SUBSEQUENT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION ROSEVILLE PARKWAY WIDENING PROJECT

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Acronyms and Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
B.P.	Before Present
BMP	best management practices
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Cal-OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CH_4	methane
CHRIS	California Historic Resources Information System Center
CIP	Capital Improvement Program
City	City of Roseville's
CMS	changeable message sign
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CRHR	California Register of Historical Resources
dB	decibels
dBA	A-weighted decibels
DBH	diameter at breast height
DPM	diesel particulate matter
DTSC	California Department of Toxic Substances Control
EO	Executive Order
Farmland	Prime Farmland, Unique Farmland, or Farmland of Statewide Importance
FTA	Federal Transit Administration
GHG	greenhouse gas
GPU EIR	2035 General Plan Update Final Environmental Impact Report
HCM	Highway Capacity Manual
IPaC	Information, Planning, and Conservation System
IS/MND	Initial Study/Mitigated Negative Declaration
ITS	Intelligent Transportation System
L_{dn}	day-night average sound level
L_{eq}	equivalent continuous sound level
LID	low-impact development
LOS	level of service
MRF	Materials Recovery Facility
MTP	Metropolitan Transportation Plan
N_2O	nitrous oxide

NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCRSP	North Central Roseville Specific Plan
NOA	naturally occurring asbestos
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
OPR	Office of Planning and Research
PCAPCD	Placer County Air Pollution Control District
PG&E	Pacific Gas and Electric Company
PM10	particulate matter less than or equal to 10 microns in diameter
PM2.5	particulate matter less than or equal to 2.5 microns in diameter
PPV	Peak Particle Velocity
project	Roseville Parkway Widening Project
RCNM	Roadway Construction Noise Model
RMC	Roseville Municipal Code
ROG	reactive organic gases
ROW	right-of-way
SACOG	Sacramento Area Council of Governments
SB	Senate Bill
SCH	State Clearinghouse
SCS	Sustainable Communities Strategy
SFNA	Sacramento Federal Nonattainment Area
SMAQMD	Sacramento Metropolitan Air Quality Management District's
SMARA	Surface Mining and Reclamation Act
SPCCP	Spill Prevention, Control, and Countermeasure Plan
ST	Short-Term
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
THRIS	Tribal Historic Information System
TMP	Transportation Management Plan
UAIC	United Auburn Indian Community
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VdB	vibration decibels
VMT	vehicle miles traveled
Williamson Act	California Land Conservation Act of 1965

Chapter 1
Introduction and Project Description

Introduction

This Subsequent Initial Study/Mitigated Negative Declaration (IS/MND) addresses the potential environmental impacts of the City of Roseville's (City's) proposed Roseville Parkway Widening Project (project) in accordance with the California Environmental Quality Act (CEQA). The City, as CEQA Lead Agency, proposes to widen sections of an approximate 1.5-mile segment of Roseville Parkway, generally between Pleasant Grove Boulevard, Gibson Drive, and Creekside Ridge Drive consistent with the City's Transportation System Capital Improvement Program (Figure 1-1). The project would widen Roseville Parkway from three lanes to four lanes in each direction. The westbound direction would be widened between Creekside Ridge Drive and Gibson Drive (east). The eastbound direction would be widened between Reserve Drive and Creekside Ridge Drive. The project would also include constructing triple left-turn lanes on southbound Pleasant Grove Boulevard onto eastbound Roseville Parkway, triple lefts from northbound Galleria Boulevard to westbound Roseville Parkway, and minor widening along the west side of Galleria Boulevard north of Roseville Parkway. The northbound right-turn lane on the east side of Pleasant Grove Boulevard, south of Roseville Parkway, would be extended by the project so that it runs the length between Pioneer Road and Roseville Parkway.

Roseville Parkway between Gibson Drive and Creekside Ridge Drive is a six-lane arterial roadway and is located in the North Central Roseville Specific Plan (NCRSP). This section of Roseville Parkway experiences heavy traffic congestion on a daily basis due in part to popular shopping and dining destinations and Class A office buildings in the area. Westfield Galleria at Roseville is an upscale indoor shopping mall located on the northwest corner of Roseville Parkway and Galleria Boulevard. The Ridge at Creekside/Creekside Town Center and The Fountains at Roseville are outdoor malls home to higher-end chain retailers and eateries and are located on the northeast and southwest corners of Roseville Parkway and Galleria Boulevard, respectively. There are also many Class A office buildings nearby—specifically on Creekside Ridge Drive, Reserve Drive, and Gibson Drive. The intersection of Pleasant Grove Boulevard and Roseville Parkway also experiences heavy traffic congestion as it is a primary travel route to the shopping and dining destinations and Class A office buildings listed above.

The City held a community open house on September 20, 2022, at the Catheryn Gates Elementary School in Roseville, the purpose of which was to share information and receive input from community members on the project. The open house presented the project background and schedule and provided an opportunity for the community to provide feedback on specific intersection designs identified on the project's route. Representatives from the City and the project consultant team were available to discuss the project and answer questions. Postcards were mailed to all residents of the neighborhood adjacent to Roseville Parkway. In addition, notification fliers were shared with about 25 businesses in the area to post publicly. The flier was also sent via email to vicinity businesses, community groups, neighborhood associations, and interested individuals. In addition to verbal feedback and questions during the open house, two community members submitted feedback via comment cards during the open house. One expressed appreciation for the event, while the other raised a concern regarding how traffic would be diverted during construction.

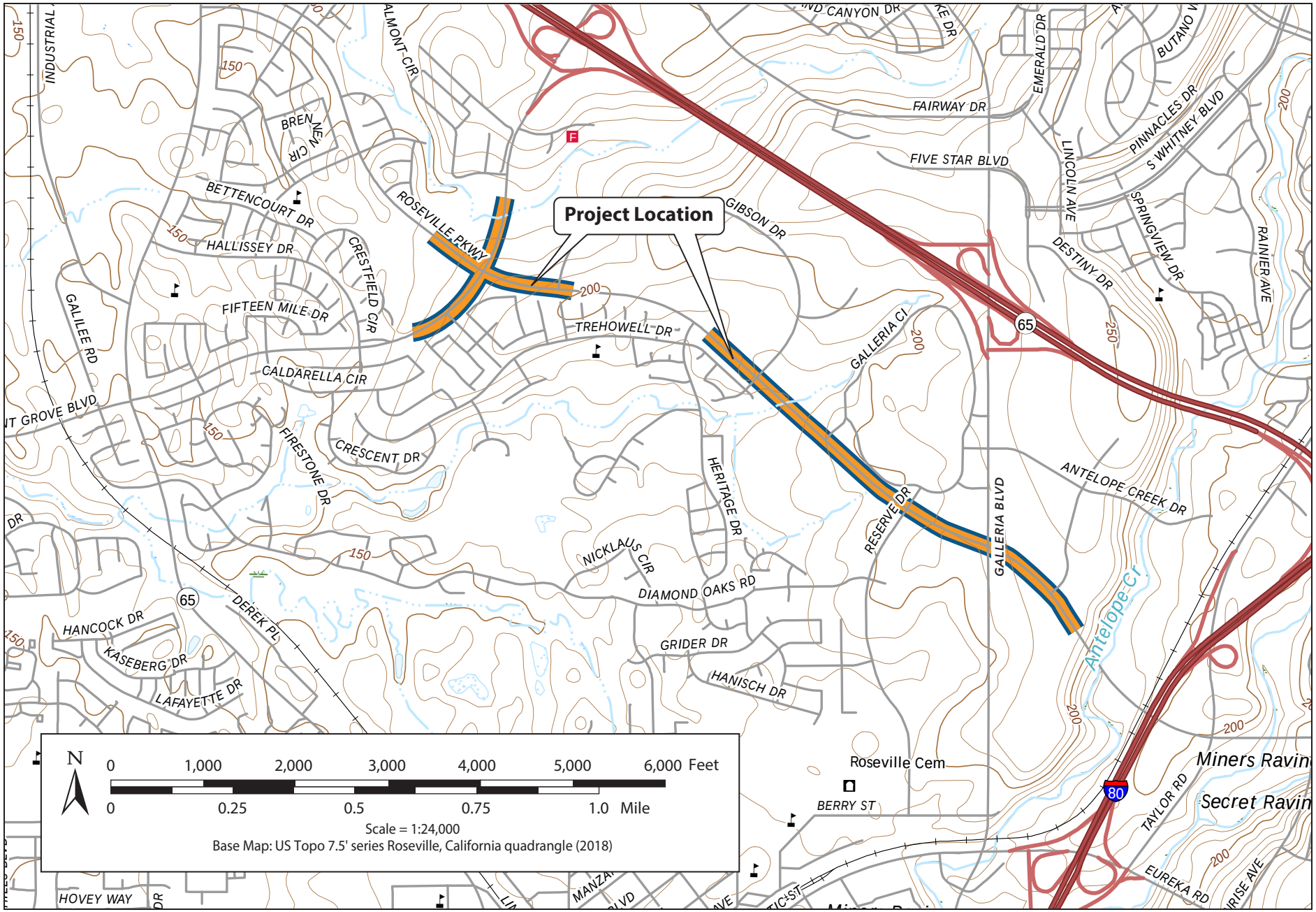

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Figure 1-1
Project Location

Prior CEQA Documentation

The project is identified and analyzed in the *City of Roseville 2035 General Plan Update Final Environmental Impact Report* (GPU FEIR) (State Clearinghouse [SCH] 2019080418) (City of Roseville, Certified August 5, 2020). The GPU FEIR identifies the addition of two travel lanes (one in each direction) to Pleasant Grove Boulevard generally between Foothills Boulevard and Woodcreek Oaks Boulevard (Figure 1-2). However, the GPU FEIR did not identify or include analysis of project-related striping and turn lane modifications proposed west of Woodcreek Oaks and east of Foothills Boulevard. This IS/MND is a Subsequent CEQA document based largely on information contained in the GPU FEIR and evaluates the project in its entirety and not just the project modifications not previously included in the GPU FEIR.

The City's evaluation of the potential effects of the project modifications follows the approach provided in Section 15162 of the State CEQA Guidelines, and as interpreted and described by the California Supreme Court. State CEQA Guidelines Section 15162 was validated by the California Supreme Court in *Friends of the College of San Mateo Gardens v. San Mateo County Community College District* (2016) 1 Cal.5th 937 as applying to MNDs. In that decision, the Court further held that "when there is a change in plans, circumstances, or available information after a project has received initial approval, the agency's environmental review obligations 'turn on the value of the new information to the still pending decision making process.' (*Marsh v. Oregon Natural Resources Council* (1989) 490 U.S. 360, 374 [104 L. Ed. 2d 377, 109 S. Ct. 1851] (*Marsh*).) If the original environmental document retains some informational value despite the proposed changes, then the agency proceeds to decide under CEQA's subsequent review provisions whether project changes will require major revisions to the original environmental document because of the involvement of new, previously unconsidered significant environmental effects."

Chapter 2, *Environmental Checklist*, describes the current environmental baseline conditions for the project and analyzes the potential environmental impacts of the proposed project modifications. The analysis first summarizes the GPU FEIR impact findings applicable to the project. This is followed by analysis of whether the project would result in a new significant impact, substantially more severe impact, a less-than-significant impact with additional mitigation, or no new impact compared to that disclosed in the GPU FEIR. The Initial Study checklist in Chapter 2 has been modified to be consistent with these impact determinations. All pertinent mitigation measures identified in the 2035 GPU FEIR will be applied to the subsequent project. In addition, where new potential impacts or substantially greater impacts have been identified, new mitigation measures are proposed to reduce potential impacts to a less-than-significant level. In addition, for the issues of biological resources, tribal cultural resources and paleontological resources, this Subsequent IS/MND identifies new "project-level" substitute mitigation measures that are found to be equally as effective at reducing potential impacts to a less-than-significant level as those presented in the GPU FEIR.

Project Location and Existing Conditions

The project would be constructed primarily within the road right-of-way (ROW) (additional ROW to be required from approximately nine parcels, which are mostly landscaped areas) of Roseville Parkway generally between Gibson Drive and Creekside Ridge Drive in Roseville (Figure 1-1). The project site falls within the Roseville 7.5-minute U.S. Geological Survey topographic quadrangle map in Sections 25, 26, and 27 of Township 11 North, Range 6 East, Mount Diablo Base and Meridian.

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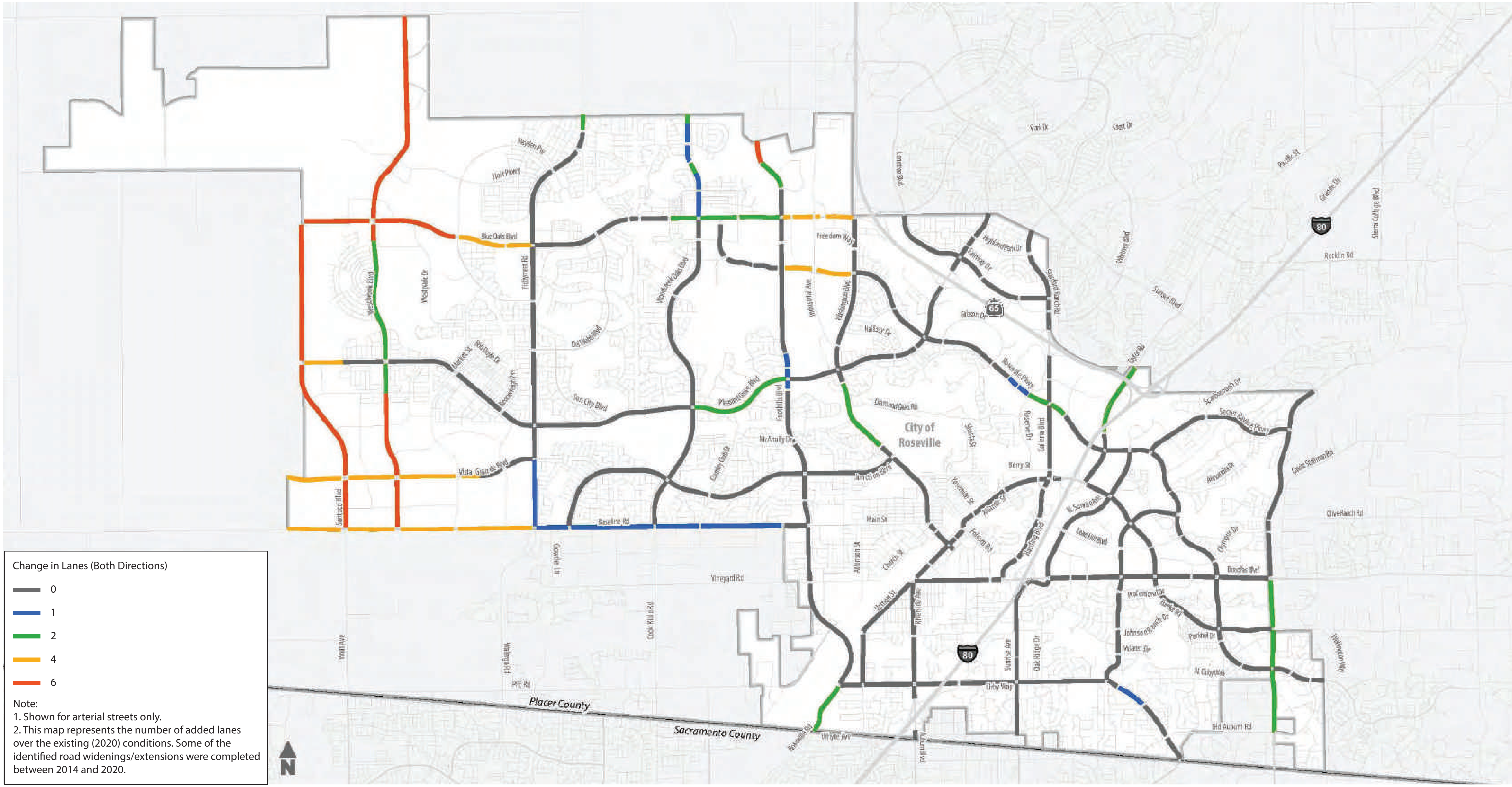

Source: Fehr & Peers, 2020.

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Figure 1-2
General Plan Lane Increases

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The project site includes Roseville Parkway and intersections at Pleasant Grove Boulevard, Creekside Ridge Drive, Galleria Boulevard, Reserve Drive, West Drive, and Gibson Drive. City preserve areas (Highland Reserve South) are on the south side of Roseville Parkway between Reserve Drive and West Drive. South Branch Pleasant Grove Creek and an unnamed tributary cross under Roseville Parkway, and Highland Ravine crosses under Pleasant Grove Boulevard through culverts. Antelope Creek is located east of Creekside Ridge Drive outside of the project site. Residential uses are located on the south side of Roseville Parkway northwest of West Drive, and on the north side of Roseville Parkway west of Gibson Drive. The project area surrounding the road ROW is zoned for residential, commercial, light industrial, and open space uses.

Catheryn Gates Elementary School is located approximately 800 feet south of the Roseville Parkway/Gibson Drive intersection. Vencil Brown Elementary School is located approximately 0.6 mile west of the Roseville Parkway/Gibson Drive intersection.

Project Purpose and Need

The City's Transportation System 2035 Capital Improvement Program (CIP) identifies planned improvements to the city-wide road network to reduce congestion and enhance accessibility for motorists, pedestrians, and cyclists. Transportation system CIP improvements are funded by traffic impact fees assessed on new development. The proposed project would implement certain planned CIP improvements within the project limits with funding provided in part by the CIP fee program. No federal funding would be used for the project.

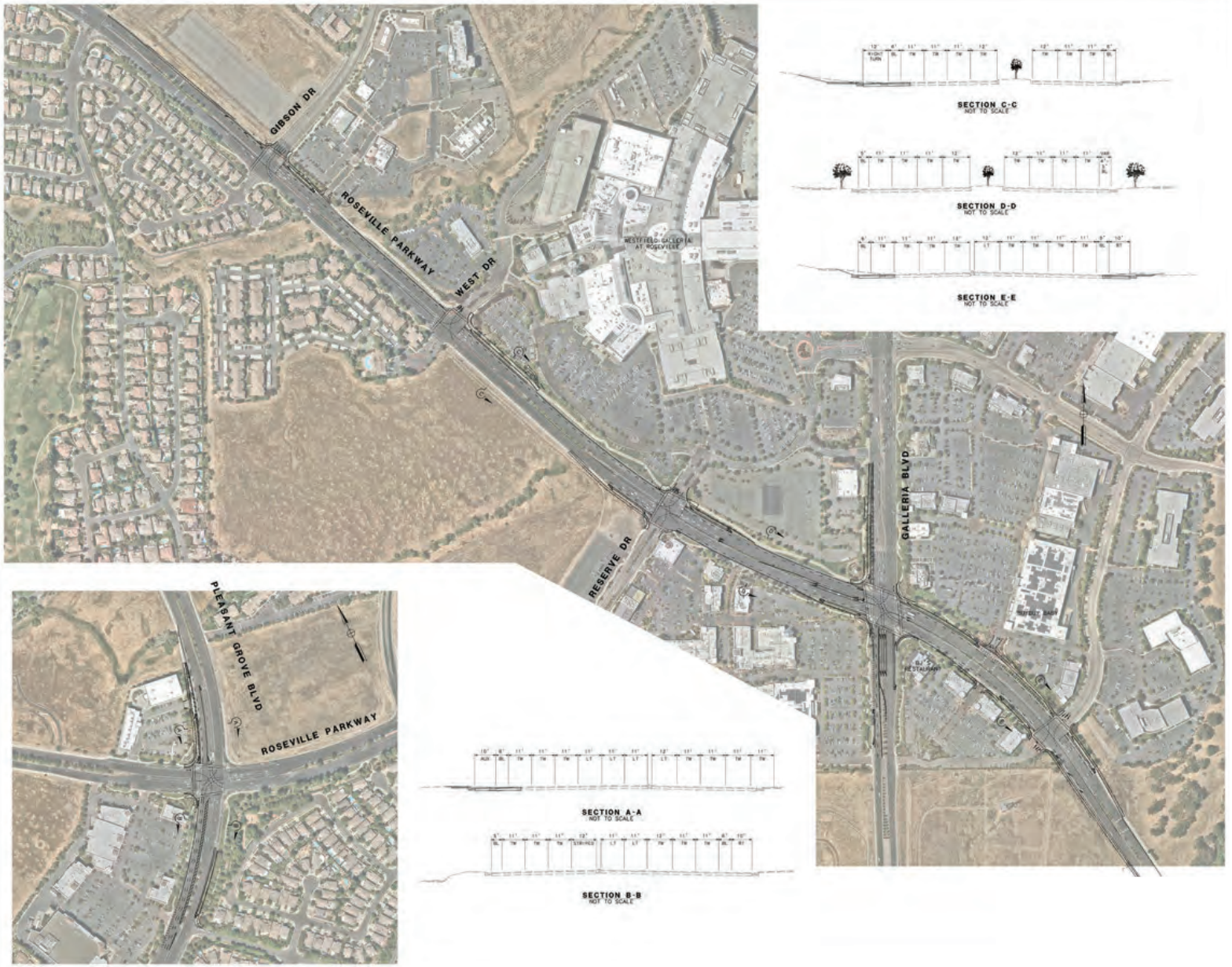
The project purpose is to improve existing and future traffic circulation along Roseville Parkway to be consistent with the City's CIP and applicable General Plan policy while enhancing safety for motorists, pedestrians, and cyclists. The project would improve operations along westbound Roseville Parkway approaching and through the Creekside Ridge Drive intersection.

Project Description

Road Improvements

The proposed project consists of the following road improvement activities (shown on Figure 1-3):

- Widening of Roseville Parkway from three lanes to four lanes in each direction. The westbound direction would be widened from Creekside Ridge Drive to Gibson Drive (east). The eastbound direction would be widened from Reserve Drive to Creekside Ridge Drive. This road widening activity would require removal of the existing sidewalk, curb and gutter, and landscaping (including grass, shrubs, and trees), as well as relocation of some utilities.
- Constructing triple left-turn lanes on southbound Pleasant Grove Boulevard onto eastbound Roseville Parkway. This would involve removal of curb and gutter, sidewalk, and landscaping (including groundcover, trees, shrubs, and landscape irrigation).
- Constructing triple left-turn lanes from northbound Galleria Boulevard to westbound Roseville Parkway.



Source: Mark Thomas, 2023.

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Figure 1-3
Roseville Parkway Improvements

- Improving intersections along Roseville Parkway at Pleasant Grove Boulevard, Gibson Drive, West Drive, Reserve Drive, Galleria Boulevard, and Creekside Ridge Road and the removal of the porkchop islands. Intersection improvements involve removal of the existing sidewalk, curb and gutter, and landscaping (including grass, shrubs, and trees), as well as some utility relocation, and coordinated traffic signal improvements.
- Installing an auxiliary lane on Roseville Parkway between Creekside Ridge Drive and Galleria Boulevard. No ROW would be required along City-owned sections of the alignment.
- Extending the right-turn pocket on northbound Pleasant Grove Boulevard between Pioneer Road and Roseville Parkway.
- Relocation of Class II bike lanes to be adjacent to edge of pavement on both sides of Roseville Parkway between Gibson Drive and Creekside Ridge Drive.

Traffic Signal Improvements

The proposed project consists of the following traffic signal improvements along the project corridor:

- Traffic signal modifications at the Roseville Parkway intersections at Pleasant Grove Boulevard, Castaic Drive/Gibson Drive, West Drive, Reserve Drive, Galleria Boulevard, and Creekside Ridge Drive (6 intersections).
- Installation of new traffic signal poles and mast arms at Roseville Parkway/Pleasant Grove Boulevard intersection for southbound approach to accommodate third left-turn lane and for westbound approach due to intersection safety improvements.
- Installation of new traffic signal poles and mast arms at Roseville Parkway intersections at Castaic Drive/Gibson Drive, West Drive, and Reserve Drive intersections for westbound and northbound approaches to accommodate widening of Roseville Parkway. Improvements also include replacement of underground infrastructure including in-pavement loop detectors, conduits, pull boxes, and cables/conductors.
- Installation of new traffic signal poles and mast arms at Roseville Parkway/Galleria Boulevard intersection (all approaches) to accommodate widening of Roseville Parkway and intersection safety improvements (removal of porkchop islands and free right-turn movements). Improvements also include replacement of traffic signal controller cabinet and associated underground infrastructure including in-pavement loop detectors, conduits, pull boxes, and cables/conductors.
- Installation of new traffic signal poles and mast arms at Roseville Parkway/Creekside Ridge Drive intersection (all approaches) to accommodate widening of Roseville Parkway. Improvements also include replacement of traffic signal controller cabinet and associated underground infrastructure including in-pavement loop detectors, conduits, pull boxes, and cables/conductors.
- Replacement of existing fiber optic signal interconnect infrastructure, including fiber optic cable, conduits, pull boxes, and other associated hardware where impacted by the widening of Roseville Parkway.

Utility Relocations

There are existing gas lines within the proposed roadway widening that may require relocation based on current depth and allowable placement of fill. Any relocations would be buried to a depth of approximately 3 feet and would remain along the existing roadway alignment within identified disturbance areas.

Storm drain, domestic water, reclaimed water, and sanitary sewer pipes also exist within the existing road alignment. It is anticipated these pipes would remain in place and the manholes or valves adjusted to grade. Storm drain facilities constructed as part of the proposed roadway widening would tie into and discharge to existing storm drain facilities.

Right-of-Way Acquisition

All proposed improvements would be within City-acquired ROW and easements. Additional ROW and/or easements would be required from approximately nine parcels, which are mostly landscaped areas. The total ROW acquisition is approximately 1.36 acres(Appendix A).

For the most part, construction activities would take place between 7:00 a.m. and 7:00 p.m. Monday through Friday and between 8:00 a.m. and 8:00 p.m. Saturday and Sunday, in compliance with the City noise ordinance. However, depending on the project schedule and other constraints, night-time construction is likely. If night-time construction is warranted, the City would require the contractor to formally request it and the contract documents would note the days, working hours and note that any deviation to the contract working hours would need to be made and approved by the City. The City would place conditions on the approval such as notification to the public about night work, the working hour window, lane closures and/or detours, and the type of construction activities allowed.

Based on available funding, the City has decided to separate the overall project into two phases. Phase 1 and 2 are illustrated in Figure 1-4 with Phase 1 shown in blue and Phase 2 in red.

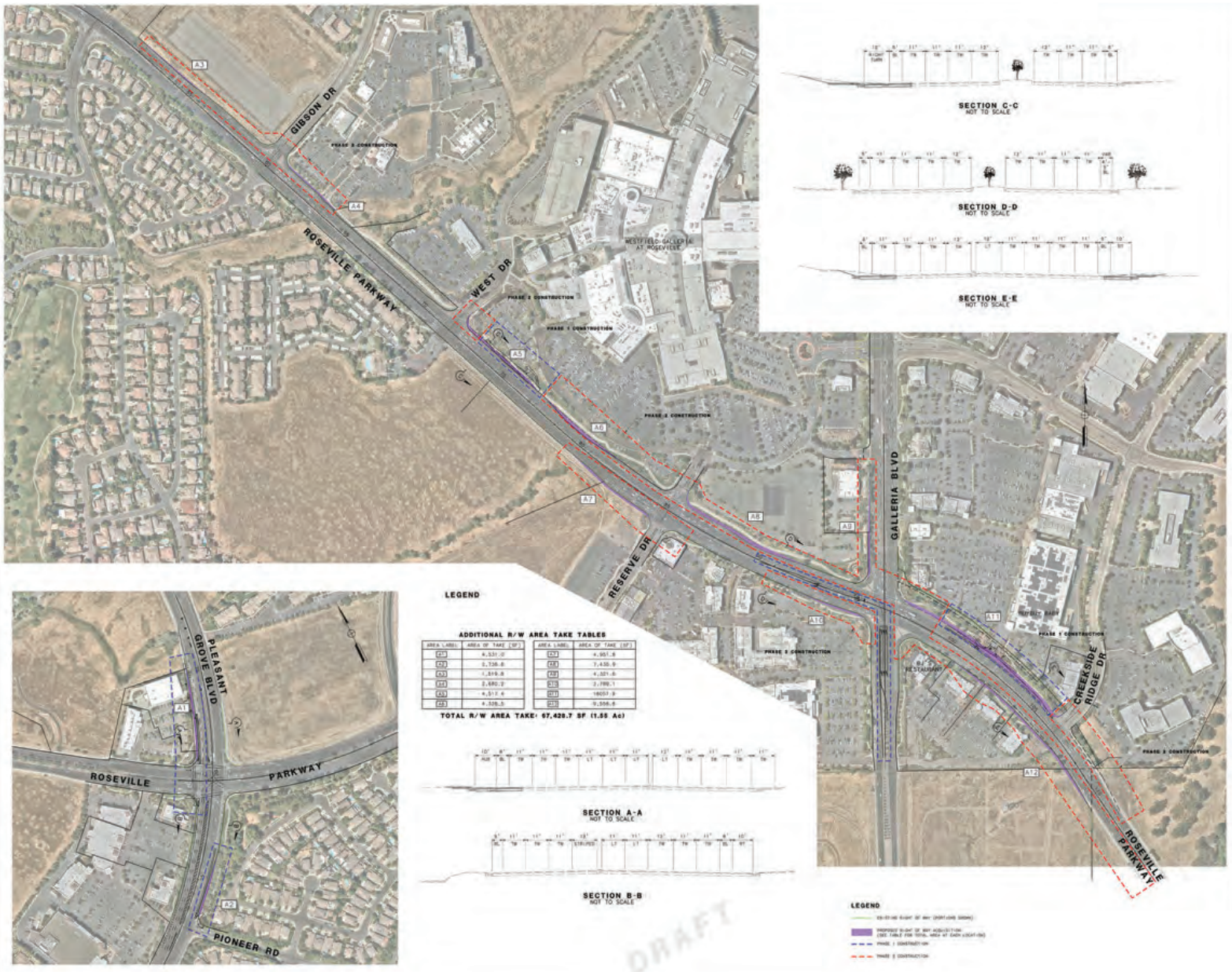
The general construction phases, duration, and number of days are identified in Table 1-1.

