which operate at LOS D during the PM peak hour.

The following general plan Circulation Element goals and policies are applicable to the proposed project.

Level of Service Goal 1. Maintain an adequate level of transportation service for all of Roseville's residents and employees through a balanced transportation system, which considers automobiles, transit, bicyclists, and pedestrians.

Level of Service Policy 1. Maintain a level of service (LOS) "C" standard at a minimum of 70% of all signalized intersections and roadway segments in the City during the a.m. and p.m. peak hours. Exceptions to the LOS "C" standard may be considered for intersections where the City finds that the required improvements are unacceptable based on established criteria identified in the implementation measures. In addition, Pedestrian Districts may be exempted from the LOS standard.

Level of Service Policy 2. Strive to meet the level of service standards through a balanced transportation system that reduces the auto emissions that contribute to climate change by providing alternatives to the automobile and avoiding excessive vehicle congestion through roadway improvements, Intelligent Transportation Systems, and transit improvements.

Transit Goal 1. Promote a safe, convenient and efficient mass transit system, utilizing both bus and rail modes, to reduce congestion, reduce auto emissions, including emissions that contribute to climate change, improve the environment, and provide viable non-automotive means of transportation in and through Roseville.

Transportation Systems Management Goal 1. Reduce travel demand on the City's roadway system.

Transportation Systems Management Goal 2. Reduce total vehicle emissions in the City of Roseville and the South Placer County region.

Transportation Systems Management Policy 1. Continue to enforce the City's TSM ordinance and monitor its effectiveness.

Bikeways/Trails Goal 1. Increase the percentage of all trips made by bicycles in Roseville.

Bikeways/Trails Goal 2. Establish and maintain a safe, comprehensive and integrated bikeway and trail system that encourages the use of bikes and walking for commuting, recreational and other trips.

Bikeways/Trails Policy 1. Develop a comprehensive and safe system of recreational and commuter bicycle routes and trails that provides connections between the City's major employment and housing areas and between its existing and planned bikeways.

City of Roseville 2008 Bicycle Master Plan

The City's *2008 Bicycle Master Plan* establishes bikeway policies, programs, and development standards related to the safety and integration of bicycle facilities into the transportation network in Roseville (City of Roseville 2008). The following *2008 Bicycle Master Plan* goals and policies are applicable to the proposed project.

Bikeway Route Development

Goal 1. Achieve a balanced transportation system that, consistent with the Roseville General Plan Circulation Element and Smart Choices for Roseville's Future: Implementation Strategies to Achieve Blueprint Project Objectives, provides Roseville residents a variety of transportation choices, including automobile, transit, bicycle, and pedestrian options.

Goal 2. Establish a safe, comfortable, convenient and highly-connected bikeway system that meets the transportation and recreation needs of avid, regular, youth and beginning bike riders, while balancing the needs of other transportation types including automobiles, train, transit and pedestrians.

Policy 2. The bikeway system should provide convenient and comfortable connections between residential areas, schools, parks, public transit stops, shopping centers, employment centers and other uses.

Policy 6. Class I off-street bike paths are preferred when they result in bikeway continuity, safe and preferably separated crossings of major roads, and minimal traffic crossflow.

Environmental Setting

This section describes existing transportation facilities in the transportation and traffic study area, including roadways and intersections, bicycle and pedestrian facilities, and available transit service.

Study Area Roadway Network

The transportation and traffic study area extends along the Washington Boulevard corridor from Pleasant Grove Boulevard to Junction Boulevard (Figure 3.16-1). In addition to the roadway network, Figure 3.16-1 shows six elementary or middle schools located in the project vicinity. This figure also shows the locations of nearby golf courses and fire stations. Although not shown on Figure 3.16-1, Roseville High School, which is located beyond the limits of the map at the terminus of Sierra Boulevard at Tiger Way, is frequently accessed via Washington Boulevard.

The City's *General Plan 2035* designates a roadway classification system for the existing roadway network in the city. It includes freeway, arterial, collector, local, and residential roadway types. Figure 3.16-2 shows the existing study area roadway network, and presents the number of travel lanes along segments of Washington Boulevard and on other nearby roadways.

Washington Boulevard. Within the study area, Washington Boulevard is primarily a two-lane arterial roadway with a posted speed limit of 45 miles per hour (mph). It has an 85th percentile vehicle speed of 51 mph based on a survey conducted by the City in January 2014.

Washington Boulevard transitions from four to two travel lanes a short distance south of Pleasant Grove Boulevard. Similarly, it transitions from four to two travel lanes a short distance north of Sawtell Road/Derek Place. Washington Boulevard is a two-lane undivided roadway with limited shoulders at the Andora Underpass.

Pleasant Grove Boulevard between Winslow Drive and Washington Boulevard, and between Glenwood Circle/Firestone Drive and Washington Boulevard. Within the study area, Pleasant Grove Boulevard is a six-lane east-west arterial roadway. Pleasant Grove Boulevard intersects Washington Boulevard near the north end of the study area. At Foothills Boulevard, approximately 0.5 mile west of Washington Boulevard, Pleasant Grove Boulevard transitions from six to four lanes.

Diamond Oaks Road between Glenwood Circle/Firestone Drive and Washington Boulevard. Diamond Oaks Road, a two-lane east-west collector roadway, bisects the Diamond Oaks neighborhood and extends approximately 1.8 miles between Washington Boulevard on the west and Reserve Drive on the east.

Junction Boulevard between Washington Boulevard and Corporation Yard Road. Junction Boulevard within the study area is a four-lane east-west arterial, near the southern end of the study area. Washington Boulevard serves as the eastern terminus of Junction Boulevard.

Foothills Boulevard between Pleasant Grove Boulevard and South Bluff Drive/Beckett Drive. Foothills Boulevard roughly parallels Washington Boulevard, running in a north-south direction to the west of Washington Boulevard. Within the study area, Foothills Boulevard's distance from Washington Boulevard ranges from approximately 0.5 mile at Pleasant Grove Boulevard to 0.9 mile at Junction Boulevard. Foothills Boulevard is primarily a six-lane arterial roadway.

Study Area Intersections

The following five intersections located along the project corridor were selected for study (refer to Figure 3.16-1).

1. Washington Boulevard/Pleasant Grove Boulevard.
2. Washington Boulevard/Diamond Oaks Road.
3. Washington Boulevard/Kaseberg Drive (private).
4. Washington Boulevard/Sawtell Road.
5. Washington Boulevard/Junction Boulevard.

Although the proposed widening would not extend through study intersections 1, 4, and 5, they were included in the study area because of the potential that the project would result in a shift in traffic away from other roadways, thereby adding traffic to these facilities. For the analysis of temporary impacts associated with construction-related closures of Washington Boulevard, the study area has been expanded to include key intersections along Foothills Boulevard, Pleasant Grove Boulevard, and Roseville Parkway.

Bicycle and Pedestrian Facilities

The following bicycle facilities are present along the Washington Boulevard corridor:

- Northbound: No designated bicycle facilities are present along Washington Boulevard. However, a two-way Class I multiuse path exists on the east side of Washington Boulevard extending northerly from the Derek Place cul-de-sac to Pleasant Grove Boulevard. This Class I facility includes a tunnel under the UPRR tracks. To advise bicyclists and pedestrians of the opportunity to use the Class 1 path and tunnel rather than the narrow Washington Boulevard/Andora Underpass, a “Bicycles Not Advised in Underpass” sign is posted on northbound Washington just prior to Derek Place.
- Southbound: A Class II on-street bike lane extends for a short segment south of Pleasant Grove Boulevard and terminates prior to Diamond Oaks Road. A sign is present in the southbound direction stating the following: “Bicycles Not Advised in Underpass.” Southbound bicyclists can access the Class I path on the east side by either traveling with traffic and turning left at Diamond Oaks Road or remaining on the west side of the street and using the crosswalk to cross to the east side of the street.

No designated pedestrian facilities are present on the east side of Washington Boulevard north of Sawtell Road with the exception of the portion of the two-way Class I multiuse path located north of Diamond Oaks Road. A sidewalk is located on the west side of Washington Boulevard between Pleasant Grove Boulevard and Diamond Oaks Road. A sidewalk also exists from south of Kaseberg Drive to Sawtell Road. With the exception of the southern approach to the Washington Boulevard/Sawtell Road intersection, crosswalks are present on all approaches to the Washington Boulevard/Pleasant Grove Boulevard and Washington Boulevard/Sawtell Road signalized intersections. Crosswalks are present on the east, west, and north legs of the Washington Boulevard/Diamond Oaks Road signalized intersection. Crosswalks are not present at the Washington Boulevard/Kaseberg Drive intersection.

In summary, bicycle and pedestrian facilities are present on portions of the study segment of Washington Boulevard. However, they are not continuous and therefore not well-suited for extended bicycle or pedestrian travel.

Transit Service

No transit routes currently run on Washington Boulevard within the study area. However, Roseville Transit operates local lines along segments of Washington Boulevard adjacent to the study area (e.g., north of Pleasant Grove Boulevard and south of Junction Boulevard). There is a bus turnout on the west side of Washington Boulevard south of Pleasant Grove Boulevard.

The City Alternative Transportation Division of Public Works owns and maintains a bus fleet and contracts with a transit provider for operation of Roseville Transit. Roseville Transit operates three separate transit systems: local, commuter, and Dial-a-Ride, which together provide more than 433,000 passenger trips a year. Roseville Transit’s local service operates 11 routes in Roseville with connections to Placer County Transit and Sacramento Regional Transit. Roseville Transit also offers express commuter routes between Roseville and downtown Sacramento, Monday through Friday, during peak commute hours.

Although none run on the Washington Boulevard portion of the study area, multiple Roseville Transit routes run through the study area. The “A” and “B” lines run on Roseville Parkway, North Sunrise Avenue, and Galleria Boulevard. The “M” line runs on Galleria Boulevard, Pleasant Grove Boulevard, and Fairway Drive, while the “S” line runs on State Route (SR) 65, Roseville Parkway, and Galleria Boulevard. All four lines have transfer points at the Roseville Galleria mall.

Existing Traffic Volumes and Levels of Service

Daily Traffic Volumes on Study Segments

Existing daily traffic volumes on study segments are shown in the transportation study in Appendix B, including the name and number of each segment, segment boundaries, the jurisdiction in which it is located, and the current street classification (arterial, collector, or local).

The City provided traffic count data at the four signalized study intersections for three different weekdays in April 2015 from their Intelligent Transportation System (ITS) traffic count database. Fehr & Peers conducted traffic counts at the unsignalized Washington Boulevard/Kaseberg Drive intersection in May 2016. The volumes of the segments north and south of Kaseberg Drive collected in May 2016 were compared with the average April 2015 counts. The comparison showed somewhat greater volumes during May 2016 than in April 2015. This growth may have been due to a variety of factors ranging from new land uses in the area, increased congestion on parallel facilities, and seasonal variations in traffic demand. For this analysis, the through movements at intersections study area intersections 1, 2, 4, and 5 were increased from the observed April 2015 values as appropriate to reflect this traffic growth, thereby enabling these volumes to represent May 2016 conditions. Figure 3.16-3 displays existing weekday AM and PM peak hour traffic volumes and lane configurations at the study intersections. At most study intersections, the AM peak hour occurred from 7:30 to 8:30 AM, and the PM peak hour occurred from 4:45 to 5:45 PM.

The average daily traffic (ADT) on Diamond Oaks Road and Washington Boulevard was collected and compared for conditions when nearby schools are in session and out of session. Table 3.16-1 shows the results for Diamond Oaks Road, while Table 3.16-2 shows the results for Washington Boulevard. As shown, the ADT on Washington Boulevard increases by 5%, and the ADT on Diamond Oaks Road increases by 20% when school is in session.

Table 3.16-1. Diamond Oaks Road—Existing Average Daily Traffic

Segment	Count Date	Average Daily Traffic (ADT)
School Out of Session		
Diamond Oaks Road east of Washington Boulevard	Tuesday, August 2, 2016	4,400
	Wednesday, August 3, 2016	4,400
	Thursday, August 4, 2016	4,700
	Average	4,500
School in Session		
Diamond Oaks Road east of Washington Boulevard	Wednesday, August 17, 2016	5,100
	Thursday, August 18, 2016	5,600
	Average	5,400 (20% increase)

Source: Fehr & Peers 2018 (Appendix B)

Notes: Data collected on Tuesday, August 16 was not used because of malfunction of Washington Boulevard/Pleasant Grove Boulevard traffic signal that caused atypical traffic patterns (City of Roseville ITS Traffic Count Database).
Values rounded to the nearest 100 vehicles.

Table 3.16-2. Washington Boulevard—Existing Average Daily Traffic

Segment	Count Date	Average Daily Traffic
School Out of Session		
Washington Boulevard south of Diamond Oaks Road	Tuesday, August 2, 2016	19,000
	Wednesday, August 3, 2016	19,200
	Thursday, August 4, 2016	19,800
	Average	19,300
School in Session		
Washington Boulevard south of Diamond Oaks Road	Wednesday, August 17, 2016	19,900
	Thursday, August 18, 2016	20,700
	Average	20,300 (5% increase)

Source: Fehr & Peers 2018 (Appendix B)

Notes: Data collected on Tuesday, August 16 was not used because of malfunction of Washington Boulevard/Pleasant Grove Boulevard traffic signal that caused atypical traffic patterns (City of Roseville ITS Traffic Count Database).
Values rounded to the nearest 100 vehicles.

Figure 3.16-4 shows the existing ADT at multiple locations along Washington Boulevard, Pleasant Grove Boulevard, Diamond Oaks Road, and Junction Boulevard. The ADT estimates were obtained as follows.

- The ADT values on Pleasant Grove Boulevard and Junction Boulevard were based on data provided by the City in April 2015.
- The ADT estimate shown on Figure 3.16-4 on Washington Boulevard south of Diamond Oaks Road is based on the average value shown in Table 3.16-2 (while schools are in session). The ADT estimates on the other segments were derived by factoring the daily traffic volume based on how the AM and PM peak hour volume differ for each given segment.

The ADT on Washington Boulevard (20,300 to 22,100 within the widening limits) represents a substantial amount of traffic for a two-lane undivided roadway to accommodate.

Figure 3.16-5 shows the general directionality of trips entering and exiting each end of the Washington Boulevard corridor, which reflect conditions with school in session. These estimates were derived by the AM and PM peak hour turning movements, and should be considered to provide a general trend of travel behavior. As shown, about three-quarters of the trips on the south end of the corridor are continued through trips on Washington Boulevard south of Junction Boulevard. In contrast, about half of the trips on the north end of the corridor either turn left or right from Pleasant Grove Boulevard.

Figure 3.16-6 displays a comparison of existing travel times on potential parallel or alternative routes to Washington Boulevard. These data were compiled primarily to assist in the evaluation of how various construction closure scenarios may affect a redistribution of existing traffic. Data are shown for the PM peak hour because this period has the greatest overall traffic volumes and amount of potentially diverted traffic. The travel time runs were conducted while schools were not in session because most of the construction-related closures would occur during the summer when schools are not in session. This information is provided in this section because it pertains to existing conditions. However, its meaning and applicability to construction closures are discussed in detail in Section 3.16.2, *Environmental Impacts*.

Study Intersections

Figure 3.16-3 illustrates the existing lane configurations, traffic controls, and peak-hour vehicle turning movement volumes at each study intersection under existing conditions.

Intersection Level of Service Definitions

The operational performance of a roadway network is commonly described as its LOS. The LOS is a qualitative measure of traffic operating conditions whereby a letter grade, ranging from A (the best) to F (the worst), is assigned. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. In general, LOS A represents free-flow conditions with no congestion, and LOS F represents severe congestion and delay under stop-and-go conditions. Table 3.16-3 contains intersection LOS criteria information that was presented in the transportation study for the proposed project (Appendix B).

Table 3.16-3. Signalized Intersection Level of Service Criteria

Level of Service	Description (for Signalized Intersections)	Average Delay (seconds per vehicle) Signalized Intersections	Unsignalized Intersections
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	≤ 10.0	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	>10.0 to 20.0	>10.0 to 15.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 30.0	> 15.0 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0	> 25.0 to 35.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0	> 35.0 to 50.0
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	> 80.0	> 50.0

Intersection Operations

The study corridor and intersections were analyzed using the SimTraffic micro-simulation model. Based on standard practice, 10 SimTraffic runs were conducted and averaged for the reported results consistent with the methodology described in the 2010 Highway Capacity Manual. SimTraffic was appropriate for this analysis because it accounts for queue spillbacks, considers the effect of coordinated signal timing along Pleasant Grove Boulevard, and appropriately assigns delay to bottleneck intersections. The SimTraffic model was calibrated to match existing conditions. Thus, the model included the signal timing/coordination plans that exist along the Pleasant Grove Boulevard corridor, including the addition of nearby signalized intersections to model the effect of vehicle platooning. Actual signal timings at each signalized study intersection were entered into the model, as were lane configurations and peak hour traffic volumes. Although the private eastbound Kaseberg Drive approach to Washington Boulevard does not have two striped lanes, field observations indicated that the approximately 27 feet of pavement is sufficient to allow simultaneous left- and right-turn movements. Hence, they were modeled as exclusive left- and right-turn lanes.

Additionally, it was important that the model properly replicate the somewhat random arrival of northbound Washington Boulevard traffic approaching Diamond Oaks Road. Field observations revealed that these arrivals can result in lengthy queues that extend back toward, but not typically into, the UPRR Andora Underpass structure. The SimTraffic model estimated the northbound through movement at Washington Boulevard/Diamond Oaks

Road would have a PM peak hour 95th percentile vehicle queue of 450 feet (i.e., 18 vehicles), which represents queuing that extends about two-thirds of the way back to the Andora Underpass. Reviews of other critical turn movements yielded similar validation findings. Thus, the model was adequately calibrated to existing conditions.

For signalized intersections, the average delay and LOS was reported for the weighted average of all movements at the intersection. For side-street stop-controlled intersections, the average delay and LOS was reported both for the entire intersection as well as for the minor-street movement with the greatest delay.

All signalized study intersections operate with protected left-turn phasing, with the exception of the eastbound-westbound approaches to the Washington Boulevard/Diamond Oaks Road/Emerald Oak Road intersection, which operate with permitted phasing. The intersections along Washington Boulevard at Junction Boulevard and Sawtell Road are coordinated during peak periods. The Washington Boulevard/Diamond Oaks Road intersection is not coordinated.

Table 3.16-4 displays the average delay and LOS at the five study intersections (refer to the transportation study in Appendix B for technical calculations). These results represent conditions while schools are in session. As shown, all signalized study intersections operate at LOS C or better with the exception of the Washington Boulevard/Pleasant Grove Boulevard intersection, which operates at LOS D during the PM peak hour.

Table 3.16-4. Peak Hour Intersection Operations—Existing Conditions

		AM Peak Hour		PM Peak Hour	
Intersection	**Traffic Control**	**Delay (seconds/ vehicle)**	**LOS**	**Delay (seconds/ vehicle)**	**LOS**
1 Washington Boulevard/ Pleasant Grove Boulevard	Signal	33	C	46	D
2 Washington Boulevard/ Diamond Oaks Road/ Emerald Oaks Road	Signal	21	C	29	C
3 Washington Boulevard/ Kaseberg Drive (private)[a]	Side-Street Stop	14 (11)	A (B)	5 (23)	A (C)
4 Washington Boulevard/ Sawtell Road/Derek Place	Signal	10	A	11	B
5 Washington Boulevard/ Junction Boulevard	Signal	10	A	16	B

Source: Fehr & Peers 2018 (Appendix B)

[a] For side-street stop controlled intersections, the overall delay and worst movement delay is reported. Numbers in parentheses represent worst movement delay.

3.16.2 Environmental Impacts

This section describes the CEQA impact analysis relating to transportation and traffic for the proposed project. It describes the methods used to determine the project's potential impacts and lists the criteria thresholds used to conclude whether an impact would be significant. A measure to mitigate (avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion, where applicable.

Methods for Analysis

The City's base year travel demand model was used to forecast expected changes in daily traffic and peak hour turning movement volumes under an "Existing Plus Washington/Andora Widening" operating condition (i.e., existing plus project condition). The model underwent a review of roadway lanes, free-flow speeds, traffic analysis zone loadings, and other factors to ensure that it was adequately calibrated within the study area so that its traffic projections matched existing volumes (to within tolerable levels of deviation).

The proposed widening of Washington Boulevard was added to the base year model. The difference in the traffic volume estimates predicted by the model was then added to existing counts. This process is known as the difference model and is displayed below.

Existing Plus Project Forecast = Existing Volume + (Base Model Plus Project – Base Model)

The following describes the anticipated existing plus project conditions, including the lane configurations, traffic control, and signal timing at each study intersection upon project completion.

- Washington Boulevard/Diamond Oaks Road—Northbound and southbound approaches would each consist of one left-turn, two through lanes, and a dedicated right-turn lane. Eastbound and westbound approaches would remain unchanged and continue to operate with permitted phasing, per direction from City Traffic Operations staff.
- Washington Boulevard/Kaseberg Drive (private driveway)—Should appropriate grant funding be obtained, this intersection would be signalized (versus operating with a side-street stop) to provide improved bicycle and pedestrian connectivity. It would include two northbound and southbound lanes, a northbound left turn lane, and exclusive eastbound left turn lanes.
- Washington Boulevard/Pleasant Grove Boulevard, Washington Boulevard/Sawtell Road, and Washington Boulevard/Junction Boulevard—No changes in lane configurations, traffic controls, or signal timing/phasing from existing conditions.

Construction Closure Analysis Methods

This analysis considers the traffic impacts of two construction closure alternatives that could potentially be implemented during Phase 2 construction, the proposed project and Alternative 1 (one lane closure during construction) as well as the No Project alternative (Alternative 2). Methods used to analyze the potential redistribution of traffic associated with the construction-related closure of Washington Boulevard under both the proposed project and Alternative 1 are described below.

Proposed Project

Construction of Phase 2 of the proposed project would involve the closure of Washington Boulevard to all vehicular traffic from directly north of Kaseberg Drive to directly south of Diamond Oaks Road for up to 6 months. Motorists traveling south from Pleasant Grove Boulevard would continue to be able to access Diamond Oaks Road from Washington Boulevard and vice versa. Similarly, motorists traveling north from Sawtell Road would continue to be able to access Kaseberg Drive from Washington Boulevard and vice versa.