Table 1-1. Project Construction Phase 1

Phase 1	Start	End	Days
Grubbing/Land Clearing	Day 1	Day 150	150
Grading/Excavation	Day 6	Day 156	150
Draining/Utilities/Subgrade	Day 10	Day 160	150
Paving	Day 20	Day 170	150
Striping/Pavement Marking	Day 150	Day 180	30

Equipment and Material Staging Areas

Equipment and material staging would occur within designated locations within the project site but not encroach into any open space areas. In addition, the contractor may choose to establish additional staging areas through agreement with private property owners on developed or disturbed land adjacent to or near the project site. Staging areas would accommodate fueling and maintenance areas for equipment, along with designated areas for material storage. As described under *Best Management Practices* below, measures would be implemented to minimize potential construction-related water quality impacts and ensure compliance with requirements of the project's stormwater pollution prevention plan (SWPPP).



Source: Mark Thomas, 2023.

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Figure 1-4
Project Phasing

Earthwork and Grading

The project site topography is relatively flat, and only minor grading would be required to prepare the site for construction. All grading would be conducted using conventional grading equipment. Initial earthwork would include removing sidewalk material; clearing landscape trees, shrubs, and grass; and preparing the ground for construction. Consistent with the City's grading ordinance, all grading would be limited to designated work areas. Finish grading would be achieved by motor graders (blades) and skip loaders.

Construction BMPs specified in the SWPPP would be implemented during earthwork to control dust and protect nearby aquatic resources (adjacent vernal pools and swales in preserve areas, and waterways that cross under Roseville Parkway) from siltation associated with stormwater runoff.

Construction Traffic Control

Project construction would temporarily affect existing pedestrian and/or bicycle facilities or existing Roseville Parkway vehicle travel lanes. However, during construction of intersection improvements, temporary lane shifting, or temporary lane closures would be implemented as necessary with the assistance of construction signage and/or flaggers consistent with standard traffic handling practices. This could also include temporary detours for pedestrian and bicyclists routing through intersections during paving and restriping activities; however, controlled vehicle, pedestrian, and bicycle access through affected intersections would be maintained at all times. See *Right-of-Way Acquisition* above regarding night-time construction.

Project Schedule

Project construction for Phase 1 is scheduled to begin in Spring/Summer of 2024 and proceed according to the activities described in Table 1-1. Construction is expected to take approximately 5 to 6 months for Phase 1, 8 to 10 months for Phase 2, with a scheduled roadway opening date of Spring 2025 (pending on weather.).

Best Management Practices

The City and its contractor will implement construction BMPs to avoid and minimize impacts on sensitive environmental resources. Implementation of the Erosion Control Plan, the National Pollutant Discharge Elimination System (NPDES) permit and associated SWPPP, and the BMPs listed below will minimize the potential for construction-related surface water pollution and ensure that water quality in adjacent waterways and wetlands (collectively referred to as "surface waters") within City preserve areas would be protected.

BMP 1 – Temporary Fencing. The City's contractor shall install construction barrier fencing (including sediment fencing and straw wattles) to prevent contaminants and debris from entering surface waters in adjacent preserve areas. Before construction begins, the City or its contractor shall identify the locations for the barrier fencing and mark those locations with stakes or flagging.

BMP 2 – SWPPP. A SWPPP shall 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 surface waters.

BMP 3 – Equipment Contaminants. The City shall 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 would further ensure that the impacts related to chemical handling during project construction would be minor.

BMP 4 – Debris/Demolition. Construction of the proposed project would require the demolition and excavation of existing asphalt concrete, base material, concrete pavement, and miscellaneous concrete and in-situ soils. Excess material is anticipated and would become the property of the Contractor. To the extent feasible, excavated material could be re-used on the project site, subject to approval by project inspectors.

BMP 5 – Erosion Control. The project's construction documents shall incorporate permanent erosion control elements to ensure that stormwater runoff does not cause soil erosion. Erosion and sediment control plans would be prepared consistent with the City's Grading Ordinance, which requires reducing erosion and retaining sediment onsite.

BMP 6 – Toxic Materials Control and Spill Response Plan. The following measures shall be incorporated into project construction documents and implemented by the contractor to avoid or minimize the risk of spills or discharges of toxic materials into surface waters.

- Prepare a hazardous material Spill Prevention, Control, and Countermeasure Plan (SPCCP) before construction that shall 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 surface waters.
- Prevent discharge of drilling mud and/or fluids into the surface waters by using appropriate containment, disposal, and storage methods.
- Prevent discharge of turbid water or sediment-laden runoff to the 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. No water will be discharged into adjacent preserve area vernal pools and other wetlands.
- Clean up all spills immediately according to the SPCCP.
- Provide areas located outside the City preserve areas and on disturbed/developed sites for staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants.
- Prohibit refueling and lubricating activities within 100 feet of surface waters to prevent contaminants from being discharged into surface waters during storm runoff. Contaminated water would be pumped to a holding tank for proper disposal.
- The construction contractor shall notify the City of Roseville Fire Department if evidence of soil or groundwater contamination is encountered during construction activities. Construction in that area shall be halted until the Fire Department has evaluated the find and remediation is completed, if necessary.
- The construction contractor shall comply with the California Occupational Safety and Health Administration (Cal-OSHA) 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).

BMP 7 – Transportation Management Plan. The City shall require the construction contractor to implement a Transportation Management Plan (TMP), including a construction schedule and plan to meet the City's approval 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 TMP shall include the following elements:

- *Communication:* Develop and implement a public information campaign that describes the duration of the lane closures and recommends alternative routes. Particular attention shall be placed on special events (e.g., school graduations or Placer County Fairgrounds) that may attract unfamiliar users to the City's roadway system. The City Public Information Office shall also continue a public outreach program using various media sources throughout construction.
- *Demolition and Construction:* Describe and analyze the number of employees and their site parking areas, and the number of trucks, their routing/staging, and operating hours.
- *Wayfinding:* Position and operate changeable message sign (CMS) trailers and locate pedestrian signage at strategic locations to advise the traveling public of construction activities and temporary lane reductions and suggest alternate routes.
- *Bicycle/Pedestrian Travel:* Close any multi-use paths to all travelers during periods in which construction activity could pose safety concerns to those users. Advertise multi-use path closures in advance and suggest alternate routes.
- *Emergency Vehicle Response:* The City Public Works Department shall coordinate with the City Police and Fire Departments to ensure potential effects of temporary lane closures on emergency response have been addressed, including emergency vehicle routing, temporary changes in fire station servicing areas, and emergency vehicle pre-emption at signalized intersections.
- *Monitoring:* The construction TMP shall include a monitoring program of daily traffic volumes and speeds on Roseville Parkway between Creekside Ridge Drive and Pleasant Grove Boulevard. The TMP shall 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.

BMP 8 – Noise Control Measures. The following measures shall be incorporated into the Project construction specifications to reduce and control noise generated by construction-related activities:

- All construction equipment shall have sound-control devices no less effective than those provided on the original equipment.
- No equipment shall have an unmuffled exhaust.
- Stationary construction equipment shall be located as far as possible from sensitive uses, sensitive uses shall be identified on construction drawings, and excessive equipment idling (greater than five minutes) shall be prohibited when the equipment is not in use.

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)

Required Approvals

Required permits and approvals are shown in Table 1-2. Local approvals required to construct and operate the project include adoption of the Subsequent Mitigated Negative Declaration and Mitigation Monitoring and Reporting Plan by the City Council and approval of the project plans and specifications and construction contract. In addition, the proposed construction activities would trigger Section 402 of the Clean Water Act, which requires coverage under the NPDES Permit from the State Water Resources Control Board. This coverage would require development and implementation of a SWPPP. No other state or federal approvals are required for the project.

Table 1-2. Permits and Approvals Needed for the Project

Agency	Permit/Approval
City of Roseville	Adoption of the Subsequent Mitigated Negative Declaration
City of Roseville	Approval of the Mitigation Monitoring and Reporting Plan
City of Roseville	Approval of Plans and Specifications and Construction Agreement
State Water Resources Control Board	Clean Water Act Section 402 coverage under the NPDES Permit (Order No. 00-06-DWQ)

Consultation with California Native American Tribes

Assembly Bill (AB) 52 requires that prior to the release of a CEQA document for a project, an agency begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the project if (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the Lead Agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated

with the tribe and (2) the California Native American tribe responds in writing, within 30 days of receipt of the formal notification, and requests the consultation.

The City notified United Auburn Indian Community (UAIC), Shingle Springs band of Miwok Indians, Tsi Akim Maidu, Ione Band of Miwok Indians, and Wilton Rancheria of the proposed project on April 26, 2022. The only response came on May 18, 2022, from Anna Starkey of the UAIC. The UAIC responded that the UAIC would like to consult on the project and asked for further information about the project area, schedule, and depths of excavation. Terri Shirhall from the City of Roseville, responded on May 23, 2022, confirming UAIC's request and answering Ms. Starkey's questions about the project. On November 8, 2022, Ms. Starkey responded that she had no further questions or concerns and requested that the City include UAIC's standard unanticipated discovery mitigation measure language and that UAIC considers AB 52 consultation closed. Additional information on potential Tribal Cultural Resources in the project area is provided in Chapter 2, Section XVIII, *Tribal Cultural Resources*.

Chapter 2
Environmental Checklist*

* This is adapted from Appendix G, Environmental Checklist Form, of the State CEQA Guidelines.

1.	**Project Title:**	Roseville Parkway Widening Project
2.	**Lead Agency Name and Address:**	City of Roseville 311 Vernon Street Roseville, CA 95678
3.	**Contact Person and Phone Number:**	Jessica Lynch Environmental Coordinator Development Services Department (916) 774-5352
4.	**Project Location:**	The project would widen Roseville Parkway between Gibson Drive and Creekside Ridge Drive and construct triple left-turn lanes on southbound Pleasant Grove Boulevard onto eastbound Roseville Parkway. The project site falls within the Roseville 7.5-minute U.S. Geological Survey topographic quadrangle map in Sections 25, 26, and 27 of Township 11 North, Range 6 East, Mount Diablo Base and Meridian.
5.	**Project Sponsor's Name and Address:**	City of Roseville 311 Vernon Street Roseville, CA 95678
6.	**General Plan Designation:**	Road ROW adjacent to RC, CC, OS, BP, PR, HDR, MDR, IND, and P/QP
7.	**Zoning:**	Road ROW adjacent to OS, CC/SA-NC, RS, R3/DS/SA-NC, R3, PR, R1/DS, RC/SA-NC, and M2
8.	**Name of Prior CEQA Document:**	*City of Roseville 2035 General Plan Update Final Environmental Impact Report*

9. Description of Project, Including Relationship to the Subject of the Prior CEQA Document:

The City of Roseville (City) proposes to construct the Roseville Parkway Widening Project (project) between Gibson Drive and Creekside Ridge Drive in the City of Roseville, California (Figure 1-1). The project would consist of the widening of Roseville Parkway from three lanes to four lanes in each direction. The westbound direction would generally be widened between Creekside Ridge Drive and Gibson Drive (east), and the eastbound direction would be widened between Reserve Drive and Creekside Ridge Drive. The project would also include constructing triple left-turn lanes on southbound Pleasant Grove Boulevard onto eastbound Roseville Parkway, constructing triple left-turn lanes from northbound Galleria Boulevard to westbound Roseville Parkway, and intersection improvements along Roseville Parkway at Pleasant Grove Boulevard, Gibson Drive, West Drive, Reserve Drive, Galleria Boulevard, and Creekside Ridge Road.

The *City of Roseville 2035 General Plan Update Final Environmental Impact Report* (GPU FEIR) (Figure 1-2) identified between one- and two-lane increases for Roseville Parkway generally between Gibson Drive (east) to West Drive and beyond. ..

10. Surrounding Land Uses and Setting:

The project site is currently the existing Roseville Parkway and intersections at Creekside Ridge Drive, Galleria Boulevard, Reserve Drive, West Drive, and Gibson Drive. Land uses include commercial, open space, and residential. Commercial development borders the project along most of the north boundary of Roseville Parkway, and along the western side of Pleasant Grove Boulevard. Open space (Highland Reserve South) is on the south side of Roseville Parkway west of Reserve Drive, and on both sides of Roseville Parkway west of Galleria Circle. Antelope Creek is located east of Creekside Ridge Drive outside of the project site. Residential uses are located on the south side of Roseville Parkway northwest of West Drive, and on the north side of Roseville Parkway west of Gibson Drive.

11. Other Public Agencies Whose Approval Is Required:

State Water Resources Control Board—Clean Water Act Section 402, National Pollutant Discharge Elimination System Permit for disturbance of more than 1 acre of land.

12. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1 (i.e., AB 52)? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

On April 26, 2022, the City of Roseville sent certified letters to the following tribes requesting consultation or information regarding tribal cultural resources in the project area. The letters requested a response within 30 days.

- United Auburn Indian Community (Gene Whitehouse, Chairman)
- Shingle Springs band of Miwok Indians (Nicholas Fonseca, Chairperson)
- Tsi Akim Maidu (Don Ryberg, Chairperson)
- Ione Band of Miwok Indians (Sara D. Setshwaelo, Cultural Committee Chair)
- Wilton Rancheria

The only response came on May 18, 2022, from Anna Starkey of the UAIC. In her email, Ms. Starkey stated that the UAIC would like to consult on the project and asked for further information about the project area, schedule, and depths of excavation.

Terri Shirhall from the City of Roseville, responded on May 23, 2022, confirming UAIC's request and answering Ms. Starkey's questions about the project.

On June 14, 2022, Ms. Starkey requested further project information as the project could be near an unrecorded cultural resource. Ms. Shirhall sent project plans on July 5, 2022, and explained that the project would not encroach upon the open space.

On November 8, 2022, Ms. Starkey responded that she had no further questions or concerns and requested that the City include UAIC's standard unanticipated discovery mitigation measure language and that UAIC considers AB 52 consultation closed.

Earlier Analysis

Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, one or more effects have been adequately analyzed in an earlier EIR or negative declaration (Public Resources Code Section 15063(c)(3)(D)). In this case, a discussion should identify the following.

a. **Earlier analyses used.** Identify earlier analyses and state where they are available for review. *City of Roseville 2035 General Plan Update Final Environmental Impact Report, available at the City of Roseville Development Services Department – Planning Division 311 Vernon Street, and online at* https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_7964838/File/Government/Departments/Development%20Services/Planning/General%20Plan/Final%20General%20Plan%20EIR/City%20of%20Roseville%20EIR.pdf.

b. **Impact adequately addressed.** Identify which effects from the checklist were within the scope of and adequately analyzed in the earlier document pursuant to applicable legal standards and state whether such effects were addressed by mitigation measures based on the earlier analysis.
All effects identified in the checklist were adequately analyzed in the GPU FEIR and were addressed by the mitigation measures from the GPU FEIR.

c. **Mitigation measures.** For effects that are "potentially significant unless mitigated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
There are no new potentially significant impacts associated with the project that were not adequately covered by the GPU FEIR.

Authority: Public Resources Code Sections 21083 and 21083.05.

Reference: Section 65088.4, Government Code; Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.05, 21083.3, 21093, 21094, 21095, and 21151, Public Resources Code; *Sundstrom v. County of Mendocino* (1988), 202 Cal. App. 3d 296; *Leonoff v. Monterey Board of Supervisors* (1990) 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Govt. v. City of Eureka* (2007) 147 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San Francisco* (2002) 102 Cal.App.4th 656.

Environmental Factors Potentially Affected

The environmental factors checked below would potentially be affected by this project (i.e., the ”subsequent activity”). The purpose of the following checklist is to make an initial determination of whether these are new or substantially more severe impacts relative to those disclosed in the prior CEQA document.

☐ Aesthetics	☐ Agricultural and Forestry	☐ Air Quality
☒ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology/Soils	☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☐ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☒ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☒ Mandatory Findings of Significance

Determination

The subsequent activity has been evaluated pursuant to the provisions of Sections 15162—15164 of the CEQA Guidelines to determine whether a subsequent EIR or mitigated negative declaration, a supplemental EIR, or an addendum to the prior EIR, negative declaration, or mitigated negative declaration is required. The analysis compares the impacts identified in the prior document with those expected to result from the subsequent activity to determine whether the activity would result in any new or substantially more severe significant effect. No subsequent or supplemental document is necessary if the impacts of the subsequent activity do not exceed those identified in the prior document. The modified checklist on the following pages has been changed to identify whether the proposed project would result in a new significant impact, substantially more severe impact, a less-than-significant impact with additional mitigation, or no new impact. On the basis of this initial evaluation:

☐ I find that the proposed subsequent activity would not have a new or substantially more severe significant effect on the environment, and no subsequent EIR or NEGATIVE DECLARATION will be prepared.

☒ I find that although the subsequent activity would have a new or substantially more severe significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent that will reduce the effect below the level of significance. A subsequent MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the subsequent activity would have a new or substantially more severe significant effect on the environment, and a subsequent ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the subsequent activity would not have a new or substantially more severe significant effect on the environment, and no subsequent EIR or NEGATIVE DECLARATION will be prepared. However, minor technical changes are necessary to the prior EIR or NEGATIVE DECLARATION and an addendum will be prepared.

Signature	Date
Printed Name	For

Evaluation of Environmental Impacts

1. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a subsequent project's environmental effects in whatever format is selected. Those environmental effects are not necessarily limited to the items on the checklist, or the effects disclosed in the prior CEQA document.
2. The use of this checklist is intended to be limited to subsequent activities that are essentially the same as the project analyzed in the prior EIR, negative declaration, or mitigated negative declaration. If the later activity is not part of the project analyzed in the prior EIR, the standard initial study checklist should be used. An explanation is required for all answers. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to activities like the one involved (e.g., the activity is not on agricultural land).
3. All answers must take account of the findings of the prior EIR, negative declaration, or mitigated negative declaration, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts. The subsequent activity is subject to all applicable mitigation measures. Keep in mind that the key question is not whether the subsequent project will have a significant impact on the environment, but instead whether it will have a new or substantially more severe impact in relation to the conclusions in the prior CEQA document.
4. Once the lead agency has determined that a particular physical impact would occur as a result of the subsequent activity, the checklist answers must indicate whether the impact is a new impact not analyzed in the prior EIR, negative declaration, or mitigated negative declaration, or an impact that is substantially more severe than disclosed in the prior EIR, negative declaration, or mitigated negative declaration. If there are one or more "New or Substantially More Severe Significant Impact" entries when the determination is made, a subsequent EIR is required.
5. When the incorporation of mitigation measures would reduce all new or substantially more severe impacts to less than significant impacts, a subsequent mitigated negative declaration is required.
6. The analysis can presume that an effect has been adequately analyzed in the prior EIR, negative declaration or mitigated negative declaration unless a substantial change in the project, a substantial change in its circumstances, or new information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the prior EIR, negative declaration, or mitigated negative

declaration was certified or adopted indicates that any of the conditions described in Guidelines Section 15162(a)(1), (2) or (3) have occurred. In this case, a brief discussion should identify the following:

a. Prior Analysis Used. Identify and state where the prior EIR, negative declaration, or mitigated negative declaration is available for review.

b. Impacts Adequately Addressed. Identify which effects of the subsequent activity on the following checklist were within the scope of and adequately analyzed in the prior EIR, negative declaration, or mitigated negative declaration pursuant to Section 15162 and state whether such effects were addressed by mitigation measures in that prior document.

c. Mitigation Measures. Describe the mitigation measures that are incorporated from the prior document and the extent to which they address site-specific conditions for the project. Describe any new or refined mitigation measures that are necessary to prepare a subsequent mitigated negative declaration for the subsequent activity.

7. The determinations must be based on substantial evidence. Lead agencies should incorporate into the checklist references to information sources for potential impacts. Reference to a previously prepared or outside document should, when appropriate, include a reference to the page or pages where the statement is substantiated.

8. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

9. The explanation of each issue should identify:

   a. the significance criteria or threshold, if any, used to evaluate each question; and

   b. the mitigation measure identified, if any, to reduce the impact to a less-than-significant level.

10. Evaluations based on a prior Negative Declaration or Mitigated Negative Declaration will be judged based on the “fair argument standard.” Evaluations based on a prior EIR will be judged based on the “substantial evidence standard.”

I. Aesthetics

I. Aesthetics	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	☐	☐	☐	☒
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☐	☒
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	☐	☒

Setting

The project site lies within an urbanizing area of North Roseville. Roseville and its environs are generally characterized as a transitional zone between the Central Valley's flat terrain and the Sierra Nevada foothills. On clear days, long-range views in the project vicinity include the Sierra Nevada to the east, the Sutter Buttes to the north, and the Coast Ranges to the west.

The project site and nearby undeveloped areas consist primarily of commercial, residential, and open space land uses. Commercial development borders the project along most of the north boundary (westbound) of Roseville Parkway, and along the western side of Pleasant Grove Boulevard. Residential development is along the southern border of Roseville Parkway from West Drive to Gibson Drive and Roseville Parkway and Pleasant Grove Boulevard. Open space areas (Highland Reserve South) are on the south side of Roseville Parkway west of Reserve Drive, and on both sides of Roseville Parkway west of Galleria Circle. Mature trees and shrubs are a part of the landscaping along Roseville Parkway and in the median, particularly along the commercial and residential areas.

The primary groups that would have views of the project are employees and shoppers at the Galleria and Fountains shopping centers and other similar uses, nearby residents, and roadway travelers.

Impact Analysis

a. Would the project have a substantial adverse effect on a scenic vista?

The GPU FEIR concluded that there are no scenic vistas within the Planning Area, nor is the Planning Area visible from any scenic vista; therefore, new development within the Planning Area would have a less-than-significant impact on scenic vistas. There are no designated scenic vistas in the project vicinity. The project would consist of the widening of Roseville Parkway generally between Gibson Drive and Creekside Ridge Drive from three lanes to four lanes in each direction, constructing triple left-turn lanes on southbound Pleasant Grove Boulevard onto eastbound Roseville Parkway, and intersection improvements along Roseville Parkway at Pleasant Grove Boulevard, Gibson Drive, West Drive, Reserve Drive, Galleria Boulevard, and Creekside Ridge Road. The low-lying structures would not be evident beyond the project vicinity and the roadway improvements would be similar to existing conditions. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The GPU FEIR concluded that there is no designated or eligible state scenic highway within or close to the Planning Area, and the Planning Area is not visible from any officially designated or eligible state or locally designated scenic highway. The City of Roseville does not have any locally designated scenic highways. Thus, there would be no impact, and this issue was not addressed further in the GPU FEIR. The project site is still not located near or within view of any state or locally designated scenic highway (California Department of Transportation 2017); therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

c. Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The GPU FEIR concluded that the visual character in the northwest and western portions of the Planning Area would change from existing undeveloped open space and agricultural land to urban development as a result of the site-specific project developments envisioned under the proposed General Plan Update, and that the impact was considered significant. Although the project area is already developed, removal of existing vegetation, site grading, and roadway and intersection reconstruction would introduce heavy equipment, including backhoes, bulldozers, and excavators, into the viewshed of all viewer groups, creating temporary effects on views of and from the project site during the construction period. These activities would be visible from ground-level and elevated vantages. However, the visual effects of construction activities would be less than significant because of their temporary character and the transience of some viewers passing by the project site.

The widening of Roseville Parkway would alter the site's visual character and would be visible to residents in the project vicinity, employees and shoppers at the Galleria and Fountains shopping centers and other similar uses, and roadway travelers. The project would not permanently degrade either the visual character of the project site or its surroundings, because Roseville Parkway is already in use. Additionally, the project would

not be inconsistent with existing City regulations governing scenic quality. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

The GPU FEIR concluded that it was not feasible to mitigate light and glare impacts completely without prohibiting the use of light in new development, and that no other feasible mitigation measures were available; therefore, this impact was considered significant and unavoidable. The project would include streetlights similar to existing streetlights along Roseville Parkway and in the project vicinity and would be visually compatible with existing streetlights and would not create additional, substantial unnecessary light. If night-time construction is warranted, the City would require the contractor to formally request it and the contract documents would note the days, working hours and note that any deviation to the contract working hours would need to be made and approved by the City. The City would place conditions on the approval such as notification to the public about night work, the working hour window, lane closures and/or detours, and the type of construction activities allowed. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

No aspect of the project would create a new source of substantial glare in an area not already experiencing glare. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

Mitigation Measures

The project would not result in any new potentially significant impacts on aesthetic resources not already analyzed in the GPU FEIR. Therefore, no new mitigation measures are necessary.

References

California Department of Transportation. 2017. *California Scenic Highways Map Viewer*. Available: https://www.arcgis.com/home/item.html?id=f0259b1ad0fe4093a5604c9b838a486a. Accessed: April 7, 2022.

II. Agricultural and Forestry Resources

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

Setting

The project site is currently developed and surrounded by residential, commercial, and open space uses. According to the California Department of Conservation's California Important Farmland Finder for Placer County, the project site is primarily designated as "Urban and Built-Up Land" with a few areas designated as "Grazing Land" (California Department of Conservation 2016). Surrounding lands have the same designations.

The project site is not restricted to agricultural uses under the California Land Conservation Act of 1965 (Williamson Act), and the project area is not zoned for agricultural or forestry use.

Impact Analysis

a. ***Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?***

The GPU FEIR concluded that there would be no impact with regard to conversion of Important Farmland. The project site is designated primarily as Urban and Built-Up Land, with a few areas designated Grazing Land, and contains no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation 2016); therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts

b. Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?

The GPU FEIR concluded that there would be no impact with regard to a conflict with agricultural zoning or a Williamson Act Contract. The project site is the existing Roseville Parkway, which is surrounded by developed residential and commercial lands and open space and designated and zoned for those uses. The project site is not under Williamson Act contract. The project would not conflict with existing zoning for agricultural use or conflict with a Williamson Act contract; therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

c. Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

There is no forest land, timberland, or timberland production on the project site or in the City of Roseville. Therefore, the project would not conflict with existing zoning for, or cause rezoning of, these resources. There would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

d. Result in the loss of forest land or conversion of forest land to non-forest use?

The project site is Roseville Parkway, which is surrounded by developed residential and commercial lands and open space. Thus, the project would not result in the loss or conversion of forest land. There would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

e. 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?

The GPU FEIR concluded that there would be no impact with regard to conversion of Important Farmland. The project site is not designated or zoned for agricultural or forest use and contains no active agricultural uses or forest land. The adjacent parcels are also not designated or zoned for agricultural or forest use, and they contain no active agricultural uses or forest land; therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

Mitigation Measures

The project would not result in any new potentially significant impacts on agricultural and forestry resources not already analyzed in the GPU FEIR. Therefore, no new mitigation measures are necessary.

References

California Department of Conservation. 2016. *California Important Farmland Finder.* Available: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed: April 7, 2022.

III. Air Quality

III. Air Quality	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?	☐	☐	☐	☒
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
d. Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	☐	☐	☐	☒

Setting

The affected environment for air quality that would be affected by construction and operation of the proposed project would be similar to what is described in Section 4.4, *Air Quality,* of the GPU FEIR. The GPU FEIR provides a discussion of regional climate and meteorology; pollutants relevant to the General Plan study area and impact analyses; ambient air quality standards and concentrations; regional attainment status; and relevant federal, state, and local air quality regulations, including thresholds of significance adopted by the Placer County Air Pollution Control District (PCAPCD). The proposed project would be located entirely within the General Plan study area. The affected environment described in the GPU FEIR applies to the proposed project and is incorporated by reference.

Section 4.4 of the GPU FEIR defines sensitive receptors as “schools, daycare centers, parks and playgrounds, and medical facilities” and generally describes their locations within and adjacent to the General Plan study area. There are several residential developments adjacent to Roseville Parkway, both to the north and south of the road. Sonrisa Senior Living facility is on the northeast corner of Gibson Drive and Roseville Parkway. Twinwood Park is on the southeast corner of Pleasant Grove Boulevard and Roseville Parkway. Catheryn Gates Elementary School is located approximately 650 feet south of the Roseville Parkway and Gibson Drive intersection.

Impact Analysis

a. ***Conflict with or obstruct implementation of the applicable air quality plan?***

The GPU FEIR discusses that PCAPCD has adopted the *2017 Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan, 2013 PM2.5 Implementation and Maintenance Plan* and *Redesignation Request for Sacramento PM2.5 Nonattainment Area,*

and the 2018 Triennial Progress Report as the most recent assessment of air quality improvements and air quality planning progress under the regional Air Quality Attainment Plan. The PCAPCD CEQA Thresholds of Significance Justification Report explains that the recommended criteria air pollutant significance thresholds adopted by PCAPCD serve as a proxy for evaluating consistency with these plans. Using these thresholds, the GPU FEIR found that construction and operational emissions generated by buildout of the General Plan has the potential to conflict with the region's air quality attainment plans.

As discussed further under response III.b, neither construction nor operation of the proposed project would exceed PCAPCD's thresholds. The project therefore would not conflict with or obstruct implementation of air quality plans for the study area. Moreover, the proposed project is consistent with the City's applicable planning documents, including the General Plan, Bicycle Master Plan, Pedestrian Master Plan, and Short Range Transit Plan, as shown below.

Circulation System: Consistent with the proposed project, the facility is indicated to have seven or eight future lanes (Exhibit 4.3-4, GPU FEIR, page 4.3-23).

Transit Facilities: The immediate project area includes the Roseville Transit Galleria Transfer Point, which accommodates Bus Routes A, B, M, and S. The project limits, and therefore the proposed project, include several bus stops in addition to the aforementioned transfer point. These stops are located along eastbound Roseville Parkway after Reserve Drive (Routes A and B), eastbound Roseville Parkway after Galleria Boulevard (Route A), southbound Galleria Boulevard after Antelope Creek Drive (Route M), and northbound Pleasant Grove Boulevard after Roseville Parkway (Route M).

Bicycle Facilities: Consistent with the proposed project, Roseville Parkway is indicated to have Class II Bike Lanes along the entire stretch from Pleasant Grove Boulevard through the project area (Figure III-5, *General Plan 2035* Circulation Element, page III-23; and Figure 4, *Bicycle Master Plan*, page 43).

Pedestrian Facilities: The proposed project includes both attached and detached (meandering) sidewalks, generally mimicking the existing conditions. Through its inclusion of these facilities, the proposed project supports the City's *General Plan 2035* and *Pedestrian Master Plan* goals.

Accordingly, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

b. 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?

Construction

Even with adherence to PCAPCD rules, proposed General Plan Update Policy AQ1.3, and Specific Plan mitigation measures, the GPU FEIR conservatively assumed that emissions from buildout of the General Plan could exceed PCAPCD-recommended thresholds. Therefore, implementation of the proposed General Plan Update could generate substantial construction-related pollutant emissions and result in a cumulatively considerable net increase of criteria air pollutants for which the project region is designated a nonattainment area under an applicable federal or state ambient air quality standard. There were no

feasible mitigation measures available to address this impact, and the GPU FEIR determined this impact is significant and unavoidable.

The predominant pollutants associated with construction of the proposed project are fugitive dust (particulate matter less than or equal to 10 microns in diameter [PM10]) from earthmoving activities and combustion pollutants, particularly reactive organic gases (ROG) and nitrogen oxides (NO_X), from heavy equipment and trucks. ROG would also be generated from paving activities.

Construction emissions were estimated using Sacramento Metropolitan Air Quality Management District's (SMAQMD) latest Road Construction Model. While the model was developed for Sacramento conditions in terms of fleet emission factors, silt loading, and other model assumptions, it is considered adequate for estimating linear road construction emissions by the PCAPCD (in its air quality analysis guidance) and is used for that purpose in this project analysis.

Construction is anticipated to occur over five phases, (1) grubbing/land clearing, (2) grading/excavation, (3) drainage/utilities/sub-grade, (4) paving, and (5) striping activities that would occur over 180 working days, commencing in summer 2024. Project-specific model inputs were provided by the project engineers, Mark Thomas & Company (Cervantes pers. comm.).

Estimated unmitigated construction emissions are summarized in Table 2-1. Appendix B provides the full list of modeling assumptions.

Table 2-1. Estimated Unmitigated Criteria Pollutant Emissions from Project Construction (pounds per day)

Construction Phase	ROG	NO_X	PM10[1]
Grubbing/Land Clearing	0.36	7.90	5.36
Grading/Excavation	0.58	7.90	5.37
Drainage/Utilities/Sub-Grade	0.47	5.10	5.22
Paving	1.64	20.40	0.94
Striping	0.01	1.43	0.05
Maximum Daily[2]	3.06	42.73	16.94
PCAPCD Threshold	*82*	*82*	*82*
Exceed Threshold?	*No*	*No*	*No*

NO_X = nitrogen oxides
PCAPCD = Placer County Air Pollution Control District
PM10 = particulate matter 10 microns or less in diameter.
ROG = reactive organic gases
[1] Accounts for fugitive dust control, as modeled by the Road Construction Emissions Model, achieved by use of onsite water trucks.
[2] Represents the highest emissions during concurrent construction activity.

As shown in Table 2-1, construction of the proposed project would not generate ROG, NO_X, or PM10 emissions in excess of PCAPCD's thresholds. The proposed project would comply with the City's Design and Construction Standards, further reducing fugitive dust emissions during site grading through implementation of best management practices (BMP) such as application of chemical soil stabilizers, vehicle speed controls, and limits on grading during

strong wind events. Accordingly, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

Operation

The GPU FEIR describes that even after incorporating proposed General Plan Update policies and Mitigation Measure 4.4-2a, certain projects may still have operational emissions that exceed PCAPCD thresholds, and it may not be feasible for all future projects to contribute to the PCAPCD offsite mitigation program at a level that would reduce those projects' net emissions below PCAPCD's thresholds. Therefore, the GPU FEIR found that implementation of the proposed General Plan Update would generate substantial operational-related pollutant emissions and result in a cumulatively considerable net increase of criteria air pollutants for which the project region is designated a nonattainment area under an applicable federal or state ambient air quality standard. There were no feasible mitigation measures beyond Mitigation Measure 4.4-2a to address this impact, and the GPU FEIR determined this impact is significant and unavoidable.

The project would widen Roseville Parkway, construct triple left-turn lanes on southbound Pleasant Grove Boulevard, and complete various intersections improvements along Roseville Parkway. Widening of Roseville Parkway, including associated changes in vehicle miles traveled (VMT) and criteria pollutant emissions, was comprehensively evaluated in the GPU FEIR. Implementation of the project would not change any of the prior analysis completed for widening of Roseville Parkway or the associated findings in the GPU FEIR.

The triple left-turn lanes and intersection improvements proposed under the project were not previously evaluated in the GPU FEIR. However, these project components would not increase VMT or otherwise deteriorate traffic operations. Rather, the proposed improvements are likely to improve traffic flow and reduce congestion, contributing to a regional and local air quality benefit.

Because the effect of widening Roseville Parkway was previously evaluated in the GPU FEIR, and the proposed triple left-turn lanes and intersection improvements would not result in air quality emissions, there would be no new impact with respect to generation of operational criteria pollutant emissions. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

c. Exposure of sensitive receptors to substantial pollutant concentrations?

The primary pollutants of concern with respect to health risks to sensitive receptors are criteria pollutants (regional and local) and toxic air contaminants (TAC). Ozone precursors (ROG and NO_X) and particulate matter (PM) are considered regional pollutants because they affect air quality on a regional scale. Localized pollutants are deposited and potentially affect populations near the emissions source. Because these pollutants dissipate with distance, emissions from individual projects can result in direct and material health impacts on adjacent sensitive receptors. The localized criteria pollutants of concern that would be generated by the project are PM (fugitive dust) and carbon monoxide (CO).

The GPU FEIR found that during construction and operation of the General Plan, localized air pollutant emissions would be generated that could affect existing and proposed sensitive receptors. Construction activities would generate diesel particulate matter (DPM) emissions that could affect existing and proposed sensitive receptors. Existing regulations and policies,

as well as revised policies would reduce potential exposure to substantial pollutant concentrations. However, the GPU FEIR concluded that this impact would be significant and unavoidable.

With respect to localized CO, the GPU FEIR describes that buildout of the General Plan would contribute vehicles to local intersections that could cause a CO hotspot (i.e., exceedance of the CO ambient air quality standard). However, due to requirements for cleaner vehicle emissions, proposed land use and transportation goals and policies, and use of intelligent transportation system equipment, it is not anticipated that the General Plan's land uses would contribute substantial vehicle volumes to existing or future intersections that could cause a CO hotspot. The GPU FEIR considered this impact to be less than significant.

Criteria Pollutants

Regional Emissions (ROG, NO_X, and PM)

As described under response III.b, construction of the project would not generate ROG, NO_X, or PM10 emissions in excess of PCAPCD's thresholds, and operation of the project would not increase emissions relative to what was disclosed in the GPU FEIR. As such construction and operation of this project would not expose sensitive receptors to substantial pollutant concentrations, and there would be no new impact.

While regional criteria pollutant emissions generated by construction of the project would not result in a significant impact, consistent with the California Supreme Court's decision in *Sierra Club v. County of Fresno* (6 Cal. 5th 502), Table 2-2 provides a conservative estimate of potential health effects associated with these emissions. The estimates were developed using SMAQMD's Minor Project Health Effects Tool (version 2), which was developed by SMAQMD, on behalf of regional air districts in the Sacramento Federal Nonattainment Area (SFNA), including western Placer County (Ramboll 2020). SMAQMD conducted photochemical and health effects modeling of hypothetical projects throughout the SFNA with NO_X, ROG, and PM2.5 emissions at 82 pounds per day, which corresponds to the highest daily emissions threshold of all SFNA air districts. The tool outputs the estimated health effects at the 82 pound per day emissions rate by spatial interpolating the health effects from the hypothetical projects based on user inputs for the latitude and longitude coordinates of a project.

The results presented in Table 2-1 are conservative for two reasons. First, they are based on a source generating 82 pounds per day of ROG, NO_X, and PM10. As shown in Table 2-1, maximum daily emissions during construction are well below 82 pounds. Second, the results assume the source would generate emissions 365 days per year. Construction of the project would require 180 working days. For these reasons, any increase in regional health risks associated with project-generated construction emissions would be less than those presented in Table 2-2, which are already very small increases over the background incident health effect.

Table 2-2. Conservative Estimate of Increased Regional Health Effect Incidence Resulting from Construction of the Project (cases per year)

Health Endpoint	Age Range[1]	Mean Incidences (per year)[2]	Percent of Background Health Incidence[3]
Emergency Room Visits, Asthma	0–99	<1	<1%
Hospital Admissions, Asthma	0–64	<1	<1%
Hospital Admissions, All Respiratory (less Myocardial Infarction)	65–99	<1	<1%
Hospital Admissions, All Cardiovascular (less Myocardial Infarction)	65–99	<1	<1%
Acute Myocardial Infarction, Nonfatal	18–24	<1	<1%
Acute Myocardial Infarction, Nonfatal	25–44	<1	<1%
Acute Myocardial Infarction, Nonfatal	45–54	<1	<1%
Acute Myocardial Infarction, Nonfatal	55–64	<1	<1%
Acute Myocardial Infarction, Nonfatal	65–99	<1	<1%
Mortality, All Cause	30–99	2	<1%

Source: SMAQMD Minor Project Health Screening Tool, version 2, published June 2020.
Note: The analysis point is in the center of the project alignment at 38.787412, -121.307778.
[1] Affected age ranges are shown. Other age ranges are available, but the endpoints and age ranges shown here are the ones used by the U.S. Environmental Protection Agency in their health assessments. The age ranges are consistent with the epidemiological study that is the basis of the health function.
[2] Health effects are shown in terms of incidences of each health endpoint and how it compares to the base (2035 base year health effect incidences, or "background health incidence") values. Health effects and background health incidences are across the Northern California model domain.
[3] The percent of background health incidence uses the mean incidence. The background health incidence is an estimate of the average number of people that are affected by the health endpoint in a given population over a given period of time. In this case, these background incidence rates cover the modeled domain. Health incidence rates and other health data are typically collected by the government as well as the World Health Organization. The background incidence rates used here are obtained from BenMAP, as reported in SMAQMD's Minor Project Health Screening Tool, version 1.

Localized Fugitive Dust

During earthmoving activities required for construction, localized fugitive dust would be generated. The amount of dust generated by a project is highly variable and dependent on the size of the disturbed area at any given time, the amount of activity, soil conditions, and meteorological conditions. Dust emissions would be controlled through adherence to the City's Design and Construction Standards, which require chemical stabilizers and other onsite BMPs. Accordingly, the proposed project would not expose sensitive receptors to substantial fugitive dust concentration. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

Localized Carbon Monoxide

Continuous engine exhaust during project operations may elevate localized CO concentrations, resulting in hot spots. Receptors exposed to these CO hot spots may have a greater likelihood of developing adverse health effects, such as fatigue, headaches, confusion, dizziness, and chest pain. CO hot spots are typically observed at heavily congested intersections where a substantial number of gasoline-powered vehicles idle for prolonged durations throughout the day.

As discussed above under response III.b, the proposed project includes various intersection improvements along Roseville Parkway. Table 2-3 presents the results of the CO hot spot modeling and indicates that CO concentrations are not expected to contribute to any new localized violations of the 1-hour or 8-hour ambient air quality standards. Consequently, the proposed project would not result in CO concentrations in excess of the health-protective California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS) and, as such, would not expose sensitive receptors to significant pollutant concentrations or result in health effects. There would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

Table 2-3. CO Concentrations at Roseville Parkway and Pleasant Grove Boulevard, Gibson Drive, and Galleria Boulevard (parts per million)

		1-Hour	8-Hour
Intersection	**Receptor**	**Opening Year with Project (2035)**	**Opening Year with Project (2035)**
Roseville Parkway and Pleasant Grove Blvd	1	2.7	2.2
	2	2.7	2.2
	3	2.5	2.0
	4	2.5	2.0
Roseville Parkway and Gibson Drive	1	2.7	2.2
	2	2.4	2.0
	3	2.4	2.0
	4	2.6	2.1
Roseville Parkway and Galleria Blvd	1	2.6	2.1
	2	2.5	2.0
	3	2.5	2.0
	4	2.6	2.1
CAAQS Threshold		20	9.0
Exceeds CAAQS?		*No*	*No*
NAAQS Threshold		35	9
Exceeds NAAQS?		*No*	*No*

Notes: Receptors are located at each of the four corners of the intersection. All intersections modeled have two intersecting roadways.
The average 1-hour background concentration between 2018 and 2020 was 1.7 parts per million (ppm). The average 8-hour background concentration between 2018 and 2020 was 1.5 ppm (U.S. Environmental Protection Agency 2022).

Toxic Air Contaminants

Naturally Occurring Asbestos

Naturally occurring asbestos (NOA) is a TAC and is the name given to naturally occurring fibrous silicate minerals. NOA can be released from serpentine and ultramafic rocks when the rock is broken or crushed during construction earthmoving activities. The inhalation of asbestos fibers into the lungs can result in a variety of adverse health effects, including inflammation of the lungs, respiratory ailments, and cancer (e.g., mesothelioma) (United States Environmental Protection Agency 2018). Accordingly 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). As such, there is no potential for impacts related to NOA emissions during construction activities. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

Diesel Particulate Matter

DPM is a TAC generated by diesel-fueled equipment and vehicles. 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). Heavy-duty equipment used during construction would generate DPM, which could expose adjacent receptors to associated health risks. However, DPM emissions would be minor (less than 2 pounds per day) during concurrent construction activities. The short-term construction period is well below the 30-year exposure period typically associated with increased cancer risks. Moreover, DPM from construction equipment would be transitory and spread throughout the entire 1.5-mile segment, as opposed to being concentrated at a single location. Accordingly, construction of the proposed project would not expose sensitive populations to substantial pollutant concentrations. There would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

d. Other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Although offensive odors rarely cause any physical harm, they can be unpleasant, leading to citizen complaints to local governments and air districts. The GPU FEIR includes policies that would avoid exposure of a substantial number of people to objectionable odors. The impact was determined to be less than significant.

Diesel-powered equipment operating during construction may generate odors that are evident in the immediately surrounding area. These activities would be intermittent and temporary in duration and, therefore, would not result in nuisance odors. The project does not meet any of the facility types identified by the California Air Resources Board (CARB) (2005) or PCAPCD (2017) as odor-generating; thus, the project would not generate substantial operational odors. Accordingly, the proposed project would not create objectionable odors affecting a substantial number of people and there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

Mitigation Measures

The project would not result in any new potentially significant impacts on air quality resources not already analyzed in the GPU FEIR. Therefore, no new mitigation measures are necessary.

References

California Air Resources Board. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April.

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Ramboll. 2020. Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District. Prepared for the Sacramento Metropolitan Air Quality Management District. October.

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IV. Biological Resources

IV. Biological Resources	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Setting

Methods

The biological resources analysis is based on a field survey conducted for the project on May 2, 2022, by ICF biologist Sean O'Brien and a review of existing and available information, including information contained in the GPU FEIR. The GPU FEIR analyzed direct and indirect impacts on regulated waterways and wetlands, sensitive habitats and mature native trees, sensitive plants and wildlife, and wildlife movement corridors, and included a discussion of potential conflicts with

relevant biological resources policies or ordinances. The following sources of information were reviewed to support this analysis.

- A list of sensitive species from the California Natural Diversity Database (CNDDB) records search of the Roseville, Sheridan, Lincoln, Gold Hill, Rocklin, Folsom, Citrus Heights, Rio Linda, and Pleasant Grove U.S. Geological Survey (USGS) 7.5-minute quadrangles (California Department of Fish and Wildlife 2022).
- California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Plants of California* for these same USGS quadrangles (California Native Plant Society 2021).
- A list obtained from the U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) (U.S. Fish and Wildlife Service 2022).
- The Western Placer County Habitat Conservation Plan/Natural Community Conservation Plan.
- The City of Roseville Individual Open Space and Preserve Location figure (ECORP Consulting Inc., 2009).

This information was used to develop lists of special-status species and vegetation communities of special concern that could be present in the project vicinity, and to determine the location and proximity of City open space and preserve areas.

Existing Biological Conditions

The project area is heavily urbanized with inclusions of undeveloped disturbed annual grasslands (within areas planned for future development; see Exhibit 4.8-4 in the GPU FEIR) and annual grasslands with vernal pool complexes within City preserve areas (see Exhibit 4.8-1 in the GPU FEIR). South Branch Pleasant Grove Creek and an unnamed tributary cross under Roseville Parkway and Highland Ravine crosses under Pleasant Grove Boulevard through culverts (Figure 1-2). All three waterways can be characterized as intermittent drainages, which flow water during the wet-season and contain a combination of ponded water and dry areas during the dry-season. The natural channel and plant communities associated with South Branch Pleasant Grove Creek, the unnamed tributary, and Highland Ravine occur adjacent and outside the developed road corridor. More specifically, these intermittent drainages, seasonal wetlands, and vernal pools occur between 10–55 feet from the concrete sidewalk and 20–65 feet from the edge of pavement.

As shown in Figure 1-2, Highland Reserve South preserve areas occur along Roseville Parkway and Pleasant Grove Boulevard, mostly associated with South Branch Pleasant Grove Creek, the unnamed tributary, and Highland Ravine.

Scattered mature trees (e.g., willows, cottonwoods, live oak, valley oak) occur adjacent to and outside the project area along South Branch Pleasant Grove Creek, the unnamed tributary, and Highland Ravine. Large landscape trees proposed for removal also occur within the project area.

Special-Status Species

As defined in the GPU FEIR, special-status plants and animals are those species in any of the categories listed below.

- Species officially listed by the State of California or the federal government as endangered, threatened, or rare.

- Candidates for state or federal listing as endangered or threatened.
- Taxa (i.e., taxonomic categories or groups) that meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the State CEQA Guidelines.
- Species identified by the California Department of Fish and Wildlife (CDFW) as species of special concern.
- Species listed as Fully Protected under the California Fish and Game Code.
- Species afforded protection under local or regional planning documents.
- Taxa considered by CDFW to be "rare, threatened, or endangered in California" and assigned a California Rare Plant Rank (CRPR). The CDFW system includes six rarity and endangerment ranks for categorizing plant species of concern, which are summarized as follows:
    - CRPR 1A – Plants presumed to be extinct in California
    - CRPR 1B – Plants that are rare, threatened, or endangered in California and elsewhere
    - CRPR 2A – Plants presumed to be extinct in California, but more common elsewhere
    - CRPR 2B – Plants that are rare, threatened, or endangered in California, but more common elsewhere
    - CRPR 3 – Plants about which more information is needed (a review list)
    - CRPR 4 – Plants of limited distribution (a watch list)

Based on a review of existing information, including CNDDB occurrences (California Department of Fish and Wildlife 2022), CNPS occurrences (California Native Plant Society 2022), USFWS species list (U.S. Fish and Wildlife Service 2022) for the study area, and the results of the field survey, eight special-status plant and wildlife species were determined to have the potential to occur in adjacent undeveloped areas. No suitable habitat for fish species occurs in the project area. Suitable habitat is present in undeveloped areas for the follow special-status species:

- Vernal pool fairy shrimp (*Branchinecta lynchi*), federally listed as threatened
- Vernal pool tadpole shrimp (*Lepidurus packardi*), federally listed as endangered
- Western spadefoot (*Spea hammondii*), CDFW Species of Special Concern
- Burrowing owl (*Athene cunicularia*), CDFW Species of Special Concern
- Swainson's hawk (*Buteo swainsoni*), state listed as threatened
- White-tailed kite (*Elanus lucurus*), CDFW Fully Protected
- Boggs Lake hedge-hyssop (*Gratiola heterosepala*), state listed as endangered found in vernal pools
- Dwarf downingia (*Downingia pusilla*), CRPR list 2B.2 species

Adjacent undeveloped City preserve areas (e.g., Highland Reserve South) that contain annual grasslands, vernal pool complexes, seasonal wetland and creek habitat have the potential to support these special-status plant and wildlife species.

Adjacent vernal pool complexes and seasonal wetlands have the potential to support vernal pool fairy shrimp, vernal pool tadpole shrimp, Boggs Lake hedge-hyssop, and dwarf downingia.

Annual grasslands could support burrow sites for burrowing owl and foraging habitat for Swainson's hawk and white-tailed kite. Scattered mature trees adjacent to and outside the project area along South Branch Pleasant Grove Creek, the unnamed tributary, and Highland Ravine could support nesting habitat for Swainson's hawk and white-tailed kite.

Scattered mature trees adjacent and outside the project area along South Branch Pleasant Grove Creek, the unnamed tributary, and Highland Ravine could provide habitat for nesting habitat for migratory bird species and roosting habitat for bat species. Large landscape trees proposed for removal could also support nesting habitat for migratory bird species and roosting habitat for special-status bat species.

Impact Analysis

a. ***Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?***

The GPU FEIR describes the potential for direct impacts on special-status species and/or habitat modification that could degrade the quality of habitats suitable for special-status species, and indirect effects that may result from construction-related runoff, sedimentation and erosion, introduction of invasive weeds, and new sources of noise and light; this impact is potentially significant. The proposed project activities would be limited to existing paved and landscaped areas and would not directly or indirectly affect adjacent undeveloped natural lands and preserve areas that could support special-status species.

The project would remove large landscape trees that could provide suitable roosting habitat for special-status bat species and nesting habitat for migratory bird species. As described in the GPU FEIR, the City will implement Mitigation Measure 4.8-2 to ensure that the project would not 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 CDFW or USFWS. Mitigation Measure 4.8-2 requires that the City preserve occupied habitat for special-status wildlife species and, if adverse effects cannot be avoided, mitigate all adverse effects in accordance with guidance from the appropriate state or federal agency charged with the protection of the subject species and habitat, including surveys conducted according to applicable standards and protocols, where necessary, implementation of impact minimization measures based on accepted standards and guidelines and best available science, and compensatory mitigation for unavoidable loss of special-status wildlife species and sensitive habitats. To further avoid impacts on migratory birds and special-status bat species, the City will implement Mitigation Measures BIO-1 and BIO-2. Potential impacts on special-status species would be reduced to a less-than-significant level with the implementation of these project-specific mitigation measures.

b. 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?

The GPU FEIR concluded that buildout of the General Plan would involve conversion of riparian habitat and other sensitive natural communities to developed use. In addition to direct removal of habitat, buildout of the General Plan would result in habitat modification that

could degrade habitat quality to a degree that it is no longer suitable for riparian plants or other sensitive natural communities to regenerate, and these habitats and communities could eventually die out. This impact is considered potentially significant.

The proposed project would not have a substantial adverse effect on any riparian habitat or sensitive natural community because none occurs on or immediately adjacent to the project site. There would be no impact.

c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The GPU FEIR concluded that buildout of the General Plan would involve conversion of wetlands and other waters to developed use. In addition to direct removal of wetlands and other waters, buildout of the General Plan would result in wetlands modification that could degrade habitat quality. This impact is considered potentially significant.

The proposed project would not have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act because no jurisdictional wetlands and non-wetland waters occur on the project site. Adjacent undeveloped grassland and High Reserve South preserve areas support state and federally protected wetlands. However, these adjacent wetlands would not be directly or indirectly impacted because project activities would be limited to paved and landscaped areas within the developed parkway corridor.

Mitigation Measure 4.8-3 includes avoiding impacts by establishing a buffer zone between adjacent land uses and riparian habitat and sensitive natural communities. The City would establish buffer zones to avoid indirect effects on state and federally protected wetlands during construction. There would be no new impacts.

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The GPU FEIR concluded that buildout of the General Plan would involve conversion of habitat to developed use that could provide wildlife movement corridors and nursery sites. In addition to direct removal of habitat, buildout of the General Plan would result in habitat modification that could degrade habitat quality to a degree that it is no longer suitable for use as wildlife movement corridors and/or nursery sites. This impact is considered potentially significant.

The proposed project would not 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. Project activities would be limited to paved and landscaped areas within the developed parkway corridor. There would be no impact.

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (including essential fish habitat)?

The GPU FEIR concluded that buildout of the General Plan would involve conversion of habitat to developed use that will require oak tree removal, which would be subject to the City's ordinances and policies regarding oak tree preservation and mitigation. The City of

Roseville Tree Preservation Ordinance requires a permit and mitigation for all oak trees removed. Therefore, this impact is considered less than significant.

The proposed project would not result in any new impacts that conflict with local policies or ordinance protecting biological resources, including trees protected under the City of Roseville Tree Preservation Ordinance (Municipal Code Chapter 19.66, Tree Preservation). The Tree Preservation Ordinance defines protected trees as a native oak tree, defined as any trees of the genus Quercus that are equal to or greater than six inches diameter at breast height (DBH) measured as a total of a single trunk or multiple trunks.

The project could result in the disturbance or removal of native oak trees that would be subject to the City ordinance. The City will retain an arborist to conduct a survey and prepare an arborist report as specified by Section 19.66.050 of the Tree Preservation Ordinance. In compliance with the ordinance, the City will replace protected trees according to the ordinance. Impact 4.8-6 in the GPU FEIR concluded that this impact is considered less than significant. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

f. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?

The GPU FEIR concluded that because there is no adopted conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan that applies to the Planning Area, the impact is less than significant. There are no approved habitat conservation plans, natural community conservation plans, or other adopted plans that would apply to the proposed project. There would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

Mitigation Measures

Mitigation Measure BIO-1: Construct the Project During the Nonbreeding Season or Conduct Preconstruction Surveys for Nesting Migratory Birds and Raptors

To the extent feasible, the City will remove trees and large shrubs during the nonbreeding season for migratory birds and raptors (generally between September 1 and February 28).

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 vegetation that provides suitable nesting habitat in the construction area. In addition, a 500-foot area in open space areas within the construction zone will be surveyed for raptors (including burrowing owl). For survey areas outside the project site, the biologist will walk areas where property access is authorized. For portions of the survey area without property access, the biologist will scan vegetation using binoculars from the project site or from the public road. One survey should be conducted no more than 14 days prior to construction and the second survey should be conducted within 48 hours of the start of construction or vegetation removal. If no active nests are detected during these surveys, no protective 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 after a qualified wildlife biologist determines that the young have fledged and moved out of the nesting substrate (this date varies by species). The extent of these buffers will be determined by the biologist 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 but will be established a minimum of 50 feet from active construction for passerine species and up to 500 feet for non-listed raptor species. A minimum buffer of 1,000 feet will be established for an active Swainson's hawk nest. If site-specific conditions or the nature of the activity (e.g., steep topography, dense vegetation, or minimal construction activities) indicate that a smaller buffer could be used, the City will coordinate with CDFW to determine the appropriate buffer size.

Mitigation Measure BIO-2: 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.

- 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. The biologist 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.

References

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V. Cultural Resources

V. Cultural Resources	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☐	☒
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

Setting

Methods

Records Search

A records search for the project site was conducted by staff at the North Central Information Center of the California Historical Resources Information System on May 27, 2022 (record search No. PLA-22-56). The records search indicated that between 1982 and 2006 five previous cultural resources studies have been conducted encompassing the project site. The records search also identified one previously recorded cultural resource (P-31-773) within the project site. This resource was a segment of multiple recorded portions of historic rock walls, alignments, and fence lines attributed to Chinese laborers who were employed by Joel Parker Whitney between 1875 and 1880. According to previous site records from 1982, three separate portions of rock wall were identified as intersecting the project in the southeast quarter of Section 26.

Native American Consultation

Assembly Bill (AB) 52 tribal consultation efforts under CEQA were carried out by the City of Roseville and are discussed in Section XVIII, *Tribal Cultural Resources*.

Field Survey

Overall, five surveys encompassed the entirety of the project site between 1982 and 2006. However, given the amount of time that had passed since the previous surveys, an updated survey of all accessible portions of the project site was conducted by ICF archaeologists on October 31, 2022. At the time of the survey, all undeveloped portions of the project that had not been paved or built over were inspected, and attempts were made to identify any of the previously recorded portions of rock wall (P-31-773). The ground surface was found to be highly disturbed by past construction and improvement activities, including paved roads, built sidewalks, utility installation, and landscaping. No evidence of site P-31-773 was found within the survey areas, and any portions of the rock wall were most likely removed and destroyed by the

development of the surrounding area in the early to mid-1990s. Furthermore, no additional cultural resources were discovered throughout the pedestrian survey.

Prehistoric Setting

Although human occupation of the northern Sacramento Valley may extend back 10,000 years or more, reliable evidence of the presence of such an early human presence is lacking. Early archaeological sites bearing evidence of these Paleo-Indian populations may be present in the valley, but deeply buried under alluvium (Moratto 1984).