Two methods were used to evaluate the potential redistribution of traffic associated with the construction-related closure of Washington Boulevard under the proposed project.

- **Method A – Base Year City of Roseville Travel Demand Model.** The model was rerun with the closure plan in place and changes in ADT were noted. Because the closure would be temporary, only the assignment module of the model was rerun (i.e., trip origins and destinations remained fixed). Refer to the transportation study in Appendix B for a traffic model plot that shows the projected increase or decrease in ADT due to the street closure.
- **Method B – Projected redistribution based on actual amount of traffic to be diverted and travel time survey results.** This method reassigns trips based on the spatial origins and destinations of trips using Washington Boulevard, and comparisons of which alternative routes offer the shortest travel times. Figure 3.16-7 shows the expected redistribution of trips currently using Washington Boulevard.

The transportation study in Appendix B contains a spreadsheet that compares the projected change in ADT between the two methods. Overall, both methods yield comparable sets of projections, though there are some minor differences. The traffic diversion estimates from Method B are generally considered more accurate than Method A because Method B considers the actual amount of traffic being rerouted, as opposed to a model's estimation of rerouted traffic. Method B is also more conservative because it does not consider the same degree of regional redistribution that the traffic model predicts (e.g., the model shows an increase on SR 65, which is already near capacity).

The amount of diverted traffic is greater during the PM peak hour than the AM peak hour. Because weekday PM peak hour conditions are typically worse than AM peak hour conditions, the analysis of the proposed project's construction impacts focuses on PM peak hour conditions.

Alternative 1

Construction activities associated with Alternative 1 would involve the closure of only one lane and would last approximately 20 months. Under Alternative 1, Washington Boulevard would be reduced to a single-lane from south of Diamond Oaks Road to beyond the Andora Underpass for a distance of 1,400 feet, yet still allow northbound and southbound traffic by alternating one-way movements through the constricted section (most likely via a traffic signal).

The following analysis methods and assumptions were used to model the potential effects of Alternative 1.

- Analysis Period: The PM peak hour was chosen because it carries a greater volume of traffic than any other hour of the day.
- Traffic Projections: Due to the likelihood that motorists would know of the construction activity and potential for delays, 50% of the existing PM peak hour travel demand was conservatively assumed to divert to parallel roadways.
- Traffic Operation: For analysis purposes, a temporary traffic signal is assumed to be in place south of the railroad undercrossing to assign right-of-way. The traffic signal at Diamond Oaks Road would serve this function on the north side. Each direction of travel would be given approximately 80 seconds of signal time, which includes the green interval, yellow interval, and then a lengthy all-red interval necessary to fully flush traffic (assumed to travel through the construction zone at no more than 25 mph) out of the lengthy reversible lane prior to allowing the opposing movement. Should City staff determine the temporary signal causes unnecessary delay, the contractor may be required to utilize flaggers with a pilot vehicle.

The SimTraffic model was used to analyze the effects of Alternative 1 under PM peak hour conditions. As with the proposed project, the amount of diverted traffic under Alternative 1 is greater during the PM peak hour than the AM peak hour. Because weekday PM peak hour conditions are typically worse than AM peak hour conditions, the analysis of Alternative 1 construction impacts focuses on PM peak hour conditions.

Alternative 2

As described in Chapter 2, *Project Description*, the No Project alternative would not involve any improvements to Washington Boulevard. The existing roadway and Andora Underpass would remain in their current state. Traffic forecasts were developed for the No Project alternative based on the City's *Transportation System 2035 Capital Improvement Program* (CIP) travel demand model assumptions and the "difference method" described above (*Cumulative Forecast = Existing Volume + [Cumulative Traffic Model – Base Traffic Model])*. Therefore, for traffic analysis purposes, the No Project alternative represents the cumulative traffic condition in the year 2035 as defined by the City's CIP. The City's CIP model assumes buildout of Roseville, including various approved specific plans such as the Sierra Vista, Creekview, and Amoruso Ranch Specific Plans. Land uses outside of Roseville represent projected absorption by the year 2035. The City's traffic model also includes its existing roadway system along with planned CIP roadway and intersection improvements. The City's CIP project list is reasonably foreseeable based on a strong likelihood (and past history) that they would be fully funded by the time they are needed based on the current fees being collected.

The City's CIP includes the widening of Washington Boulevard to four lanes between Pleasant Grove Boulevard and Sawtell Road. Accordingly, recent environmental documents in Roseville have assumed this improvement in place under cumulative conditions. However, development of the No Project condition for this analysis assumes that Washington Boulevard remains two lanes between Pleasant Grove Boulevard and Sawtell Road. The City's CIP also assumes the addition of a fourth westbound travel lane at the

Washington Boulevard/Pleasant Grove Boulevard intersection, which is assumed to be in place for the No Project analysis.

Thresholds of Significance

State CEQA Guidelines Section 15064.3 describes acceptable methods for evaluating a project's transportation impacts under CEQA. In general, VMT is considered the most appropriate metric, and beginning July 1, 2020, CEQA documents are required to include a VMT methodology when evaluating transportation impacts. As discussed in State CEQA Guidelines Section 15064.3 (b)(2), for roadway capacity projects undergoing CEQA review (such as the proposed project), the Lead Agency has discretion to determine the appropriate metric for transportation and traffic analysis. Consistent with this provision, the City of Roseville has elected to evaluate the project's transportation and traffic impacts consistent with the City's adopted intersection level of service policy.

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- 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.
- Conflict with an applicable congestion management program, including, but not limited to, LOS standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways.
- 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.
- Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

The City's LOS policy is not applicable to unsignalized intersections (such as the existing Washington Boulevard/Kaseberg Drive private driveway intersection). Average delay and LOS results for existing conditions at this intersection are provided for information purposes. With project conditions assume this intersection is signalized and an LOS analysis is provided for with project future conditions.

Impacts and Mitigation Measures

The proposed project's construction transportation and traffic impacts differ by phase. Phase 1 would involve standard road widening construction tasks with no temporary road closures or detours. Phase 2 would involve the temporary closure (5–6 months) and detour of

Washington Boulevard traffic. The construction impacts associated with the proposed project's Phase 2 and Alternative 1 (one lane closure during construction) would be similar, as described below. Because no construction would occur in the project corridor under Alternative 2 (No Project), Alternative 2 would not result in any construction impacts related to transportation and traffic; therefore, construction-related impacts of Alternative 2 on transportation and traffic are not discussed further in this section. In addition, because no physical changes to the project corridor would occur under Alternative 2, impacts related to roadway design are not considered for that alternative.

Impact TRA-1	**Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system**
Applicable Policies and Regulations	Placer County 2036 Regional Transportation Plan City of Roseville General Plan 2035, Circulation Element
Significance with Policies and Regulations	Proposed Project Construction: Phase 1: Less-than-Significant Impact Phase 2: Significant Unavoidable Impact Alternative 1: Significant Unavoidable Impact Proposed Project Operation: Phase 1: Less-than-Significant Impact Phase 2: Significant Impact Alternative 1: Significant Impact
Mitigation Measures	Proposed Project Construction: Phase 1: None Required Phase 2: None Available Proposed Project Operation: Phase 1: None Required Phase 2 and Alternative 1: Mitigation Measure TRA-1.1: Modify Traffic Signal Timing at the Washington Boulevard/Pleasant Grove Boulevard Intersection by Shifting 6 Seconds of Green Light Time from the Northbound Left-Turn Movement to the Southbound Through Movement
Significance after Mitigation	Proposed Project Construction: Phase 1: Less-than-Significant Phase 2: Significant and Unavoidable Alternative 1: Significant and Unavoidable Proposed Project Operation: Phase 1: Less-than-Significant Phase 2: Significant and Unavoidable

Construction

Proposed Project

Phase 1 would involve all proposed road widening (except at the Andora Underpass), signal and intersection improvements, Class I bike trail construction on the east side of Washington Boulevard, and interim drainage improvements. Road widening would primarily occur to the east of the existing roadway and would be accomplished with only minimal disruption to the traveling public. Construction activities may require intermittent partial lane closures and lane shifting assisted by flaggers and temporary signage. Construction activities would include material and equipment deliveries and intermittent periods of traffic flow disruption. Vehicle speed would be reduced, and minor travel delays would be expected through the construction zone. As described in Chapter 2, Section 2.5.7, *Best Management Practices,* the project includes development of a construction traffic management plan (TMP). The TMP will identify general methods by which construction activities will be managed to minimize substantial delays to traffic and will incorporate guidance and components provided in the *Final Transportation Study for the Washington/Andora Widening Project* (Appendix B). Implementation of the TMP would ensure short-term Phase 1 construction traffic and transportation impacts remain less than significant.

Phase 2 of the proposed project would require a prolonged (5–6 month) closure of Washington Boulevard at the Andora Underpass. The construction-related street closure would increase ADT on other roadways, degrade study area intersection operations to unacceptable levels, and likely cause inconveniences to motorists. The parallel segment of Foothills Boulevard would experience the greatest increase in traffic, with traffic levels increasing from about 32,000 to 43,000 ADT. Further, Diamond Oaks Road east of Washington Boulevard would experience a net increase of about 2,000 ADT under conditions when schools are not in session. This would cause the segment's ADT to increase from 4,500 to 6,500 ADT. Under conditions when schools are in session, the ADT would be expected to increase from 5,400 to 8,000 ADT. These estimates are considered approximate and could change for a variety of reasons. For example, an effective public information campaign and traffic detour strategy could encourage some streets to be used to a greater degree than others. Further, the additional travel time associated with the detours could change trip destinations or suppress trip-making, and traffic volume increases on detour routes could cause additional delays, which could result in redistribution to other routes.

The following intersections would experience notable increases in traffic during the proposed project's Phase 2 construction closure of Washington Boulevard.

- Foothills Boulevard/Pleasant Grove Boulevard—westbound left-turn movement would increase by 427 vehicles during the PM peak hour.
- Foothills Boulevard/Junction Boulevard—southbound left-turn movement would increase by 533 vehicles and westbound right-turn movement would increase by 470 vehicles during the PM peak hour.

- Roseville Parkway/Reserve Drive—eastbound right-turn movement would increase by 160 vehicles and northbound left-turn movement would increase by 140 vehicles during the PM peak hour.
- Roseville Parkway/Galleria Boulevard—northbound left-turn movement would increase by 185 vehicles during the PM peak hour.

Table 3.16-5 displays the existing PM peak hour LOS at the four intersections listed above and compares them with the Existing Plus Construction Closure conditions. This table also shows how each intersection would operate during the construction closure. The technical calculations for this analysis are included in the transportation study in Appendix B.

Table 3.16-5. PM Peak Hour Intersection Operations—Existing Conditions with Phase 2 Washington Boulevard Construction Closure

		Existing Conditions		Existing Conditions Plus Construction Closure	
Intersection	**Control**	**Delay (seconds/ vehicle)**	**LOS**	**Delay (seconds/ vehicle)**	**LOS**
Foothills Boulevard/ Pleasant Grove Boulevard	Signal	54	D	70	E
Foothills Boulevard/ Junction Boulevard	Signal	34	C	137	F
Roseville Parkway/ Galleria Boulevard	Signal	52	E	85	F
Roseville Parkway/ Reserve Drive	Signal	33	C	51	D

Source: Fehr & Peers 2018 (Appendix B)

Notes: All intersections analyzed using SimTraffic except Foothills Boulevard/Junction Boulevard, which was analyzed using Synchro

Results shown here represent conditions with schools in session. Impacts would be reduced during periods when schools are not in session due to reduced overall levels of traffic.

As noted previously, the majority of the Phase 2 construction closure would occur during periods when schools are not in session. Thus, the level of additional delays would be somewhat less than is shown below in Table 3.16-6, which reflects conditions when schools are in session. Further, as part of the project and prior to any Phase 2 construction closures, a construction TMP would be developed and implemented as described in Section 2.5.7, *Best Management Practices*. As part of the TMP, two intersections would be modified to offset the adverse LOS and delay effects. Signal timing at the Foothills Boulevard/Pleasant Grove Boulevard intersection would be modified in response to changing travel demand, and the Foothills Boulevard/Junction Boulevard intersection would be modified to add a temporary second southbound left-turn lane during construction.

Table 3.16-6 displays the effectiveness of the TMP intersection modifications at the Foothills Boulevard/Pleasant Grove Boulevard and Foothills Boulevard/Junction Boulevard intersections (refer to the transportation study in Appendix B for technical calculations). A 5-second shift in green light time from the eastbound through to the westbound left-turn movement at the Foothills Boulevard/Pleasant Grove Boulevard intersection would reduce the average delay from 70 to 61 seconds. The addition of a second southbound left-turn lane at the Foothills Boulevard/Junction Boulevard intersection would better accommodate the projected left-turn movement of 737 vehicles during the PM peak hour, thereby reducing the delay from 137 to 49 seconds per vehicle. As indicated in Table 3.16-6, even with TMP modifications the Foothills Boulevard/Pleasant Grove Boulevard and Foothills Boulevard/Junction Boulevard intersections would operate at LOS E and LOS D, respectively, during Phase 2 construction.

Improvements (both physical and signal timing-related) were considered at the Roseville Parkway/Reserve Drive and Roseville Parkway/Galleria Boulevard intersections. Construction delays would result in an 8% and 5% increase in PM peak hour traffic, respectively, at each intersection. Any physical improvements would be complicated and temporary, and any signal timing improvements would be difficult to implement without adversely affecting the overall Roseville Parkway corridor operations. Therefore, no improvements were identified as being feasible at those intersections for this temporary impact.

Table 3.16-6. PM Peak Hour Intersection Operations – Existing Conditions plus Phase 2 Construction Closure and Traffic Management Plan Modifications

				Existing Conditions Plus Construction Closure			
		Existing Conditions		Without TMP Modifications		With TMP Modifications	
Intersection	**Control**	**Delay (seconds/ vehicle)**	**LOS**	**Delay (seconds/ vehicle)**	**LOS**	**Delay (seconds/ vehicle)**	**LOS**
Foothills Boulevard/ Pleasant Grove Boulevard	Signal	54	D	70	E	61	E
Foothills Boulevard/ Junction Boulevard	Signal	34	C	137	F	49	D
Roseville Parkway/ Galleria Boulevard	Signal	52	E	85	F	–	–
Roseville Parkway/ Reserve Drive	Signal	33	C	51	D	–	–

Source: Fehr & Peers 2018 (Appendix B)

LOS = level of service

TMP = traffic management plan

Notes: All intersections analyzed using SimTraffic except Foothills Boulevard/Junction Boulevard, which was analyzed using Synchro (consistent with prior analysis of intersection).

Results shown here represent conditions with schools in session. Impacts would be reduced during periods when schools are not in session due to reduced overall levels of traffic.

Refer to above text for description of mitigations.

– = implies that no feasible mitigation is available given the severity and duration of temporary impact.

Although implementation of the TMP described in Section 2.5.7, *Best Management Practices*, would reduce the majority of construction-related traffic and circulation impacts, construction impacts resulting from Phase 2 of the proposed project on the performance of the circulation system would remain significant and unavoidable.

<u>Alternative 1</u>

Under Alternative 1, Washington Boulevard would be reduced to a single lane from south of Diamond Oaks Road to beyond the Andora Underpass for a distance of 1,400 feet, yet still allow northbound and southbound traffic by alternating one-way movements through the constricted section, most likely via a traffic signal, although flaggers with a pilot vehicle may also be used. Alternative 1 would reduce the impacts on traffic and intersections caused rerouting existing traffic from Washington Boulevard to other streets during the multi-month Phase 2 construction closure. This would include reducing the substantial increases in project-related traffic on the parallel segment of Foothills Boulevard and Diamond Oaks Road east of Washington Boulevard, and on the following intersections: Foothills Boulevard/Pleasant Grove Boulevard; Foothills Boulevard/Junction Boulevard; Roseville Parkway/Reserve Drive; and Roseville Parkway/Galleria Boulevard.

The model output for the Alternative 1 construction period (approximately 20 months) reveals the following impacts of Alternative 1.

- Northbound traffic would extend beyond Kaseberg Drive and spill back to Sawtell Road. The average delay would be 302 seconds (i.e., 5 minutes) per vehicle.
- Southbound traffic would queue from Diamond Oaks Road through the Washington Boulevard/Pleasant Grove Boulevard intersection. The average delay on this approach would be 221 seconds per vehicle, although this result is misleading because the model assigns much of this delay to the upstream Pleasant Grove Boulevard intersection.

These delays would correspond to an LOS F condition with northbound Washington Boulevard queuing expected to reach past Kaseberg Drive (refer to Figures 3.16-8 and 3.16-9 for illustration, and to the transportation study in Appendix B for technical calculations). As a result, the existing LOS at the Washington Boulevard/Kaseberg Drive stop sign controlled intersection is also expected to experience a significant reduction in LOS, severely inconveniencing inbound Diamond K residents. This would be a significant unavoidable impact of Alternative 1. Should the level of traffic redistribution from Washington Boulevard to other routes under Alternative 1 not reach 50% as assumed in this analysis, the extent of delays and queuing would be correspondingly greater. Because traffic would degrade to a LOS F condition, Alternative 1 construction activities would have a greater impact on traffic operations than would the proposed project.

Operation

The existing conditions proposed project operation analysis below first examines the traffic impacts of full project buildout (Phases 1 and 2 combined) as if constructed in a single phase. This is followed by Phase 1 only existing conditions operation analysis.

Proposed Project (Phases 1 and 2)

Figure 3.16-10 presents the existing plus project ADT forecasts, and Table 3.16-7 compares them with existing conditions. As shown, the widening of Washington Boulevard would result in an increase of 7,700 vehicles per day on the widened portion of the roadway. A considerable amount of this traffic (6,000 daily vehicles) would be redistributed from Foothills Boulevard, a parallel six-lane roadway.

Table 3.16-7. Existing plus Project Average Daily Traffic

Location	Existing ADT	Existing Plus Project ADT	Difference
Washington Boulevard between Pleasant Grove Boulevard and Industrial Avenue	15,500	15,900	+400
Washington Boulevard between Emerald Oak Road/ Diamond Oaks Road and Pleasant Grove Boulevard	22,100	29,700	+7,600
Washington Boulevard between Kaseberg Drive and Emerald Oak Road/Diamond Oaks Road	20,300	28,000	+7,700
Washington Boulevard between Kaseberg Drive and Sawtell Road/Derek Place	20,700	28,400	+7,700
Washington Boulevard between Junction Boulevard and Corporation Yard Road	23,900	24,300	+400
Pleasant Grove Boulevard between Winslow Drive and Washington Boulevard	43,400	43,900	+500
Pleasant Grove Boulevard between Washington Boulevard and Galilee Road/Elmwood Drive	44,100	39,100	-5,000
Diamond Oaks Road between Glenwood Circle/ Firestone Drive and Washington Boulevard	4,700	4,700	0
Junction Boulevard between Washington Boulevard and Corporation Yard Road	13,400	18,600	+5,200
Foothills Boulevard between Pleasant Grove Boulevard and South Bluff Drive/Beckett Drive	32,200	26,000	-6,000

Source: Fehr & Peers 2018 (Appendix B)

Note: Values rounded to the nearest one hundred vehicles.

Table 3.16-8 displays the average delay and LOS under existing conditions and compares them with existing plus project conditions. Figure 3.16-11 shows the AM and PM peak hour turning volumes at these intersections for the existing plus project scenario. During each peak hour, the volumes traveling in either direction on Washington Boulevard south of Pleasant Grove Boulevard would increase by 220 to 400 vehicles depending on the peak hour and direction. Technical calculations for this analysis are in the transportation study in Appendix B.

Following project completion, the widening of Washington Boulevard would degrade PM peak hour operations at the Washington Boulevard/Pleasant Grove intersection from LOS D to LOS E. This would result from the southbound-through volume increasing from 603 to 856 vehicles (42%), and the westbound-left volume increasing from 335 to 448 vehicles (34%), without any assumed changes in signal timings to accommodate these movements. In addition, delays would increase modestly at the Washington Boulevard/Sawtell Road, Washington Boulevard/Junction Boulevard, and Washington Boulevard/Kaseberg Drive (private) intersections, although operations would remain at LOS C or better. However, delays would decrease at the Washington Boulevard/Diamond Oaks Road intersection by virtue of additional capacity provided by the widening.

Table 3.16-8. Peak Hour Intersection Operations—Existing plus Project Conditions

	Existing				Existing Plus Project			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1 Washington Boulevard/ Pleasant Grove Boulevard	33	C	46	D	34	C	71	E
2 Washington Boulevard/ Diamond Oaks Road/ Emerald Oak Road	21	C	29	C	14	B	16	B
3 Washington Boulevard/ Kaseberg Drive (private) [a]	14 (11)	A (B)	5 (23)	A (C)	4 (15)	A (C)	6 (22)	A (C)
4 Washington Boulevard/ Sawtell Road/ Derek Place	10	A	11	B	9	A	11	B
5 Washington Boulevard/ Junction Boulevard	10	A	16	B	13	B	22	C

Source: Fehr & Peers 2018 (Appendix B)
LOS = level of service
Sec/veh = seconds per vehicle
Note: For side-street stop controlled intersections, the overall delay and worst movement delay is reported. Numbers in parentheses represent worst movement delay.

According to Table 3.16-8, the proposed project would cause PM peak hour operations at the Washington Boulevard/Pleasant Grove Boulevard intersection to worsen from LOS D to E under existing plus project conditions. All other intersections would continue operating acceptably under existing plus project conditions. The project would not cause the overall percentage of signalized intersections throughout the city of Roseville operating at LOS C or better during the AM and PM peak hours to fall below 70%. The worsening of PM peak hour operations from LOS D to LOS E at the Washington Boulevard/Pleasant Grove Boulevard intersection would be a significant impact.

Implementation of Mitigation Measure TRA-1.1 would reduce this impact, but not to a less-than-significant level.