The region and its prehistory can be broken into local districts and phases (Elsasser 1978). These different cultural patterns are characterized as follows:

- The Paleo-Indian Period (12,000 to 10,500 Before Present [B.P.]) saw the first demonstrated entry and spread of humans into California. Characteristic artifacts recovered from archaeological sites of this time period have included fluted projectile points (often compared to Clovis points), cobble cores, and biface rough-outs.
- The beginning of the Lower Archaic Period (10,500 to 7500 B.P.) coincides with that of the Middle Holocene climatic change which resulted in widespread floodplain deposition. This episode resulted in burial of most of the early archaeological deposits. Most tools were manufactured of local materials, and distinctive artifact types include large dart points and the milling slab and handstone.
- The Middle Archaic Period (7500 to 2500 B.P.) is characterized by warm, dry conditions that brought about the drying up of pluvial lakes. Economies were more diversified and may have included the introduction of acorn processing technology, although hunting remained an important source of food. Characteristic artifacts include milling stones and pestles and continued use of a variety of implements interpreted as large dart points.
- The Upper Archaic Period (2500 to 850 B.P.) corresponds with a sudden turn to a cooler, wetter, and more stable climate. The development of status distinctions based upon wealth is well documented in the archaeological record. Specialized tools, such as bone implements and stone plummets as well as manufactured goods (e.g., Olivella saucer and saddle beads, Haliotis ornaments) were prolific during this time. The regional variance of economies was largely due to the seasonality of resources, which were harvested and processed in large quantities.
- Several technological and social changes distinguish the Emergent Period (850 B.P. to Historic) from earlier cultural manifestations. The bow and arrow were introduced and territorial boundaries between groups became well established. In the latter portion of this period (450 to 1800 A.D.), exchange relations became highly regularized and sophisticated. The clam disk bead developed as a monetary unit of exchange and increasing quantities of goods moved greater distances. It was at the end of the Period that contact with Euro-Americans became commonplace, eventually leading to intense pressures on Native American populations.

Ethnographic Setting

The Nisenan occupied the project area at the time of Euro-American 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 Euro-American 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 1976 [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 Setting

The first Euro-Americans to settle in the area now known as Roseville were gold seekers who left the placer mining fields to farm on the plains region of southwestern Placer County. Many of these pioneering farmers formed the nucleus of what would become a bustling railroad town. In Roseville, the rails of the Central Pacific intersected with those of the California Central. A small freight and passenger center, soon to be known as Roseville, developed around this junction. By the turn of the century, Roseville's population was still largely made up of ranchers. However, this setting abruptly changed in 1906 when the railroad roundhouse and repair facilities moved to Roseville from nearby Rocklin, which had been the area's major railroad service center. Almost overnight, the quiet ranching town evolved into a bustling city of approximately 3,000 people. (Davis 1981:59–61.)

In 1909, the town was incorporated and steadily grew until it became Placer County's largest city. Roseville continued as a major railroad center well into the post-World War II years. The introduction of jet aircraft and the completion of Interstate 80 through Roseville in 1956 saw the abrupt decline of the once booming passenger train service. The town slowly expanded easterly with the competition of the interstate leading to the decline of the Lincoln-Church-Main Street business center and the Vernon Street area. The town's commercial center shifted from downtown to what became known as "East Roseville." In 1977, a revitalization effort of old downtown saw new business development and reconstruction efforts. Roseville continues to grow today and has a population of over 130,000 people (City of Roseville 2020). The meager beginnings of this ranching village—turned railroad town—blossomed into a vital economic center within Placer County.

Impact Analysis

a. ***Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?***

The GPU FEIR concluded that impacts on historical resources would be significant and unavoidable despite implementation of current state and federal regulations, as well as the policies of the proposed General Plan Update due to the possibility that avoidance of some resources could be infeasible. Direct physical impacts would result from activity such as demolition, destruction, relocation, or alteration of historical resources that would materially impair the qualities that contribute to the significance of these historical resources. However, for this project, the GPU FEIR did not identify significant historical resources in the project area along Roseville Parkway and Pleasant Grove Boulevard. The proposed project involves road widening, construction of turn lanes, and improvements to an existing roadway. This project does not entail demolition of buildings or disturbance of extant historic resources. As a result, the project would not cause a substantial adverse change in the significance of a historical resource. There would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

The GPU FEIR concluded that impacts on archaeological resources would be significant and unavoidable because, despite implementation of current state and federal regulations, as well as the policies of the proposed General Plan Update, prehistoric and historic-era archaeological sites can occur below ground with little or no surface manifestation. If unknown archaeological resources are encountered during construction without prior discovery, they may be inadvertently damaged or destroyed.

Numerous archaeological sites have been identified as part of investigations conducted for various Specific Plans in the city. The proposed project is in the North Central Roseville Specific Plan (NCRSP) area. Cultural resources surveys conducted between 1979 and 1982 for the NCRSP identified seven prehistoric sites and a rock wall built by immigrants during the historic period.

Project components include ground-disturbing activities such as minor grading and relocation of underground utilities. Depths of disturbance range from 1 to 2 feet for grading and 3 to 6 feet for utility relocations. All work would remain along the roadway alignment within identified disturbance areas. Storm drain facilities constructed as part of the proposed

roadway widening would tie into and discharge to existing storm drain facilities. Although ground disturbance would occur in areas already heavily disturbed by previous road and utility construction, the project area is considered moderately sensitive for buried archaeological resources due to its proximity to Antelope Creek.

Given the potential depth of excavation, ranging from grading (1 foot) to utility installation (6 feet), and moderate sensitivity near Antelope Creek for archaeological resources, it is possible that ground-disturbing activities may inadvertently uncover buried, previously unknown cultural resources. In the event that construction activities occur within previously undisturbed soils and buried cultural resources are discovered, such resources could be damaged or destroyed, potentially resulting in significant impacts on cultural resources. However, implementation of Mitigation Measures 4.9-2a and 4.9-2b from the GPU FEIR, would establish appropriate review procedures and consultation requirements, while also addressing the need for qualified personnel to undertake technical analysis, where necessary, which would reduce this impact to a less-than-significant level. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

c. Disturb any human remains, including those interred outside of formal cemeteries?

There are no known formal cemeteries within the project site. However, there is the possibility that ground-disturbing activities during construction may uncover previously unknown buried human remains; such disturbance would be a potentially significant impact. Implementation of Mitigation Measure 4.9-3 from the GPU FEIR would reduce this impact to a less-than-significant level. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

Mitigation Measures

The project would not result in any new potentially significant impacts on cultural resources not already analyzed in the GPU FEIR. Therefore, no new mitigation measures are necessary.

References

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VI. Energy

VI. Energy	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
Would the project:				
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	☒
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Setting

The proposed widening of Roseville Parkway is locally important in order to improve existing and future traffic conditions consistent with City adopted plans, and enhance access and safety for motorists, pedestrians, and cyclists.

Within the City of Roseville, electrical service is provided by the City of Roseville Electric Department (Roseville Electric Utility). Demand for any given year is approximately 40 percent residential, 60 percent commercial, and a very small percentage municipal. Natural gas service is provided to the City by Pacific Gas and Electric Company (PG&E), through portions of its natural gas distribution pipelines. (City of Roseville 2020.)

Impact Analysis

a. ***Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?***

The GPU FEIR concluded that with implementation of the policies of the General Plan Update and Mitigation Measure 4.5-1, implementation of the General Plan Update would develop more energy efficient land uses and development patterns, and impacts would be less than significant. During construction there would be a temporary consumption of energy resources for the movement of equipment and materials. Compliance with local, state, and federal regulations, which limit engine idling times and require recycling construction debris, would reduce short-term energy demand during the project's construction to the extent feasible, and project construction would not result in a wasteful or inefficient use of energy. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities or use of equipment that would not conform to current emissions standards and related fuel efficiencies. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The GPU FEIR concluded that implementation of the proposed General Plan Update would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency and the impact would be less than significant. State and local authorities regulate energy use and consumption through various means and programs. Regulations at the state level are intended to reduce energy use and greenhouse gas (GHG) emissions. The project would comply with these regulations that include, among others, AB 1493–Light-duty Vehicle Standards, California Code of Regulations Title 24, Part 6–Energy Efficiency Standards, and California Code of Regulations Title 24.

The Roseville City Council adopted a Municipal Climate Action Plan in November 2009. The plan applied to GHG emissions from City facilities and operations (e.g., buildings, vehicle fleets, treatment plants, and other infrastructure). The City Council approved a GHG reduction goal of 22.8 percent by 2035 using various measures. The project's construction methods are consistent with the goals and measures in the City's Climate Action Plan. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

Mitigation Measures

The project would not result in any new potentially significant impacts on energy not already analyzed in the GPU FEIR. Therefore, no new mitigation measures are necessary.

References

City of Roseville. 2020. *City of Roseville 2035 General Plan Update Final Environmental Impact Report*. Prepared by AECOM. August 5.

VII. Geology and Soils

VII. Geology and Soils	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
2) Strong seismic ground shaking?	☐	☐	☐	☒
3) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
4) Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	☒
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e. 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?	☐	☐	☐	☒
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

Setting

The project site is level to slightly undulating. The elevation ranges between approximately 150 and 225 feet above mean sea level. The project site is in the Great Valley geomorphic province (California Geological Survey 2002). Thick sequences of alluvial (water-deposited) sediments

derived from erosion of the Sierra Nevada typify the geological formations on the east side of the Sacramento Valley, where the site is located.

The project site is underlain by the Turlock Lake Formation (map symbol Qtl) (California Geological Survey 2011), which consists of alluvial sand, silt, and gravel of arkosic composition, with minor clay interbeds. Gravel composition is heterogeneous, featuring granitic, metamorphic, volcanic and vein-quartz clasts.

The project site is not within an Alquist-Priolo Earthquake Fault Zone, and there are no known active faults at the project site (California Geological Survey 2019a). Therefore, the potential for surface rupture to occur at the project site is low.

The project site lies between the seismically active Coast Ranges and the historically seismically active Foothills fault zone in the Sierra Nevada. The primary seismic hazard to the project site is associated with ground shaking from more distant faults, such as the San Andreas fault and the closer Hayward fault, which have the potential for generating strong seismic shaking. USGS has estimated that there is a 72 percent probability of at least one 6.7 or greater magnitude earthquake occurring that could cause widespread damage in the greater San Francisco Bay area before 2043 (U.S. Geological Survey 2016).

Other potential earthquake sources are the faults associated with the western edge of the Central Valley, defined as the Coast Range Central Valley Boundary Thrust Fault System. Various documents define portions of this little-known system as the Midland Fault Zone or the Dunnigan Hills fault, where the 1892 Vacaville-Winters earthquake occurred (City of Roseville 2016a).

The Foothill Fault Zone, a complex series of northwest-trending faults that are related to the Sierra Nevada uplift, and whose activity also is little understood, extends from about Oroville in the north to east of Fresno in the south. Earthquakes on nearby faults in the zone can be the source of ground shaking in the greater Sacramento area. The closest potentially active faults to the project site are the Bear Mountain and Melones faults (City of Roseville 2016a). The closest recently active fault in the western Sierra Nevada foothills is the Cleveland Hills fault, about 36 miles northwest of Auburn.

No active faults are known to exist in Placer County. The following inactive faults have been identified within the City limits:

- The Volcano Hill fault extends northwest from Volcano Hill for a distance of 1 mile, terminating near Eureka Road. No activity has been recorded along this fault; therefore, it is considered inactive.
- Identified in 1973, the Linda Creek fault is located along Linda Creek in Roseville and Sacramento County. No activity has been recorded along this fault.
- The Willows fault and Stockton fault are in the Roseville vicinity and are considered inactive as displacement occurred more than 1.8 million years ago.
- An unnamed fault extends east to west between Folsom Lake and the City of Rocklin. Segments of the fault are concealed and therefore unmapped. However, the east/west alignment suggests that the fault could connect to the Bear Mountain fault, branches of which are located beneath Folsom Lake. The Bear Mountain fault could be undergoing reactivation as a result of continental tectonic activity. However, there is no evidence of such reactivation along the unnamed fault alignment (City of Roseville 2016a).

The project site is classified as being in a low-severity earthquake shaking zone (California Geological Survey 2016). The maximum peak ground acceleration that can be expected to occur at the site based on a return period of 2 percent in 50 years is 0.317 g, where 1 g is equal to the force of gravity (California Geological Survey 2019b).

Liquefaction is the loss of soil strength as a result of seismic forces acting on water-saturated, granular soils having low cohesion. During seismic shaking, the soil behaves like a liquid, causing a reduction in its bearing strength. The potential for liquefaction is based on soil particle size and density, depth to the groundwater table, and duration and intensity of ground shaking. Liquefaction most commonly occurs in low-lying areas of poorly consolidated to unconsolidated water-saturated sediments or similar deposits (California Geological Survey 2008). The City of Roseville is not specifically addressed in currently available State Division of Mines and Geology liquefaction risk data. That is, no determination has been made as to whether liquefaction potential exists in Roseville. However, based on project-specific analysis that has been done for many of Roseville's development projects, liquefaction has not been identified as a significant problem in Roseville (City of Roseville 2016a).

Based on the relatively flat ground, landslides and other forms of slope instability are not expected to exist at the site.

Near-surface (i.e., approximately 60-inch-deep) soils at the project site consist of Cometa-Fiddyment complex, 1 to 5 percent slopes (Rogers 1980). This soil map unit poses no significant constraints to site development that cannot be overcome using conventional construction approaches and engineering design. The Cometa-Fiddyment complex characteristics include the following: well-drained, very high runoff, depth to water is 80 inches, no frequency of flooding or ponding, wind erosion hazard of 3 (soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible), and low-high shrink-swell potential.

Expansive soils are those that greatly increase in volume, or swell, when they absorb water and shrink when they dry out. Expansion may damage building foundations, concrete slabs, hardscaping, pavement, and other improvements on or near the surface. The project site has a very low plasticity index rating of 15.5 percent, which means that project site soils are not considered expansive (Natural Resources Conservation Service 2019).

The eastern margin of the Central Valley is a nearly continuous series of coalescing alluvial fans, which form a continuous belt between the uplands of the Sierra Nevada and the relatively flat surface of the Central Valley floor. These deposits formed primarily during the Plio-Pleistocene by the streams that drained the adjacent uplands of the Sierra Nevada. The alluvial deposits accumulated on Central Valley alluvial fans consist of medium- to fine-grained sediment eroded from Tertiary and older volcanic, plutonic, and metamorphic rocks in the mountains to the east. The gravel, sand, and silt that compose these alluvial fans have in the past produced significant fossils, primarily large land mammals, such as mammoths, mastodons, camels, bison, and horses. (City of Roseville 2016b).

Impact Analysis

a. ***Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:***

1) **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**

The GPU FEIR concluded that because there are no fault traces either within or immediately adjacent to the Planning Area, surface fault rupture would not pose a hazard. Because the project site is not located in an Alquist-Priolo Earthquake Fault Zone, the hazard of fault rupture at the project site is low; therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

2) **Strong seismic ground shaking?**

The GPU FEIR concluded that with implementation of General Plan Update policies, compliance with the requirements of the California Building Code (CBC), and the City's site-specific Design Review process, impacts from strong seismic ground shaking would be less than significant. The project site is not located in an area that is subject to strong seismic ground shaking. Therefore, there would be no change from the GPU FEIR conclusion and the impact would be less than significant, and no mitigation is required.

3) **Seismic-related ground failure, including liquefaction?**

The GPU FEIR concluded that liquefaction would not pose a hazard for the Planning Area because the Planning Area is underlain by stable, moderately cemented to very well cemented, older Pleistocene–Eocene age rock formations; and active seismic sources are at least 30 miles away. However, a site-specific geotechnical study would be needed to characterize liquefaction potential. The geotechnical study would be required as part of the building permit process and would be prepared prior to site development to ensure that the project is appropriately designed (City of Roseville 2016b). Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

4) **Landslides?**

The GPU FEIR concluded that because the Planning Area does not have a history of landslides and is composed of stable geologic units that are moderately to very strongly cemented, and active seismic sources are at least 30 miles away, the impact did not need to be addressed further. Because there are no known landslides in the project area and considering the site's relatively flat ground and limited ground-shaking potential, the hazard of a seismically induced landslide occurring at the site is very low; therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

b. Result in substantial soil erosion or the loss of topsoil?

The GPU FEIR concluded that soil erosion or loss of topsoil impacts would be less than significant with compliance with existing stormwater, grading, and erosion control regulations and implementation of policies in the existing General Plan and proposed General Plan Update. The soils underlying the project site have a moderate water erosion hazard. Project construction activities would entail soil disturbance over several acres. This is not expected to cause substantial accelerated soil erosion, especially because of the erosion and sediment control BMPs that must be implemented to comply with the state stormwater

General Permit for Construction and Land Disturbance Activities (see Section X, *Hydrology and Water Quality*, for a more detailed discussion of BMPs and General Permit compliance). Additionally, per Section 111-3 of the City's Design and Construction Standards, all grading improvements shall be reinstalled in accordance with provisions in the CBC, and recommendations of site-specific geotechnical reports and geotechnical engineers. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

c. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project and potentially result in an onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

The GPU FEIR concluded that impacts would be less than significant with implementation of General Plan Update policies, and compliance with existing laws and regulations, including Section 111 (Grading) of the City's Design and Construction Standards related to soil testing for earthwork and backfill, which would address issues related to unstable and expansive soils by requiring new construction to prepare site-specific geotechnical reports to identify areas of unstable soil and shrink-swell potential, and to follow design specifications contained in the CBC and standard engineering practices to prevent adverse impacts associated with these limitations. Because the Turlock Lake Formation generally consists of semi-consolidated sediments and given the relatively flat land of the project site, there appear to be no unstable ground conditions present. The roadway widening and intersection improvements would be constructed consistent with the City's Design and Construction Standards, provisions in the CBC, and recommendations of site-specific geotechnical reports. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

The GPU FEIR concluded that impacts would be less than significant with implementation of General Plan Update policies, and compliance with existing laws and regulations, including Section 111 (Grading) of the City's Design and Construction Standards related to soil testing for earthwork and backfill, which would address issues related to expansive soils by requiring new construction to prepare site-specific geotechnical reports to identify areas of unstable soil and shrink-swell potential, and to follow design specifications contained in the CBC and standard engineering practices to prevent adverse impacts associated with these limitations. As described above, the project site is not located on soils with expansive qualities, as defined in Table 18-1-B of the Uniform Building Code. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts. Standard engineering practices and compliance with the CBC and the City's Design and Construction Standards III-3 (Soil Testing and recommendations from geotechnical report) would ensure that potential impacts are reduced to a less-than-significant level, and no mitigation is required.

e. 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?

The GPU FEIR concluded that because alternative wastewater treatment systems would not be used, the impact was not addressed further in the GPU FEIR. No septic tanks or

alternative wastewater disposal systems are proposed for the project. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The GPU FEIR concluded that impacts on unique paleontological resources would be less than significant with implementation of Mitigation Measure 4.7-4 because guidance would be provided to construction personnel for projects that could affect unique paleontological resources, and in the event fossil specimens are encountered during construction activities, a paleontologist would be retained to evaluate the fossil and recommend appropriate actions. The Turlock Lake Formation, which primarily underlies the project site, is known to be sensitive for paleontological resources. Excavation work to construct the project could directly or indirectly destroy such resources or alter their stratigraphic context. The impact could be significant; however, implementation of Mitigation Measure 4.7-4 from the GPU FEIR would reduce the impact to less than significant, and the project would not result in any new impacts.

Mitigation Measures

The project would not result in any new potentially significant impacts on geology and soils not already analyzed in the GPU FEIR. Therefore, no new mitigation measures are necessary.

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VIII. Greenhouse Gas Emissions

VIII. Greenhouse Gas Emissions	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☒
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Setting

The affected environment for GHGs that would be affected by construction and operation of the proposed project would be similar to what is described in GPU FEIR, Section 4.5, *Greenhouse Gas Emissions*. The GPU FEIR provides a discussion of climate change and global warming, primary GHG pollutants relevant to the study area and impact analyses; current GHG emissions inventories; and relevant federal, state, and local GHG regulations. The proposed project would be located entirely within the General Plan study area. The affected environment described in the GPU FEIR has not changed and is incorporated by referenced.

Impact Analysis

a. ***Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?***

The GPU FEIR determined that buildout of the General Plan would involve land use change and construction and operation of public facilities and infrastructure that would result in construction and operational GHG emissions. Additionally, implementation of the proposed General Plan Update could result in the generation of GHG emissions at a level that may have a significant impact on the environment and conflict with state GHG emission targets adopted for the purpose of reducing the emissions of GHGs. The impact was determined to be cumulatively considerable.

Construction of the proposed project would generate emissions of carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) from mobile and stationary construction equipment exhaust and employee and haul truck vehicle exhaust. Emissions were estimated using the methods described in Section III, *Air Quality*; the results are summarized in Table 2-4. Please refer to Appendix B for complete construction assumptions and calculation spreadsheets.

Table 2-4. Estimated Greenhouse Gas Emissions from Project Construction (metric tons per year)

Construction Year	CO_2	CH_4	N_2O	CO_2e[1]
2024	1,225	<1	<1	1,262
PCAPCD Threshold	--	--	--	*10,000*
Exceed Threshold?	--	--	--	*No*

[1] Refers to carbon dioxide equivalent, which includes the relative warming capacity (i.e., global warming potential) of each GHG.
CH_4 = methane
CO_2 = carbon dioxide
N_2O = nitrous oxide

As shown in Table 2-4, construction of the project would generate minor amounts of GHGs. These emissions would be short term and well below PCAPCD's (2017) construction threshold. As such, there would be no new impact with respect to generation of construction GHG emissions.

As discussed in Section III, widening of Roseville Parkway, including associated changes in VMT and GHG emissions, was comprehensively evaluated in the GPU FEIR. Implementation of the project would not change any of the prior analysis completed for widening of Roseville Parkway or the associated findings in the GPU FEIR. The triple left-turn lanes and intersection improvements proposed under the project were not previously evaluated in the GPU FEIR. However, these project components would not increase VMT or otherwise deteriorate traffic operations. Rather, the proposed improvements are likely to improve traffic flow and reduce congestion, contributing to a GHG benefit.

Because the effect of widening Roseville Parkway was previously evaluated in the GPU FEIR and the proposed triple left-turn lanes and intersection improvements would not result in GHG emissions, there would be no change from the GPU FEIR conclusion, and there would be no new impact with respect to generation of operational GHG emissions.

b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The GPU FEIR concluded that implementation of the proposed General Plan Update could generate GHG emissions, either directly or indirectly, that may conflict with applicable state plans, policies, and regulations adopted for the purpose of reducing the emissions of GHGs and could contribute substantially to the cumulatively considerable impact climate change on the environment. There were no additional feasible mitigation measures available to address this impact. This impact was determined to be significant and unavoidable.

The most applicable legislation for the purpose of reducing transportation-related GHG emissions are Senate Bill (SB) 375 and SB 743. These policies support attainment of the state's GHG reduction targets, as expressed under SB 32 and Assembly Bill (AB) 1279.

SB 375 was enacted to reduce GHG emissions from automobiles and light trucks through integrated transportation, land use, housing and environmental planning. Under this law, Sacramento Area Council of Governments (SACOG) is tasked with developing a Sustainable Communities Strategy (SCS) that provides a plan for meeting per capita CO_2 emissions levels allocated to SACOG by CARB. The Final EIR for the 2020 Metropolitan Transportation Plan (MTP)/SCS demonstrates that projects identified in the MTP/SCS meet CARB's issued

SB 375 GHG targets for the SACOG region in 2020 and 2035 (Sacramento Area Council of Governments 2019). The proposed project was included in SACOG's 2020 MTP/SCS, and therefore would not conflict with SACOG's regional strategies implemented pursuant to SB 375.

The purpose of SB 743 is to integrate and better balance the needs of congestion management, infill development, active transportation, and GHG emissions reduction. As discussed further in response VIII.a, and Section XVII, *Transportation*, implementation of the project would not increase operational-related emissions. The proposed left-turn lanes and intersection improvements would improve traffic flow and reduce congestion, which in turn achieves long-term GHG reductions. This is consistent with SB 743 and the state's climate change goals, including SB 32 and AB 1279.

Because the proposed project would not conflict with applicable plans and legislation adopted to reduce GHG emissions, there would be no new impact. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

Mitigation Measures

The project would not result in any new potentially significant impacts on GHG resources not already analyzed in the GPU FEIR. Therefore, no new mitigation measures are necessary.

References

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Sacramento Area Council of Governments. 2019. *Final Environmental Impact Report for the 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy*. State Clearinghouse # 2019049139. November.

IX. Hazards and Hazardous Materials

IX. Hazards and Hazardous Materials	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c. Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d. 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?	☐	☐	☐	☒
e. 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?	☐	☐	☐	☒
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	☐	☒

Setting

The project site consists primarily of commercial, residential, and open space land uses. Catheryn Gates Elementary School is located approximately 0.15 mile south of the Roseville Parkway/Gibson Drive intersection. Vencil Brown Elementary School is located approximately 0.3 mile west of the Roseville Parkway/Pleasant Grove intersection.

A preliminary search of the State Water Resources Control Board's (SWRCB) GeoTracker online database and the Department of Toxic Substances Control's (DTSC) Envirostor online database

was conducted in an effort to identify hazardous materials sites of environmental concern within 0.25 mile of the project. No sites were identified as a result of the database search (California Department of Toxic Substances Control 2022a, 2022b).

There are no airports within 2 miles of the project site. The closest airport is the Lincoln Regional Airport, approximately 8 miles to the north.

The project site is located in a Local Responsibility Area where the Roseville Fire Department is responsible for fire protection services. The project site is within Fire Protection District 7 served by Fire Station No. 7 approximately 0.50 mile north of the project site at 911 Highland Point Drive (City of Roseville 2017).

Impact Analysis

a. ***Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?***

The GPU FEIR concluded that impacts would be less than significant with implementation of current state and federal regulations, as well as the policies of the proposed General Plan Update. Construction and operation of the project could 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 stormwater pollution prevention plan (SWPPP), erosion control, temporary fencing, and hazardous material management practices, would be implemented to reduce exposure to, or potential for, accidental spills involving these materials. A spill prevention and control plan, which includes the preparation of a hazardous material spill prevention, control, and countermeasure plan before construction and implemented during construction, would be prepared to avoid or minimize the risk of spills or discharges of hazardous materials into waterways. Additionally, a health and safety plan (prepared by a registered industrial hygienist) would be prepared that addresses release prevention measures, employee training, notification, and evacuation procedures, and adequate emergency response protocols and cleanup procedures.

No hazardous materials would be disposed of on the project site. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

The GPU FEIR concluded that impacts would be less than significant with implementation of current state and federal regulations, as well as the policies of the proposed General Plan Update. Site workers, the public, and the environment in general could be inadvertently exposed to existing contaminants on site 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 Certified Unified Program Agency, California Division of Occupational Safety and Health (Cal-OSHA), California DTSC, SWRCB, and the City.

In addition, the following plans and special provisions would be followed.

- Compliance with the City's 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 that transport, storage, and handling of hazardous materials required for construction is conducted in a manner consistent with relevant regulations and guidelines.
- Implementation of a SWPPP as part of the National Pollutant Discharge Elimination System Permit and a General Construction Activity Storm Water Permit to minimize the potential for sediments or contaminants to enter waterways.
- Compliance with the City's Design and Construction Standards and the City's Stormwater Quality BMP Guidance Manual for Construction.

In addition, the City 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 in accordance with federal, state, and local regulations, the impact would be less than significant, and no mitigation is required. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The GPU FEIR concluded that impacts would be less than significant with implementation of General Plan Update policies, and enforcement of California Department of Education school siting regulations, permitting requirements for individual hazardous material handlers and emitters, and enforcement of Public Resources Code Sections 21151.4(a) and 21151.8(a) during project-level review for projects developed under the General Plan. Catheryn Gates Elementary School is located approximately 0.15 mile south of the Roseville Parkway/Gibson Drive intersection. Hazardous emissions and accidental release or combustion of hazardous materials near existing schools could result in health risks or other dangers to students. However, standard construction BMPs as described under response IX.a would reduce the potential for a hazardous materials spill. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

d. 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?

The GPU FEIR concluded that impacts would be less than significant with implementation of General Plan Update policies, and existing required federal and state regulations pertaining to hazardous site cleanup, ongoing remedial activities at known contamination sites, site-specific environmental site assessments, and location of underground pipelines prior to site-specific earthmoving activities.

As described above, a search of the SWRCB's GeoTracker online database and the DTSC's Envirostor online database was conducted in an effort to identify hazardous materials sites of environmental concern within 0.25 mile of the project. No sites were identified as a result of the database search (California Department of Toxic Substances Control 2022a, 2022b).

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. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

e. For a project 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 or excessive noise for people residing or working in the project area?

The GPU FEIR concluded that implementation of the land use changes and policies consistent with the proposed General Plan Update would have no impact related to safety hazards for aircraft or for people residing or working in the vicinity of an airport, and the issue was not addressed further in the GPU FEIR. There are no airports within 2 miles of the project site. The closest airport is the Lincoln Regional Airport approximately 8 miles to the north. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The GPU FEIR concluded that impacts would be less than significant with implementation of proposed General Plan Update policies and the City's Multi-Hazard Mitigation Plan, Emergency Operations Plan, and City Design Standards and Guidelines. Construction of the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The City would require the construction contractor to implement a traffic management plan. Requirements would include a construction schedule and plan to meet the City's notice procedures, before construction activities are initiated. This plan would identify general methods by which construction activities would be managed to minimize substantial delays to traffic as discussed in Section XVII, *Transportation*. Provisions for maintaining traffic during construction would be implemented to ensure there is no interference with emergency vehicles/services or response/evacuation plans. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

The GPU FEIR concluded that impacts would be less than significant with implementation of proposed General Plan Update policies along with City Design and Construction Standards related to roadways and ingress and egress points for emergency vehicles, and implementation of the City's Multi-Hazard Mitigation Plan and Emergency Operations Plan. The California Department of Forestry and Fire Protection's (CAL FIRE) Fire Hazard Severity Zones Maps indicate that the project site is not located in or near a State Responsibility Area or lands classified by CAL FIRE as a very high fire hazard severity zone (California Department of Forestry and Fire Protection 2007). The project site is in a Local Responsibility Area.

Project construction would involve the use of heavy equipment, welding, and other activities that have the potential to ignite fires. Malfunction of equipment that could cause a fire is extremely unlikely during project construction. However, Station 7 of the Roseville Fire Department, approximately 0.5 mile north of the project site, would provide fire protection. Existing land uses are primarily urbanized and at low risk for wildland fires. Also, the contractor would comply with Cal-OSHA standards for the storage and handling of fuels and flammable materials. The project would not introduce a wildland fire risk or expose people or structures to an increased risk for wildland fire. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

Mitigation Measures

The project would result in either no or less-than-significant impacts related to hazards and hazardous waste. No existing or new mitigation is required.

References

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X. Hydrology and Water Quality

X. Hydrology and Water Quality	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☐	☒
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner that would:				
1) result in substantial erosion or siltation onsite or offsite;	☐	☐	☐	☒
2) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☐	☒
3) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	☒
4) impede or redirect flood flows?	☐	☐	☐	☒
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Setting

The climate in the project area is characterized by hot, dry summers and cool, moist winters. National Weather Service cooperative weather station number 047516 (Rocklin) is the closest weather station to the project site, approximately 4 miles east-northeast at an elevation of approximately 240 feet above mean sea level. Average annual precipitation at this weather

station is 22.8 inches, with most precipitation falling as rain from November through March (Western Regional Climate Center 2020).

The project site is located in the Upper Coon–Upper Auburn hydrologic unit (hydrologic unit code 18020127) (U.S. Geological Survey 2019). Surface water in the project area is driven by rainfall, and outfalls from adjacent commercial and business park buildings and residential subdivisions. Surface water in the project area includes Antelope Creek to the east of the project site footprint and west of Interstate 80.

Surface runoff rates of the soils in the project area range from slow to very high, depending on the soil map unit. The erosion hazard for sheet and rill erosion is slight. After intense rainstorms, the soil is saturated for a short time (Rogers 1980).

The Federal Emergency Management Agency Flood Insurance Rate Map (Federal Emergency Management Agency 2018) shows that the site is in Zone X, indicating that the project site is outside the special flood hazard area of Antelope Creek (Zone AE).

According to the 2014/2016 California Integrated Report (Clean Water Act Section 303(d) List), Antelope Creek is not on the 303(d) list but is on the total maximum daily load required list for ammonia, arsenic, pH and specific conductivity (State Water Resources Control Board 2019).

Because of the project site's elevation above sea level and because no large waterbody exists in the project area, there is no chance for a tsunami or seiche to occur at the site. The hazard for a mudflow (i.e., a debris flow) at the project site is likely low, based on the site's shallow slopes and lack of significant concave areas.

Impact Analysis

a. ***Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?***

The GPU FEIR concluded that impacts would be less than significant with implementation of policies contained in the proposed General Plan Update, and compliance with the City's Municipal Code requiring proper drainage and erosion control, as well as the *Stormwater Quality Design Manual*, *Stormwater Quality BMP Guidance Manual for Construction*, and the *City of Roseville Stormwater Management Program* (2004) to reduce post-construction runoff through the incorporation of BMPs, low-impact development (LID), and hydromodification management techniques.

The SWPPP that would be prepared for the project would specify erosion control, sediment control, non-stormwater management, and housekeeping BMPs that, if properly selected and implemented, would prevent substantial sediment and other pollutant movement from the site, such that the project would not violate any water quality standards. The BMPs, provided that they are properly implemented and maintained, are expected to be effective in preventing violations of water quality standards and waste discharge requirements because of the low erosion hazard at the site. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and potential impacts related to water quality standards and waste discharge requirements would be less than significant and no mitigation is required.

b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The GPU FEIR concluded that impacts would be less than significant with implementation of policies in the proposed General Plan Update that would help preserve the minimal groundwater recharge potential of the Planning Area through the implementation of LID features and encourage water conservation/demand management. Additionally, the City's Water Efficient Landscape Ordinance would help conserve surface and groundwater, and the Urban Water Management Plan and Groundwater Management Plan currently provide for sustainable management of groundwater supplies.

The project would not use groundwater. The project would create additional impervious surfaces in the project area through the widening of Roseville Parkway but would not substantially interfere with groundwater recharge. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and the impact related to depletion of groundwater supplies or interference with groundwater recharge would be less than significant and no mitigation is required.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner which would:

1) **Result in substantial erosion or siltation on- or off-site?**

The GPU FEIR concluded that impacts would be less than significant with implementation of policies in the proposed General Plan Update, and compliance with existing land use, stormwater, grading, and erosion control regulations including the City's *Stormwater Quality BMP Guidance Manual for Construction*, the City's Community Design Standards, and compliance with the avoidance and minimization measures contained in the Preserve Management Plan.

The project would involve clearing and grubbing, excavation and filling, soil stockpiling, and soil compaction. However, these activities would not alter the overall drainage pattern of the area, and runoff that currently drains into drainage ditches and the municipal storm drain system would not change as a result of the project.

Site grading would expose soils to accelerated erosion by runoff if soils are not properly protected. However, as part of the project, erosion and sediment control BMPs and post-construction BMPs to avoid hydromodification effects would be implemented. The SWPPP would include such practices as seeding, mulching, installing erosion control blankets, and installing sediment barriers such as fiber rolls and silt fences, as well as the stormwater management measures that are included in the project design. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and the project would not result in substantial erosion or siltation on- or off site. The impact would be less than significant, and no mitigation is required.

2) **Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?**

And

3) **Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

The GPU FEIR concluded that impacts would be less than significant with implementation of policies in the proposed General Plan Update, which require implementation of LID technologies, BMPs, and hydromodification management techniques to protect receiving water quality, mitigate excessive runoff, and mimic the runoff of a natural environment. Additional policies and requirements include compliance with stormwater drainage design plans and standards, regulations contained in the City Municipal Code, and the plans to implement the regional drainage and detention basins at the Al Johnson Wildlife Area, which would serve to maintain and improve the City's storm drainage system and prevent an increase in flood hazards.

The project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. See responses X.c.i and X.c.ii above. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and the project would not result in substantial flooding or polluted runoff. The impact would be less than significant, and no mitigation is required.

4) **Impede or redirect flood flows?**

The GPU FEIR did not analyze whether General Plan implementation would result in development that impedes or redirects flood flows. The project would cause an increase in runoff rates and amounts during and shortly after construction, but runoff management measures required by the state Stormwater General Permit for Construction and Land Disturbance Activities and contained in the SWPPP would limit such increases to an acceptable level.

The project would not substantially alter the existing natural drainage pattern of the site or area. Because of the small area that the project would disturb relative to the watershed in which it is located, any increases in the rate or amount of surface runoff would not be sufficient to result in flooding on- or off site. The roadway widening and intersections improvements would be constructed to current City design and construction standards. Additionally, no aspect of the project would impede or redirect flood flows. The impact related to flooding on- or off site would be less than significant, and no mitigation is required. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

The GPU FEIR concluded that impacts would be less than significant with implementation of policies in the proposed General Plan Update and adherence to Municipal Code requirements. The project site is in Zone X, indicating that the project site is outside the 500-year floodplain of Antelope Creek. No large bodies of water are located in the project vicinity; therefore, there is no risk of inundation by seiche. The project area is located over 100 miles from the Pacific Ocean; therefore, there is no inundation risk related to tsunami.

Consequently, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The GPU FEIR concluded that impacts would be less than significant with implementation of policies in the proposed General Plan Update, and compliance with current laws, regulations, and implementation of the City's Aquifer Storage and Recovery program. The project site is within the Sacramento Valley basin, North American subbasin. The water quality control plan (i.e., Basin Plan) that covers the project area is the California Regional Water Quality Control Board, Central Valley Region's Sacramento River Basin Plan revised in May 2018. The Basin Plan covers the entire Sacramento and San Joaquin River Basins. Basin plans consist of a designation or establishment for the waters within a specified area of beneficial uses to be protected, water quality objectives to protect those uses, and a program of implementation needed for achieving the objectives.

The project would incorporate erosion and sediment control BMPs and post-construction BMPs to avoid substantial degradation of water quality. The SWPPP would include such practices as seeding, mulching, installation of erosion control blankets, and installing sediment. No aspect of the project would conflict with or obstruct implementation of the Basin Plan. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and the impact would be less than significant, and no mitigation is required.

Mitigation Measures

The project would not result in any new significant impacts related to hydrology and water quality; therefore, no new mitigation measures are required.

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XI. Land Use and Planning

XI. Land Use and Planning	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

Setting

The project site is located in north Roseville along Roseville Parkway between the Roseville Parkway/Pleasant Grove Boulevard intersection on the west, and just west of Antelope Creek on the east (Figures 1-1 and 1-2). The project site is currently Roseville Parkway, which is surrounded primarily by residential, commercial, and open space uses. Westfield Galleria at Roseville is located on the northwest corner of Roseville Parkway and Galleria Boulevard. The Ridge at Creekside/Creekside Town Center and The Fountains at Roseville are located on the northeast and southwest corners of Roseville Parkway and Galleria Boulevard, respectively. There are also many Class A office buildings on Creekside Ridge Drive, Reserve Drive, and Gibson Drive. Residential development is located on the north and south sides of Roseville Parkway west of the Galleria.

The General Plan land use designations for adjacent uses include RC, CC, OS, BP, PR, HDR, MDR, IND, and P/QP. The project site is within the North Central Roseville Specific Plan.

City of Roseville General Plan 2035

The *City of Roseville General Plan 2035* (City of Roseville 2020) guides the general distribution and intensity of land uses within the City. The General Plan Land Use and Circulation Elements include the following relevant goals and policies.

Land Use Goal 7. 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.

Circulation 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.

Circulation 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.

City of Roseville Zoning Ordinance

The City of Roseville Zoning Ordinance codifies the land uses allowed within the incorporated City limits. The zoning ordinance defines and maps a series of zoning districts, establishes regulatory standards for development and resource protection, and identifies the specific uses permitted within each of those districts (City of Roseville 1996). The project site is right-of-way (ROW) with surrounding zoning consisting of OS, CC/SA-NC, RS, R3/DS/SA-NC, R3, PR, R1/DS, RC/SA-NC, and M2.

Impact Analysis

a. ***Would the project physically divide an established community?***

The GPU FEIR concluded that impacts would be less than significant with implementation of General Plan Update policies. The project site includes existing Roseville Parkway, adjacent to residential, commercial, and open space uses. The project would not physically divide the community; rather, it would simply widen Roseville Parkway generally between Gibson Drive and Creekside Ridge Drive and construct triple left-turn lanes on southbound Pleasant Grove Boulevard onto eastbound Roseville Parkway. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The GPU FEIR concluded that the impact was less than significant because the proposed General Plan Update was designed to ensure consistency with other relevant plans, programs, and regulations that were developed to reduce or avoid environmental impacts; and there are no inconsistencies between the proposed General Plan Update and other plans that would result in a significant environmental impact not already addressed in the GPU FEIR. The project is planned for in the General Plan and is consistent with the goals and policies of the General Plan. The project would comply with the development standards and requirements specified by the City of Roseville Zoning Ordinance and the improvement standards of the General Plan. The project would not conflict with any applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect and would be less impactful than the GPU FEIR concluded. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

Mitigation Measures

The project would not result in any new significant impacts related to land use. Therefore, no new mitigation measures are required.

References

City of Roseville. 1996. *City of Roseville Zoning Map*. Adopted July 26, 1996. Last updated: March 2017. Available: https://www.roseville.ca.us/cms/One.aspx?portalId=7964922&pageId=10990649. Accessed: April 12, 2022.

City of Roseville. 2020. *City of Roseville General Plan 2035*. Adopted August 5, 2020. Available: https://www.roseville.ca.us/cms/One.aspx?portalId=7964922&pageId=8774544. Accessed: April 12, 2022.

XII. Mineral Resources

XII. Mineral Resources	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Setting

The California Geological Survey identifies areas that contain or that could contain significant mineral resources so as to provide context for local agency land use decisions and to protect availability of known mineral resources. Classifications ranging from MRZ-1 to MRZ-4 are based on knowledge of a resource's presence and the quality of the resource.

The City of Roseville does not overlie any known deposits of economically valuable mineral resources, and the City does not have a Surface Mining and Reclamation Act (SMARA) permit. No mining activities are currently underway nor does the City anticipate that any mining activities will take place in the future. Therefore, mineral resources were not evaluated in the GPU FEIR. (City of Roseville 2020.)

Impact Analysis

a. ***Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?***

Because no known mineral occurrences are present within the project area, the project would not result in the loss of any known mineral resources that are of value to the region and residents of the state. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The City's general plan does not designate lands for mineral resource recovery, and no known mineral occurrences are present within or adjacent to the project site. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

Mitigation Measures

The project would not result in any new significant impacts related to mineral resources. Therefore, no new mitigation measures are required.

References

City of Roseville. 2020. *City of Roseville 2035 General Plan Update Final Environmental Impact Report*. Available: https://www.roseville.ca.us/cms/One.aspx?portalId=7964922&pageId=8774544. Accessed: April 13, 2022.

XIII. Noise

XIII. Noise	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
Would the project:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	☐	☐	☐	☒
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c. For a project located within the vicinity of a private airstrip or 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?	☐	☐	☐	☒

Setting

The affected environment for noise that would be affected by construction and operation of the proposed project would be similar to what is described in Section 4.6, *Noise and Vibration*, of the GPU FEIR. The GPU FEIR provides a discussion on various topics including the fundamentals of environmental noise, existing noise sources and measured ambient noise levels within the General Plan study area, and relevant federal, state, and local noise regulations.

The proposed project is located between Gibson Drive and Creekside Ridge Drive. The existing roadway alignment is a six-lane arterial roadway throughout the project alignment. General land uses located within the project area include commercial land uses such as restaurants, the Westfield Galleria at Roseville mall, and multi- and single-family residential land uses. Land uses surrounding the project would be affected by construction and operation of the proposed project which would be similar to what is described in Section 4.6 of the GPU FEIR. The GPU FEIR also provides a discussion of noise as it relates to construction and operational (traffic-related) impacts within the general study area and impact analyses. The proposed project would be located entirely within the General Plan study area. The affected environment described in the GPU FEIR applies to the proposed project and is incorporated by reference.

Field measurements conducted as part of the GPU FEIR did not include measurements within the project area; however, Short-Term (ST) Measurement 03 was conducted along Roseville Parkway to the east of the project alignment. The measured noise level at the time of this measurement was 51 dBA L_{eq}.[1] Construction noise analyzed in the GPU FEIR presented typical

[1] Measurement ST-03 was conducted over a time period of 15 minutes on October 2, 2019. dBA L_{eq} = the equivalent continuous sound level in A-weighted decibels.

construction noise levels from equipment that could be used for projects. Table 2-5 (Table 4.6-9 from the GPU FEIR) shows construction equipment used as part of the analysis.

Table 2-5. Predicted Noise Levels from Typical Construction Equipment

	Noise Level in Decibels at 50 feet	
Type of Equipment	**Without Feasible Noise Control**	**With Feasible Noise Control[1]**
Dozer or Tractor	80	75
Excavator	88	80
Compactor	82	75
Front-end Loader	79	75
Backhoe	85	75
Grader	85	75
Crane	83	75
Generator	78	75
Truck	91	75

Sources: EPA 1971; FTA 2018.
[1] Feasible noise control includes the use of intake mufflers, exhaust mufflers, and engine shrouds in accordance with manufacturer's specifications.

Traffic along the local roadway network and other local noise sources were noted as the controlling factors. The GPU FEIR analyzed the Roseville Parkway roadway network to identify the noise levels at a distance of 100 feet and distance to the 70, 65, and 60 dBA L_{dn}[2] contours. Table 2-6 presents the predicted existing noise levels from Table 4.6-1 of the GPU FEIR.

Table 2-6. Predicted Existing Noise Levels Within the Project Alignment

		Average Daily	L_{dn} at	Distance to Contours (dBA L_{dn})		
Roadway	**Segment**	**Traffic**	**100 Feet**	**70**	**65**	**60**
Roseville Parkway	Pleasant Grove Blvd to Galleria Blvd	43,500	70	99	312	985
	Galleria Blvd to Taylor Rd	47,700	70	108	342	1,080

The applicability of the analysis prepared in the GPU FEIR and any additional analysis is presented in the Impact Analysis below.

Impact Analysis

a. ***Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?***

Construction

The GPU FEIR determined that construction noise associated with buildout of the General Plan would be significant and unavoidable. General Plan Policy N1.9 exempts construction noise from applicable thresholds provided that construction complies with the requirements

[2] Day-night average sound level in A-weighted decibels.

of the City's Municipal Code. Private construction (e.g., construction, alteration, or repair activities) can occur between 7:00 a.m. and 7:00 p.m. Monday through Friday, and between 8:00 a.m. and 8:00 p.m. Saturday and Sunday provided that all construction equipment must be fitted with factory installed muffling devices and that all construction equipment must be maintained in good working order. Nevertheless, regardless of compliance with this ordinance the GPU FEIR found that no mitigation was available.

Construction of the proposed project is anticipated to occur over five phases: (1) Grubbing/Land Clearing, (2) Grading/Excavation, (3) Drainage/Utilities/Sub-Grade, (4) Paving, and (5) Striping. Activities would occur over 180 working days, commencing in summer 2024. Project-specific construction equipment for each phase of construction was provided by the project engineers, Mark Thomas & Company (Cervantes pers. comm.).

Construction noise associated with the proposed project was modeled with the Federal Highway Administration Roadway Construction Noise Model (RCNM). Table 2-7 shows the construction equipment that would be used during each phase of the proposed project. To determine a worst-case condition, equipment noise levels from each phase were combined to calculate an overall noise level by development phase.

Table 2-7. Modeled Construction Nosie Results for Each Phase

Phase	Equipment Type[1]	Noise Level at a Distance of 50 Feet (dBA L_{eq})[2]	Combined Noise Level at a Distance of 50 Feet (dBA L_{eq})[2]
Grubbing/ Land Clearing	Skip Loader	75	77
	Skid Steer	74	
Grading/ Excavation	Skip Loader	75	77
	Skid Steer	74	
Draining/Utilities/ Subgrade	Skid Steer	75	80
	Backhoe	74	
	Auger Drill Rig	77	
Paving	Paver	74	89
	Vibratory Roller	73	
	Pneumatic Roller	82	
	Finish Roller (Steel Drum)	84	
	Skip Loader	75	
	Saw, Concrete	83	
	Pick Up Machine	82	
Striping	Truck, Pickup	71	76
	Compressor, Air	74	

[1] The RCNM was used for the purposes of this analysis. Not all equipment referenced by the project applicant is included in the RCNM model. Therefore, construction equipment was substituted where the equipment type is not specifically called out.
[2] Noise levels rounded to the nearest whole number.

Based on the results in Table 2-7, paving would be the worst-case phase for construction noise, with a combined noise level of 89 dBA L_{eq} at a distance of 50 feet. Appendix B provides the full list of modeling assumptions by phase. Construction equipment presented in Table 2-7 generally conforms to the equipment list and levels presented in the GPU FEIR

(Table 4.6-9). The nearest sensitive receptors are single- and multi-family residential land uses. In some cases, these homes are adjacent to the proposed project alignment and can be as close 50 feet. At this distance, combined noise levels from paving equipment are anticipated to be up to 89 dBA L_{eq}. This is approximately 38 dBA greater than locally measured ambient noise levels (51 dBA L_{eq} at ST-3)[3] from the GPU FEIR. Noise levels of this magnitude would dominate the noise environment in the project area and would be clearly audible at nearby land uses. It should be noted that an increase of 38 decibels (dB) over the ambient is considered a conservative estimate. Construction equipment modeled in RCNM assumes that all equipment is running concurrently. Generally, one or two pieces of construction equipment would operate at a time. As such construction noise levels would realistically be lower.

As discussed above, General Plan Policy N1.9 exempts construction noise from the requirements of the General Plan Noise Element thresholds provided that construction comply with the City's Municipal Code. The Municipal Code exempts construction provided construction occurs weekdays, from 7:00 a.m. to 7:00 p.m., and weekends, 8:00 a.m. to 8:00 p.m. Project construction is anticipated to occur during daytime and nighttime hours. The project area is a heavily traveled corridor during the day. To minimize lane closures and daytime traffic, some construction activities are likely to occur during nighttime hours. The GPU FEIR identifies that a majority of construction would occur during daytime hours, when construction noise is exempt from numerical thresholds. Construction activities occurring at night (i.e., outside the allowable construction hours outlined in the municipal code) would need to meet the Sound Level Standards outlined in Section 9.24.100 of the Municipal Code (50 dBA L_{eq} and 70 L_{max} between 7:00 p.m. and 10:00 p.m., and 45 dBA L_{eq} and 65 dBA L_{max} between 10:00 p.m. and 7:00 a.m.).

Construction that occurs as part of City operations and activities is fully exempt from noise ordinance regulations under Section 9.24.140 of the Municipal Code, provided that all construction equipment is fitted with factory installed muffling devices and maintained in good working order. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

Operation

The GPU FEIR identifies that the buildout of the General Plan would generate and attract vehicular traffic, which would increase traffic noise levels along existing and future roadways. As seen in Table 4.6-10 of the GPU FEIR (existing conditions summarized in Table 2-6 above), traffic associated with buildout of the General Plan and regional growth is expected to increase noise levels along City streets and regional thoroughfares throughout the Planning Area. The GPU FEIR analyzed traffic noise within the project area assuming Roseville Parkway would be widened. This widening is largely consistent with the widening proposed by the project. This analysis estimated that traffic noise along the proposed project alignment is expected to increase between 1 and 2 dB, which is not considered a perceptible increase (at least 3 dB). These relevant traffic noise increases are shown in Table 2-8 (data from Table 4.6-10 from the GPU FEIR). It should also be noted that noise levels presented in Table 4.6-10 of the GPU FEIR also do not account for intervening buildings, sound walls, topography, and other factors that provide noise attenuation. Therefore, the table presents a worst-case analysis.

[3] ST-3 was located along Roseville Parkway, east of the proposed project site.

Table 2-8. Proposed General Plan Update 60 dBA, 65 dBA, and 70 dBA L_{dn} Traffic Contours for Unconstrained Buildout

Roadway	Segment	L_{dn} at 100 Feet	Distance to Contours (dBA L_{dn})			Increase dBA
			70	65	60	
Roseville Parkway	Pleasant Grove Blvd to Galleria Blvd	72	165	523	1,653	2
	Galleria Blvd to Taylor Rd	71	139	438	1,386	1

The proposed project would also include the addition of proposed triple left-turn lanes and an auxiliary lane located on westbound Roseville Parkway, between Creekside Ridge Drive and Galleria Boulevard. The proposed turn lane intersection improvements would not result in a substantial change in traffic noise because their inclusion would not attract additional traffic volumes along the proposed alignment. However, the addition of an auxiliary lane would relocate traffic closer to nearby lane uses.

The distance from the center of the westbound Roseville Parkway lanes to the City ROW is approximately 57 feet (i.e., the distance measured from the middle of westbound Roseville parkway lanes to the mall parking lot). By adding an auxiliary lane, the distance measured from the centroid of westbound lanes would shift approximately 6 feet closer to surrounding land uses located north of Roseville Parkway. This closest land use is commercial land use, which is approximately 200 feet from the center of the westbound lanes. The addition of an auxiliary lane could relocate a quarter of the total traffic volume 6 feet closer to nearby land uses. This would result in an increase of no greater than 1 dBA over the GPU FEIR analyzed buildout of the General Plan. Along Roseville Parkway, this would result in a predicted 3 dB increase over existing traffic noise conditions, as compared to the 2 dB increase reference in the GPU FEIR. As measured ambient noise levels fall within the normally acceptable land use compatibility noise thresholds (51 dBA L_{eq}, ST-3 from the GPU FEIR), an increase of 3 dB is not considered significant. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

b. Generation of excessive groundborne vibration or groundborne noise levels?

Damage to Structures

Construction of the project would involve the use of construction equipment that could generate groundborne vibration. The most vibration-intensive equipment proposed for construction activities in Table 4.6-12 of the GPU FEIR include an auger drill rig, skid loader, vibratory roller, and backhoe. The analysis in the GPU FEIR identifies a reference distance of greater than 60 feet at which construction would not exceed the Federal Transit Administration (FTA) or California Department of Transportation (Caltrans) damage criteria of 0.2 or 0.5 peak particle velocity (PPV), respectively or exceed the FTA standard of 80 vibration decibels (VdB) for human annoyance. Estimated vibration levels associated with construction equipment proposed for use during project construction are shown for a reference distance of 25 feet, as well as other distances, in Table 2-9.

Nearby structures consist of a mixture of commercial and residential land uses, the nearest of which is a commercial building approximately 40 feet from the project alignment. The nearest homes are approximately 50 feet south of the project alignment between Chase

Drive and West Drive. Additional residential structures are approximately 80 feet south of the project alignment west of Pleasant Grove Boulevard.

Table 2-9. Vibration Source Levels for Construction Equipment

Equipment	PPV (VdB) at 25 Feet	PPV (VdB) at 40 Feet	PPV (VdB) at 50 Feet	PPV (VdB) at 80 Feet	PPV (VdB) at 100 Feet
Vibratory roller[1]	0.210 (94)	0.104 (88)	0.074 (85)	0.037 (79)	0.026 (76)
Auger drill rig	0.089 (87)	0.044 (81)	0.031 (78)	0.016 (72)	0.011 (69)
Small bulldozer[2]	0.003 (58)	0.001 (52)	0.001 (49)	0.001 (43)	0.000 (40)

Source: Federal Transit Administration 2018.
Note:
Peak Particle Velocity (PPV) is used for the vibration-related damage analysis and is expressed in units of inches per second.
VdB is used in the vibration-related annoyance analysis.
[1] Representative of a vibratory hopper.
[2] Representative of a backhoe, front-end loader, and concrete mixer truck

Tables 4.6-3 and 4.6-5 of the GPU FEIR include FTA and Caltrans Guidelines for vibration-related damage. Commercial buildings located near the project site would be classified as "modern Industrial/commercial buildings" under Caltrans guidelines or Building Category I under FTA guidelines. In both cases, the applicable vibration-related damage criterion is 0.5 PPV inch per second (in/sec) for these structure types. Single- and multi-family residential land uses located near the project site may be most similar to "new residential structures" under Caltrans guidelines, which also has a damage criterion of 0.5 PPV in/sec. The FTA would classify these residential structures as Building Category III (non-engineered timber or masonry buildings), which have a damage criterion of 0.2 PPV in/sec.

With regard to construction activities taking place within the project alignment, the most vibration intensive equipment proposed is a vibratory roller. As shown in Table 2-9, a vibratory roller can result in a vibration level of 0.104 PPV in/sec at a distance of 40 feet. This is below the 0.5 PPV in/sec Caltrans damage criterion for "modern industrial/commercial buildings" (California Department of Transportation 2020:38) as well as the FTA's damage criterion for Building Category I (Federal Transit Administration 2018).

At a distance of 50 feet, the distance from the project alignment to the closest residential land use, a vibratory roller could result in a vibration level of up to 0.074 PPV in/sec This level is below the 0.5 PPV in/sec Caltrans damage criterion for new residential structures. It is also below the FTA damage criterion of 0.2 PPV in/sec for Building Category III. Note that additional residential structures are located farther away from the project alignment (approximately 80 feet). Vibration levels from a vibratory roller, and the other less vibration-intensive equipment proposed, would be even lower at these structures.

Because the estimated ground vibration levels at the nearest structures would be below the applicable Caltrans and FTA damage criteria, vibration-related damage would result in no new impacts when compared to the GPU FEIR. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

Vibration-Related Annoyance

Vibration-related annoyance is considered to be substantial if it is expected to result in sleep disturbance at nearby residences. Sleep disturbance from vibration typically occurs if residences are very close to nighttime ground-disturbing construction activities. For the purpose of this analysis, a significant vibration impact related to sleep disturbance could occur if construction activities generate prolonged vibration levels that are in exceedance of the FTA vibration annoyance thresholds. Residences and buildings where people normally sleep would be limited to vibration levels of 80 VdB. Commercial buildings are not typically analyzed for vibration annoyance as they are generally closed during nighttime hours.

The use of a vibratory roller, the most vibration-intensive equipment proposed for this project, would result in a vibration level up to 85 VdB at the nearest residential land use (approximately 50 feet away from the project alignment). This is consistent with the findings of potential vibration levels presented in the GPU FEIR. To help reduce impacts due to vibration annoyance, the GPU FEIR adopted Policy N1.10. This policy says to include all feasible measures necessary, as a part of proposed development and public infrastructure projects, to avoid substantial annoyance for adjacent vibration-sensitive uses, consistent with Caltrans and FTA guidance, which may include the following.

- When designing new transportation facilities, reasonable amounts of care should be taken to keep these facilities away from vibration sensitive areas.
- The use of alternate construction methods and tools may reduce construction vibrations.
- Construction activities should be scheduled for times when they do not interfere with vibration-sensitive operations (e.g., nighttime).

In the event that mitigation cannot reduce vibration levels, community outreach can be used to inform homeowners in the project vicinity that high vibration levels may be experienced. This outreach should also inform the community that vibration-intensive construction activities are not anticipated to result in damage to structures. Even though estimated vibration annoyance levels exceed the FTA threshold of 80 VdB, implementing existing policies and mitigation measures from the GPU FEIR would help reduce impacts due to vibration-annoyance in line with what was identified in the GPU FEIR. Due to this, vibration-related annoyance would result in no new impacts. Therefore, there would be no change from the GPU FEIR conclusion, and no mitigation is required.

c. For a project located within the vicinity of a private airstrip or 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?

The GPU FEIR identified that the Planning Area is not located within 2-miles of any public or private airstrip, resulting in no impacts due to excessive airport noise. Because the proposed project is within the boundaries of the Planning Area, this initial determination still applies. There are no new impacts due to excessive public or private airstrips. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

Mitigation Measures

The project would not have a new significant impact on noise. Therefore, no new mitigation is required.