Mitigation Measure TRA-1.1: Modify Traffic Signal Timing at the Washington Boulevard/Pleasant Grove Boulevard Intersection by Shifting 6 Seconds of Green Light Time from the Northbound Left-Turn Movement to the Southbound Through Movement

This mitigation measure will reallocate green light time on the Washington Boulevard north/south approaches to better match travel demand. It will not alter green light time, splits, or offsets on the coordinated east/west Pleasant Grove Boulevard approaches. Table 3.16-9 shows that this mitigation will reduce the PM peak hour delay from 70 to 56 seconds per vehicle (see the transportation study in Appendix B).

Although operations would technically remain in the LOS E range, the delay at the Washington Boulevard/Pleasant Grove Boulevard intersection would be within 1 second of LOS D, which is considered acceptable. Nonetheless, this impact would remain significant and unavoidable.

Table 3.16-9. Intersection Operations – Existing plus Project (Mitigated) Conditions

	Existing Conditions		Existing Plus Project Conditions		Existing Plus Project Conditions with Mitigation	
Intersection	**Delay (seconds/ vehicle)**	**LOS**	**Delay (seconds/ vehicle)**	**LOS**	**Delay (seconds/ vehicles)**	**LOS**
Washington Boulevard/ Pleasant Grove Boulevard	46	D	71	E	56	E
Source: Fehr & Peers 2018 (Appendix B)						

Phase 1

The proposed project operation analysis considered full buildout of the project under existing conditions. According to a technical memorandum dated April 10, 2019 prepared by Fehr & Peers (Appendix B), the results of that analysis would change if only Phase 1 of the project were considered. The remainder of this section describes Phase 1 and evaluates how it would affect the transportation system under existing conditions (relative to the effects that were identified for full buildout of the project).

Phase 1 would include the widening of Washington Boulevard from two to four lanes from Sawtell Drive to Pleasant Grove Boulevard, with the exception of the UPRR Andora Underpass (and portions of Washington Boulevard immediately to the north and south), which would be completed as part of Phase 2.

Phase 1 improvements at the Washington Boulevard/Diamond Oaks Road intersection are shown in the Fehr and Peers technical memorandum (contained in Appendix B). Key aspects of this improvement include:

- The second northbound lane would begin a short distance south of Diamond Oaks Road.
- Southbound Washington Boulevard would continue to have two lanes departing Pleasant Grove Boulevard that narrow to a single lane prior to Diamond Oaks Road.
- Washington Boulevard/Diamond Oaks Road would be designed as a "protected intersection," featuring crosswalks, and bike paths across and within the intersection as shown. These features are intended to enable bicyclists to access the Class I path on the east side of the roadway.

The analysis of the proposed project (Phases 1 and 2) concludes that the full project would cause the daily traffic volume on Washington Boulevard to increase from 20,300 vehicles per day (existing) to 28,000 vehicles per day, with much of this shift coming from parallel facilities.

By virtue of not widening the roadway to a continuous four-lane facility, Phase 1 would not cause the same degree of volume increase. The following describes the expected travel demand in each direction of Washington Boulevard:

- Northbound travel – A modest increase would be expected due to the added capacity provided by the second northbound through lane at Diamond Oaks Road. Northbound traffic often queues back from this intersection through the Andora Underpass during peak periods.
- Southbound travel – Little to no change in travel demand would be expected because the roadway would feel very similar to how it currently operates. Namely, the lane decrease between Pleasant Grove Boulevard and Diamond Oaks Road, combined with queuing from the signal at Diamond Oaks Road, would remain a pinch-point during peak periods.

The widening to four lanes from Sawtell Drive to just north of Kaseberg Drive would cause relatively little overall corridor travel increase because it would not be coupled with further widening to the north.

There was no attempt to quantify Phase 1's change in travel demand because travel demand models are not capable of accurately predicting shifts in travel for such subtle changes.

Effects on Roadway Operations

The following describes expected traffic conditions in each direction of Washington Boulevard:

- Northbound traffic conditions – Vehicle delays approaching Diamond Oaks Road would be lower than under existing (no project) conditions by virtue of the second northbound through lane being added. Although the added capacity may induce slightly more vehicles per hour to use this route, that increase would be considerably less than the capacity increase provided by the second through lane.

- Southbound traffic conditions – Vehicle delays approaching Diamond Oaks Road would be similar to existing (no project) conditions. However, delays on this approach would likely be greater than for full project buildout, which would provide a continuous second southbound lane through the intersection and Andora Underpass.

The net effect of Phase 1 implementation at the Washington Boulevard/Diamond Oaks Road intersection would be reduced delays when compared with existing (no project) conditions, but slightly greater delays when compared with an existing plus full project buildout scenario. As shown in Table 3.16-8, this intersection would operate at LOS B during the AM and PM peak hours under existing plus full project buildout conditions. Despite the slight increase in delay, the intersection would likely maintain LOS B conditions, and certainly would maintain an LOS C. Therefore, implementation of Phase 1 would not adversely affect operations at this intersection.

Table 3.16-8 also notes that full buildout under existing conditions would worsen the Washington Boulevard/Pleasant Grove Boulevard intersection from LOS D to LOS E during the PM peak hour. Much of the degraded operations would be caused by increases in the southbound through and westbound left-turn movements, which would be the result of added capacity on Washington Boulevard. Implementation of Phase 1 would not degrade this intersection to the same degree by virtue of having little effect on travel demand in the southbound direction of Washington Boulevard.

Therefore, as discussed above, implementation of Phase 1 alone would not adversely affect any intersections within the study corridor. Transportation impacts of Phase 1 operation would be less than significant, and no mitigation is required.

Effects on Bicycle and Pedestrian Travel

Phase 1 would improve travel conditions in the Washington Boulevard corridor for bicyclists and pedestrians over existing conditions. Although Phase 1 would not build all bicycle and pedestrian facilities that would be constructed with full buildout, conditions nonetheless would represent an improvement over what currently exists.

Alternative 1

Following completion of construction, project operation under Alternative 1 would have the same characteristics as those of the proposed project, and Alternative 1 would similarly have a significant impact. Implementation of Mitigation Measure TRA-1.1 would reduce this impact, but not to a less-than-significant level.

Alternative 2 (No Project)

The roadway operations forecast for Alternative 2 assumes that Washington Boulevard would remain two lanes, rather than the four lanes proposed for the project and Alternative

1, between Pleasant Grove Boulevard and Sawtell Road. Figure 3.16-12 shows the no project AM and PM peak hour turning movement forecasts and lane configurations at the study intersections. During the AM peak hour, traffic volumes traveling northbound on Washington Boulevard south of Pleasant Grove Boulevard are projected to increase by 355 vehicles over existing conditions, while southbound volumes are projected to decrease by 47 vehicles. The PM peak hour volumes traveling northbound on the same roadway segment are projected to decrease by 67 vehicles, while southbound PM peak hour volumes are projected to increase by 320 vehicles over existing conditions. Technical calculations for the no project condition are presented in transportation study in Appendix B.

Figure 3.16-13 displays the average daily traffic on Washington Boulevard and adjacent roadways for the No Project alternative. Table 3.16-10 presents the No Project ADT forecasts along Washington Boulevard and adjacent roadways, and compares them with existing conditions. As shown, the ADT on all study segments would increase by 2035 under the No Project alternative. The ADT on all study area roadway segments would increase under the No Project alternative.

Table 3.16-10. Existing (2016) and No Project (2035) Average Daily Traffic

Location	Existing ADT	No Project (2035) ADT	Difference
Washington Boulevard between Pleasant Grove Boulevard and Industrial Avenue	15,500	27,500	+12,000
Washington Boulevard between Emerald Oak Road/ Diamond Oaks Road and Pleasant Grove Boulevard	22,100	30,400	+8,300
Washington Boulevard between Kaseberg Drive and Emerald Oak Road/Diamond Oaks Road	20,300	24,900	+4,600
Washington Boulevard between Kaseberg Drive and Sawtell Road/Derek Place	20,700	25,000	+4,300
Washington Boulevard between Junction Boulevard and Corporation Yard Road	23,900	36,300	+12,400
Pleasant Grove Boulevard between Winslow Drive and Washington Boulevard	43,400	58,900	+15,500
Pleasant Grove Boulevard between Washington Boulevard and Galilee Road/Elmwood Drive	44,100	58,900	+14,800
Diamond Oaks Road between Glenwood Circle/ Firestone Drive and Washington Boulevard	4,700	9,100	+4,400
Junction Boulevard between Washington Boulevard and Corporation Yard Road	13,400	25,700	+12,300
Foothills Boulevard between Pleasant Grove Boulevard and South Bluff Drive/Beckett Drive	32,200	50,000	+17,800

Source: Fehr & Peers 2018 (Appendix B)

Note: Values rounded to the nearest one hundred vehicles.

Table 3.16-11 displays the average delay and LOS under existing conditions and compares them with No Project conditions.

Table 3.16-11. Peak Hour Intersection Operations—Existing and No Project (2035) Alternative

	Existing				No Project Alternative			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1 Washington Boulevard/ Pleasant Grove Boulevard	33	C	46	D	41	D	110	F
2 Washington Boulevard/ Diamond Oaks Road/ Emerald Oak Road	21	C	29	C	68	E	36	D
3 Washington Boulevard/ Kaseberg Drive (private)[a]	14 (11)	A (B)	5 (23)	A (C)	8 (13)	A (B)	9 (37)	A (E)
4 Washington Boulevard/ Sawtell Road/ Derek Place	10	A	11	B	9	A	10	B
5 Washington Boulevard/ Junction Boulevard	10	A	16	B	15	B	41	D

Source: Fehr & Peers 2018 (Appendix B)
LOS = level of service
Sec/veh = seconds per vehicle
[a] For side-street stop controlled intersections, the overall delay and worst movement delay is reported. Numbers in parentheses represent worst movement delay.

As shown in Table 3.16-11, under the No Project alternative, AM peak hour operations would degrade from LOS C to LOS D at the Washington Boulevard/ Pleasant Grove Boulevard intersection, from LOS C to LOS D at the Washington Boulevard/Diamond Oaks Road/Emerald Oak Road intersection, and from LOS B to LOS D at the Washington Boulevard/Junction Boulevard intersection. In addition, AM peak hour delays would increase modestly at the Washington Boulevard/Junction Boulevard intersection, although operations would remain better than LOS C. However, AM peak hour delays would decrease slightly at the Washington Boulevard/Sawtell Road and Washington Boulevard/Kaseberg Drive (private) intersections under No Project conditions.

Table 3.16-11 shows that under the No Project alternative, PM peak hour operations would degrade from LOS D to LOS F at the Washington Boulevard/ Pleasant Grove Boulevard intersection, from LOS C to LOS D at the Washington Boulevard/Diamond Oaks Road/Emerald Oak Road intersection, and from LOS B to LOS D at the Washington Boulevard/Junction Boulevard intersection. PM peak hour delays would increase slightly at the Washington Boulevard/ Kaseberg Drive intersection and would decrease slightly at the Washington Boulevard/Sawtell Road intersection under No Project conditions. The increased delays and LOS degradation associated with the No Project alternative at project corridor intersections would be a significant impact. Implementation of Mitigation Measure TRA-1.1 would reduce this impact, but not to a less-than-significant level.

Impact TRA-2	**Conflict with an applicable congestion management program**
Applicable Policies and Regulations	Placer County 2036 Regional Transportation Plan City of Roseville General Plan 2035, Circulation Element
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

<u>Proposed Project</u>

As described for Impact TRA-1, project construction activities would significantly affect local roadway operations, requiring the closure of the project section of Washington Boulevard for up to 6 months and diverting traffic onto nearby streets. The CMP supports the use of alternative modes of transportation, such as bicycling, walking, and public transit; all of these modes of transportation would be affected by the temporary road closure. However, as part of the project and prior to any construction closures, a TMP would be implemented, as described in Section 2.5.7, *Best Management Practices*. Implementation of the TMP would include measures to ensure that public transit service time is not adversely affected and that the multiuse path remains open and free of debris during periods in which construction operation does not pose any safety hazards to the facility. In addition, the TMP would include a public information campaign that describes the duration of the street closure and would recommend alternative routes, advertising multiuse path closures in advance and suggesting alternate routes, and operation of changeable message sign trailers at strategic locations that advise motorists of the street closure and suggest alternate routes. Thus, the proposed project’s construction activities are not expected to conflict with the CMP.

The anticipated traffic associated with project operation would not be expected to differ substantially from existing conditions, and would not increase traffic volumes on area roads. Furthermore, by providing improved bicycle and pedestrian facilities in the project area (discussed below for Impact TRA-6), the project would benefit the alternative transportation modes supported by the CMP. Therefore, this impact would be less than significant. No mitigation is required.

Alternative 1

Washington Boulevard would remain open under Alternative 1, with traffic limited to a single lane from south of Diamond Oaks Road to beyond the Andora Underpass for approximately 20 months. Northbound and southbound traffic would continue to travel through the project corridor during the construction period by alternating one-way movements through the constricted section (most likely controlled by a traffic signal). As with the proposed project, the alternative transportation modes supported by the CMP would be affected by construction activities under Alternative 1. However, implementation of the TMP described in Section 2.5.7, *Best Management Practices*, as part of Alternative 1 would ensure that public transit service time is not adversely affected and that the multiuse path remains open and free of debris during periods in which construction operation does not pose any safety hazards to the facility. Furthermore, the TMP public information campaign would describe the duration of the traffic restrictions and recommend alternative routes, advertising multiuse path closures in advance and suggesting alternate routes, and would include changeable message sign trailers at strategic locations that advise motorists of the construction activities and suggest alternate routes. Therefore, Alternative 1 construction activities are not expected to conflict with the CMP. Because lane closures under Alternative 1 would be less restrictive than under the proposed project, Alternative 1 would have less impact than would the proposed project. This impact would be less than significant. No mitigation is required.

Following completion of construction, project operation under Alternative 1 would have the same characteristics as the proposed project and would similarly have no impact. No mitigation is required.

Impact TRA-3	**Potential to cause a change in air traffic patterns that results in substantial safety risks**
Applicable Policies and Regulations	None
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

The proposed project, which consists of roadway and underpass expansion, bicycle and pedestrian facility improvements, and Andora bridge improvements that are generally confined within existing rights-of-way along the existing Washington Boulevard and UPRR corridors, would not change air traffic patterns through a change in structure location or an increase in height that results in substantial safety risks. Refer to Section 3.8, *Hazards and Hazardous Materials*, for a discussion of other aspects of airport and flight safety. There would be no impact. No mitigation is required.

Alternative 1

Alternative 1 would have the same physical characteristics and location as the proposed project. Thus, like the proposed project, Alternative 1 would not change air traffic patterns through a change in structure location or an increase in height that results in substantial safety risks. There would be no impact. No mitigation is required.

Impact TRA-4	**Substantial increase in hazards because of a design feature (e.g., sharp curves, dangerous intersections) or incompatible uses (e.g., farm equipment)**
Applicable Policies and Regulations	City of Roseville General Plan 2035, Circulation Element City of Roseville Design and Construction Standards
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

During construction, the presence of large, slow-moving construction-related vehicles and equipment among the general-purpose traffic on roadways that provide access to the project area could cause other drivers to act impatiently and create traffic safety hazards. In addition, slow-moving trucks entering or exiting the project area from public roads could pose a traffic hazard to other vehicles and increase the potential for turning movement collisions at the project area intersections. Implementation of the construction TMP described in Section 2.5.7, *Best Management Practices*, would ensure that no hazards would be created for the duration of project construction.

Operation of the proposed project would reduce hazards by widening a narrow segment of Washington Boulevard and improving project area bicycle and pedestrian facilities, thereby expanding transportation facility capacity and relieving congestion. These improvements would also correct or improve existing design deficiencies. As a result, impacts of the proposed project would not substantially increase hazards due to design features or incompatible uses. This would be a less-than-significant impact. No mitigation is required.

Alternative 1

Because Washington Boulevard would remain open with alternating one-way traffic under Alternative 1, the roadway design associated with the construction period would differ from that of the proposed project. Northbound and southbound traffic would continue to travel through the project corridor during the construction period by alternating one-way movements through the constricted section (most likely controlled by a traffic signal). As with the proposed project, the presence of large, slow-moving construction-related vehicles and equipment among the general-purpose traffic on roadways that provide access to the project area could cause other drivers to act impatiently and create traffic safety hazards. In addition, slow-moving trucks entering or exiting the project area from public roads could pose a traffic hazard to other vehicles and increase the potential for turning movement collisions at the project area intersections. Implementation of the construction TMP described in Section 2.5.7, *Best Management Practices*, would ensure that no hazards would be created for the duration of project construction.

Upon completion of construction, Alternative 1 would have the same physical characteristics and location as the proposed project. Thus, like the proposed project, Alternative 1 would not substantially increase hazards due to design features or incompatible uses. This would be a less-than-significant impact. No mitigation is required.

Impact TRA-5	**Cause inadequate emergency access**
Applicable Policies and Regulations	City of Roseville General Plan 2035, Safety Element
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

Project construction activities would require the closure of Washington Boulevard from directly north of Kaseberg Drive to directly south of Diamond Oaks Road for several months. As described in Section 2.5.7, *Best Management Practices*, the City would implement a construction TMP as part of the project. The construction TMP would address emergency vehicle access and response, and would include performance standards related to the adequacy of emergency vehicle response that must be maintained at all times during construction. As part of the construction TMP, the City’s Police and Fire Departments would coordinate with the City’s Public Works Engineering Division and Development Services Department to ensure that all potential effects of the closure have been addressed, including emergency vehicle routing, temporary changes in fire station servicing areas, and emergency vehicle pre-emption at signalized intersections. Furthermore, the construction TMP would require notifications to the City Police and Fire Departments 48 hours in advance of any temporary lane restrictions or closures to install utility improvements for the project. Following completion of construction, project operation would improve traffic congestion and allow for formal passing opportunities. This would be safer, more reliable, and more efficient for emergency service providers and would be a benefit to those served by emergency service providers. This would be a less-than-significant impact. No mitigation is required.

Alternative 1

Construction activities associated with Alternative 1 would involve the closure of one lane of Washington Boulevard between Kaseberg Drive and Diamond Oaks Road for approximately 20 months, rather than the full closure associated with the proposed project. As with the proposed project, the City would implement a construction TMP (described in Section 2.5.7, *Best Management Practices*). The construction TMP would address emergency vehicle access and response, and would include performance standards related to the adequacy of emergency vehicle response that must be maintained at all times during construction. Furthermore, because Washington Boulevard would remain open to a limited degree during construction and would allow emergency vehicles to pass through the project site, the impact of Alternative 1 on emergency vehicle access and response would be less than the impact of the proposed project. Although northbound Washington Boulevard queuing is expected to extend beyond the Diamond K Estates Kaseberg Drive entrance, emergency vehicle access to Kaseberg Drive would be maintained along the road shoulder as required by the construction TMP. This would be a less-than-significant impact. No mitigation is required.

Impact TRA-6	**Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities**
Applicable Policies and Regulations	Placer County 2036 Regional Transportation Plan City of Roseville General Plan 2035, Circulation Element City of Roseville 2008 Bicycle Master Plan
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

Public Transit

No public transit lines run on the portion of Washington Boulevard in the study area, and the TMP implemented as part of the project would reduce construction impacts on public transportation. The proposed project would not modify the existing bus turnout on the west side of Washington Boulevard south of Pleasant Grove Boulevard. Because the project would improve travel times along the Washington Boulevard corridor and expand the roadway cross-section (particularly at the Andora Underpass), it would provide the potential for bus routing along this street. It would not have a negative impact on transit operations, travel times, or circulation. Therefore, impacts on the transit system would be less than significant, and no mitigation is required.

Bicycle and Pedestrian Facilities

The proposed project would substantially improve the environment for bicycle and pedestrian travel along the Washington Boulevard corridor. As described in Section 2.5.7, *Best Management Practices*, a construction TMP would be developed and implemented as part of the project and prior to any construction closures. The TMP would include closure of the multiuse path to all travelers during periods in which construction activity could pose safety concerns to those users. These closures would be advertised in advance and the notices would suggest alternate routes. The multiuse path would remain open and free of debris during periods in which construction activities do not pose any safety hazards to the facility.

Upon completion, the project would result in continuous Class II bike lanes on both sides of Washington Boulevard between Sawtell Road and Pleasant Grove Boulevard. In addition, a new sidewalk and a new segment of Class I multiuse trail would be constructed on the west side of Washington Boulevard between Kaseberg Drive, the power line corridor, and Diamond Oaks Road, thereby resulting in a continuous pedestrian facility between Sawtell Road and Pleasant Grove Boulevard. The project would also extend an existing Class I (off-street) multiuse path located on the east side of the roadway; after construction, it would extend parallel to Washington Boulevard from All-America City Boulevard on the south to Pleasant Grove Boulevard on the north, including an interim Phase 1 direct connection to the existing Class I path that connects to Derek Place.

The proposed project would not cause any inconsistencies with policies of the City's *2008 Bicycle Master Plan* or general plan, and would not interfere with the operation of an existing pedestrian facility or preclude the construction of a planned pedestrian facility. Therefore, impacts on the bicycle and pedestrian systems would be less than significant, and no mitigation is required.

<u>Alternative 1</u>

Public Transit

No public transit lines run on the portion of Washington Boulevard in the study area, and the TMP implemented as part of the project would reduce construction impacts on public transportation. Construction activities associated with Alternative 1 would have the same impact on public transit as would the proposed project.

Upon completion of construction, Alternative 1 would have the same physical characteristics and location as the proposed project. Thus, like the proposed project, Alternative 1 would not have a negative impact on transit operations, travel times, or circulation. Therefore, impacts on the transit system would be less than significant. No mitigation is required.

Bicycle and Pedestrian Facilities

As described in Section 2.5.7, *Best Management Practices*, a construction TMP would be developed and implemented as part of the project and prior to any construction closures under Alternative 1. The TMP would include closure of the multiuse path to all travelers during periods in which construction activity could pose safety concerns to them. These closures would be advertised in advance and the notices would suggest alternate routes. The multiuse path would remain open and free of debris during periods in which construction activities do not pose any safety hazards to the facility.

Upon completion of construction, Alternative 1 would have the same physical characteristics and location as the proposed project. Therefore, Alternative 1 would not cause any inconsistencies with policies of the City's *2008 Bicycle Master Plan* or general plan, and would not interfere with the operation of an existing pedestrian facility or preclude the construction of a planned pedestrian facility. Accordingly, the impacts of Alternative 1 on the bicycle and pedestrian systems would be the same as those described for the proposed project. This would be a less-than-significant impact. No mitigation is required.