References

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XIV. Population and Housing

XIV. Population and Housing	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
Would the project:				
a. Induce substantial unplanned 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)?	☐	☐	☐	☒
b. Displace a substantial number of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Setting

The project site is the existing Roseville Parkway. The General Plan Update Land Use Map designates Roseville Parkway adjacent uses for commercial, business park, residential, parks and open space and public/quasi-public uses. No new homes are proposed for the project site.

Impact Analysis

a. ***Would the project induce substantial unplanned 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)?***

The GPU FEIR concluded that impacts would be less than significant because the proposed General Plan Update would not change the City's Land Use Map or Sphere of Influence and would not include any new growth; therefore, the project would not directly induce unplanned growth. The proposed project is identified in the City of Roseville Transportation System Capital Improvement Program. Employment-generating activities, such as construction of the roadway and intersection improvements, would bring some workers into the area, but these activities are not anticipated to directly result in substantial population growth.

The project would not indirectly induce population growth by widening Roseville Parkway; rather, it would provide for more efficient east-west travel in the project area. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

b. Would the project displace a substantial number of existing people or housing units, necessitating the construction of replacement housing elsewhere?

The GPU FEIR concluded that impacts would be less than significant because the proposed General Plan Update does not propose converting established residential areas to a nonresidential land use or redeveloping existing residential areas with new residences by removing existing dwelling units, and the existing General Plan land use plan includes capacity for the construction of 22,300 residential dwelling units, which would provide housing for any displaced residents. There are no residences on the project site or

immediately adjacent to the project site that would be displaced; therefore, the project would not displace housing. The impact would be less than anticipated in the GPU FEIR, and the project would not result in any new impacts.

Mitigation Measures

The project would not have a new significant impact on population and housing. Therefore, no new mitigation is required.

XV. Public Services

XV. Public Services	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
Would the project:				
a. 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?	☐	☐	☐	☒

Setting

Fire Protection

The Roseville Fire Department operates nine fire stations that provide fire protection, suppression, emergency medical services, and hazardous material management within the City of Roseville, including the project site. The project site is within Fire Protection District 7, served by Fire Station No. 7, which is just north of Roseville Parkway, approximately 0.37 mile from the project site, at 911 Highland Point Drive. (City of Roseville 2017).

Police Protection

The Roseville Police Department, headquartered approximately 1.4 miles southwest of Roseville Parkway at 1051 Junction Boulevard, provides police protection services to Roseville.

Schools

The closest school to the project site is Catheryn Gates Elementary School approximately 0.17 mile south of the Roseville Parkway/Gibson Drive (west) intersection. The next closest school is Vencil Brown Elementary School approximately 0.5 mile west of the Roseville Parkway/Pleasant Grove Intersection.

Parks

The nearest existing park to the project site is Sylvia Besana Park, approximately 0.14 mile south of the Roseville Parkway/Gibson Drive (west) intersection. Additional parks in the project

vicinity include Vencil Brown Park and Diamond Oaks Park. Diamond Oaks Golf Course is to the south.

Impact Analysis

a. ***Would the project 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?

The GPU FEIR concluded that impacts would be less than significant because the addition of new staff would not result in the need for new or physically altered fire protection facilities, the construction of which could potentially have adverse impacts on the physical environment, to maintain acceptable response times or other performance objectives for fire protection. During construction, Roseville Parkway would remain open. The project would be constructed in compliance with applicable City codes and regulations. The project would improve east-west accessibility in the project area by providing additional east-west travel lanes for service calls in North Roseville. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

Police protection?

The GPU FEIR concluded that impacts would be less than significant because the addition of new staff would not result in the need for new or physically altered police protection facilities, the construction of which could potentially have adverse impacts on the physical environment, to maintain acceptable response times or other performance objectives for police protection. Because the project would not introduce new residents to the area, it would not result in a need for new or physically altered police facilities in order to maintain adequate service levels. The project would improve east-west accessibility in the project area by providing additional east-west travel lanes for service calls in North Roseville. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

Schools?

The GPU FEIR concluded that impacts would be less than significant because the proposed General Plan Update includes mitigating policies and measures, where necessary, that would reduce or avoid impacts, and school impact fees would be collected in accordance with SB 50 to ensure the development of adequate school facilities; also the California Legislature has declared that payment of the state-mandated school impact fee is deemed to be full and adequate mitigation under CEQA (California Government Code Section 65996). The project would not introduce additional residents to the area. The project would improve east-west accessibility in the project area by providing additional east-west travel lanes. Because the project would not increase the demand for school facilities, there would be no

change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

Parks and Other Public Facilities?

The GPU FEIR concluded that impacts on parks/recreational facilities would be less than significant because the proposed General Plan Update includes mitigating policies and measures, where necessary, that would reduce or avoid impacts. In addition, dedication of parkland or payment of in-lieu fees could also be used by the City to improve, expand, and maintain existing City parks to ensure that accelerated deterioration does not occur. Because the project would not introduce new residents to the area, it would not result in the need for new or expanded parks or other public facilities; therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

Mitigation Measures

The project would have no new impact on public services, and, therefore, no new mitigation is required.

References

City of Roseville. 2017. *Location of Roseville Fire Stations*. March. Roseville, California. Available: https://www.roseville.ca.us/UserFiles/Servers/Server_7964838/File/Government/Departments/Fire%20Dept/Fire%20Station%20Locations/Location%20of%20Roseville%20Fire%20Stations%20-%202017.pdf. Accessed: April 13, 2022.

XVI. Recreation

XVI. Recreation	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Setting

The project site is the existing Roseville Parkway surrounded by lands primarily already developed for commercial, residential, and open space uses. See Section XV, *Public Services*, for information on parks in the project area.

Impact Analysis

a. ***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?***

The GPU FEIR concluded that impacts on parks/recreational facilities would be less than significant because the proposed General Plan Update includes mitigating policies and measures, where necessary, that would reduce or avoid impacts. In addition, dedication of parkland or payment of in-lieu fees could also be used by the City to improve, expand, and maintain existing City parks to ensure that accelerated deterioration does not occur. The project would not introduce new residents to the area and would not increase the use of existing neighborhood and regional parks or other recreational facilities. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

The GPU FEIR concluded that impacts on parks/recreational facilities would be less than significant because the proposed General Plan Update includes mitigating policies and measures, where necessary, that would reduce or avoid impacts. In addition, dedication of parkland or payment of in-lieu fees could also be used by the City to improve, expand, and maintain existing City parks to ensure that accelerated deterioration does not occur. The project does not include construction of recreational facilities and would not require the construction of new recreational facilities or the expansion of existing recreational facilities

that might have an adverse physical effect on the environment. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

Mitigation Measures

The project would have no new impact on recreational facilities. Therefore, no new mitigation is required.

XVII. Transportation

XVII. Transportation	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
Would the project:				
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	☒
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d. Result in inadequate emergency access?	☐	☐	☐	☒

Setting

The transportation analysis is based on the *Roseville Parkway Widening Traffic Evaluation Memorandum* prepared by Kimley-Horn (Kimley-Horn 2022, included as Appendix C to this IS/MND). The Kimley-Horn traffic memorandum was prepared to support the Subsequent MND and to document project consistency with prior, more comprehensive environmental studies, and to inform the intersections' lane geometries to achieve acceptable operations.

City of Roseville General Plan 2035

The Circulation Element of the General Plan includes the following relevant goals and policies.

Functional Classification Goal 1. Provide guidance to the long-range planning of the City's roadway system including design standards, right-of-way requirements and coordination with surrounding jurisdictions.

Functional Classification Policy 4. Maintain a system of truck routes to provide for the safe and efficient movement of goods and to avoid impacting residential neighborhoods.

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 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.

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.

Project Roadways

The proposed project is located in the North Central Roseville Specific Plan area. The project would consist of the widening of Roseville Parkway from three lanes to four lanes in each direction. The westbound direction would generally be widened between Creekside Ridge Drive and Gibson Drive (east), and the eastbound direction would be widened between Reserve Drive and Creekside Ridge Drive. The project would also include constructing triple left-turn lanes on southbound Pleasant Grove Boulevard onto eastbound Roseville Parkway, and intersection improvements along Roseville Parkway at Pleasant Grove Boulevard, Gibson Drive, West Drive, Reserve Drive, Galleria Boulevard, and Creekside Ridge Road.

The transportation analysis evaluated the following study intersections (see Exhibit 2 in the traffic evaluation memorandum):

1. Roseville Parkway at Pleasant Grove Boulevard
2. Roseville Parkway at Chase Drive
3. Roseville Parkway at Gibson Drive
4. Roseville Parkway at West Drive
5. Roseville Parkway at Reserve Drive
6. Roseville Parkway at Galleria Boulevard
7. Roseville Parkway at Creekside Ridge Drive
8. Galleria Boulevard at Antelope Creek Drive

The primary focus of study was to document project consistency with prior, more comprehensive environmental studies, and to inform the intersections' lane geometries to achieve acceptable operations. Accordingly, this traffic evaluation considered the following analysis scenarios:

A. Existing (2020) Conditions. Conditions representative of "Pre-COVID" on-the-ground conditions established using traffic count data provided by the City's Intelligent Transportation System (ITS) from February 2020.

B. Existing (2020) plus Proposed Project Conditions. Conditions representative of year 2020 conditions resulting from the addition of the project. The project includes:

- Additional westbound and eastbound through lanes along Roseville Parkway.
- Elimination of free right-turns at Galleria Boulevard (all four approaches), southbound and eastbound at Pleasant Grove Boulevard, westbound and southbound at Gibson Drive, southbound at West Drive, and westbound and southbound at Reserve Drive.
- Additional southbound through lane at Galleria Boulevard.
- Westbound right-turn auxiliary lane between Creekside Ridge Drive and Galleria Boulevard.
- Triple southbound lefts at Pleasant Grove Boulevard.

C. Cumulative (2035) plus Proposed Project Conditions. Conditions representative of 2035 Cumulative Conditions ("Unconstrained") as documented in the GPU resulting from the addition of the project.

Approach

Analysis of transportation facilities' operations is primarily based on the concept of Level of Service (LOS). The LOS of a facility is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Levels of service for the traffic evaluation were determined using methods defined in the Highway Capacity Manual (HCM) 6th Edition.

Due to the close spacing of the project intersections, delay, LOS, and queuing were determined using the SimTraffic micro-simulation analysis software. The existing conditions' SimTraffic models were validated based on field observations of traffic volumes, driver behavior, lane utilization, and maximum vehicle queue lengths. As a result of these observations, adjustments were incorporated that improve the accuracy of the vehicles' behavior as they position for downstream maneuvers. SimTraffic measures of effectiveness were compared against the HCM intersection delay thresholds to equate SimTraffic results to HCM LOS. For this simulation effort, industry standard parameters were applied including a network seed time (the time during which the network is populated with vehicles) of 10 minutes and 10 runs that were averaged to obtain the results.

The HCM includes procedures for analyzing signalized traffic control as a function of average control delay for the intersection as a whole. Table 2-10 presents intersection LOS definitions as defined in the HCM. Reference the traffic evaluation memorandum (Appendix C) for the technical analysis results.

Table 2-10. Intersection Level of Service Criteria

	Signalized
Level of Service (LOS)	**Average Control Delay (seconds/vehicle)**
A	≤10
B	>10–20
C	>20–35
D	>35–55
E	>55–80
F	>80

Bicycle Facilities

Bicycle facilities along Roseville Parkway consist of Class II bike lanes. Class II bike lanes provide a restricted ROW designated for the exclusive or semi-exclusive use of bicycles, prohibiting through travel by motor vehicles or pedestrians but permitting vehicle parking and crossflows by pedestrians and motorists. Class II lanes are generally developed within the ROW of collector streets and arterials.

Pedestrian Facilities

Pedestrian facilities along Roseville Parkway consist of wide sidewalks flanked by landscaping corridors. At signalized intersections, crosswalks with push-button pedestrian actuation are provided.

Transit Facilities

Transit services in the City are provided by Roseville Transit. Roseville Transit has a local fixed route service, a peak-hour commuter service, and a dial-a-ride service. There is a transfer point at the Galleria Mall that allows local service users to transfer with other local transit systems.

Impact Analysis

a. ***Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?***

The GPU FEIR concluded that impacts would be less than significant with implementation of policies that would encourage greater use of transit and more walking and bicycling in the future. The project, through its widening of Roseville Parkway generally between Gibson Drive and Creekside Ridge Drive, would not conflict with the City of Roseville's applicable planning documents including the General Plan, Bicycle Master Plan, Pedestrian Master Plan, and Short Range Transit Plan. The following is an overview of the project's consistency with these guiding documents:

Circulation System

Consistent with the project, the facility is indicated to have seven or eight future lanes (Exhibit 4.3-4, GPU FEIR, Page 4.3-23).

Transit Facilities

The immediate project area includes the Roseville Transit Galleria Transfer Point, which accommodates Bus Routes A, B, M, and S. The project limits, and therefore the project, include several bus stops in addition to the aforementioned transfer point. These stops are located along eastbound Roseville Parkway after Reserve Drive (Routes A and B), eastbound Roseville Parkway after Galleria Boulevard (Route A), southbound Galleria Boulevard after Antelope Creek Drive (Route M), and northbound Pleasant Grove Boulevard after Roseville Parkway (Route M).

Bicycle Facilities

Consistent with the project, Roseville Parkway is indicated to have Class II Bike Lanes along the entire stretch from Pleasant Grove Boulevard through the project area (Figure III-5, General Plan 2035 Circulation Element, Page III-23, and Figure 4, City of Roseville Bicycle Master Plan, Page 43).

Pedestrian Facilities

The project includes both attached and detached (meandering) sidewalks, generally mimicking the existing conditions. Through its inclusion of these facilities, the project supports the City's General Plan and Pedestrian Master Plan goals.

The project would be consistent with the above-mentioned plans; therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

The GPU FEIR concluded that the VMT generated by buildout of the existing General Plan is 15.5 VMT per capita under financially constrained network conditions and 14.9 VMT per capita under financially unconstrained network conditions, which exceeds the significance threshold. This impact was considered significant.

The project's effect on VMT was evaluated in a manner consistent with the City's direction under the General Plan Update and VMT Impact Studies Guidelines, and to a lesser degree the December 2018 guidance provided by the Governor's Office of Planning and Research (OPR) as it pertains to SB 743.

Although the project is understood to be a capacity-enhancing roadway project, it was previously anticipated and evaluated as part of the CEQA documentation associated with the GPU FEIR (see Exhibit 4.3-4, Page 4.3-23, and Appendix D, *Traffic Impact Report,* of the GPU FEIR). As a result, the City's VMT Impact Study Guidelines conclude that a quantitative VMT study is not required. Furthermore, because the effects of the project were evaluated in the GPU FEIR, no additional VMT analysis (qualitative or quantitative) is required. Therefore, the project is considered to be consistent with State CEQA Guidelines Section 15064.3 and would not result in a more substantial impact than was analyzed in the GPU FEIR, and the impact remains significant.

c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The GPU FEIR concluded that the impact was less than significant because all new facilities and facility improvements contained in the circulation diagram would be constructed according to the City's Design and Construction Standards, which have been created to ensure a safe and reliable multi-modal network. The project has been designed in a manner consistent with all applicable, published design standards including the City's Design and Construction Standards, Caltrans' *Highway Design Manual* (Caltrans 2019), and the American Association of State Highway and Transportation Officials' (AASHTO) *A Policy on Geometric Design of Highways and Streets* (American Association of State Highway and Transportation Officials 2018). Consistent with the City's expansive transportation system, the project would support all compatible uses including the surrounding land uses that are reasonably anticipated to contribute traffic to and rely on this facility. Accordingly, through its consistency with these standards, as well as resulting from its improved traffic operations and multi-modal safety enhancements, the project would not increase hazards due to a geometric design feature and would support all compatible uses. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

d. Result in inadequate emergency access?

The GPU FEIR concluded that the impact was less than significant because all new facilities and facility improvements contained in the circulation diagram would be constructed according to the City's Design and Construction Standards, which have been created to ensure a safe and reliable multi-modal network. The project would provide additional

capacity through one of the most congested corridors in the City. In addition to recurring commute peak-hour patterns, the project area accommodates off-peak and seasonal traffic congestion associated with the adjacent regional retail and related establishments. Accordingly, through its additional capacity and documented improved traffic flow, the project is reasonably anticipated to have a positive effect on emergency response times and access. Peak-hour travel times and general vehicular access to emergency and medical service facilities are anticipated to be improved by the project. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

References

American Association of State Highway and Transportation Officials. 2018. *A Policy on Geometric Design of Highways and Streets 2018 7th Edition*. Available: file:///C:/Users/40895/Downloads/GDHS-7_TableOfContents.pdf. Accessed: January 19, 2023.

Caltrans. 2019. *Highway Design Manual U.S. Customary Units. Seventh Edition*. Available: https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm. Accessed: January 19, 2023.

Kimley-Horn. 2022. *Roseville Parkway Widening Draft Traffic Evaluation Memorandum*. Draft. CA. Prepared for Raul Cervantes, Mark Thomas.

XVIII. Tribal Cultural Resources

XVIII. Tribal Cultural Resources	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
1) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
2) 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.	☐	☐	☒	☐

Setting

The United Auburn Indian Community (UAIC) is a federally recognized Tribe composed of both Miwok and Maidu (Nisenan) Tribal members who are traditionally and culturally affiliated with the project area. The Tribe has deep spiritual, cultural, and physical ties to their ancestral land and are contemporary stewards of their culture and landscapes. The Tribal community represents a continuity and endurance of their ancestors by maintaining their connection to their history and culture. It is the Tribe's goal to ensure the preservation and continuance of their cultural heritage for current and future generations.

Regulatory

Tribal cultural resources are defined in CEQA as:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either of the following:

a. Included in or determined to be eligible for inclusion in the California Register of Historical Resources (CRHR).

b. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

2. 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.

AB 52 defines a California Native American 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). A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. Sacred places can include Native American sanctified cemeteries, places of worship, religious or ceremonial sites, and sacred shrines. 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 for listing in the CRHR (Public Resources Code Section 524.1(c)). 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.

Consultation

On April 26, 2022, the City of Roseville sent certified letters to the following tribes requesting consultation or information regarding tribal cultural resources in the project area. The letters requested a response within 30 days.

- United Auburn Indian Community (Gene Whitehouse, Chairman)
- Shingle Springs band of Miwok Indians (Nicholas Fonseca, Chairperson)
- Tsi Akim Maidu (Don Ryberg, Chairperson)
- Ione Band of Miwok Indians (Sara D. Setshwaelo, Cultural Committee Chair)
- Wilton Rancheria

The only response came on May 18, 2022, from Anna Starkey of the UAIC. In her email, Ms. Starkey stated that the UAIC would like to consult on the project and asked for further information about the project area, schedule, and depths of excavation.

Terri Shirhall from the City of Roseville, responded on May 23, 2022, confirming UAIC's request and answering Ms. Starkey's questions about the project.

On June 14, 2022, Ms. Starkey requested further project information as the project could be near an unrecorded cultural resource. Ms. Shirhall sent project plans on July 5, 2022, and explained that the project would not encroach upon the open space.

On November 8, 2022, Ms. Starkey responded that she had no further questions or concerns and requested that the City include UAIC's standard unanticipated discovery mitigation measure language and that UAIC considers AB 52 consultation closed.

Methods

United Auburn Indian Community

UAIC conducted a records search for the identification of tribal cultural resources for this project which included a review of pertinent literature and historic maps, and a records search using UAIC's Tribal Historic Information System (THRIS). UAIC's THRIS database is composed of UAIC's areas of oral history, ethnographic history, and places of cultural and religious significance, including UAIC Sacred Lands that are submitted to the NAHC. The THRIS resources shown in this region also include previously recorded indigenous resources identified through the California Historic Resources Information System Center (CHRIS) as well as historic resources and survey data.

Results

No tribal cultural resources have been identified by the consulting tribe (UAIC), and AB 52 tribal consultations were closed with agreement on November 8, 2022. UAIC's requested mitigation measure language for unanticipated discoveries has been included below.

Impact Analysis

1) ***Cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources or other local register as defined in Public Resources Code Section 5020.1(k)?***

   No tribal resources were identified through consultation efforts. Therefore, it is expected that the project would not result in impacts on tribal cultural resources. There would be no impact.

2) ***Cause a substantial adverse change in the significance of a tribal cultural resource that is determined by the lead agency to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.***

   No tribal resources were identified through consultation efforts. Therefore, it is expected that the project would not result in impacts on tribal cultural resources. However, it is possible that unknown buried tribal cultural resources could be present on the project site. Should buried or otherwise unknown tribal cultural resources be encountered and damaged during construction, a potentially significant impact would result. Implementation of Mitigation Measure TCR-1 would reduce this impact to less than significant.

Mitigation Measures

Mitigation Measure TRC-1: Implement Measures to Protect Previously Unidentified Tribal Cultural Resources

If any suspected tribal cultural resources are discovered during ground-disturbing construction activities, all work shall cease within 100 feet of the find, or an agreed upon distance based on the project area and nature of the find. A Tribal Representative from a California Native American tribe that is traditionally and culturally affiliated with a geographic area shall be immediately notified and shall determine if the find is a tribal cultural resource (Public Resources

Code Section 21074). The Tribal Representative will make recommendations for further evaluation and treatment as necessary.

When avoidance is infeasible, preservation in place is the preferred option, and every effort will be made to preserve the resource(s) in place, including through project redesign, if feasible. Culturally appropriate treatment may be, but is not limited to, processing materials for reburial, minimizing handling of cultural objects, leaving objects in place within the landscape, or returning objects to a location within the project area where they will not be subject to future impacts. Permanent curation of tribal cultural resources will not take place unless approved in writing by the California Native American tribe that is traditionally and culturally affiliated with the project area.

The contractor shall implement any measures deemed by the City to be necessary and feasible to preserve in place, avoid, or minimize impacts on the resource, including, but not limited to, facilitating the appropriate tribal treatment of the find, as necessary. Treatment that preserves or restores the cultural character and integrity of a tribal cultural resource may include tribal monitoring, culturally appropriate recovery of cultural objects, and reburial of cultural objects or cultural soil.

Work at the discovery location will not resume until all necessary investigation and evaluation of the discovery under the requirements of the CEQA, including AB 52, have been satisfied.

XIX. Utilities and Service Systems

XIX. Utilities and Service Systems	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
Would the project:				
a. Require or result in the relocation of new or expanded water, or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c. 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?	☐	☐	☐	☒
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

Setting

Wastewater

Wastewater services in Roseville are provided by the City. Two wastewater treatment facilities, the Dry Creek Wastewater Treatment Plant and the Pleasant Grove Wastewater Treatment Plant, serve the City. The Dry Creek Wastewater Treatment Plant is located on the southern edge of the City on an 80-acre parcel at 1800 Booth Road. The Pleasant Grove Wastewater Treatment Plant is located on the City's west side on a 110-acre parcel at 5051 Westpark Drive. These plants are owned and operated by the City of Roseville on behalf of the Regional Partners consisting of the City, the South Placer Municipal Utility District, and portions of unincorporated Placer County (primarily Granite Bay and Sunset Industrial Area) (City of Roseville 2016).

Water

The City of Roseville provides water service to areas within the city, including the project site. Roseville uses multiple water sources, including surface water, recycled water for landscaping, and, in dry years or emergency situations, groundwater.

Stormwater Drainage

Stormwater drainage facilities in urbanized areas of Roseville, including developed portions of the project area, consist of surface gutters, subsurface drainage pipes, canals, and retention basins. The project site is the existing Roseville Parkway bordered primarily by developed commercial, residential, and business park uses and open space. The project site is in a mostly developed area; stormwater runoff in undeveloped areas drains primarily through natural drainage swales, and in the developed areas through surface gutters and subsurface drainage pipes.

Solid Waste Disposal

The City collects solid waste generated in Roseville and hauls it to the Materials Recovery Facility (MRF) at the Western Placer Waste Management Authority's Western Regional Sanitary Landfill. The Western Placer Waste Management Authority is a joint powers authority made up 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 southeast of the Athens Avenue and Fiddyment Road intersection between Roseville and Lincoln in unincorporated Placer County. The MRF has a municipal solid waste processing capacity of approximately 1,900 tons per day and a green waste processing capacity of approximately 205 tons per day (California Department of Resources Recycling and Recovery 2019a). As of July 1, 2013, the landfill had a remaining capacity of 25,677,600 cubic yards (City of Roseville 2016). The landfill has an estimated closure date of 2058 (California Department of Resources Recycling and Recovery 2019b).

Impact Analysis

a. ***Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?***

The GPU FEIR concluded that direct impacts would be less than significant. Indirect impacts were determined to be significant because buildout of the General Plan would contribute to the need to develop the offsite Ophir water treatment plant, and new development under the General Plan would indirectly contribute to significant and unavoidable construction-related air quality impacts.

The project includes the widening of Roseville Parkway generally between Gibson Drive and Creekside Ridge Drive and construction of triple left-turn lanes on southbound Pleasant Grove Boulevard onto eastbound Roseville Parkway. Storm drain, domestic water, reclaimed water, and sanitary sewer pipes exist within the existing road alignment. It is anticipated these pipes would remain in place and the manholes or valves adjusted to grade. Storm drain facilities constructed as part of the proposed roadway widening would tie into and discharge to existing storm drain facilities. The project would not include extension of any new water, wastewater, natural gas, or telecommunications facilities, although some existing facilities may be slightly relocated within the disturbance footprint.

Existing overhead electric transmission and telecommunication lines located along Roseville Parkway would require relocation to accommodate the roadway widening. There are existing gas lines within the proposed roadway widening that may require relocation based on current depth and allowable placement of fill. Any relocations would be buried to a depth of

approximately 3 feet and would remain along the existing roadway alignment within identified disturbance areas.

Roadway construction would include low-impact development measures and underground storm drain improvements to convey stormwater runoff from the widened roadway. The storm drain system would tie into existing storm drains. The new storm drain system would be built to City and SWRCB standards and would include construction BMPs, thereby reducing any potential impacts to a less-than-significant level. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

The GPU FEIR concluded that by adhering to the goals, policies, and implementation measures proposed in the General Plan Update, as well as local and state laws and regulations, the City would ensure adequate water supply is available to meet future demand and that the impact was less than significant. The project would not require the provision of water from public sources, and no water supply system would be built as part of the project. The only water used by the project would be water trucked on site during construction activities for soil compaction and dust suppression. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

c. 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?

The GPU FEIR concluded that by adhering to the goals, policies, and implementation measures proposed in the General Plan Update, the City would ensure adequate wastewater treatment capacity is available to meet future demand and that the impact was less than significant. The project would not exceed applicable wastewater treatment requirements because the project would not generate wastewater. Because the project would not require wastewater treatment service, no construction or expansion of wastewater systems would be required, and the project would not affect wastewater treatment capacity. During construction, one or more portable toilets would be placed on the project site; wastewater would be contained within the portable toilet and ultimately disposed of at an approved site. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

d. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

And

e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

The GPU FEIR concluded that solid waste impacts would be less than significant because future development would be required to comply with applicable federal, state, or local solid waste regulations or statues. In addition, development as a result of the General Plan Update would not generate solid waste in excess of state or local standards or in excess of capacity of local infrastructure, and the Western Regional Sanitary Landfill has sufficient

landfill capacity available to accommodate solid-waste disposal needs for development under the General Plan.

The project would not generate solid waste during operation. Solid waste generated during construction would include debris such as concrete, scrap metal, and similar materials. Waste materials generated during construction would be disposed of appropriately at the Western Regional Sanitary Landfill or its associated MRF.

The majority of earthwork would involve soil import and compaction to ready the road base for widening. With an estimate closure date of 2058 and a remaining capacity of slightly more than 25 million cubic yards, the Western Regional Sanitary Landfill would be capable of accommodating the project's construction solid waste disposal needs.

Given the nominal demand that the project would place on remaining landfill capacity, the project would have a limited impact on landfill capacity and would comply with relevant statutes and regulations related to solid waste. Therefore, there would be no change from the GPU FEIR conclusion, the project would not result in any new impacts, and no mitigation is required.

Mitigation Measures

The project would have no new impacts on utilities and service systems; therefore, no new mitigation is required.

References

California Department of Resources Recycling and Recovery. 2019a. *SWIS Facility/Site Inspection Details, Western Placer Waste Mgmt Authority MFR (31-AA-0001)*. Available: https://www2.calrecycle.ca.gov/SolidWaste/SiteInspection/Details/290175?siteID=5531. Accessed: April 19, 2022.

California Department of Resources Recycling and Recovery. 2019b. *SWIS Facility/Site Activity Details Western Regional Landfill (31-AA-0210)*. Available: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2542?siteID=2273. Accessed: April 19, 2022.

City of Roseville. 2020. *City of General Plan 2035*. Adopted August 5, 2020. Available: https://www.roseville.ca.us/cms/One.aspx?portalId=7964922&pageId=8774544. Accessed: April 18, 2022.

XX. Wildfire

XX. Wildfire	New Significant Impact	Substantially More Severe Significant Impact	Less-than-Significant Impact with Additional Mitigation	No New Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project::				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Setting

The project area is not within a State Responsibility Area; therefore, it is not designated a very high fire hazard severity zone (California Department of Forestry and Fire Protection 2020). The project site is in a Local Responsibility Area where the Roseville Fire Department is responsible for fire protection services.

Impact Analysis

a. ***Substantially impair an adopted emergency response plan or emergency evacuation plan?***

And

b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks of, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

And

c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may

exacerbate fire risk or that may result in temporary or ongoing impacts on the environment?