3.16.3 References Cited

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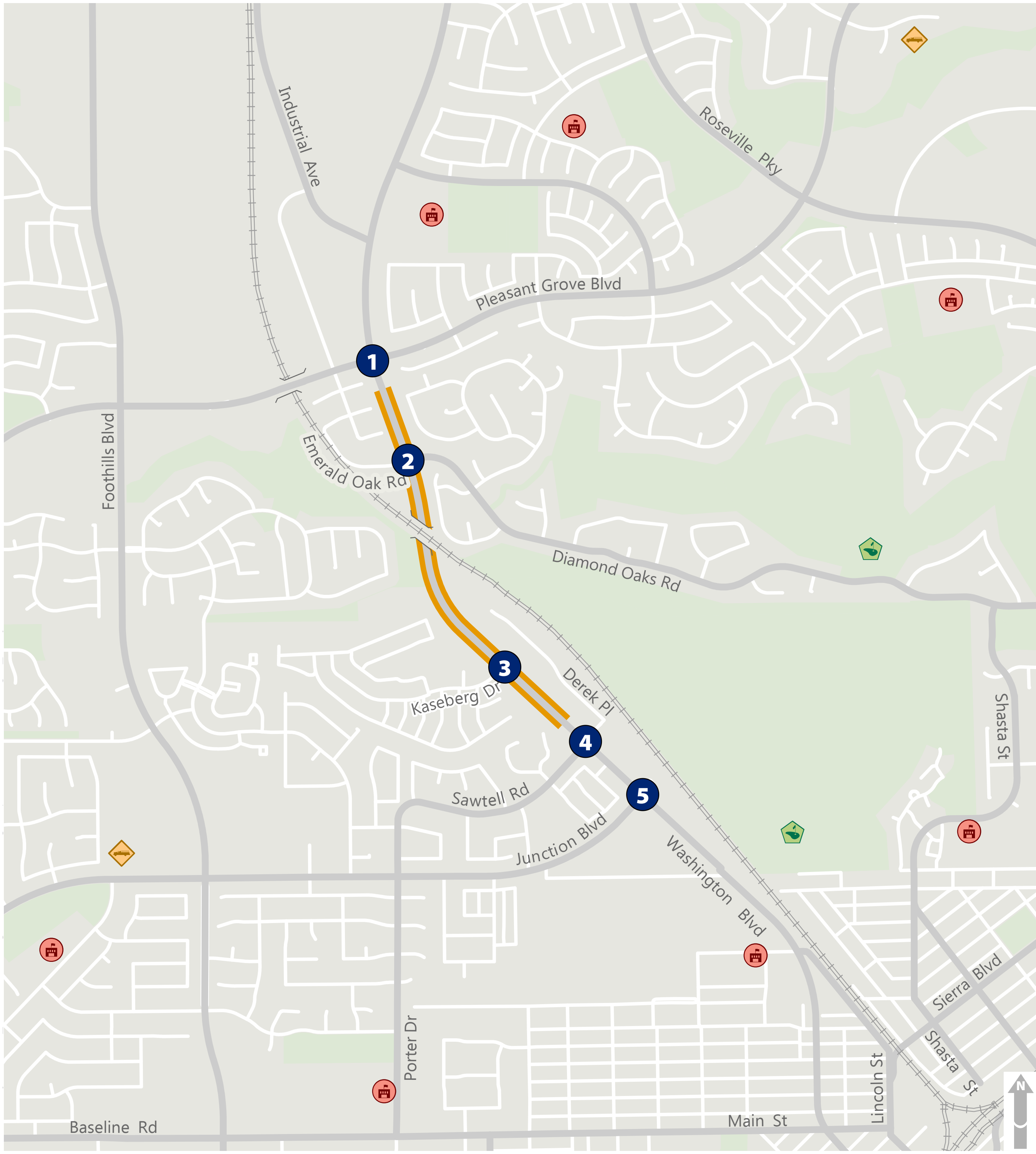
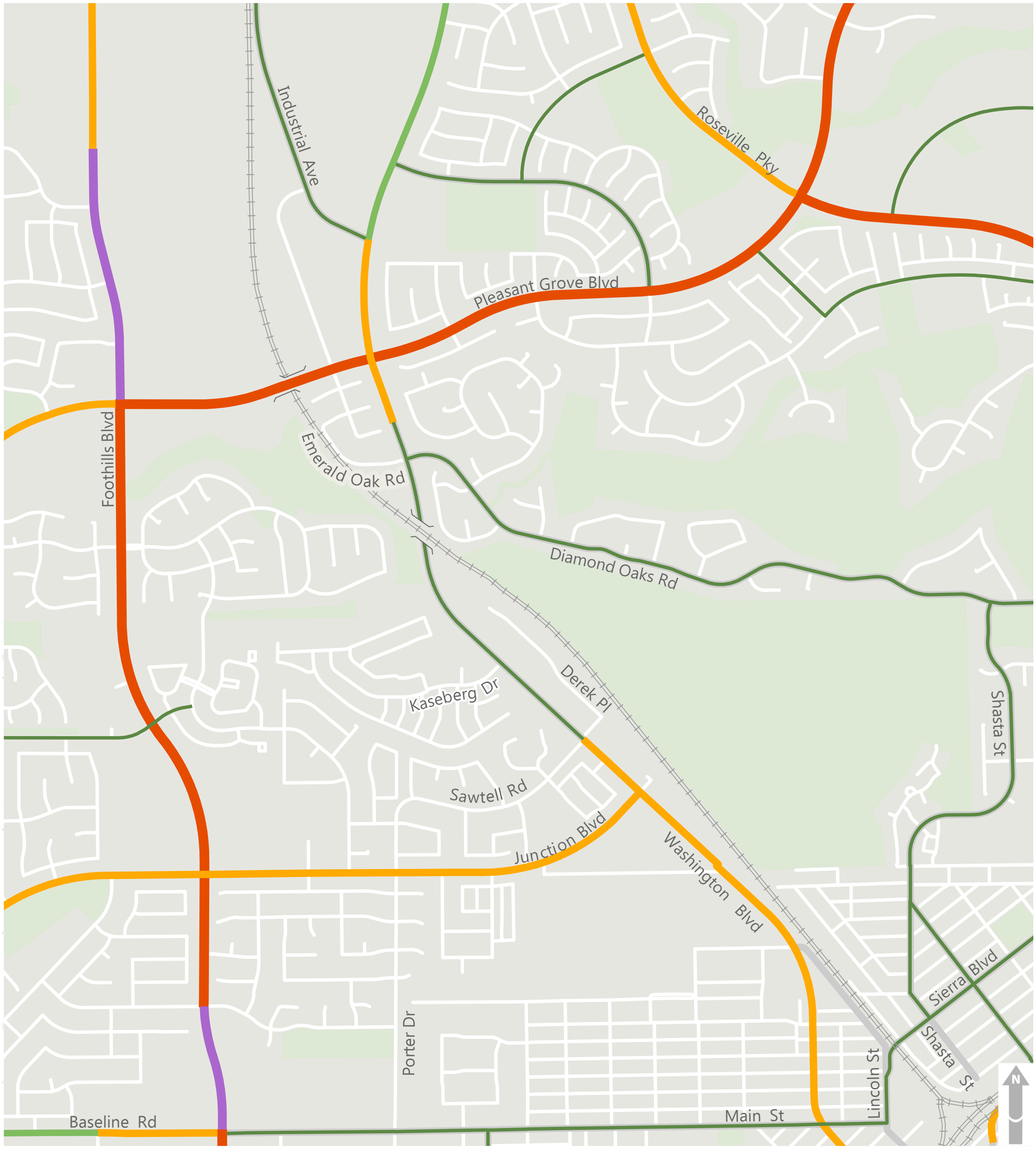


1 Study Intersection
Limits of Proposed Widening
Fire Station
Golf Course
School

Source: Fehr & Peers 2018.

Figure 3.16-1
Transportation/Traffic Study Area

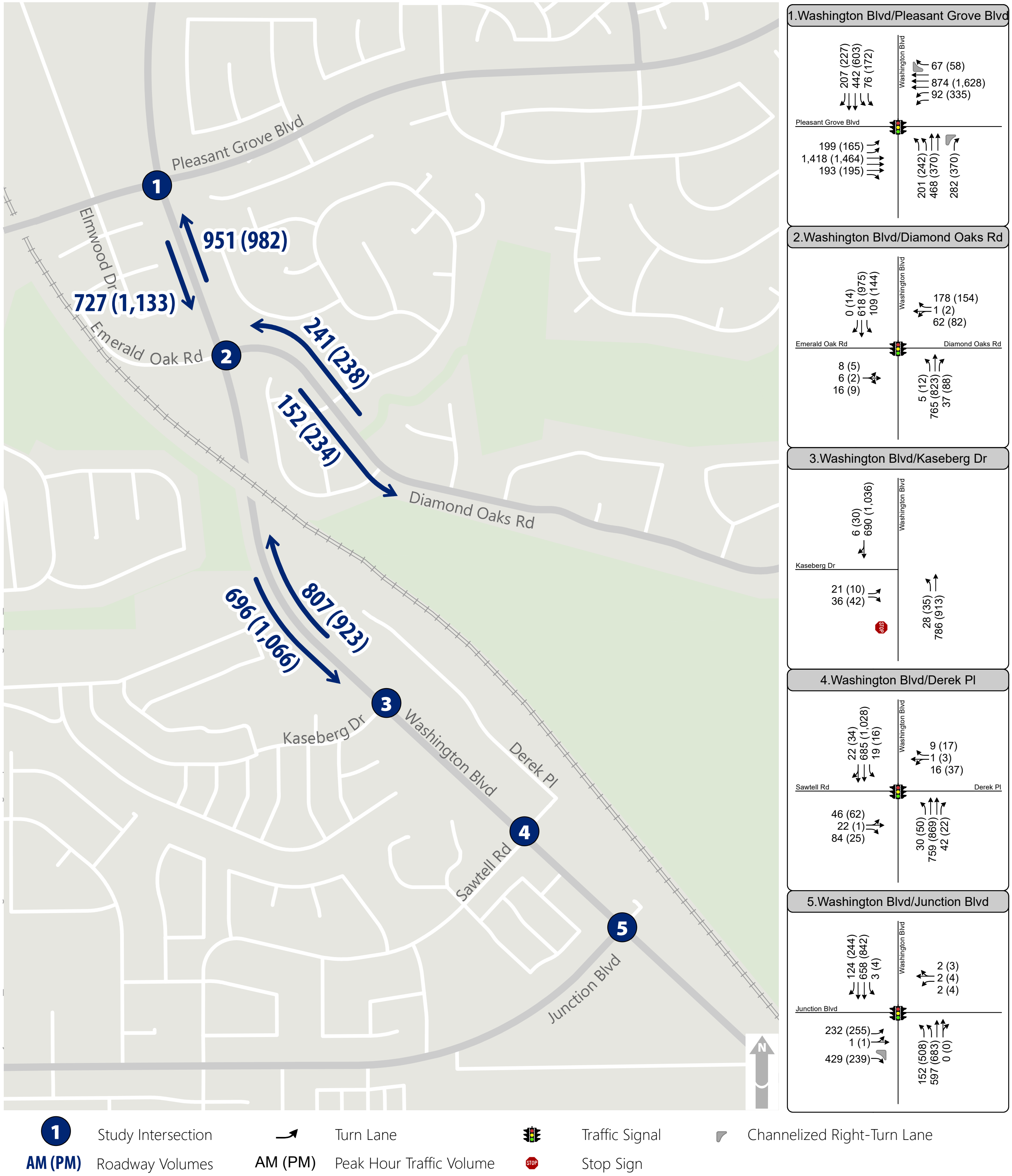


Total Number of Lanes (Both Directions)

- 2
- 3
- 4
- 5
- 6

Source: Fehr & Peers 2018.

Figure 3.16-2
Study Area Roadway Network and Number of Lanes



Note: The AM peak hour occurred from 7:30 – 8:30 AM, and the PM peak hour occurred from 4:45 to 5:45 PM.

Source: Fehr & Peers 2018.

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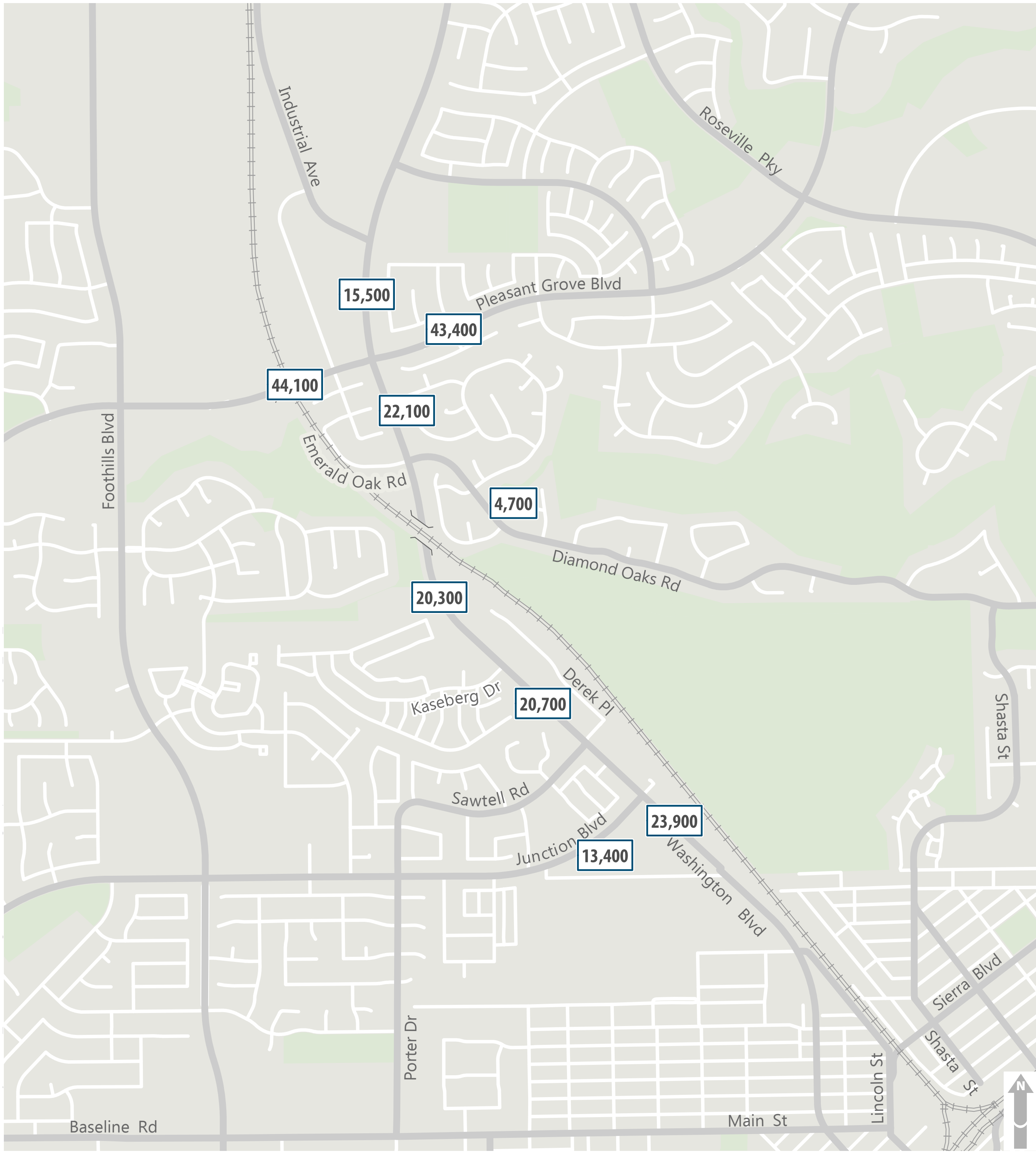
Figure 3.16-3
Peak Hour Traffic Volumes – Existing Conditions



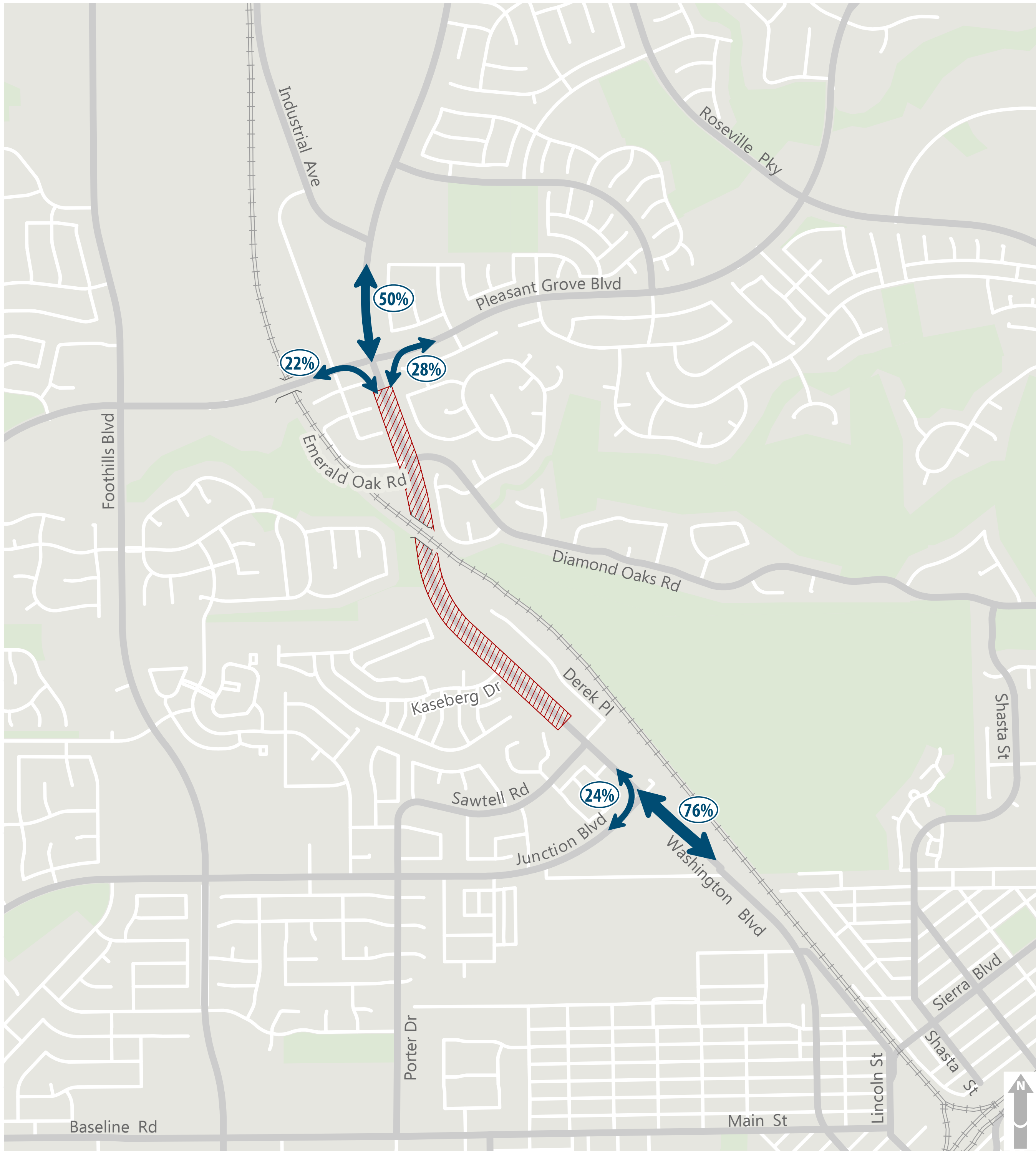
13,400 Average Daily Traffic (ADT)

Note:
Based on traffic counts collected in May 2016 while schools were in session.

Source: Fehr & Peers 2018.

ICF Graphics ... 00274.16 (1-22-2018)

Figure 3.16-4
Average Daily Traffic – Existing Conditions



50% Percent of Trips

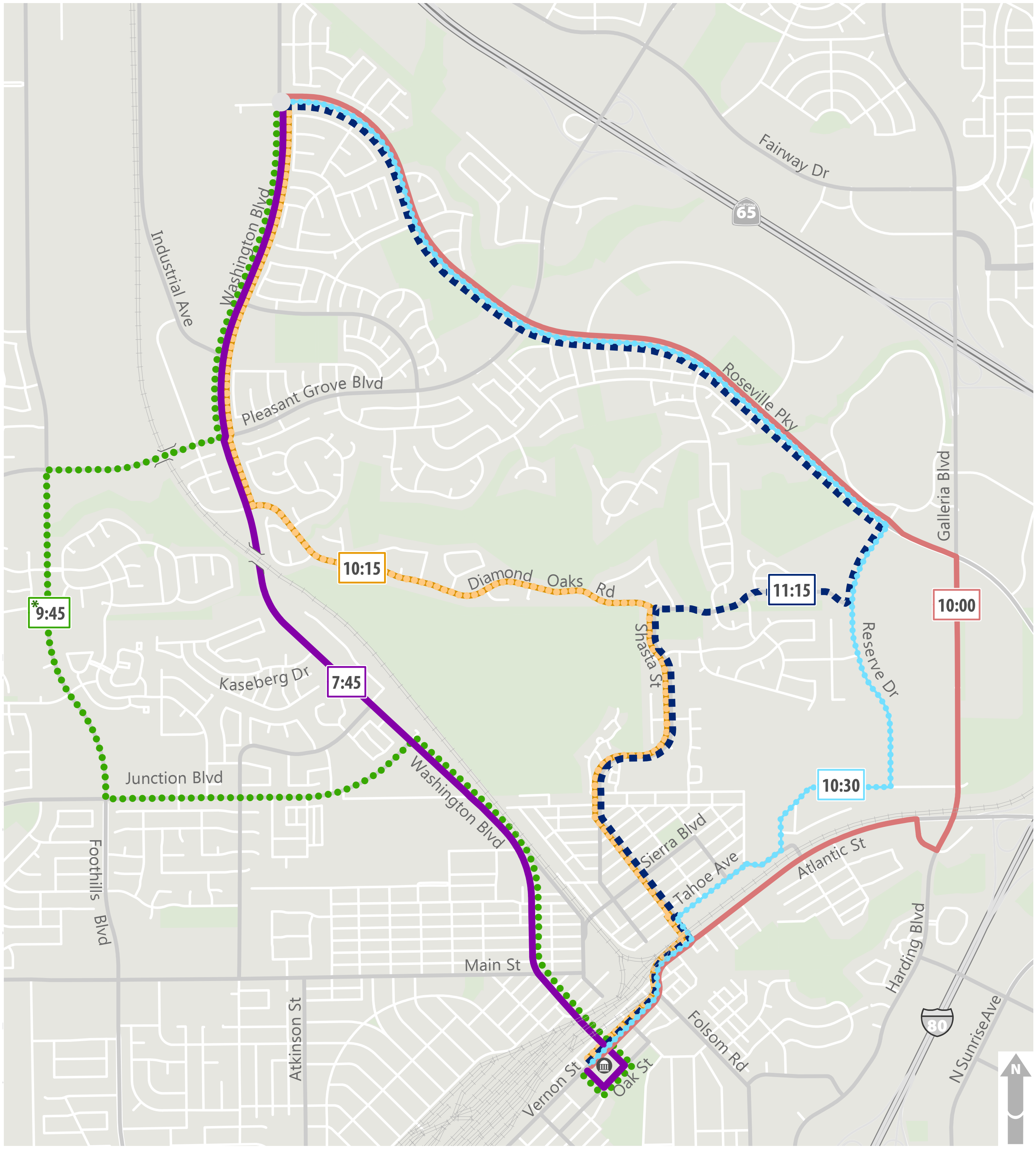
Study Corridor

Note:
Directionality estimated using AM and PM peak hour turning movements.

Source: Fehr & Peers 2018.

ICF Graphics ... 00274.16 (1-22-2018)

Figure 3.16-5
Existing Study Area Trip Directionality



City Hall

XX:YY minutes:seconds

Source: Fehr & Peers 2018.

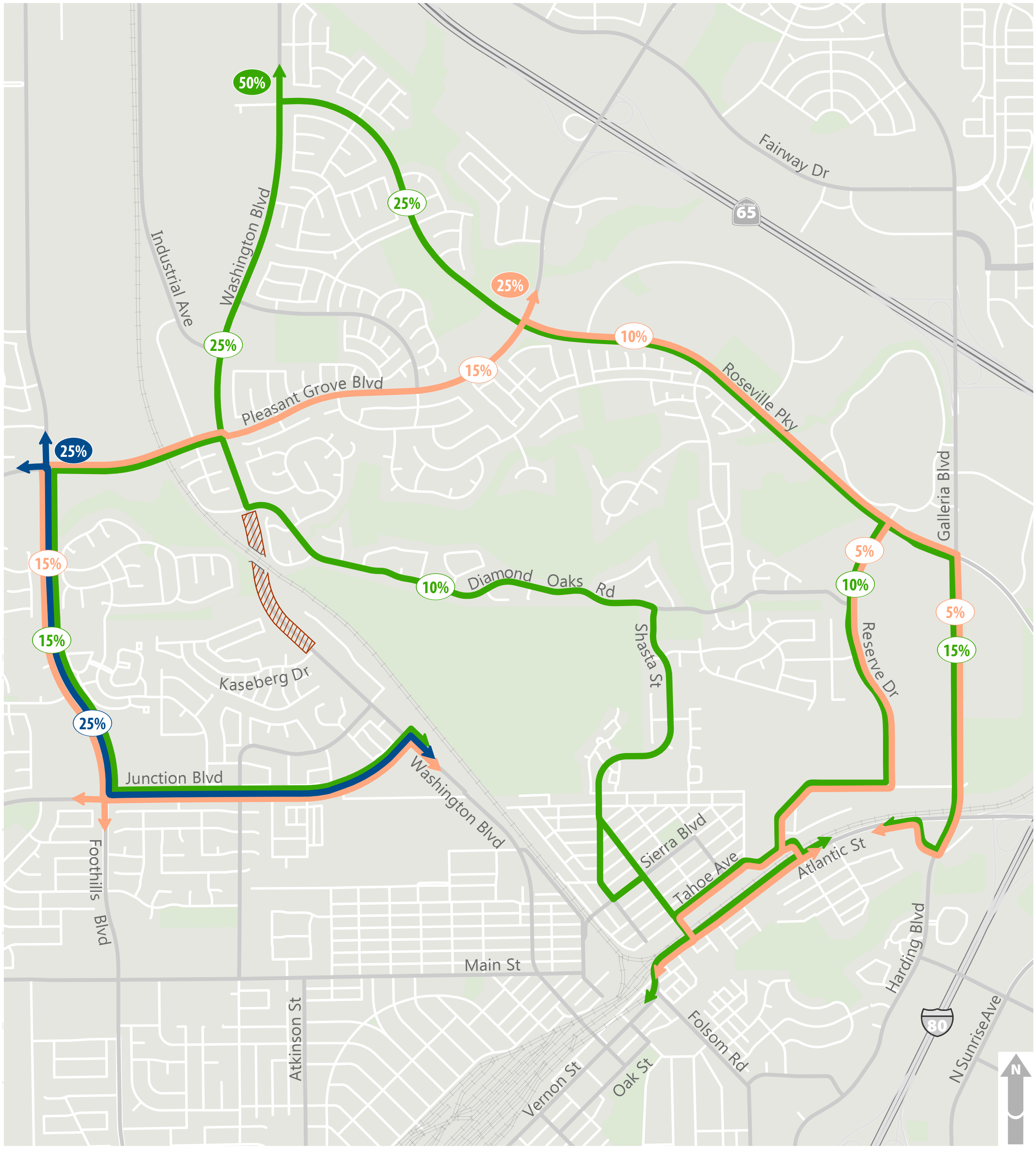
Notes:

1. Travel time survey conducted during PM peak hour while schools were not in session.
2. City Hall chosen as southerly destination, though travel time results would be comparable for other southerly origins/destinations.

*Travel time savings on this route increases as the southerly destination moves north (e.g., Old Roseville)

ICF Graphics ... 00274.16 (1-22-2018)

Figure 3.16-6
Travel Time Comparison – Existing Conditions



Redistribution of Trips
- to/from the north & south (50%)
- to/from the west & south (25%)
- to/from the east & south (25%)

XX% Percentage at North, West or East gateway
XX% Percentage on a given segment
Closed section of Washington Blvd.

Notes:
1. Routes shown are primarily for through trips and are based on conditions when nearby school are not in session.
2. Routing does not consider the extent to which additional congestion on a given route could cause further redistribution

Source: Fehr & Peers 2018.

Figure 3.16-7
Expected Traffic Redistribution During Project Construction

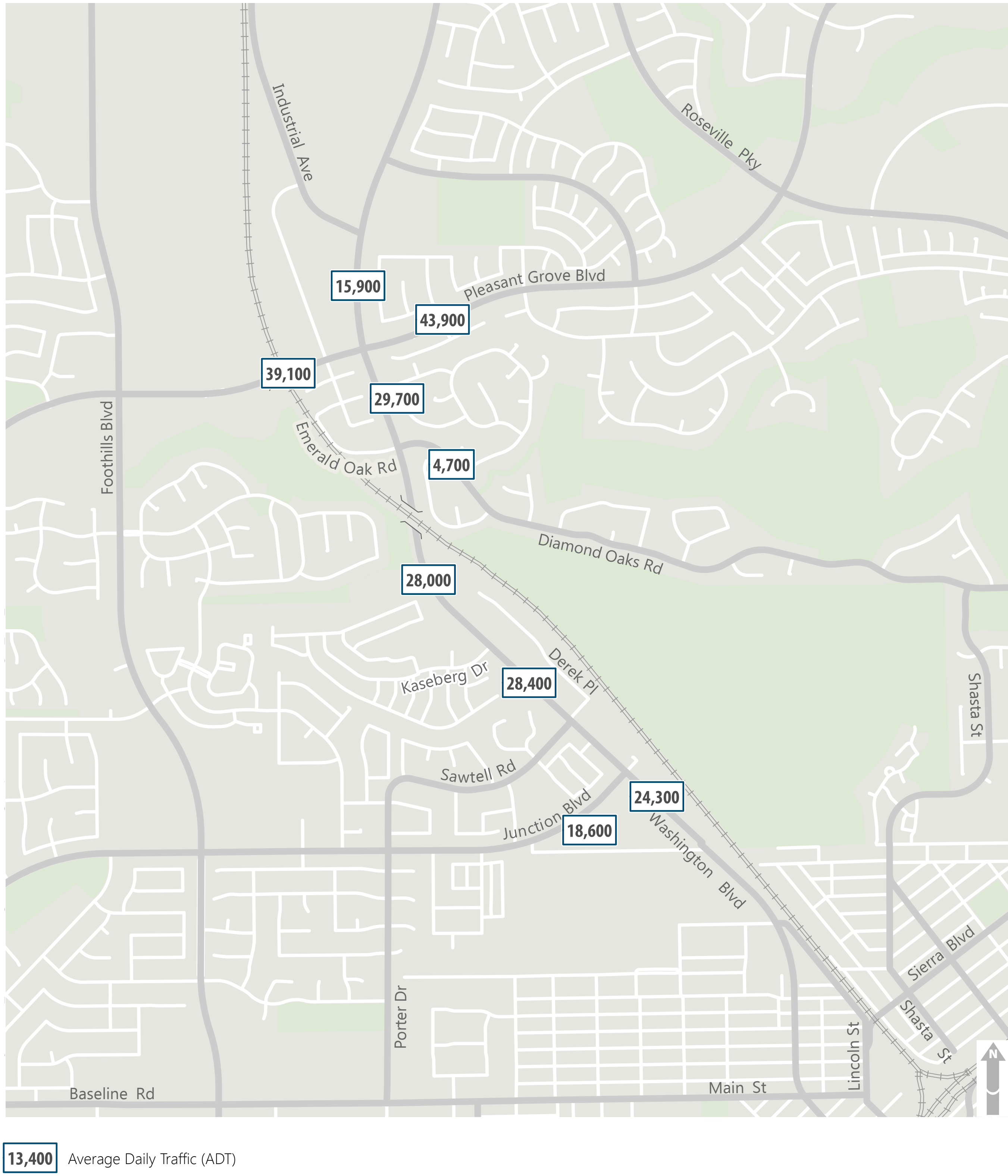
Source: Fehr & Peers 2018.

Figure 3.16-8
Traffic Queuing on Northbound Washington Boulevard – Alternative 1

Source: Fehr & Peers 2018.

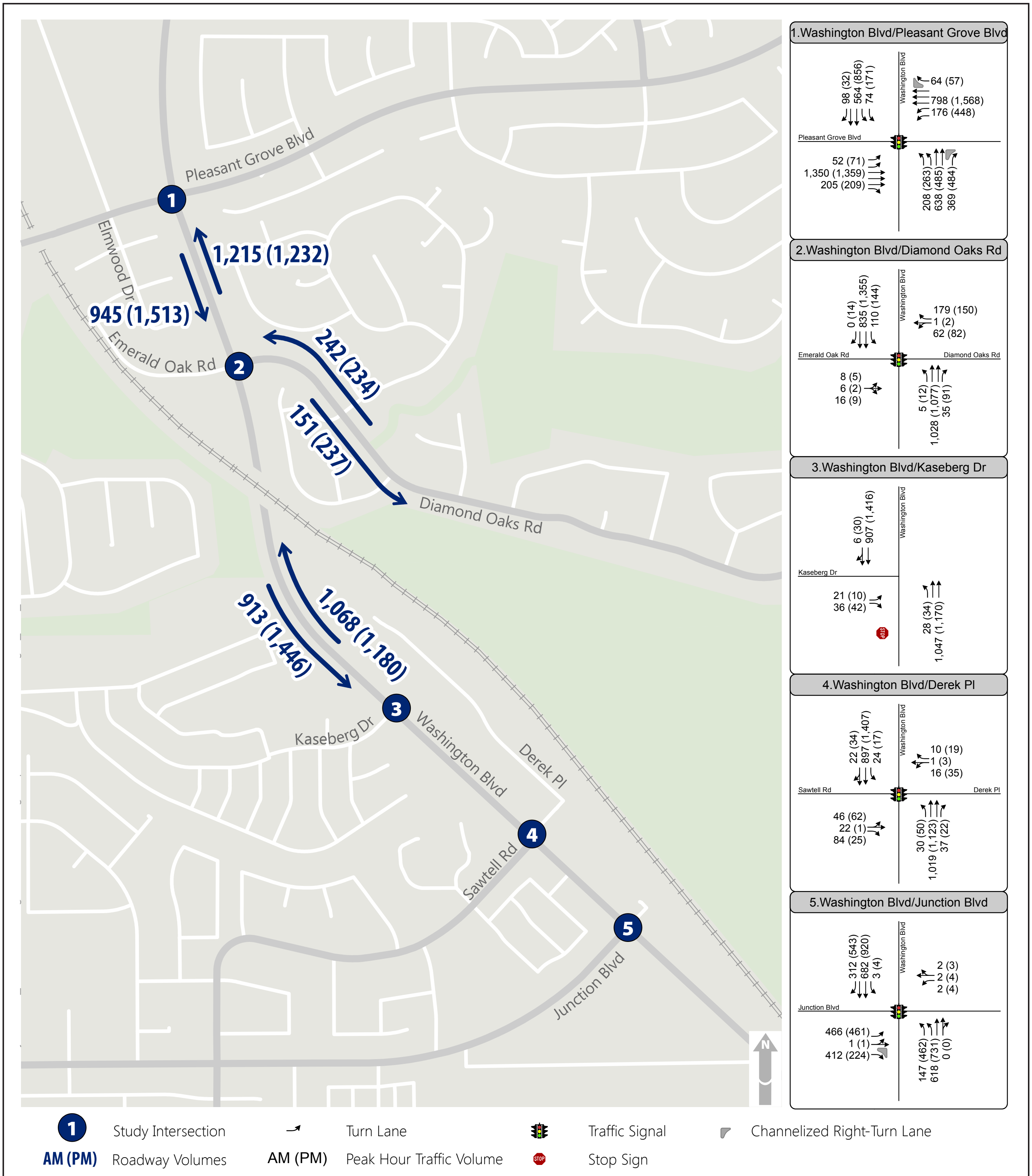
ICF Graphics ... 00274.16 (1-22-2018)

Figure 3.16-9
Traffic Queuing on Southbound Washington Boulevard – Alternative 1



Source: Fehr & Peers 2018.

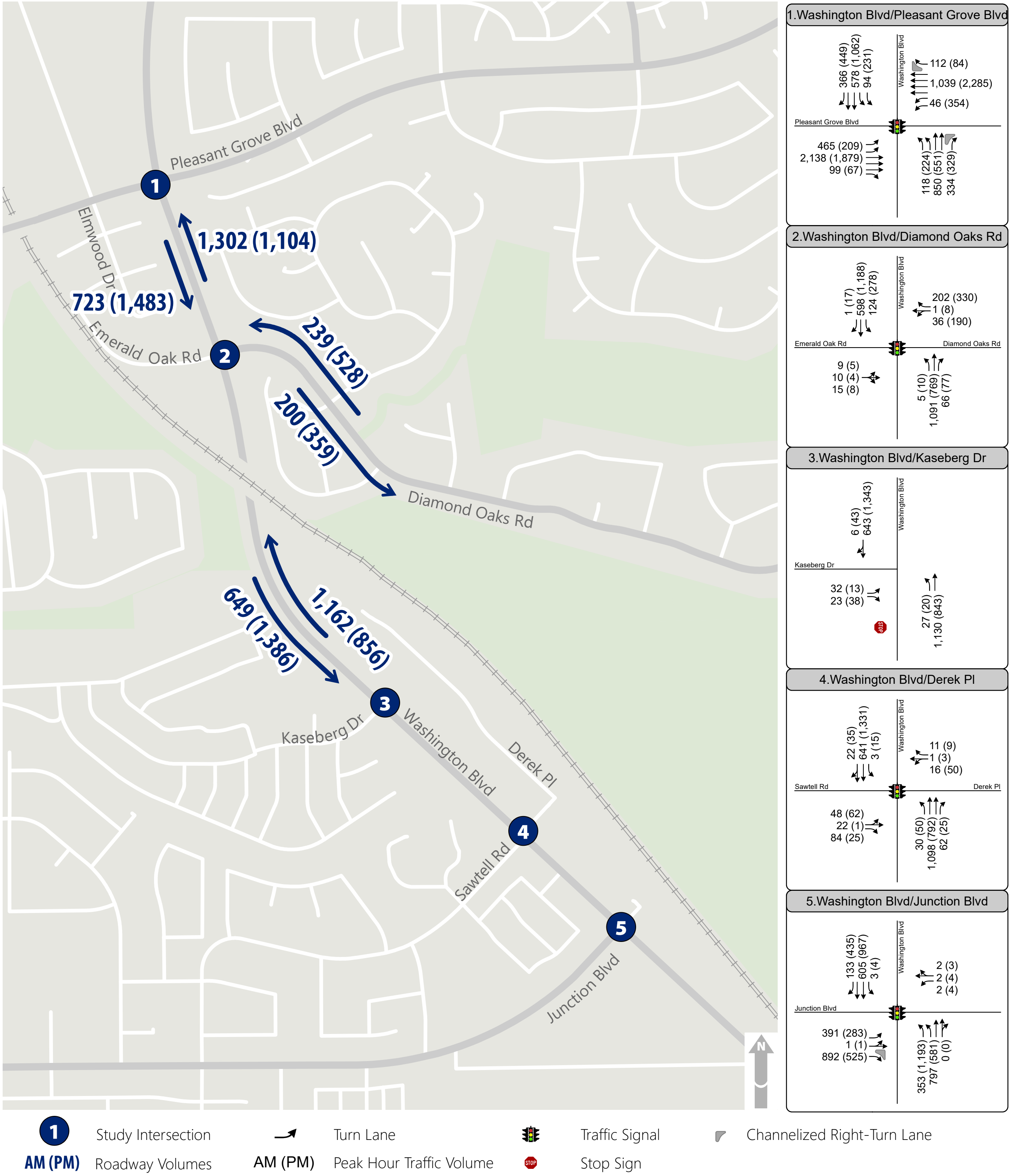
Figure 3.16-10
Average Daily Traffic – Existing Plus Project



Source: Fehr & Peers 2018.

ICF Graphics ... 00274.16 (1-22-2018)

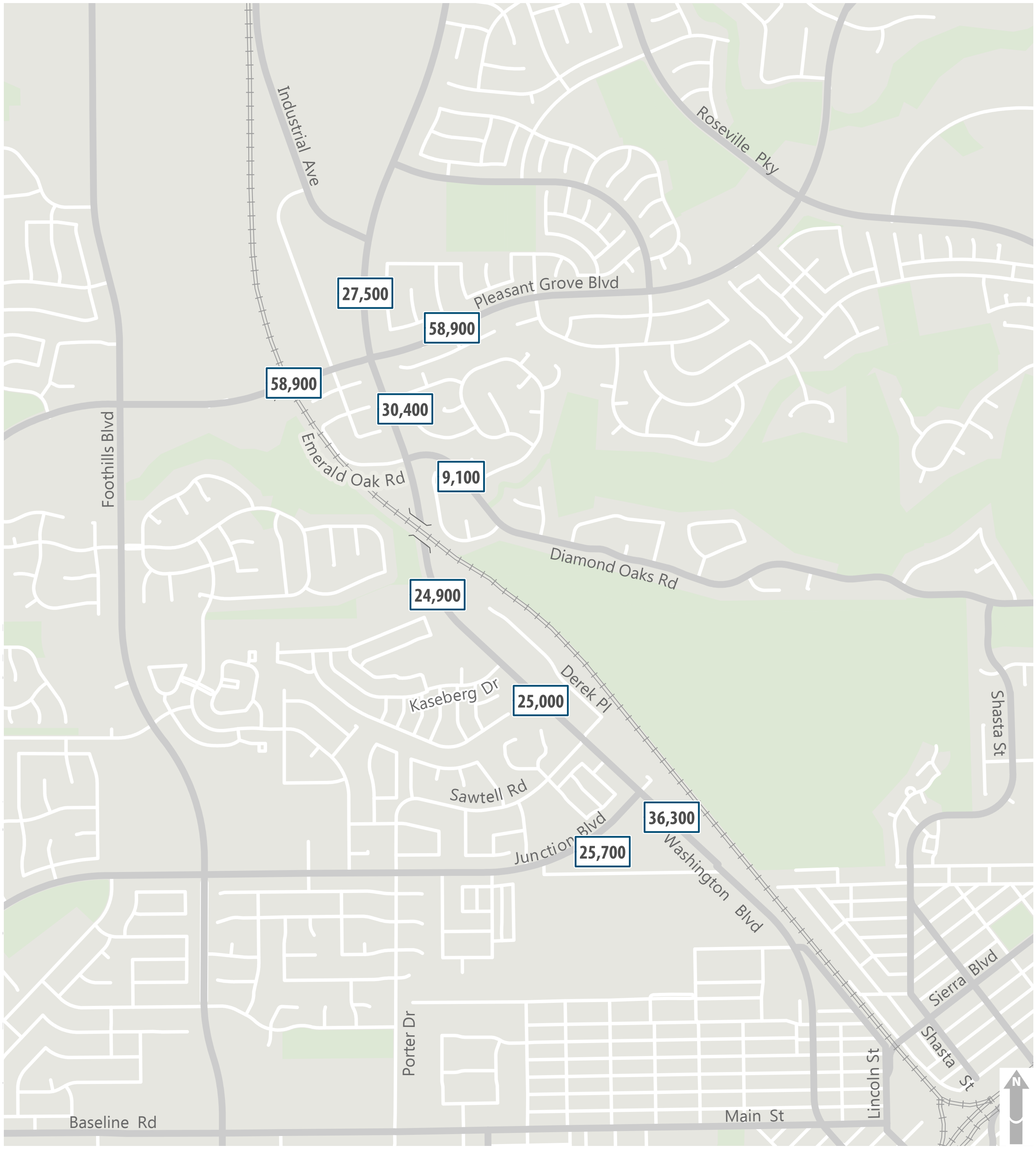
Figure 3.16-11
Peak Hour Traffic Volumes – Existing Plus Project



Source: Fehr & Peers 2018.