And

d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The GPU FEIR concluded that potential wildfire impacts would be less than significant with implementation of proposed General Plan Update policies and actions, along with existing regulations. Widening of Roseville Parkway and intersection improvements would improve emergency response in the project area by providing additional lanes for east-west emergency response in the project area. The project site is on relatively flat ground in an urbanized area of North Roseville, so is not susceptible to downstream flooding or landslide. The project area is not within a State Responsibility Area; therefore, it is not designated a very high fire hazard severity zone. There would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

Mitigation Measures

The project would have no new impacts on wildfire; therefore, no new mitigation is required.

References

California Department of Forestry and Fire Protection. 2020. *California Fire Hazard Severity Zone Viewer*. Last revised: January 13, 2020. Available: https://www.arcgis.com/home/item.html?id=789d5286736248f69c4515c04f58f414. Accessed: April 20, 2022.

XXI. Mandatory Findings of Significance

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

Impact Analysis

a. ***Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?***

As stated in Section IV, *Biological Resources*, project construction would remove large landscape trees that could provide suitable roosting habitat for special-status bat species and nesting habitat for migratory bird species. As described in the GPU FEIR, the City will implement Mitigation Measure 4.8-2 to ensure that the project would not 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 CDFW and USFWS. To further avoid impacts on migratory birds and special-status bat species, the City will implement Mitigation Measures BIO-1 and BIO-2.

As discussed in Section V, *Cultural Resources*, the project would not significantly affect examples of the major periods of California history or prehistory or disturb any human

remains. Implementation of existing Mitigation Measures 4.9-2a, 4.9-2b and 4.9-3 from the GPU FEIR would ensure that impacts are less than significant.

With implementation of existing mitigation measures from the GPU FEIR and Mitigation Measures BIO-1 and BIO-2, the project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of any wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

b. Does the project have impacts that are individually limited but cumulatively considerable?

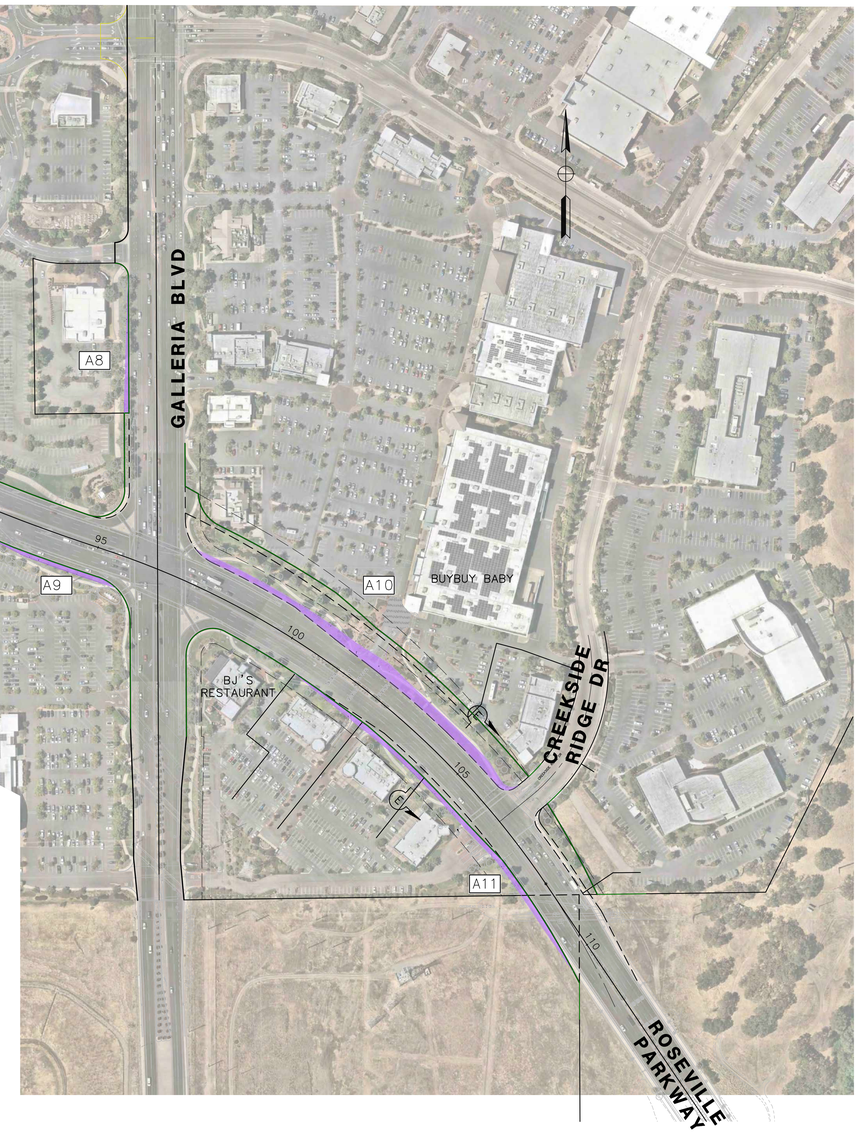
The analysis in this chapter concludes that the project would have either no impact or less-than-significant localized impacts (with existing mitigation from the GPU FEIR) on all resource categories. Because the project would not induce population growth or result in the development of new housing or employment-generating uses, it would not combine with cumulative development to increase the demand for public services, recreation facilities, or utilities, the expansion of which could result in significant environmental effects. Further, the analysis indicates that the proposed improvements are likely to improve traffic flow and reduce congestion, contributing to a GHG benefit. Implementation of existing mitigation measures from the GPU FEIR would minimize potential localized construction impacts on air quality, biological resources, cultural resources and paleontological resources.

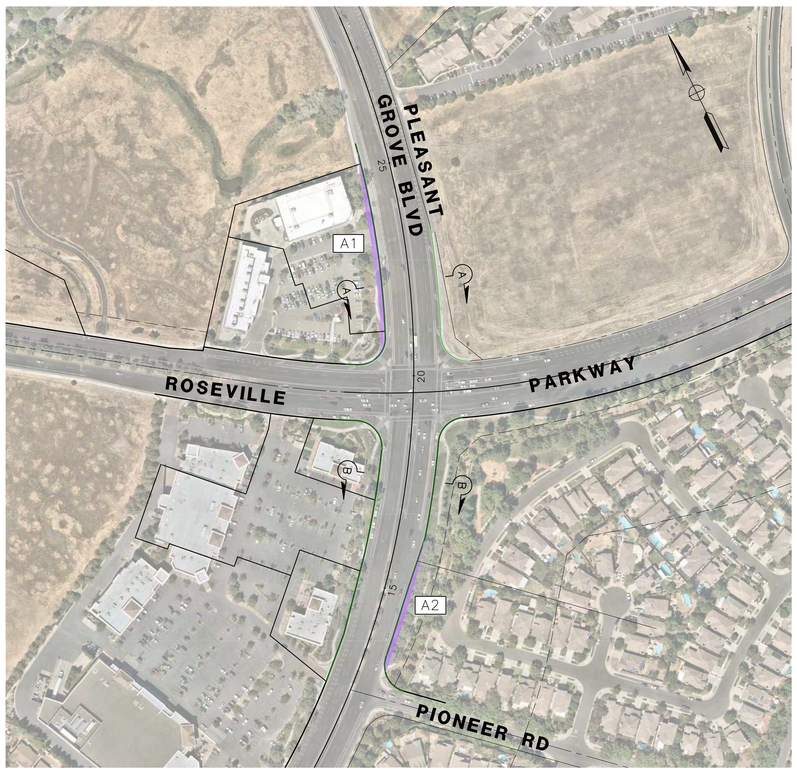
The project would not result in a considerable contribution to cumulative impacts because its impacts would not combine with those of cumulative development. The project's contribution to cumulative impacts would be less than significant. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

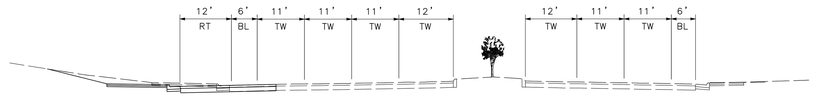
c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

The project would have no new significant adverse effects on human beings. There would be no new significant increase in construction-related or operational air emissions or noise levels, and there would be no new significant exposure to geologic or seismic hazards or to hazardous materials as a result of the project. For all other topics, there would be either no new impact or new less-than-significant impact. Therefore, there would be no change from the GPU FEIR conclusion, and the project would not result in any new impacts.

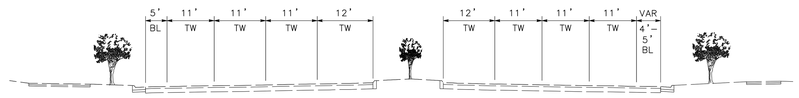
Appendix A
Right-of-Way Exhibit







SECTION C-C
NOT TO SCALE



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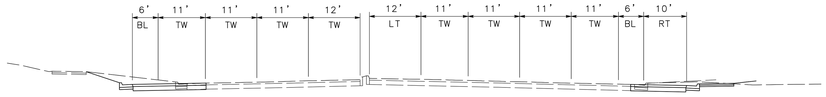


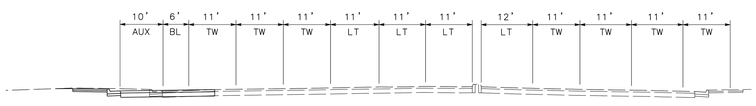
SECTION E-E
NOT TO SCALE

ADDITIONAL R/W AREA TAKE TABLES

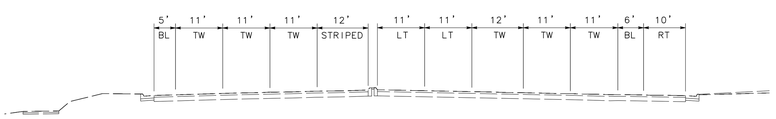
AREA LABEL	AREA OF TAKE (SF)
A1	4,531.0
A2	2,736.6
A3	1,519.8
A4	2,680.2
A5	1,090.0
A6	4,951.8

AREA LABEL	AREA OF TAKE (SF)
A7	244.6
A8	1,916.4
A9	2,789.1
A10	18,057.9
A11	9,558.8

TOTAL R/W AREA TAKE: 50,076.3 SF (1.15 Ac)



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE

LEGEND

EXISTING RIGHT OF WAY (PORTIONS SHOWN)

PROPOSED RIGHT OF WAY ACQUISITION
(SEE TABLE FOR TOTAL AREA AT EACH LOCATION)

DRAFT

SCALE: 1" = 100'

ROSEVILLE PARKWAY WIDENING
RIGHT OF WAY EXHIBIT

CITY OF ROSEVILLE CALIFORNIA | MARK THOMAS

Appendix B
Construction Assumptions

Construction Schedule

Phase	Months	Modeled Start Date
Grubbing/Land Clearing	7.50	6/1/2024
Grading/Excavation	7.50	6/6/2024
Draining/Utilities/Subgrade	7.50	6/10/2024
Paving	7.50	6/20/2024
Striping / Pavement Markings	1.00	10/29/2024

Offroad Equipment

Phase	Type	Operating Days	Equip/Day	Hrs/Day/Equip
Grubbing/Land Clearing	Skip Loader	80	1	8
	Skid Steer	120	1	8
Grading/Excavation	Skip Loader	80	1	8
	Skid Steer	120	1	8
Draining/Utilities/Subgrade	Skid Steer	10	1	8
	Backhoe	8	1	8
	Auger	8	1	8
Paving	Paver	20	1	8
	Pick Up Machine	20	1	8
	Vibratory Roller	20	1	8
	Pneumatic Roller	20	1	8
	Finish Roller	20	1	8
	Skip Loader	20	1	8
	Saw Cutter	20	1	8

Onroad Vehicles

Phase	Employee		Heavy Trucks		Water Trucks	
	Roundtrips per Day	VMT per Day	Roundtrips per Day	VMT per Day	Roundtrips per Day	VMT per Day
Grubbing/Land Clearing	20	800	34	680	10	80
Grading/Excavation	20	800	24	480	10	80
Draining/Utilities/Subgrade	8	320	4	80	5	40
Paving	15	600	52	1,040	0	0
Striping / Pavement Markings	0	0	10	200	0	0

Earthworks

Phase	Import/Export (cubic yards)	Paving (acres/day)	Grading (acres/day)
Grubbing/Land Clearing	3,950	0	0.5
Grading/Excavation	2,632	0	0.5
Draining/Utilities/Subgrade	370	0	0.5
Paving	0	0.25	0
Striping / Pavement Markings	0	0	0

Appendix C
Traffic Evaluation Memorandum

Kimley»Horn

Memorandum

To: Raul Cervantes, Mark Thomas
Susan Bushnell, ICF
Antero Rivasplata, ICF

From: Stephen Dillon, EIT
Matt Weir, P.E., T.E., PTOE, RSP$_1$

Re: **Roseville Parkway Widening**
***DRAFT** Traffic Evaluation*

Date: April 28, 2022

We have prepared this memorandum to document our evaluation of focused traffic operations associated with the proposed Roseville Parkway Widening project in the City of Roseville. This traffic evaluation included the signalized intersections directly affected by the proposed widening and other locations where modified traffic operations are anticipated as a result of coordinated traffic signal control. The purpose of this evaluation was to document project consistency with prior, more comprehensive environmental studies, and to inform the intersections' lane geometries to achieve acceptable operations. This evaluation was performed in a manner consistent with the Project Development Team's (PDT) direction[1] and is understood to be provided in support of the Initial Study/Mitigated Negative Declaration (IS/MND) being prepared by others.

Project Understanding

Kimley-Horn understands that the City of Roseville (City) desires to widen Roseville Parkway to provide four (4) travel lanes with Class II on-street bike lanes in each direction between Gibson Drive and Creekside Ridge Drive, and widen the southbound Pleasant Grove Boulevard approach to Roseville Parkway to provide an additional left-turn lane (**Exhibit 1**). This section of Roseville Parkway currently experiences traffic congestion largely the result of the nearby regional commercial centers and due to congested peak-hour conditions along Interstate 80 (I-80) and State Route 65 (SR-65).

Data Collection

Kimley-Horn collected the following information to assist with this initial traffic evaluation:

- Synchro network and signal timing sheets
- "Pre-COVID" weekday, peak-hour intersection turning movement traffic volumes
- Video clips to allow for observation of u-turns and lane utilization
- Site observations

The above information, along with the project team's understanding of the study corridor's prevailing conditions and propensity for peak-hour congestion, were used to establish the baseline conditions on which the project was assessed.

Study Facilities and Analysis Methodology

Study Facilities

Exhibit 2 illustrates this evaluation's study facilities, existing traffic control, and existing lane configurations. The following intersections are included in this evaluation:

[1] Project Development Team Meeting, March 7, 2022.

1. Roseville Parkway @ Pleasant Grove Boulevard
2. Roseville Parkway @ Chase Drive
3. Roseville Parkway @ Gibson Drive
4. Roseville Parkway @ West Drive
5. Roseville Parkway @ Reserve Drive
6. Roseville Parkway @ Galleria Boulevard
7. Roseville Parkway @ Creekside Ridge Drive
8. Galleria Boulevard @ Antelope Creek Drive

Analysis Scenarios
This LOS analysis was conducted for the weekday (Tuesday-Thursday) AM and PM peak-hours for the following scenarios:

A. Existing (2020) Conditions
   Conditions representative of "Pre-COVID" on-the-ground conditions established using traffic count data provided by the City's Intelligent Transportation System (ITS) from February 2020
B. Existing (2020) plus Project Conditions
   Conditions representative of year 2020 conditions resulting from the addition of the Project. The Project includes:
   - additional WB and EB through lanes along Roseville Parkway
   - elimination of free right-turns at Galleria Boulevard (all four approaches), southbound and eastbound at Pleasant Grove Boulevard, westbound and southbound at Gibson Drive, southbound at West Drive, and westbound and southbound at Reserve Drive
   - additional southbound through lane at Galleria Boulevard
   - westbound right-turn auxiliary lane between Creekside Ridge Drive and Galleria Boulevard
   - triple southbound lefts at Pleasant Grove Boulevard
C. Cumulative (2035) plus Project Conditions
   Conditions representative of 2035 Cumulative Conditions ("Unconstrained") as documented in the *2035 General Plan Update* resulting from the addition of the Project

Analysis Methodology
Analysis of transportation facilities' operations is primarily based on the concept of Level of Service (LOS). The LOS of a facility is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Levels of Service for this study were determined using methods defined in the *Highway Capacity Manual (HCM) 6th Edition*.

Due to the close spacing of the project intersections, delay, LOS, and queuing were determined using the SimTraffic micro-simulation analysis software. The existing conditions' SimTraffic models were validated based on field observations of traffic volumes, driver behavior, lane utilization, and maximum vehicle queue lengths. As a result of these observations, adjustments were incorporated that improve the accuracy of the vehicles' behavior as they position for downstream maneuvers. SimTraffic measures of effectiveness were compared against the HCM intersection delay thresholds to equate SimTraffic results to HCM LOS. For this simulation effort, industry standard parameters were applied including a network seed time (the time during which the network is populated with vehicles) of 10 minutes and 10 runs were averaged to obtain the results.

The HCM includes procedures for analyzing signalized traffic control as a function of average control delay for the intersection as a whole. Table 1 presents intersection LOS definitions as defined in the HCM.

Table 1 – Signalized Intersection Level of Service Criteria

Level of Service (LOS)	Average Control Delay (sec/veh)
A	≤ 10
B	> 10 – 20
C	> 20 – 35
D	> 35 – 55
E	> 55 – 80
F	> 80
Source: Highway Capacity Manual, 6th Edition	

Technical Analysis Results

Existing (2020) Conditions' traffic volumes were established by using the intersection turning movement data provided by the City. Due to the global COVID-19 pandemic, traffic count data obtained after approximately mid-March 2020 is still considered to be reflective of a hybrid set of factors in which travel behavior is modified and not reflective of "normal" conditions. As a result, the February 2020 data provided by the City is considered to be representative of the "baseline" conditions under which the project conditions are evaluated (the "plus Project" conditions).

Cumulative (2035) conditions were established using the "unconstrained conditions" as provided in the City's *2035 General Plan Update*. These forecasted volumes for the study intersections were further reviewed in collaboration with the City. According to the City[2], these volumes are influenced by the following factors, in particular as reflected in the 2035 volumes at the Roseville Parkway intersection with Galleria Boulevard:

- Regarding the east-to-south and west-to north right-turn volumes, the General Plan modeling is understood to reflect a reduction in "cut through" traffic associated with the eastbound I-80 to northbound SR-65 commute route. Because the 2035 conditions include improvements to this route (future phases of the "80/65 Interchange"), there is an expected reduction in the west-to-north right-turn as these vehicles are presumed to remain on the freeway route. In contrast, a similar reduction is not seen in the east-to-south right-turn.
- The east-to-south right-turn, although it experiences some benefits associated with the aforementioned "80/65 Interchange" improvements, is concluded to be largely affected by the projected growth in and around the Gibson Drive area and therefore shows a net growth over the projected timeline.
- These critical movements' peak-hour volumes (right-turns at Roseville Pkwy/Galleria Blvd) were reviewed and concluded to be appropriate for use in this evaluation.

The Existing (2020) weekday AM and PM peak-hour turn movement volumes (with plus Project geometries) for the study intersections are illustrated in **Exhibit 3.** Traffic count data is provided in **Attachment A** and Existing (2020) Conditions' analysis worksheets (without and with the Project) are provided in **Attachment B**. The Cumulative (2035) weekday AM and PM peak-hour turn movement volumes (with plus Project geometries) for the study intersections are illustrated in **Exhibit 4** and these analysis worksheets are provided in **Attachment C**. **Table 2** presents the peak-hour intersection operating conditions.

[2] Mark Johnson, City of Roseville, June 2, 2021.

Table 2 – Intersection Levels of Service

ID	Intersection	Peak Hour	Existing (2020)		Existing (2020) plus Project		Cumulative (2035) plus Project	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	Roseville Pkwy @ Pleasant Grove Blvd	AM	39.5	D	36.6	D	131.3	F
		PM	63.1	E	52.8	D	116.2	F
2	Roseville Pkwy @ Chase Dr	AM	13.3	B	13.9	B	8.6	A
		PM	12.0	B	12.5	B	22.0	C
3	Roseville Pkwy @ Gibson Dr	AM	13.2	B	13.8	B	26.3	C
		PM	20.4	C	21.3	C	55.9	E
4	Roseville Pkwy @ West Dr	AM	13.3	B	12.2	B	22.2	C
		PM	16.0	B	15.2	B	39.4	D
5	Roseville Pkwy @ Reserve Dr	AM	11.5	B	10.5	B	23.7	C
		PM	23.6	C	22.6	C	46.6	D
6	Roseville Pkwy @ Galleria Blvd	AM	24.7	C	24.9	C	53.1	D
		PM	56.2	E	42.8	D	75.3	E
7	Roseville Pkwy @ Creekside Ridge Dr	AM	8.8	A	9.9	A	8.6	A
		PM	38.4	D	18.4	B	42.9	D
8	Galleria Blvd @ Antelope Creek Dr	AM	12.3	B	12.0	B	17.0	B
		PM	27.8	C	31.9	C	41.1	D

The following is a summary of the primary observations of the LOS analysis results presented in Table 2:

- Overall, the addition of the Project is shown to result in slight improvements to the study intersections' peak-hour operations compared to the Existing (2020) conditions. This finding is reasonable considering that the project components, while adding through capacity along Roseville Parkway, do convert several high-volume free right-turn movements to signal-controlled[3]. This trade-off is shown to result in slight overall improvements while creating a significantly safer environment for bicycles and pedestrians.
- The addition of the Project is shown to result in improved traffic operations along westbound Roseville Parkway approaching and through the Creekside Ridge Drive intersection, in particular during the PM peak-hour.
- As the case with the Existing (2020) Conditions' results, the Cumulative (2035) plus Project Conditions' results are reasonable considering that the project components, while adding through capacity along Roseville Parkway, do convert several high-volume free right-turn movements to signal-controlled[3]. This tradeoff creates a safer environment for bicycles and pedestrians.
- The operations for the Roseville Parkway intersection with Creekside Ridge Drive (Intersection #7) during the PM peak-hour are associated with meaningful improvements to the westbound traffic stream. The project's geometric modifications at the downstream intersection with Galleria Boulevard (Intersection #6) are confirmed to reduce the westbound approach's spillback and, therefore, improve the upstream Creekside Ridge Drive intersection's peak-hour operations.

[3] These right-turn conversions include the addition of right-turn overlap signal phases and elimination of the complementary U-turn movements.

CEQA Compliance

The following is an assessment of the Proposed Project using the current CEQA Guidelines' "checklist" as pertains to Transportation (XVII. TRANSPORTATION).

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? ***No Impact***

The Proposed Project, through its widening of Roseville Parkway between Gibson Drive and Creekside Ridge Drive, does not conflict with the City of Roseville's applicable planning documents including the *General Plan 2035*, *Bicycle Master Plan*, *Pedestrian Master Plan*, and *Short Range Transit Plan*. The following is an overview of the project's consistency with these guiding documents:

- Circulation System
  - Consistent with the Project, the facility is indicated to have seven or eight future lanes (Exhibit 4.3-4, *2035 General Plan Update Final EIR*, Page 4.3-23)
- Transit Facilities
  - The immediate project area includes the Roseville Transit Galleria Transfer Point, which accommodates Bus Routes A, B, M, and S. The Project limits, and therefore the Project, include several bus stops in addition to the aforementioned transfer point. These stops are located along eastbound Roseville Parkway after Reserve Drive (Routes A and B), eastbound Roseville Parkway after Galleria Boulevard (Route A), southbound Galleria Boulevard after Antelope Creek Drive (Route M), and northbound Pleasant Grove Boulevard after Roseville Parkway (Route M).
- Bicycle Facilities
  - Consistent with the Project, Roseville Parkway is indicated to have Class II Bike Lanes along the entire stretch from Pleasant Grove Boulevard through the project area (Figure III-5, *General Plan 2035 Circulation Element*, Page III-23, and Figure 4, *City of Roseville Bicycle Master Plan*, Page 43).
- Pedestrian Facilities
  - The Proposed Project includes both attached and detached (meandering) sidewalks, generally mimicking the existing conditions. Through its inclusion of these facilities, the Proposed Project supports the City's *General Plan* and *Pedestrian Master Plan* goals.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? ***No Impact***

The Proposed Project's effect on Vehicle Miles Traveled (VMT) was evaluated in a manner consistent with the City's direction[4], the *2035 General Plan Update* and related *VMT Impact Studies Guidelines*, and to a lesser degree the December 2018 guidance provided by the Governor's Office of Planning and Research (OPR)[5] as pertains to Senate Bill 743 (SB 743).

Although the project is understood to be a capacity-enhancing roadway project, it was confirmed to have been previously anticipated and comprehensively evaluated as part of the CEQA documentation associated with the City's *2035 General Plan* (see Exhibit 4.3-4, *2035 General Plan Update Final EIR*, Page 4.3-23). As a result, the City's *VMT Impact Study Guidelines* conclude that a quantitative VMT study is not required. Furthermore, because the effect of the Project was comprehensively evaluated within the *City's 2035 General Plan*, no additional VMT analysis (qualitative or quantitative) is required.

In summary, the Project is considered to be consistent with CEQA Guidelines.

[4] Email from Mark Johnson, City of Roseville, April 25, 2022.
[5] *Technical Advisory on Evaluating Transportation Impacts in CEQA.* Governor's Office of Planning and Research, State of California. December 2018.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? ***No Impact***

The Project has been designed in a manner consistent with all applicable, published design standards at the onset of this project including the City of Roseville's *Design and Construction Standards*, Caltrans' *Highway Design Manual*, and the American Association of State Highway and Transportation Officials' (AASHTO) *A Policy on Geometric Design of Highways and Streets*. Consistent with the City's expansive transportation system, the Project will support all compatible uses including the surrounding land uses that are reasonably anticipated to contribute traffic to and rely on this facility. Accordingly, through its consistency with these standards, as well as resulting from its improved traffic operations and multi-modal safety enhancements, the Project does not increase hazards and supports all compatible uses.

d) Result in inadequate emergency access? ***No Impact***

The Project provides additional capacity through one of the most congested corridors in the City. In addition to recurring commute peak-hour patterns, the project area accommodates off-peak and seasonal traffic congestion associated with the adjacent regional retail and related establishments. Accordingly, through its additional capacity and documented improved traffic flow, the Project is reasonably anticipated to have a positive effect on emergency response times and access. Peak-hour travel times and general vehicular access to emergency and medical service facilities are anticipated to be improved by the Project.

Conclusions

The following are the primary conclusions based on the analyses discussed herein:

- In general, the benefits of the added through capacity along Roseville Parkway are somewhat diluted by the inefficiencies realized by eliminating the free-right turn movements. This combination of enhanced capacity and traditional right-turn treatments (accompanied by right-turn overlap signal phases and elimination of the complementary U-turn movement) is anticipated to improve bicycle/pedestrian and vehicular safety at these major intersections, in particular at Galleria Boulevard. It is important to note that the Galleria Boulevard intersection ranks among the top collision frequency locations in the City.
- The Project is shown to improve the study corridor. The Project most notably improves operations along westbound Roseville Parkway approaching and through the Creekside Ridge Drive intersection.