ICF Graphics ... 00274.16 (1-22-2018)

Figure 3.16-12
Peak Hour Traffic Volumes – No Project Alternative (2035)



13,400 Average Daily Traffic (ADT)

Source: Fehr & Peers 2018.

ICF Graphics ... 00274.16 (1-22-2018)

Figure 3.16-13
Average Daily Traffic – No Project Alternative (2035)

3.17 Utilities and Service Systems

This section discusses utilities and service systems in and around the project area, addresses regulation of those systems, and identifies potential impacts of the proposed project on utilities and service systems.

No comments were received in response to the Notice of Preparation for this EIR related to utilities and service systems.

3.17.1 Existing Conditions

Regulatory Setting

Federal

Clean Water Act

Federal environmental regulations based on the Clean Water Act (CWA) (33 United States Code [USC] 1251–1376) require the control of pollutants discharged by municipal wastewater treatment plants, as well as from Municipal Separate Storm Sewer Systems and construction sites. Discharges from these sources are regulated by the U.S. Environmental Protection Agency (EPA) under the National Pollution Discharge Elimination System (NPDES) permit process (40 Code of Federal Regulations Parts 122–125, 403). In California, EPA has delegated the administration of the federal NPDES program to the State Water Resources Control Board (State Water Board) and the nine Regional Water Quality Control Boards (Regional Water Boards).

Safe Drinking Water Act

The Safe Drinking Water Act (42 USC 300(f) et seq.) is intended to protect public health by regulating the nation's public drinking water and its sources, including rivers, lakes, reservoirs, springs, and groundwater. The act authorizes EPA to set national health-based standards for drinking water to protect against naturally occurring and human-made contaminants that may enter drinking water. EPA, states, and water providers are responsible for ensuring that standards are met.

Resource Conservation and Recovery Act

The Resources Conservation and Recovery Act (42 USC 6901 et seq.) establishes the provisions governing the operation and closure of municipal solid waste landfills that accept household waste. In California, the California Integrated Waste Management Board, under authority of EPA, administers the act.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (Water Code Sections 13000 et seq.) provides the basis for the state to implement the CWA. The Porter-Cologne

Act also provides the basis for the state to protect waters of the state from discharges from point sources, such as wastewater treatment plants, and nonpoint sources, such as stormwater collection systems. The Porter-Cologne Act give the State Water Board and the nine Regional Water Boards broad authority over water quality control and permitting in California. The State Water Board delegates regional authority for planning, permitting, and enforcement to the Regional Water Boards, including the Central Valley Regional Water Quality Control Board (Central Valley Water Board), which has jurisdiction over Roseville. The Central Valley Water Board issues and enforces permits for wastewater treatment plants, including the City's Pleasant Grove Wastewater Treatment Plant (Pleasant Grove WWTP) and Dry Creek Wastewater Treatment Plant (Dry Creek WWTP).

The Central Valley Water Board also is responsible for preparing and enforcing the *Water Quality Control Plan for the Sacramento and San Joaquin Valley River Basins*. That plan, known as the Basin Plan, is intended to protect and improve water quality in the water bodies under Central Valley Water Board jurisdiction.

The State Water Board has issued statewide general NPDES stormwater permits for designated types of construction and industrial activities, and has adopted a statewide permit applicable to all small municipalities, including the City. Section 3.9, *Hydrology and Water Quality*, provides additional discussion of stormwater discharge regulation.

Urban Water Management Planning Act

The Urban Water Management Planning Act (Water Code Sections 10610 et seq.) requires water purveyors that provide at least 3,000 acre-feet per year or that serve at least 3,000 customers to prepare an urban water management plan every 5 years. Among other things, the plan must describe existing facilities, identify past, current and projected water supplies, provide a water shortage contingency analysis, and discuss water conservation programs and recycled water uses. The plans must be submitted to the California Department of Water Resources for approval.

Waste Management Act

The California Integrated Waste Management Act (Public Resources Code Sections 40000 et seq.) governs solid waste planning and management. Among other things, the act requires that cities and counties divert at least 50% of the waste stream from landfills. The California Department of Resources Recycling and Recovery and the California Integrated Waste Management Board enforce the act's provisions.

City of Roseville

City General Plan 2035

The City's *General Plan 2035* contains the follow goals related to water, wastewater, stormwater, and solid waste (City of Roseville 2016a).

> **Water System Goal 1.** Maintain a water system that adequately serves the existing community and planned growth levels, ensuring the ability to meet projected water demand and to provide needed improvements, repairs, and replacements in a timely manner.

Water System Goal 2. Provide water services to all existing and future Roseville water utility customers. The provision of services by another provider may be considered where it is determined that such service is beneficial to the City and its utility customers or the provisions of City services is not feasible.

Water System Goal 3. Ensure that safe drinking water standards are met and maintained in accordance with State Department of Health Services and EPA regulations.

Wastewater and Recycled Water Systems Goal 1. Participate in a cooperative regional approach to wastewater treatment and discharge in order to maintain a system that adequately services planned growth within the City.

Wastewater and Recycled Water Systems Goal 2. Provide wastewater services to all existing and future Roseville development through the City's wastewater utility. The provision of services by another provider may be considered when it is determined that such service is beneficial to the City and its utility customers or the provision of City services is not feasible.

Wastewater and Recycled Water Systems Goal 3. Actively pursue the use of recycled water where appropriate and expand recycled water distribution system to deliver and meet estimated City demands for landscape irrigation.

Wastewater and Recycled Water Systems Goal 4. Meet State of California and EPA water quality standards for the discharge of treated wastewater, as well as meet State of California quality standards for the production of recycled water.

Groundwater Recharge and Water Quality Goal 1. Continue to improve surface water quality and accommodate water flow increases.

Groundwater Recharge and Water Quality Goal 2. Enhance the quantity and quality of groundwater resources.

Solid Waste, Source Reduction & Recycling Goal 1. Provide a healthy, safe, and economical system for solid waste collection and disposal.

Solid Waste, Source Reduction & Recycling Goal 2. Provide solid waste collection and disposal services to all existing and future Roseville development through the City's Solid Waste Utility. The provision of services by another provider may be considered where it is determined that such service is beneficial to the City and its customers or the provision of City services is not feasible.

Solid Waste, Source Reduction & Recycling Goal 3. Continue to participate in local and regional approaches to source reduction, material recovery, recycling, and solid waste disposal.

Urban Water Management Plan

Roseville's *2015 Urban Water Management Plan* provides an overview of city water management systems and practices. It describes the City's water system, past, present and projected water supplies, water conservation targets, water shortage contingency planning, and demand management measures (City of Roseville 2016b). The California Department of Water Resources approved the plan on March 30, 2017.

Environmental Setting

Water

The City provides treated water service, with Folsom Lake serving as the primary source of water. The City receives access to Folsom Lake through a contract with the U.S. Bureau of Reclamation, which manages the reservoir. The City's water treatment plant is capable of treating up to 100 million gallons per day of raw water. The San Juan Water District and the Placer County Water Agency provide treated water service to some areas within the city, and provide additional raw water for City treatment. Roseville uses multiple water sources, specifically, surface water, recycled water for landscaping, and, in dry years or emergency situations, groundwater. The City's aquifer and storage recovery program supplements the groundwater basin (City of Roseville 2016a).

Wastewater

Two wastewater treatment facilities, the Dry Creek WWTP and the Pleasant Grove WWTP, serve Roseville and portions of unincorporated Placer County. The Dry Creek WWTP serves the project area and vicinity. It is capable of treating 18 million gallons per day (mgd) of average dry weather flow and up to 45 mgd during peak wet weather flow. The Dry Creek WWTP currently operates at about 50% of capacity. The Pleasant Grove WWTP, which serves the north and northwest portions of Roseville and the unincorporated Sunset Industrial Area, is rated as capable of treating 12 mgd during average dry weather conditions and 30 mgd during peak weather flow. The plant operates at about 60% of capacity. Both WWTPs produce recycled water for multiple uses (City of Roseville 2016a).

Stormwater

Stormwater drainage facilities in urbanized areas of Roseville, including the project area, consist of surface gutters, subsurface drainage pipes, canals, and retention basins. Section 3.3.9, *Hydrology and Water Quality*, provides a full discussion of project site drainage characteristics.

Landfill

The City's Solid Waste Utility collects solid waste generated within Roseville and hauls it to the materials recovery facility at Western Placer Waste Management Authority's Western Regional Sanitary Landfill. The Western Placer Waste Management Authority is a joint powers authority consisting of Placer County and the Cities of Roseville, Rocklin and Lincoln. The landfill is a Class II/III non-hazardous municipal solid waste facility located between Roseville and Lincoln in unincorporated Placer County. The materials recovery facility processes municipal solid waste, green and wood waste, and separated recyclable material Materials that are not recovered are disposed into the landfill (Western Placer Waste Management Authority 2015).

The landfill has a daily permitted capacity of 1,900 tons per day and a total permitted capacity of 36,350,000 cubic yards (California Department of Resources Recycling and Recovery 2017). As of July 1, 2013, the landfill had a remaining capacity of 25,677,600 cubic yards (City of Roseville 2016a). The landfill has an estimated closure date of 2058 (California Department of Resources Recycling and Recovery 2017).

3.17.2 Environmental Impacts

Methods for Analysis

This analysis addresses the proposed project's potential adverse effects on the natural and built physical environment. Existing conditions serve as the baseline for measuring the project's potential impacts on utilities and service systems.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- 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.
- Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed.
- Result in a determination by the wastewater treatment provider that 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.
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Comply with federal, state, and local statutes and regulations related to solid waste.

Impacts and Mitigation Measures

Both phases of the proposed project and Alternative 1 (one lane closure during construction) would result in similar impacts on utilities and service systems. Alternative 2 (No Project) would not result in any impacts on utilities and service systems and is not discussed further in this section.

Impact UT-1	Exceedance of wastewater treatment requirements of the applicable Regional Water Quality Control Board
Applicable Policies and Regulations	Federal Clean Water Act Porter-Cologne Act National Pollutant Discharge Elimination System Program City of Roseville Design and Construction Standards City of Roseville General Plan 2035, Public Facilities Element
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

The proposed project generally involves widening a 0.85-mile section of Washington Boulevard from two to four lanes, adding a signal at the Washington Boulevard/Kaseberg Drive intersection, adding Class I and II bike facilities and replacing the Andora Underpass. The proposed project would not produce wastewater nor include land uses such as residences that would require wastewater treatment services. The project is not subject to wastewater treatment requirements.

As discussed in Section 3.9, *Hydrology and Water Quality*, project features include a bioretention basin to meet stormwater quality and management requirements. In addition, the City would prepare a post-construction stormwater quality plan to demonstrate how the project's drainage components would satisfy NPDES requirements. Thus, the project's impact regarding wastewater treatment requirements would be less than significant. No mitigation is required.

Alternative 1

Alternative 1 would result in the same types of effects as described above for the proposed project. This impact would be less than significant and no mitigation is required.

Impact UT-2	Construction of new water or wastewater treatment facilities or expansion of existing facilities, with the potential to cause significant environmental effects
Applicable Policies and Regulations	Federal Clean Water Act Porter-Cologne Act City of Roseville 2015 Urban Water Management Plan
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

The proposed project is a transportation project that does not include new water or wastewater treatment facilities or the expansion of existing facilities. There would be no impact and no mitigation is required.

Alternative 1

Similar to the proposed project, Alternative 1 does not include new water or wastewater treatment facilities or the expansion of existing facilities. There would be no impact and no mitigation is required.

Impact UT-3	Construction of new stormwater drainage facilities, or expansion of existing facilities, with the potential to cause significant environmental effects
Applicable Policies and Regulations	Federal Clean Water Act Porter-Cologne Act City of Roseville General Plan 2035, Public Facilities Element
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

As discussed in Chapter 2, *Project Description* and 3.9, *Hydrology and Water Quality*, the project would include modifications to stormwater drainage facilities. These facilities, which are described in detail in the *Washington/Andora Widening Project Hydrology and Hydraulics Study* (Wood Rogers 2017) and are intended to address the drainage needs of the proposed project and to prevent stormwater flows from causing environmental effects. Thus, the proposed project's impacts related to construction of new stormwater drainage facilities would be less than significant. No mitigation is required.

Alternative 1

Similar to the proposed project, Alternative 1 would have less-than-significant environmental impacts related to the modification of stormwater drainage facilities. No mitigation is required.

Impact UT-4	Creation of a need for new or expanded entitlements or resources for sufficient water supply
Applicable Policies and Regulations	City of Roseville 2015 Urban Water Management Plan
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

The proposed project is a road widening project that is intended to improve vehicular and pedestrian circulation in the immediate area. No residences, commercial structures, or similar water-consuming land uses would be constructed, nor would the project directly contribute to a population increase that would require additional water supplies. There would be no impact and no mitigation is required

Alternative 1

Alternative 1 would not result in the creation of a need for new or expanded entitlements or resources for sufficient water supply. There would be no impact and no mitigation is required.

Impact UT-5	Project-related exceedance of existing wastewater treatment capacity
Applicable Policies and Regulations	City of Roseville General Plan 2035, Public Facilities Element
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

The proposed project generally involves widening a 0.85-mile section of Washington Boulevard from two to four lanes, adding a signal at the Washington Boulevard/Kaseberg Drive intersection, adding Class I and II bike facilities, and replacing the Andora Underpass. The proposed project would not produce wastewater or include land uses such as residences that would require wastewater treatment services. The project would not directly contribute to population growth that would require wastewater treatment capacity. There would be no impact and no mitigation is required

Alternative 1

Alternative 1 would not produce wastewater nor include land uses such as residences that would require wastewater treatment services. The project would not directly contribute to population growth that would require wastewater treatment capacity. There would be no impact and no mitigation is required.

Impact UT-6	Project-related exceedance of the relevant landfill's permitted capacity
Applicable Policies and Regulations	Resources Conservation and Recovery Act California Integrated Waste Management Act City of Roseville General Plan 2035, Public Facilities Element
Significance with Policies and Regulations	Proposed Project: Less than Significant Alternative 1: Less than Significant
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: Less than Significant Alternative 1: Less than Significant

Proposed Project

The excess excavated material associated with project construction would be hauled to an approved disposal site. As noted above in Section 3.17.1 under *Environmental Setting*, the Western Regional Sanitary Landfill has approximately 39 years of capacity remaining. The landfill could accommodate any project-related non-hazardous solid waste.

Operation of the new underpass and widened roadway would not generate additional solid waste. Therefore, the project's impact on permitted landfill capacity would be less than significant. No mitigation is required.

Alternative 1

Alternative 1 would result in the same level of impact as described for the proposed project. The impact would be less than significant and no mitigation is required.

Impact UT-7	**Inconsistency with federal, state, and local statutes and regulations related to solid waste**
Applicable Policies and Regulations	Federal Resources Conservation and Recovery Act California Integrated Waste Management Act City of Roseville General Plan 2035, Public Facilities Element
Significance with Policies and Regulations	Proposed Project: No Impact Alternative 1: No Impact
Mitigation Measures	Proposed Project and Alternative 1: None required
Significance after Mitigation	Proposed Project: No Impact Alternative 1: No Impact

Proposed Project

The proposed project would generate waste only during construction activities. The City and its contractors would comply with all federal, state, and local laws and regulations related to the disposal of solid waste. There would be no impact and no mitigation is required.

Alternative 1

Alternative 1 would not be inconsistent with federal, state, and local statutes and regulations related to solid waste. Similar to the proposed project, there would be no impact and no mitigation is required.

3.17.3 References Cited

California Department of Resources Recycling and Recovery. 2017. *Facility/Site Summary Details: Western Regional Landfill (31-AA-0210)*. Data updated continuously. Available: http://www.calrecycle.ca.gov/SWFacilities/Directory/31-AA-0210/Detail/. Accessed: December 6, 2017.

City of Roseville. 2016a.*General Plan 2035*. Adopted June 15. Available: https://www.roseville.ca.us/government/departments/development_services/planning/general_plan_development_guidelines/.

———. 2016b. *2015 Urban Water Management Plan*. Final. May 18. Prepared by West Yost Associates.

Western Placer Waste Management Authority. 2015. About WPWMA. Available: http://www.wpwma.com/about-wpwma/. Accessed: December 6, 2017.

Wood Rogers. 2017. *Washington/Andora Widening Project Hydrology and Hydraulics Study.* April.

Chapter 4
Other CEQA Considerations

4.1 Introduction

This chapter identifies cumulative impacts, significant and unavoidable impacts, significant irreversible environmental changes, and growth-inducing impacts associated with the proposed project.

4.2 Cumulative Impacts

The State CEQA Guidelines require that an EIR address the cumulative impacts of a proposed project when the project's incremental contribution to that impact is cumulatively considerable (14 California Code of Regulations [CCR] Section 15130[a]). *Cumulatively considerable* means that the incremental effects of an individual project are considerable when viewed in connection with the impacts of past, current, and probable future projects (14 CCR Section 15065[c]). CEQA defines cumulative impacts as "two or more individual effects which, when considered together, are considerable," and suggests that cumulative impacts may "result from individually minor but collectively significant projects taking place over a period of time" (14 CCR Section 15355). CEQA documents are required to include a discussion of potential cumulative effects when those effects would be significant, and the State CEQA Guidelines suggest two possible methods for assessing potential cumulative effects: 1) the "list" approach and 2) the "projection" approach (14 CCR Section 15130). The cumulative impacts section of an EIR need not discuss impacts that do not result in part from the project evaluated in the EIR (14 CCR Section 15130[a]1).

The focus of analysis is to identify the proposed project's contribution to cumulative impacts that are significant and to assess whether the proposed project's contribution would be considerable. Where the proposed project would have no impact on a resource or can be clearly shown to have a less-than-considerable contribution to potential cumulative impacts, the discussion of cumulative impacts is brief. Where cumulative impacts can be shown to be less than significant in the area where the proposed project would contribute, the discussion is also brief. Where the proposed project has the potential to contribute considerably to a significant cumulative impact, the analysis is more detailed but remains focused on the proposed project's potential contribution rather than articulating the cumulative impact comprehensively.

4.2.1 Approach to Analysis

State CEQA Guidelines Section 15130 states that the discussion of cumulative impacts need not provide as much detail as the discussion of impacts attributable to the project alone. The level of detail should be guided by what is practical and reasonable.

According to the State CEQA Guidelines, an adequate discussion of significant cumulative impacts should contain the following elements.

- An analysis of related future projects or planned development that would affect resources in the project area similar to those affected by the proposed project.
- A summary of the expected environmental effects to be produced by those projects.
- A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative impacts.

To identify the related projects, State CEQA Guidelines Section 15130(b) recommends either the list or projection approach. The project approach utilizes a list of past, present, and probable future projects producing related or cumulative impacts, while the projection approach uses a summary of projections contained in an adopted general plan or related planning document or in an adopted or certified environmental document which described or evaluated regional or area-wide conditions contributing to the cumulative impact (State CEQA Guidelines Section 15130[b][1]). This analysis employs the projection approach, and defines the cumulative condition as the future development envisioned in the general plans for Roseville and Placer County, the Placer County Air Pollution Control District thresholds, the Sacramento Area Council of Governments (SACOG) *2016 Metropolitan Transportation Plan/Sustainable Communities Strategy* (MTP/SCS), and Roseville's *Transportation System 2035 Capital Improvement Program* (CIP).

As provided in State CEQA Guidelines Section 15130(a)(1), this analysis does not consider any environmental resources for which there are no significant cumulative impacts. The analyses in Chapter 3 of this draft EIR indicate that the proposed project would have no impact on agricultural and forestry resources, mineral resources, or public services. Because the proposed project would have no impact on these resources, it cannot contribute to any potential cumulative impacts and these resource areas are not discussed further in the cumulative impact analysis.

4.2.2 Cumulative Condition

This cumulative analysis considers projected growth and past, present, and reasonably foreseeable, relevant projects in combination with the impacts of the proposed project. The analysis focuses primarily on the combined effects of growth in the project vicinity, transportation projects in the project vicinity, and development actions or projects with overlapping geographic or temporal effects that, when combined with the project, could contribute to cumulative impacts. Taken together, the combined environmental influence of these past, present and future changes is referred to as the cumulative condition.

Roseville's *General Plan 2035*, adopted in 2016, comprises the City's comprehensive, long-term vision for physical development and resource conservation. The general plan and its growth projections are considered in combination with the project for assessing cumulative impacts. Although the general plan promotes relatively dense urban development patterns, development associated with projected population growth would continue to result in the conversion of agricultural land and environmental resources to other uses. As noted in the

General Plan 2035, Roseville's population has increased substantially, from 26,127 in 1982 to 133,680 in 2015, and the city has also experienced considerable commercial, office and industrial growth. Roseville's population is expected to continue to increase; the general plan projects a 2035 population of 197,653. Similarly, the *Placer County General Plan* provides a view of future development in the areas surrounding Roseville. This broader view is valuable for cumulative impacts that reach beyond the city limits, such as for cumulative impacts on biological resources.

The SACOG MTP/SCS serves as a regional transportation plan for the six-county Sacramento Metropolitan Planning Area, which includes Sacramento, Yolo, Yuba, Sutter, El Dorado and Placer counties and the 22 cities within those counties (excluding the Tahoe Basin). The MTP/SCS provides regional land use and growth forecasts, and identifies the transportation improvements intended to serve projected land use patterns and population growth for a 20-year period. The MTP/SCS must include all city, county, and public agency transportation projects with federal transportation funding, as well as all transportation projects that are regionally significant for potential air quality impacts.

In addition, the analysis considers transportation projects that could affect the same resources as the project and potentially result in a cumulative impact. Roseville uses a CIP travel demand model to analyze future roadway conditions in the city. The model assumes buildout of Roseville, including various approved specific plans such as the Sierra Vista, Creekview, and Amoruso Ranch Specific Plans.[1] Modeled land uses outside of the city represent projected absorption of these outlying areas by 2035. Roseville's traffic model also includes its existing roadway system along with planned CIP roadway and intersection improvements. The CIP project list is reasonably foreseeable based on a strong assumption (and past history) that the projects are likely to be fully funded by the time they are needed based on the current fees being collected. Figure 4-1 shows the location of planned CIP roadway and intersection improvement projects that would contribute to the cumulative condition.

4.2.3 Cumulative Impact Analysis by Resource

Aesthetics

As described in Section 3.1, *Aesthetics*, flat topography, existing development, transportation infrastructure, and mature trees and shrubs, prevent distant views of and from the project corridor. Therefore, the geographical context area for the analysis of potential cumulative aesthetic impacts consists of the areas adjacent to, within, and in the vicinity of the project alignment. Because views are limited and there are no scenic vistas or officially designated scenic roadways within or near the project corridor, the project has no potential to contribute to cumulative impacts on those resources; therefore, these issues are not considered further in the context of the cumulative analysis. Furthermore, although the proposed project and the cumulative condition each have the potential to contribute to the degradation of visual character, because views of and from the project corridor are localized and limited to the immediate vicinity, the proposed project would not contribute to any

[1] The selection of the 2035 CIP versus 2035 cumulative travel demand models would not appreciably change the study findings; the cumulative daily forecasts on Washington Boulevard are within 1.5% of each other.

potential cumulative aesthetic impacts that result at distance from the project corridor. The proposed project would therefore have a less-than-considerable contribution to cumulative aesthetic impacts.

Air Quality

Air quality analysis is by its nature cumulative. The analysis of the proposed project's pollutant emissions on regional air quality is undertaken by comparison with the regional air quality plans and emissions thresholds of the Placer County Air Pollution Control District. See Section 3.3, *Air Quality,* for the discussion of cumulative air quality impacts.

Biological Resources

The proposed project's cumulative impact analysis on sensitive biological resources (special-status species, riparian communities, and waters of the United States/waters of the State) is based on level and acreages of potential impacts associated with the project and known future development projected for the region under the City of Roseville and Placer County General Plans and the MTP/SCS. Future projects that are likely to affect sensitive biological resources within the greater Placer County region include private development and transportation projects (e.g., State Route 65 widening and Placer Parkway Phase I projects). A summary of the proposed project's potential cumulative impacts on special-status species, riparian communities, waters of the United States/waters of the State, and native oak trees is provided below.

Special-Status Species

The proposed project would have potential temporary impacts on valley elderberry long beetle, western spadefoot toad, northwestern pond turtle, migratory birds and raptors, and special-status bat species. Potential impacts on habitat for these species would be either avoided through the implementation of avoidance mitigation measures or would be temporary and would not contribute to the cumulative loss of habitat.

The proposed project would result the loss of potential habitat for two federally listed species: vernal pool fairy shrimp and vernal pool tadpole shrimp. The incremental loss of habitat for these special-status species within the region would be very small, 0.08 acre of direct loss. Implementation of a mitigation measure to compensate for this small amount of habitat loss would reduce the impact to a less-than-significant level. Therefore, impacts on vernal pool fairy shrimp and vernal pool tadpole shrimp from the proposed project are not expected to be cumulatively considerable.

Riparian Communities

Cumulative impacts on riparian communities would result from construction of other general development projects in the city of Roseville and Placer County. Construction of the proposed project would add to the cumulative loss of riparian communities. However, with implementation of the measures prescribed for avoiding or minimizing impacts and compensating for the remaining impacts, the proposed project's incremental contribution to cumulative impacts on riparian communities would not be cumulatively considerable.

Waters of the United States/Waters of the State

Cumulative impacts on waters of the United States would result from construction of other general development projects in the City of Roseville and Placer County. Construction of the proposed project would add to the cumulative loss of waters of the United States. However, with implementation of the measures prescribed for avoiding or minimizing impacts and compensating for the remaining impacts, the proposed project's incremental contribution to cumulative impacts on waters of the United States would not be cumulatively considerable.

Oak Tree

The replacement of oaks trees would compensate for project impacts. Consequently, the project is not anticipated to result in a considerable contribution to cumulative impacts on native oak trees.

Cultural and Tribal Resources

The geographic area considered for cumulative impacts on cultural resources is based on past cultural boundaries and can vary depending on period. Generally, for prehistoric resources, the area examined for cumulative impacts can be defined as the ethnographic area of the Native American groups most likely associated with potential resources. For this project, the ethnographic area consists of the drainages of the lower Cosumnes, Yuba, Bear, and American Rivers, between the Sacramento River and the crest of the Sierra Nevada Mountains. No historic resources that meet the criteria for listing in the CRHR, either individually or as a contributing element to a historic district, were identified in the project area. Consequently, there would be no cumulative impact on historic resources to which the proposed project might contribute.

Construction of other transportation or development projects in the vicinity could potentially result in significant impacts on archaeological resources that meet the criteria for historical resources and human remains, should they be present. However, lead agencies for those projects would seek to identify and evaluate cultural resources and implement mitigation measures which, together with compliance with existing state and local regulations, would reduce potential impacts on archaeological resources and human remains.

As discussed in *Section 3.5, Cultural and Tribal Resources*, although no archaeological resources or tribal cultural resources were identified in the project area, previously unknown archaeological resources that are considered historical resources could be adversely affected. Project impacts, however, would be avoided or minimized through implementation of mitigation requiring preservation in place, if feasible, and that work stop and the find(s) assessed. The measure also requires that data recovery and other research be conducted if feasible. This mitigation would reduce these project-level impacts to a less-than-significant level. Therefore, the proposed project's contribution to potential cumulative impacts on archaeological and tribal resources would be less than considerable.

Geology and Soils

Geology and soil-related impacts are typically site-specific and depend on the local geologic and soil condition. The geographic context for the analysis of cumulative construction geologic, soil, and paleontological resource impacts includes areas within and adjacent to the project corridor. As indicated in Section 3.6, *Geology and Soils*, no faults are mapped within or near the project site, and the site is not in a Fault Rupture Hazard Zone, as defined by the State of California. Therefore, the risk of fault rupture occurring at the project site is very low and the project area is unlikely to experience a strong seismic activity and geologic instability (e.g., soil liquefaction or collapse) that could damage structures or expose people to greater risks of loss of life and injury. Further, potential for both seismically-induced and non-seismic slope instability, such as landslides and mudslides, is very low at the project site; the soils are not subject to liquefaction; the potential for seismic settlement is low; and the erosion hazard for the soils on the project site is slight.

Impacts would be limited to the potential for increased erosion and potential damage to paleontological resources. Construction of cumulative projects could result in cumulative erosion impacts unless controlled. However, all cumulative projects would be required to comply with applicable federal, state, and local regulations, including the Construction General Permit and National Pollutant Discharge Elimination System (NPDES) requirements, which require substantive controls on project erosion such that significant cumulative impacts due to erosion are not expected. Therefore, the proposed project's contribution to potential cumulative erosion impacts would be less than considerable.

Cumulative construction projects may encounter paleontological resources. However, as discussed in Section 3.6, there are no known unique paleontological resources or sites or unique geologic features at the project site, and the project corridor and adjacent areas are highly disturbed urban areas that are unlikely to contain intact unique geologic or paleontological features. Consequently, the potential for the proposed project to contribute to potential cumulative impacts on paleontological resources or unique geologic features would be less than considerable.

Greenhouse Gas Emissions

Analysis of greenhouse gas (GHG) emissions is by its nature cumulative. No individual project is of sufficient size to be the sole reason for climate change. Instead, climate change is the result of millions of activities that emit GHGs. The analysis of the proposed project's GHG emissions is within the context of statewide efforts to minimize the impacts of climate change. See Section 3.7, *Greenhouse Gases,* for the discussion of cumulative impacts.

Hazards and Hazardous Materials

No known hazardous materials sites would be affected by the proposed project. Therefore, there is no cumulative impact from hazardous materials to which the proposed project might contribute. Nor, would the project contribute to any area-wide or localized cumulative impact from hazards or hazardous materials. As discussed in Section 3.8, *Hazards and Hazardous* Materials, the proposed project is required to comply with all regulations controlling the release of hazardous materials during construction. Implementation of Mitigation Measures HAZ-1.1 and HAZ-1.2 would avoid the potential for the proposed project to release lead contaminants during construction. The proposed project would not release hazardous materials during operations and therefore related potential cumulative impacts would be less than considerable.

The proposed project would not alter the number of trains passing through the project site or types of hazardous material that may be transported by rail. Consequently, the proposed project would not contribute to any cumulative effect on hazardous material transport or risk of upset conditions related to UPRR rail operations.

Hydrology and Water Quality

As discussed in Section 3.9, *Hydrology and Water Quality*, the proposed project would employ all required Best Management Practices set out in the Storm Water Pollution Prevention Plan. This would meet the requirements of the Regional Water Quality Control Board for avoidance of impacts from runoff or erosion during construction. As a result, the proposed project would not contribute to any surface water pollution.

During operation, the proposed project would implement a system to meet NPDES post-construction stormwater runoff requirements, as described in Mitigation Measure WQ-2.1 in Section 3.9. As a result, the proposed project would not contribute to any surface water pollution during operations.

Features of the proposed project, such as the retention pond and pumps, would not contribute to flooding from runoff or the adverse alteration of existing drainage patterns. As a result, the project would not contribute to any cumulative effect on Sierra View Tributary or South Branch Pleasant Grove Creek.

Land Use and Planning

The proposed project does not include any changes in existing land uses. Future development projected to be implemented under the general plans of the City and Placer County would not be affected by the project. Although the proposed project would make travel along Washington Avenue more convenient, improved travel conditions would not result in any change in land use or incompatibility with existing land uses. The proposed project improvements are also recognized as allowed future uses consistent with the *City of Roseville Open Space Preserve Overarching Management Plan*, which was approved by federal resource agencies (U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service). Therefore, the project is also consistent with this applicable plan which was approved by an agency with jurisdiction over the project and adopted for the purpose of avoiding or mitigating an environmental effect. The project would not contribute to any cumulative effect on land use or planning documents that apply to the area.

Noise and Vibration

The EIR certified for the City's *General Plan 2035* found that future capital improvements and increases in traffic noise along city streets would result in cumulatively considerable ambient noise impacts. The proposed project would result in temporary, significant and unavoidable increases in noise and vibration levels during construction, as described in Section 3.12, *Noise*. It would also marginally increase traffic noise during operation. The proposed project would make a cumulatively considerable contribution to both temporary and long-term cumulative noise impacts. Implementation of Mitigation Measures NOI-1.1 and NOI-2.1 would reduce, but not avoid, this contribution.

Population and Housing

The cumulative impacts of population and housing are described in the City and Placer County general plans. The proposed project would not include any new housing and would not remove any existing housing. It would therefore make no contribution to any cumulative effect on population and housing.

Recreation

The proposed project would improve bicycle and pedestrian facilities in the project area but would not affect recreation or the use of existing recreational facilities. It would therefore make no contribution to any cumulative effect on recreation.

Transportation/Traffic

As described in Section 4.2.2, *Cumulative Condition*, Roseville uses a 2035 CIP travel demand model to analyze future roadway conditions in the city. The CIP includes the widening of Washington Boulevard to four lanes between Pleasant Grove Boulevard and Sawtell Road. Accordingly, recent environmental review documents have assumed this improvement is in place under cumulative conditions. The CIP also assumes the addition of a fourth westbound travel lane at the Washington Boulevard/Pleasant Grove Boulevard intersection, which is assumed to be in place for this analysis.

Cumulative traffic forecasts were developed using the difference model procedure displayed below.

Cumulative Forecast = Existing Volume + (Cumulative Traffic Model – Base Traffic Model)

Traffic forecasts were developed using this method for the following two cumulative scenarios.

- Cumulative without project conditions assumes Washington Boulevard remains two lanes between Pleasant Grove Boulevard and Sawtell Road.
- Cumulative plus project conditions assumes Washington Boulevard is widened to four lanes between Pleasant Grove Boulevard and Sawtell Road.

Figure 4-2 shows the average daily traffic (ADT) on Washington Boulevard and adjacent roadways for cumulative without project conditions, and Figure 4-3 displays the ADT on Washington Boulevard and adjacent roadways for cumulative plus project conditions. Using the traffic forecasts described above, Table 4-1 compares the projected ADT along Washington Boulevard and adjacent roadways under cumulative without project and cumulative plus project conditions.

Table 4-1. Cumulative Average Daily Traffic

Location	Cumulative (2035) Without Project ADT	Cumulative (2035) Plus Project ADT	Difference
Washington Boulevard between Pleasant Grove Boulevard and Industrial Avenue	27,500	29,300	+1,800
Washington Blvd between Kaseberg Drive and Emerald Oak Road/Diamond Oaks Road	30,400	35,800	+5,400
Washington Blvd between Kaseberg Drive and Emerald Oak Road/Diamond Oaks Road	24,900	32,000	+7,100
Washington Blvd between Kaseberg Drive and Sawtell Road/Derek Place	25,000	32,100	+7,100
Washington Blvd between Junction Boulevard and Corporation Yard Road	36,300	36,400	+100
Pleasant Grove Boulevard between Winslow Drive and Washington Boulevard	58,900	60,000	+1,100
Pleasant Grove Boulevard between Washington Boulevard and Galilee Road/Elmwood Rive	58,900	57,600	-1,300
Diamond Oaks Road between Glenwood Circle/Firestone Drive and Washington Boulevard	9,100	9,400	+300
Junction Boulevard between Washington Boulevard and Corporation Yard Road	25,700	27,900	+2,200
Foothills Boulevard between Pleasant Grove Boulevard and South Bluff Drive/Beckett Drive	50,000	49,400	-600

Source: Fehr & Peers 2018 (Appendix B)
Note: Values rounded to the nearest one hundred vehicles.

As indicated in Table 4-1, the ADT on Washington Boulevard south of Diamond Oaks Road would increase from 20,300 under existing conditions to 24,900 under cumulative without project conditions, which is a 23% increase. The proposed widening of Washington Boulevard would result in 32,000 ADT on Washington Boulevard south of Diamond Oaks Road under cumulative plus project conditions. While this is a sizeable volume of traffic for a four-lane arterial, it represents a 21% decrease in traffic on a per-lane basis when compared to existing conditions (i.e., 20,300 ADT on two lanes). There would be less traffic diversion from Foothills Boulevard to Washington Boulevard under cumulative plus project conditions versus existing plus project conditions. A review of model output shows diversion on a slightly more regional scale, including from more remote parallel roadways such as Woodcreek Oaks Boulevard and Roseville Parkway.

Traffic operations at the study intersections were analyzed for cumulative without project and cumulative plus project AM and PM peak hour conditions using the SimTraffic model. Figure 4-4 shows the cumulative without project AM and PM peak hour turning movement forecasts and lane configurations at the study area intersections, and Figure 4-5 shows the cumulative plus project AM and PM peak hour turning movement forecasts and lane configurations at the study area intersections. Table 4-2 summarizes the results of this modeling. Refer to Appendix B for technical calculations.

Table 4-2. Cumulative (2035) Intersection Operations

	Cumulative No Project				Cumulative plus Project			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection	**Delay (sec/veh)**	**LOS**	**Delay (sec/veh)**	**LOS**	**Delay (sec/veh)**	**LOS**	**Delay (sec/veh)**	**LOS**
1 Washington Boulevard/ Pleasant Grove Boulevard	41	D	110	F	52	D	165	F
2 Washington Boulevard/ Diamond Oaks Road/ Emerald Oak Road	68	E	36	D	22	C	22	C
3 Washington Boulevard/ Kaseberg Drive (private)[a]	8 (13)	A (B)	9 (37)	A (E)	9 (18)	A (B)	22 (15)	B (B)
4 Washington Boulevard/ Sawtell Road/Derek Place	9	A	10	A	12	B	16	B
5 Washington Boulevard/ Junction Boulevard	15	B	41	D	20	B	42	D

Source: Fehr & Peers 2018 (Appendix B)
LOS = level of service
sec/veh = seconds per vehicle
Notes:
[a] For side-street stop controlled intersections, the overall delay and worst movement delay is reported.

As shown in Table 4-2, under cumulative plus project conditions, the widening of Washington Boulevard would exacerbate LOS D conditions during the AM peak hour and LOS F conditions during the PM peak hour (i.e., add delay) at the Washington Boulevard/Pleasant Grove Boulevard intersection. The degradation of Washington Boulevard/Pleasant Grove Boulevard intersection operations to LOS D during the AM peak hour and LOS F during the PM peak hour would occur under cumulative without project conditions, whether or not the proposed project is implemented. Accordingly, the project would not cause these conditions itself, but the project would exacerbate them.

In addition, delays at the Washington Boulevard/Junction Boulevard intersection would increase during the AM peak hour due primarily to the increase in the critical eastbound left-turn movement. However, despite the increased delays, operations at this intersection would remain at LOS B during the AM peak hour and at LOS D during the PM peak hour under cumulative plus project conditions. Delays would also increase modestly at the Washington Boulevard/Sawtell Road intersection; however, intersection operations under cumulative plus project conditions would remain at LOS C or better. The degradation of Washington Boulevard/Junction Boulevard intersection operations to LOS D during the PM peak hour would occur whether or not the proposed project is implemented. Accordingly, the project would not cause these conditions itself.

In contrast, the modeling indicates that the widening of Washington Boulevard would improve AM peak hour operations of the Washington Boulevard/Diamond Oaks Road intersection from LOS E to LOS C and would improve PM peak hour operations from LOS D to LOS C. Further, the widening of Washington Boulevard and addition of a signal at Kaseberg Drive would improve conditions at the Washington Boulevard/Kaseberg Drive private driveway intersection to acceptable operations (LOS A or B).

The proposed project would exacerbate cumulative without project LOS F conditions at the Washington Boulevard/Pleasant Grove Boulevard intersection during the PM peak hour by adding 53 seconds of delay. All other study intersections would continue operating acceptably under cumulative plus project conditions. The project would not cause the overall percentage of signalized intersections throughout the City of Roseville operating at LOS C or better during the AM and PM peak hours to fall below 70%.

The proposed project’s exacerbation of cumulative without project LOS F operations at the Washington Boulevard/Pleasant Grove Boulevard intersection would constitute a considerable contribution to cumulative LOS impacts and is considered a significant cumulative impact.

The addition of a third southbound through lane was considered as a potential mitigation measure as it is currently included in the City’s CIP. The third southbound approach lane could be provided by re-designating the existing right-turn lane as a through/right-turn lane. However, provision of a third southbound receiving lane would require widening the southwest quadrant of the intersection, which would require additional right-of-way and cost. It would also eliminate the existing bus turnout. Additionally, while it would offer some additional capacity benefit, the City has indicated that comparable installations have resulted in imbalanced lane utilization and marginal intersection capacity benefit. For these reasons, the adverse effects of adding a third southbound through lane would exceed the operational benefits it would provide and no mitigation is available to reduce this cumulative impact. The proposed project’s contribution to significant cumulative without project conditions at the Washington Boulevard/Pleasant Grove Boulevard intersection would be a significant and unavoidable cumulative impact.

Utilities and Service Systems

The proposed project consists of a road widening and reconstruction of an existing railroad crossing. It would not increase use of utilities or service systems, and therefore would not contribute to any impact on such systems.

4.3 Growth-Inducing Impacts

CEQA requires that an EIR discuss the potential for a project to remove an obstacle to growth and present the possible secondary effects that could result from growth indirectly induced by the project. Public Resources Code Section 21100 requires that an EIR analyze the growth-inducing impacts of a project (Public Resources Code Section 21100 [b][5]). According to the State CEQA Guidelines Section 15126.2(d), an EIR must discuss how a project could directly or indirectly lead to economic, population, or housing growth. A project can be considered growth-inducing if it removes obstacles to growth, increases the demands on community service facilities, or encourages other activities that can cause significant environmental effects.

For the purposes of this analysis, the implementation of the project would result in a significant impact if it would induce substantial economic growth (e.g., land conversions) or population growth in the study area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through the extension of roads or other infrastructure).

Section 21100(b)(5) of CEQA requires an EIR to discuss how a project, if implemented, may induce growth and the impacts of that induced growth (see also State CEQA Guidelines Section 15126). CEQA requires the EIR to discuss specifically “the ways in which the Project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment” (State CEQA Guidelines Section 15126.2[d]). The State CEQA Guidelines do not provide specific criteria for evaluating growth inducement and state that growth in any area is not “necessarily beneficial, detrimental, or of little significance to the environment” (State CEQA Guidelines Section 15126.2[d]). CEQA does not require separate mitigation for growth inducement as it is assumed that these impacts are already captured in the analysis of environmental impacts (see Chapter 3, *Impact Analysis*). Furthermore, Section 15126.2(d) of the State CEQA Guidelines requires that an EIR “discuss the ways” a project could be growth inducing and to “discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment.”

According to the State CEQA Guidelines, a project would have potential to induce growth if it would result in either of the following.

a. Remove obstacles to population growth (e.g., through the expansion of public services into an area that does not currently receive these services), or through the provision of new access to an area, or a change in a restrictive zoning or general plan land use designation.

b. Result in economic expansion and population growth through employment opportunities and/or construction of new housing.

In general, a project could be considered growth-inducing if it directly or indirectly affects the ability of agencies to provide needed public services, or if it can be demonstrated that the potential growth significantly affects the environment in some other way. However, the State CEQA Guidelines do not require a prediction or speculation of where, when, and in what form such growth would occur (State CEQA Guidelines, Section 15145).

Roseville, along with the entire South Placer and Sacramento region, has and continues to experience significant growth. Although implementing the proposed project would widen an 0.85-mile segment of Washington Boulevard from two to four lanes, widen the existing Andora Underpass, and improve bicycle and pedestrian facilities in the project area, it is not expected to directly or indirectly induce economic or population growth within the study area because the project seeks only to improve the connection between two existing, four-lane segments of Washington Boulevard to meet existing and future travel demand based on existing entitled land use. The proposed project is not designed to accommodate unentitled residential or commercial expansion. Furthermore, the project alignment is within an already-developed urban area. Thus, the project is not expected to increase roadway carrying capacity such that it would sustain or encourage growth beyond what is accounted for in current city and county general plans.

4.4 Significant and Unavoidable Impacts

Section 21067 of CEQA and Sections 15126(b) and 15126.2(b) 15126.2 (b) of the State CEQA Guidelines require that an EIR describe any significant impacts, including those that can be mitigated but not reduced to a less-than-significant level. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should also be described.

A significant and unavoidable impact is one that would cause a substantial adverse effect on the environment and for which no mitigation is available to reduce the impact to a less-than-significant level. Most of the impacts of the proposed project would be less than significant or would be mitigated to a less-than-significant level. The impacts below are those that would remain significant and unavoidable after mitigation.

Aesthetics

- Impact AES-5: Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area

Greenhouse Gas

- Impact GHG-1: Generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment
- Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases

Noise

- Impact NOI-1: Exposure of persons to or generation of noise levels in excess of applicable standards
- Impact NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels
- Impact NOI-4: Creation of a substantial temporary or periodic increase in existing ambient noise levels in the project vicinity

Transportation/Traffic

- Impact TRA-1: Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, during construction

The project's contribution to significant and unavoidable cumulative impacts is discussed in Section 4.2.3, *Cumulative Impact Analysis by Resource.*

4.5 Significant Irreversible Environmental Changes

Section 15126.2 (c) of the State CEQA Guidelines requires that an EIR address any significant irreversible changes that would result from a proposed project, and provides the following direction for the discussion of irreversible changes.

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to ensure that current consumption is justified.

The State CEQA Guidelines describe three distinct categories of significant irreversible changes, including changes in land use that would commit future generations to specific uses; irreversible changes from environmental actions; and consumption of nonrenewable resources.

The project proposes to modify a roadway segment, including an underpass beneath the Andora bridge. Implementation of the proposed project would include construction of a roadway and associated underpass structure, as well as new bicycle and pedestrian facilities, which would result in the long-term commitment of the project site to these land uses. Additional irreversible environmental changes would include the reduction of natural vegetation; increased generation of pollutants associated with project construction; and the short-term commitment of nonrenewable and/or slowly renewable natural and energy resources, such as mineral resources and water resources, during construction. The widening of Washington Boulevard and the addition of new bicycle and pedestrian paths, as well as construction of a new underpass and the relocation of utilities infrastructure, would require use of a variety of nonrenewable (metal, gravel, concrete) resources and would be fueled using primarily non-renewable fossil fuel sources. These irreversible impacts, which are unavoidable consequences of urban development, are described in detail in the appropriate sections of this draft EIR.

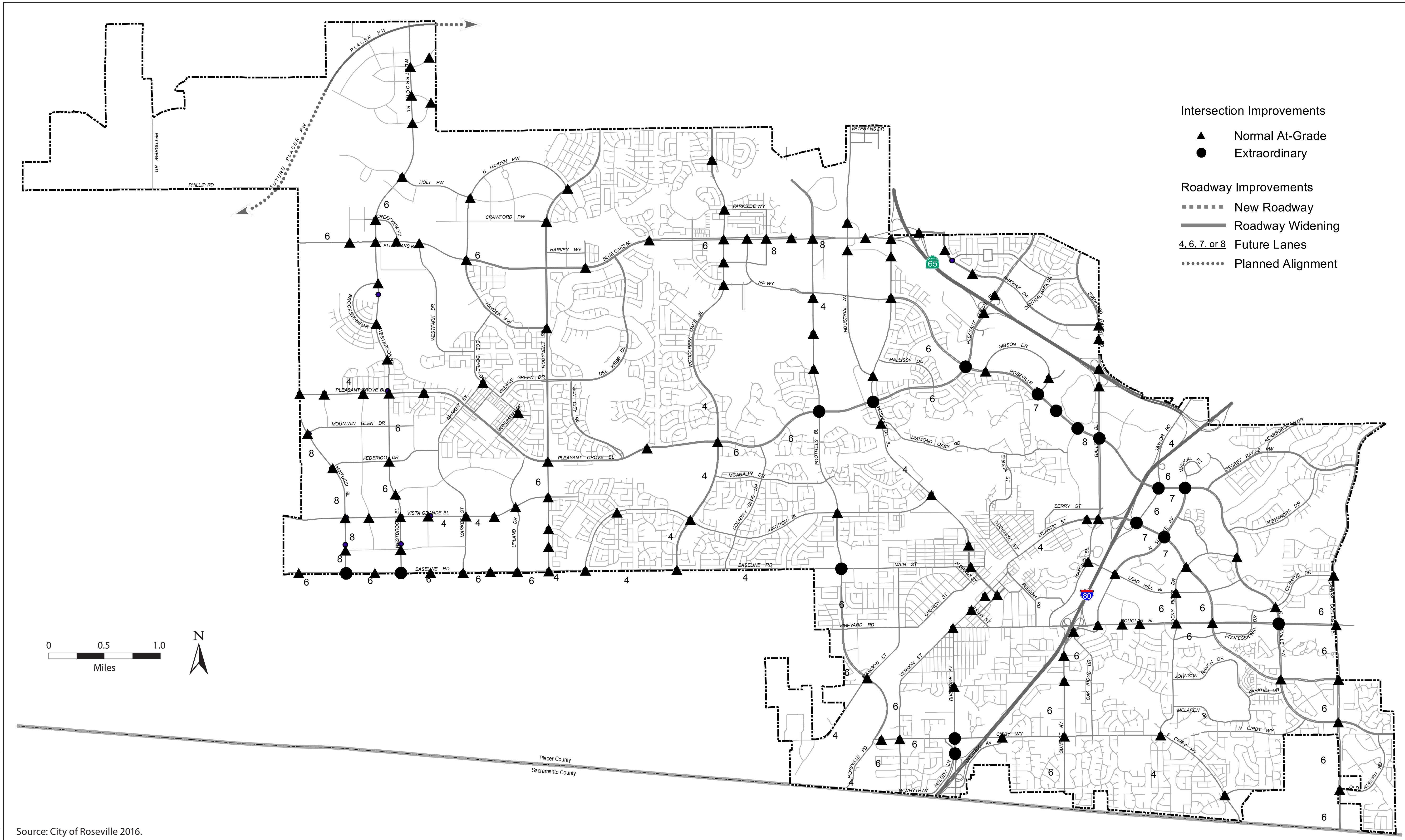
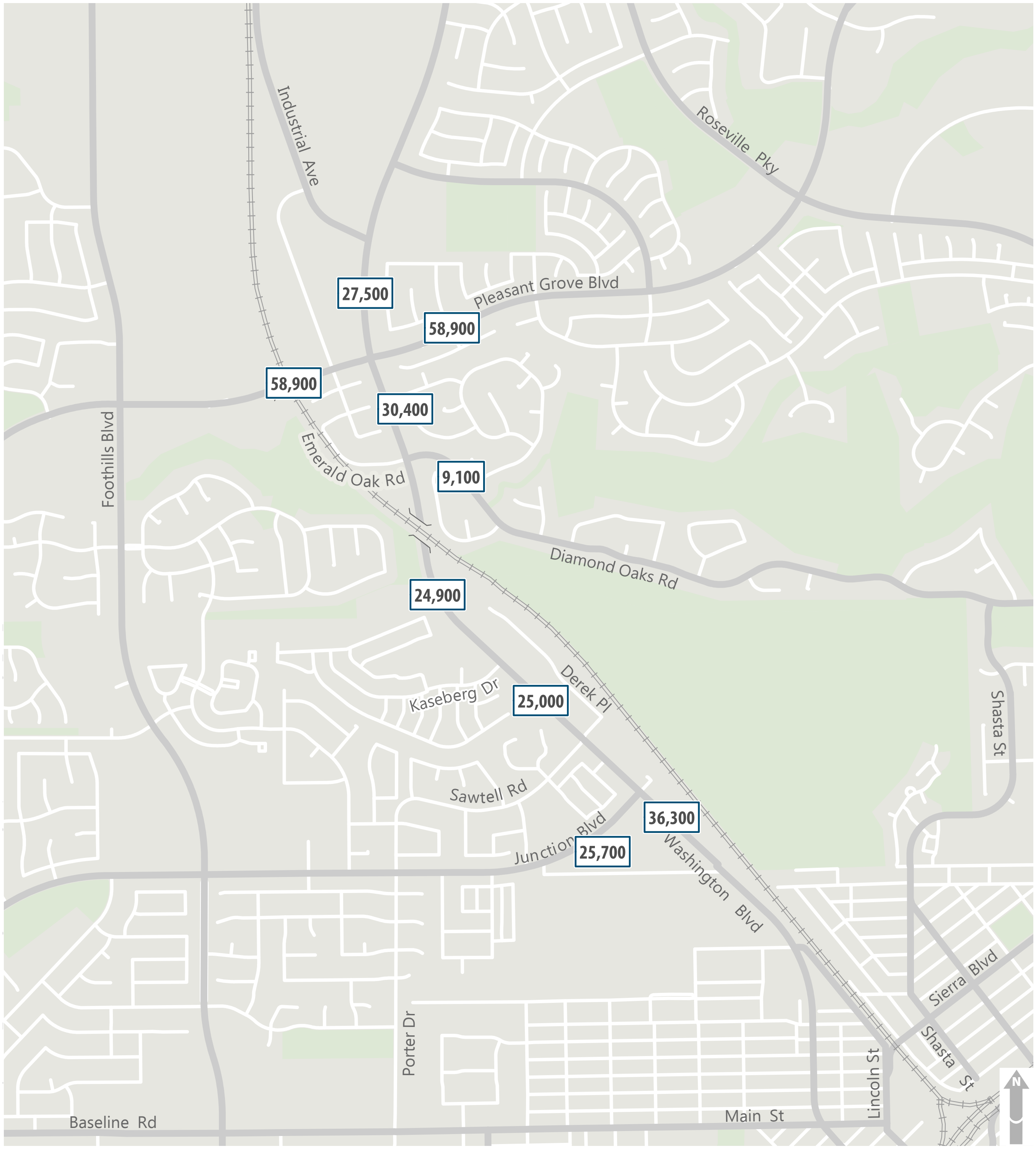


Figure 4-1
2035 Capital Improvement Program

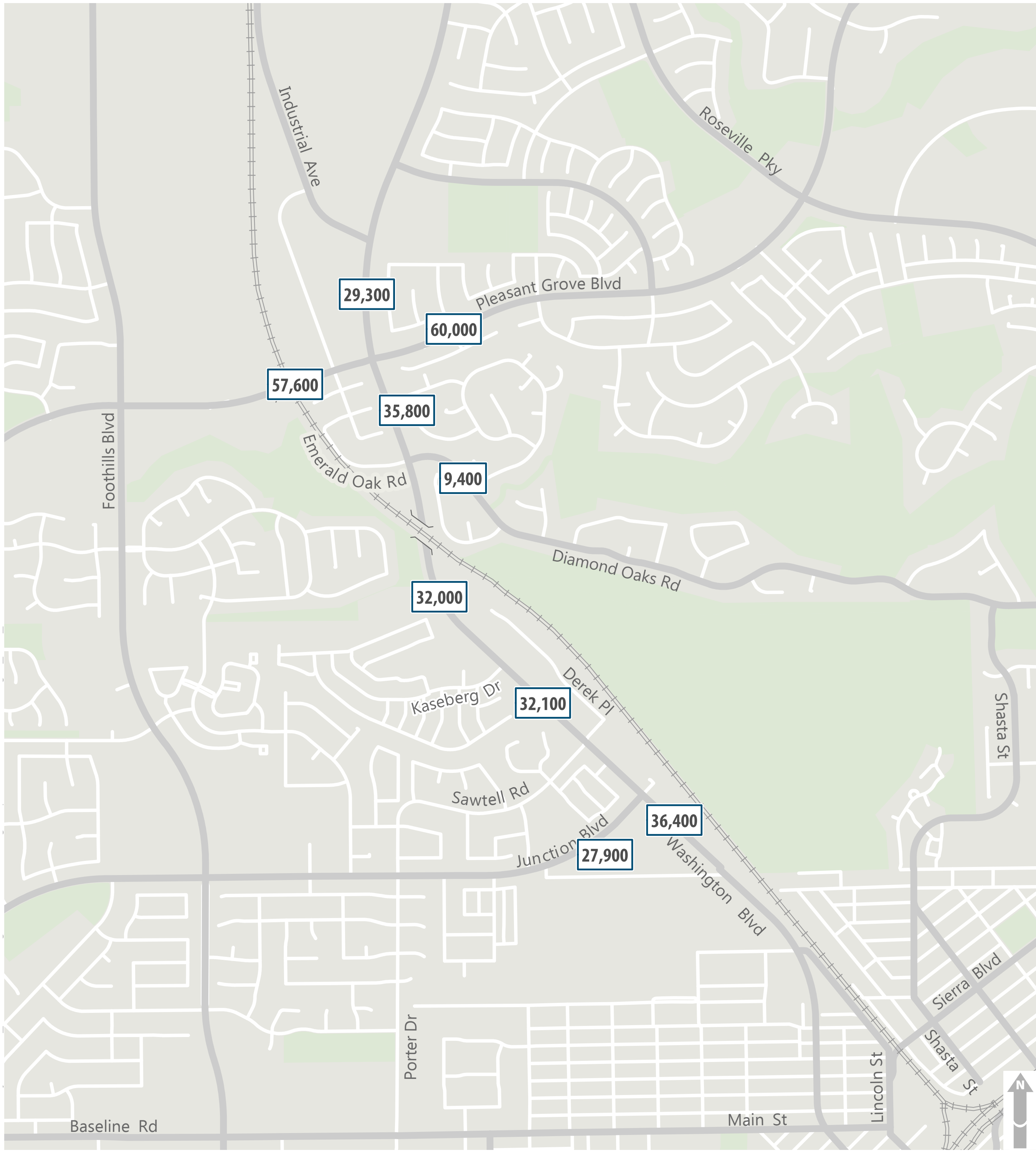


13,400 Average Daily Traffic (ADT)

Source: Fehr & Peers 2018.

ICF Graphics ... 00274.16 (1-20-2018)

Figure 4-2
Average Daily Traffic – Cumulative (2035) Without Project



13,400 Average Daily Traffic (ADT)

Source: Fehr & Peers 2018.

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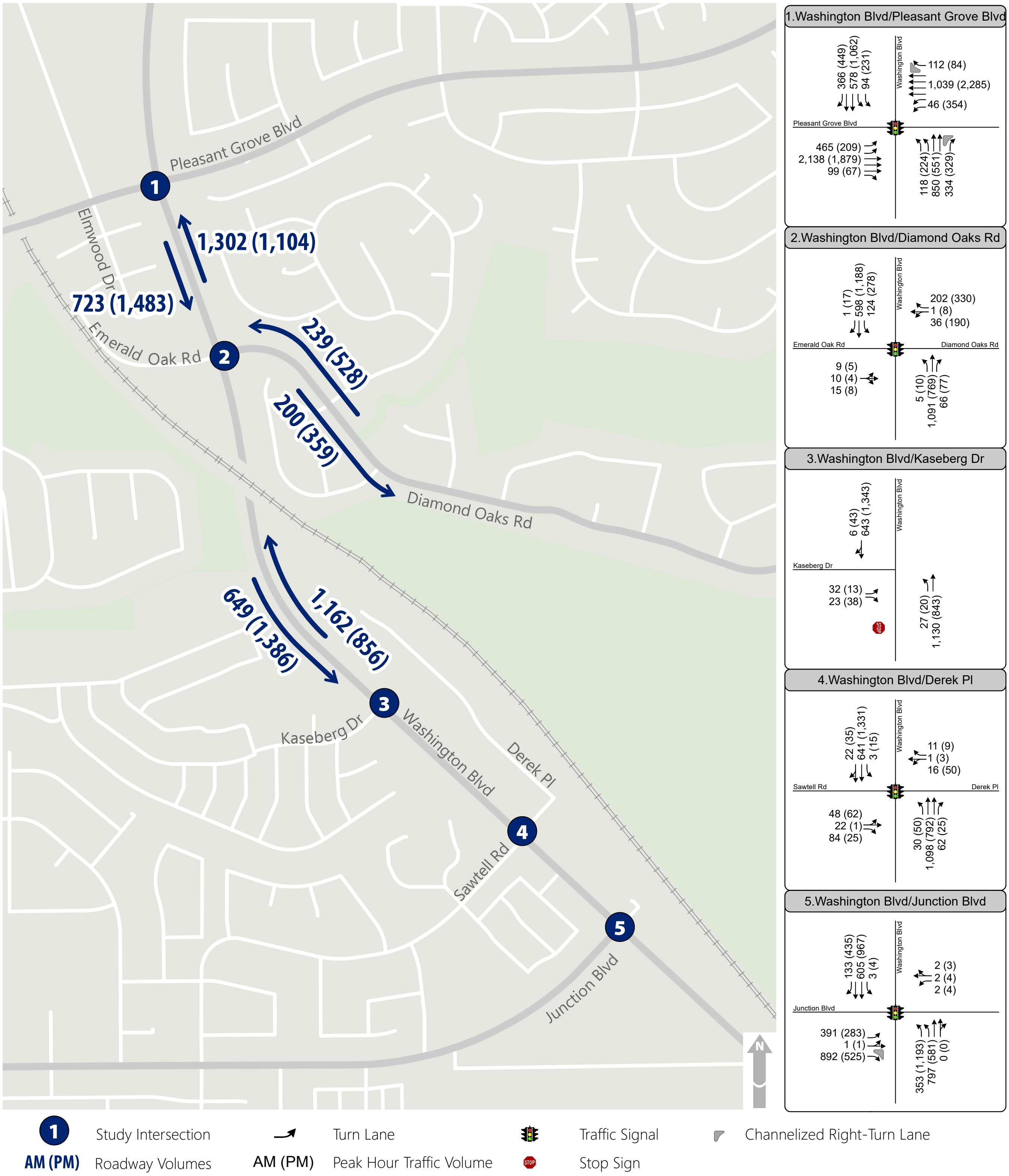
Figure 4-3
Average Daily Traffic – Cumulative (2035) Plus Project



Source: Fehr & Peers 2018.

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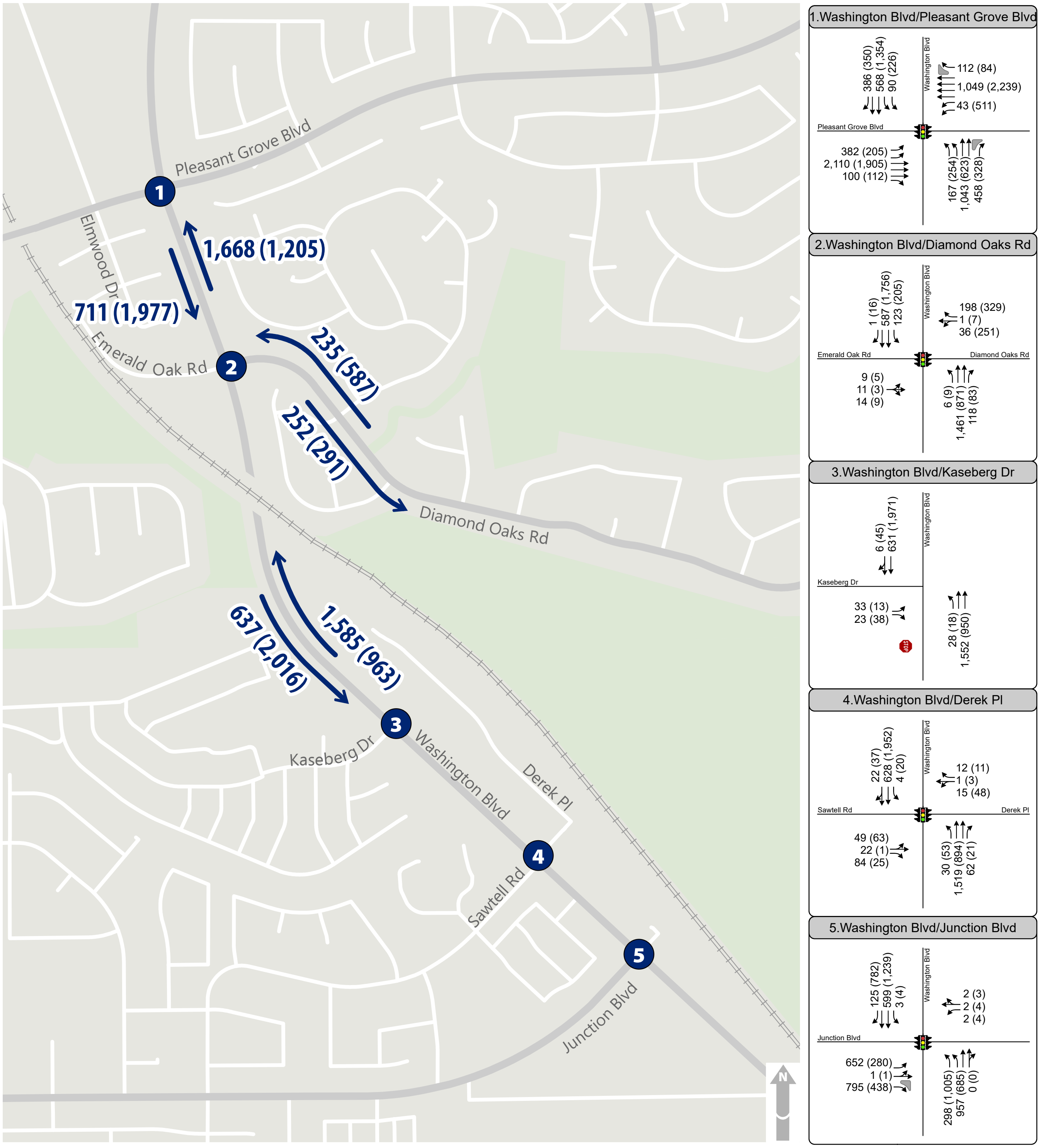
Figure 4-4
Peak Hour Traffic Volumes and Lane Configurations – Cumulative (2035) Without Project



1 Study Intersection
AM (PM) Roadway Volumes
Turn Lane
AM (PM) Peak Hour Traffic Volume
Traffic Signal
Stop Sign
Channelized Right-Turn Lane

Source: Fehr & Peers 2018.

ICF Graphics ... 00274.16 (1-20-2018)

Figure 4-5
Peak Hour Traffic Volumes and Lane Configurations – Cumulative (2035) Plus Project