Attachments

Exhibit 1 – Project Vicinity Map
Exhibit 2 – Study Intersections, Traffic Control, and Lane Geometries
Exhibit 3 – Existing (2020) plus Project Conditions Peak-Hour Volumes
Exhibit 4 – Cumulative (2035) plus Project Conditions Peak-Hour Volumes

Appendix A – Traffic Count Data Sheets
Appendix B – Analysis Worksheets for Existing (2020) and Existing (2020) plus Project Conditions
Appendix C – Analysis Worksheets for Cumulative (2035) plus Project Conditions

Roseville Parkway Widening - Traffic Evaluation

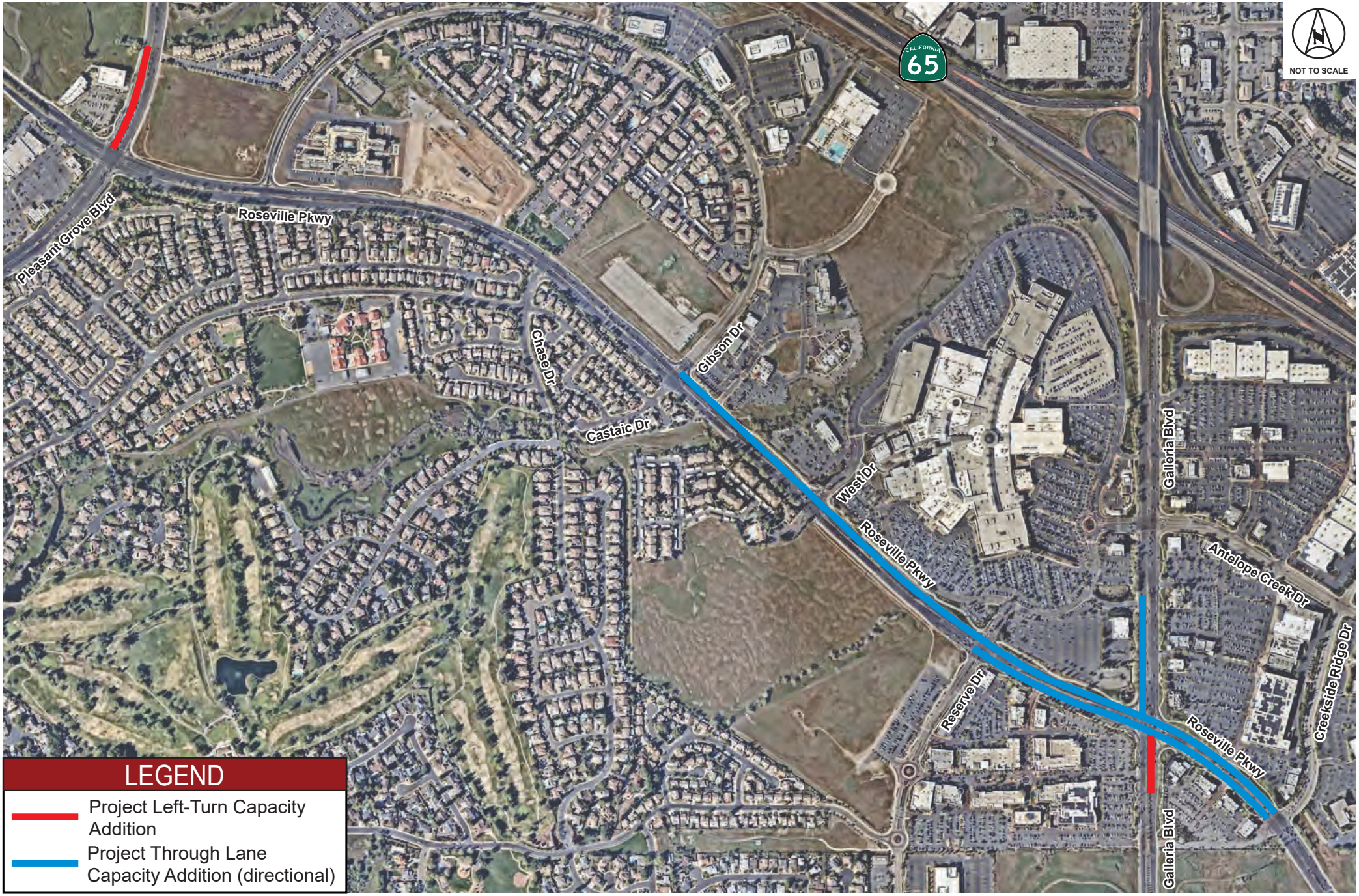


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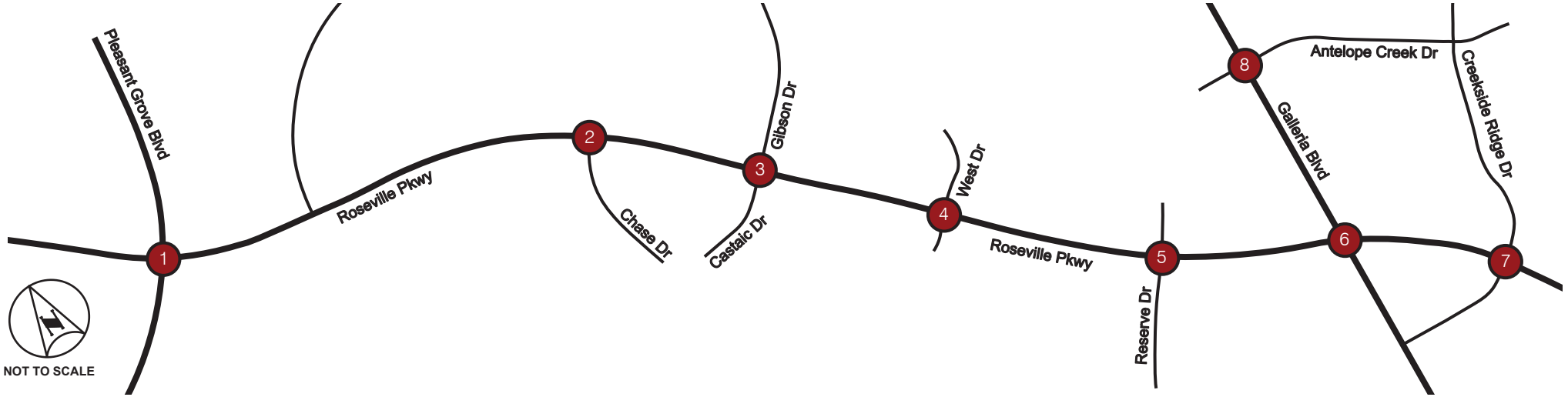
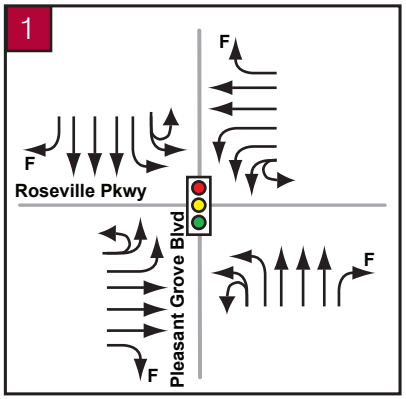
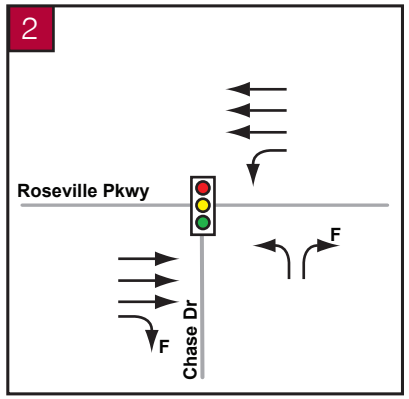
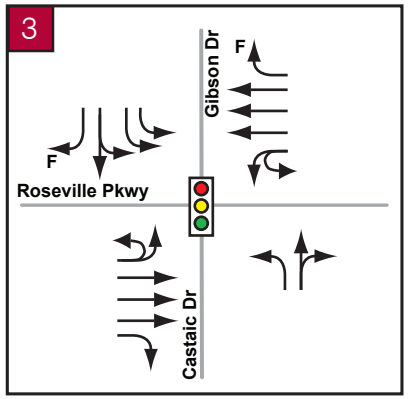
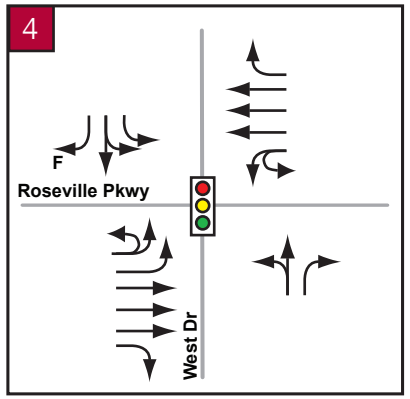
Exhibit 1
Project Vicinity Map

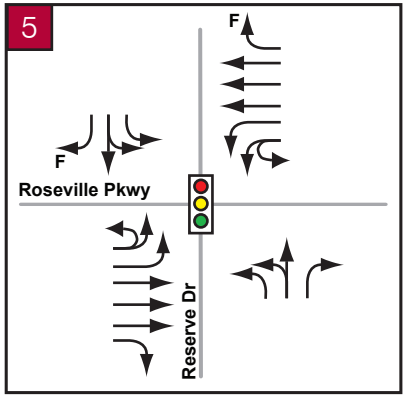


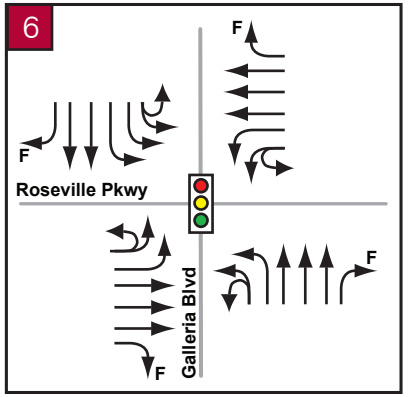


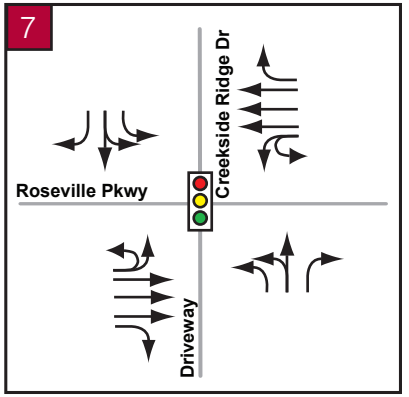


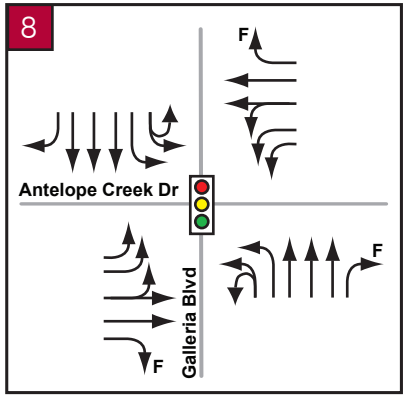












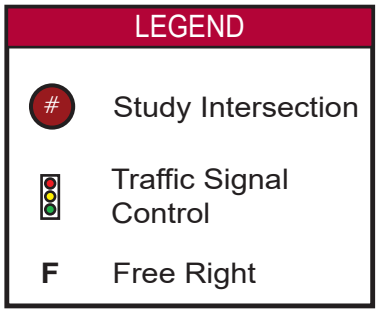


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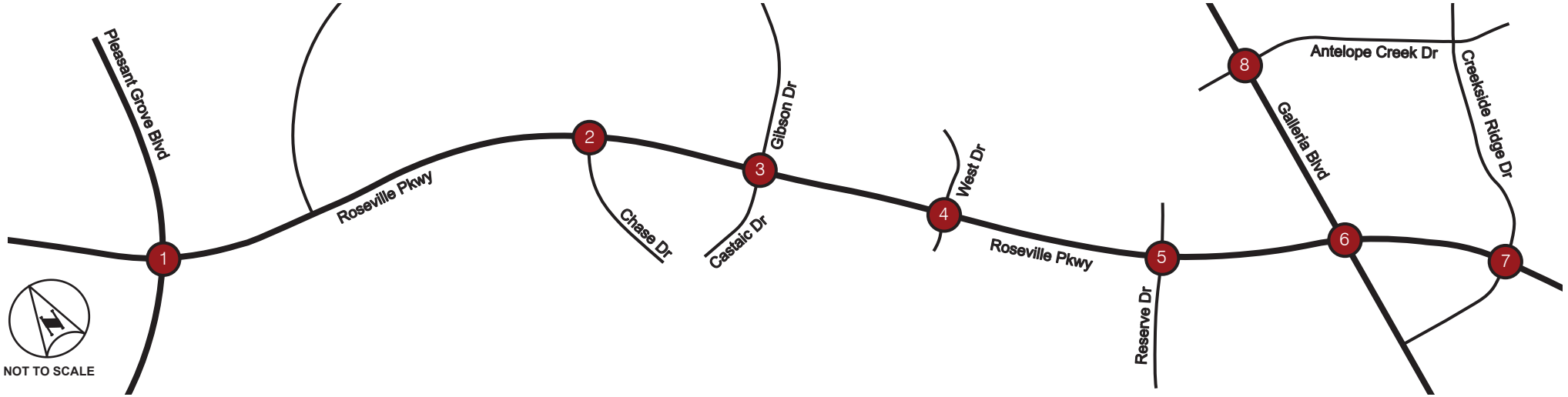
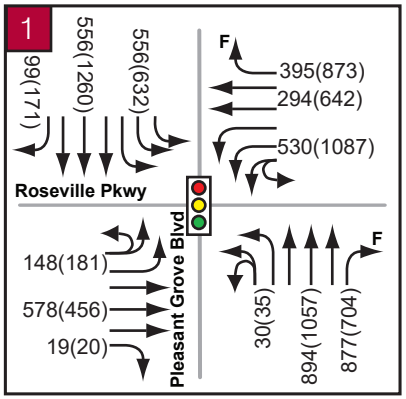
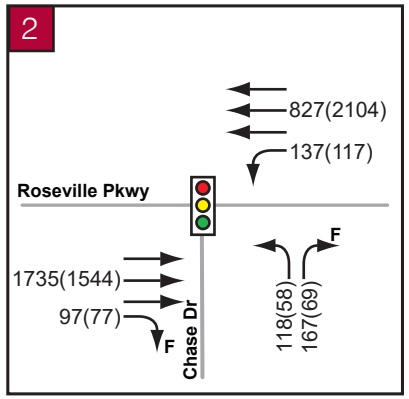
Exhibit 2

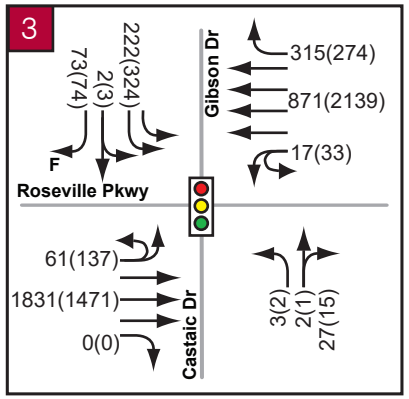
Study Intersections, Traffic Control, and Lane Geometries

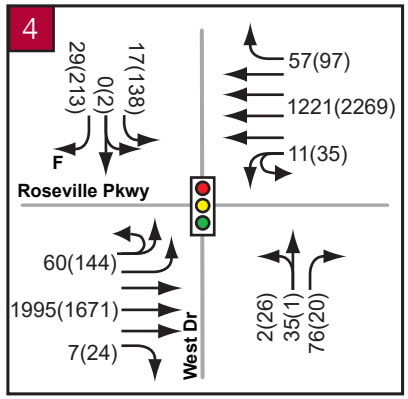
Roseville Parkway Widening - Traffic Evaluation

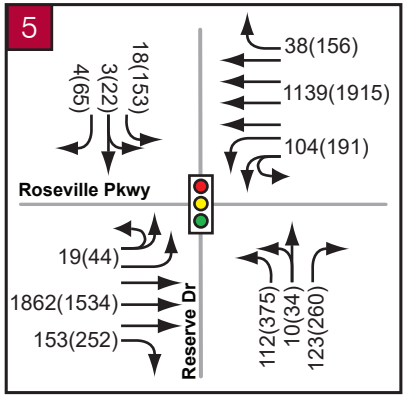


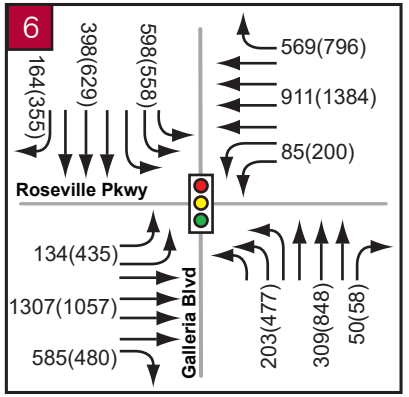


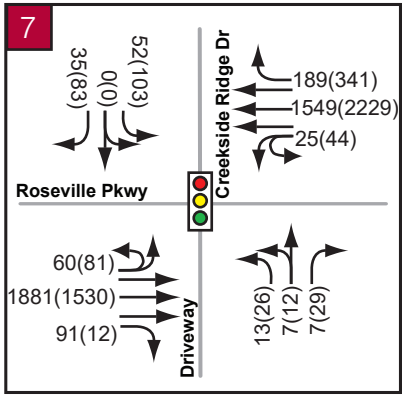


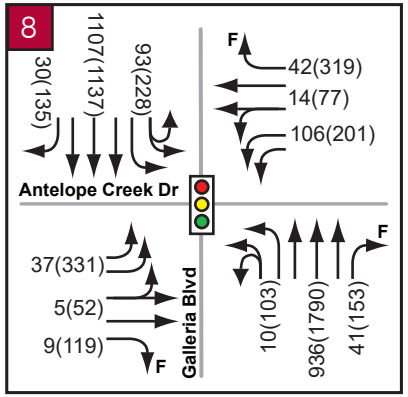












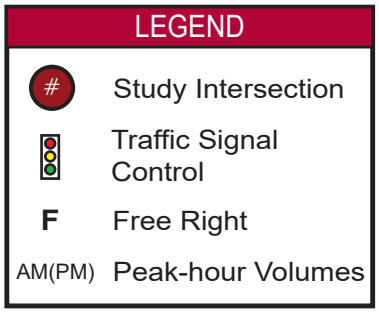


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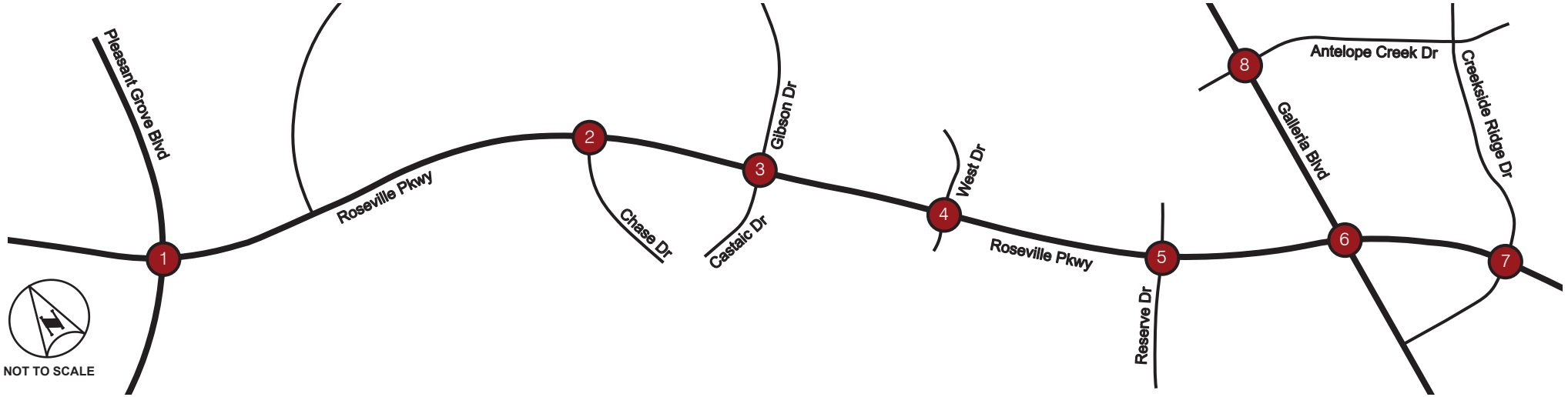
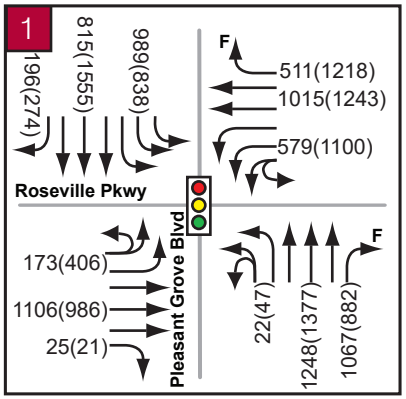
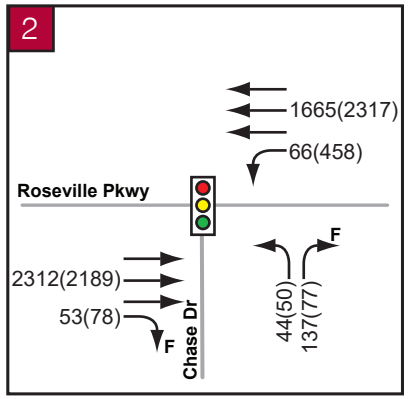
Exhibit 3

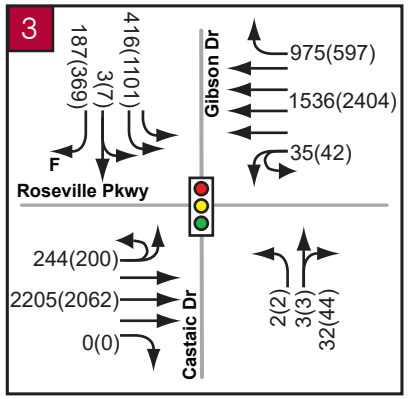
Existing (2020) plus Project Conditions Peak-Hour Volumes

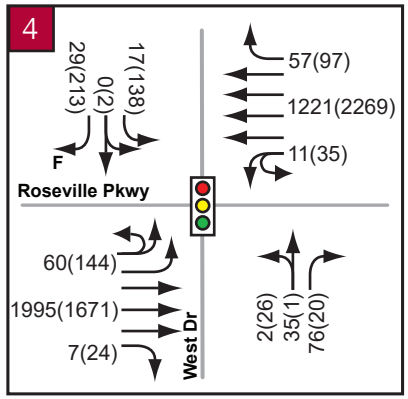
Roseville Parkway Widening - Traffic Evaluation

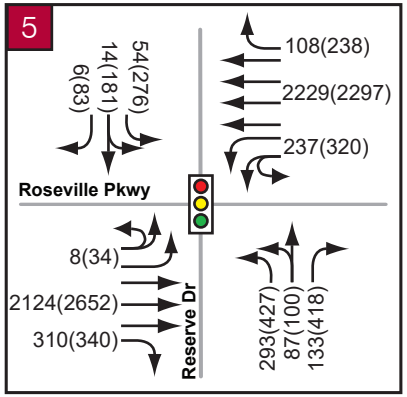


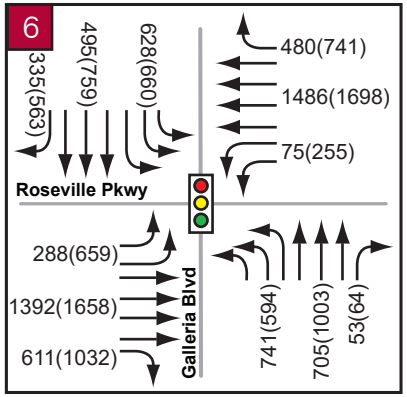


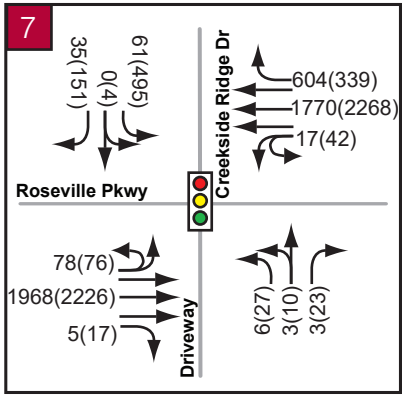


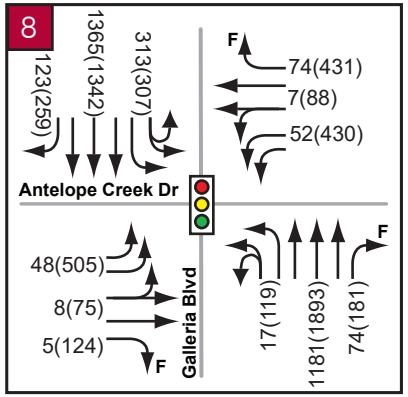












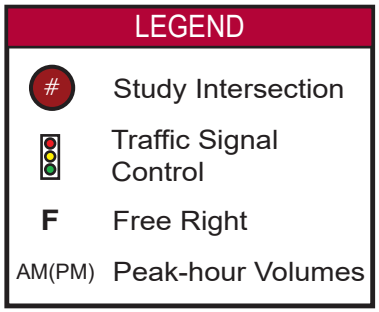


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Exhibit 4

Cumulative (2035) plus Project Conditions Peak-Hour Volumes

Appendix A

Traffic Count Data Sheets

Turning Movement Volume Report

Report Date: 4/25/2022 8:25:12 PM

From 2/20/2020 to 2/20/2020

Galleria & Antelope Creek

Intersection: 84

	N				S				E				W				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
20/02/20 00:00-01:00	6	95	6	107	9	50	1	60	6	1	0	7	3	0	5	8	182
20/02/20 01:00-02:00	5	41	2	48	6	20	1	27	1	1	0	2	5	4	6	15	92
20/02/20 02:00-03:00	0	36	0	36	5	19	1	25	3	0	0	3	2	1	3	6	70
20/02/20 03:00-04:00	1	34	1	36	5	29	0	34	3	0	2	5	0	0	4	4	79
20/02/20 04:00-05:00	3	49	1	53	8	83	1	92	0	0	2	2	3	0	17	20	167
20/02/20 05:00-06:00	5	131	6	142	12	188	6	206	5	1	1	7	4	7	19	30	385
20/02/20 06:00-07:00	10	322	10	342	26	526	17	569	9	1	2	12	11	6	47	64	987
20/02/20 07:00-08:00	11	749	36	796	55	986	21	1062	30	2	6	38	31	10	108	149	2045
20/02/20 08:00-09:00	14	917	47	978	102	1103	38	1243	31	3	8	42	52	14	99	165	2428
20/02/20 09:00-10:00	47	923	63	1033	76	890	71	1037	55	10	14	79	52	23	117	192	2341
20/02/20 10:00-11:00	71	967	110	1148	136	880	125	1141	109	24	36	169	97	51	105	253	2711
20/02/20 11:00-12:00	122	1132	164	1418	169	974	200	1343	220	42	88	350	168	70	156	394	3505
20/02/20 12:00-13:00	118	1237	185	1540	200	1028	166	1394	278	53	117	448	211	75	200	486	3868
20/02/20 13:00-14:00	109	1247	171	1527	187	1039	145	1371	323	65	124	512	242	83	180	505	3915
20/02/20 14:00-15:00	112	1330	144	1586	173	1087	112	1372	371	71	143	585	251	88	183	522	4065
20/02/20 15:00-16:00	94	1514	135	1743	171	1093	115	1379	321	55	114	490	195	65	243	503	4115
20/02/20 16:00-	100	1574	151	1825	198	1052	143	1393	320	59	114	493	223	74	277	574	4285

Turning Movement Volume Report

Report Date: 4/25/2022 8:25:12 PM

From 2/20/2020 to 2/20/2020

Galleria & Antelope Creek

Intersection: 84

	N				S				E				W				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
20/02/20 17:00-18:00	103	1790	153	2046	228	1137	135	1500	331	52	119	502	201	77	319	597	4645
20/02/20 18:00-19:00	107	1329	122	1558	195	918	136	1249	321	58	111	490	201	52	216	469	3766
20/02/20 19:00-20:00	70	990	99	1159	141	690	100	931	257	44	94	395	169	51	132	352	2837
20/02/20 20:00-21:00	42	711	69	822	113	499	67	679	248	43	113	404	115	36	109	260	2165
20/02/20 21:00-22:00	27	510	29	566	72	345	24	441	238	32	90	360	90	18	78	186	1553
20/02/20 22:00-23:00	17	277	15	309	33	208	8	249	61	7	29	97	41	8	23	72	727
20/02/20 23:00-00:00	7	176	14	197	24	99	2	125	20	2	9	31	18	3	13	34	387
Summary	1201	18081	1733	21015	2344	14943	1635	18922	3561	626	1336	5523	2385	816	2659	5860	51320

Turning Movement Volume Report

Report Date: 4/25/2022 8:23:43 PM

From 2/18/2020 to 2/18/2020

Galleria & Antelope Creek

Intersection: 84

	N				S				E				W				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
18/02/20 00:00-01:00	2	68	4	74	8	44	1	53	6	1	2	9	4	0	5	9	145
18/02/20 01:00-02:00	1	41	1	43	3	25	2	30	1	1	3	5	4	2	4	10	88
18/02/20 02:00-03:00	0	30	0	30	2	33	0	35	2	0	1	3	1	0	3	4	72
18/02/20 03:00-04:00	0	31	2	33	1	25	2	28	0	0	0	0	1	1	6	8	69
18/02/20 04:00-05:00	2	52	2	56	6	71	4	81	1	0	0	1	0	0	9	9	147
18/02/20 05:00-06:00	4	132	9	145	10	200	9	219	6	1	1	8	3	2	15	20	392
18/02/20 06:00-07:00	12	342	8	362	32	562	16	610	13	2	5	20	12	11	43	66	1058
18/02/20 07:00-08:00	7	751	29	787	54	948	29	1031	15	3	2	20	32	10	108	150	1988
18/02/20 08:00-09:00	10	936	41	987	93	1107	30	1230	37	5	9	51	42	14	106	162	2430
18/02/20 09:00-10:00	35	936	61	1032	89	943	57	1089	55	17	14	86	50	29	86	165	2372
18/02/20 10:00-11:00	83	1023	98	1204	128	958	132	1218	123	22	36	181	105	53	122	280	2883
18/02/20 11:00-12:00	98	1170	146	1414	167	1064	149	1380	200	38	70	308	189	78	141	408	3510
18/02/20 12:00-13:00	102	1285	137	1524	210	1059	136	1405	251	63	101	415	192	70	180	442	3786
18/02/20 13:00-14:00	116	1295	144	1555	188	1053	150	1391	315	59	123	497	205	78	223	506	3949
18/02/20 14:00-15:00	98	1304	116	1518	192	1057	120	1369	308	63	141	512	238	89	187	514	3913
18/02/20 15:00-16:00	93	1442	142	1677	158	989	132	1279	311	46	106	463	201	64	248	513	3932
18/02/20 16:00-	83	1529	157	1769	173	975	125	1273	306	57	126	489	204	70	250	524	4055

Turning Movement Volume Report

Report Date: 4/25/2022 8:23:43 PM

From 2/18/2020 to 2/18/2020

Galleria & Antelope Creek

Intersection: 84

	N				S				E				W				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
18/02/20 17:00-18:00	73	1667	149	1889	178	1026	113	1317	286	54	110	450	207	68	301	576	4232
18/02/20 18:00-19:00	72	1317	149	1538	161	857	128	1146	263	43	105	411	157	58	202	417	3512
18/02/20 19:00-20:00	54	900	93	1047	129	635	72	836	235	44	102	381	138	38	116	292	2556
18/02/20 20:00-21:00	31	664	68	763	85	431	46	562	207	35	69	311	127	33	84	244	1880
18/02/20 21:00-22:00	24	503	25	552	55	304	23	382	197	32	78	307	78	22	61	161	1402
18/02/20 22:00-23:00	14	261	20	295	31	168	9	208	61	7	18	86	38	9	27	74	663
18/02/20 23:00-00:00	9	171	7	187	18	99	3	120	21	2	6	29	7	2	13	22	358
Summary	1023	17850	1608	20481	2171	14633	1488	18292	3220	595	1228	5043	2235	801	2540	5576	49392

Turning Movement Volume Report

Report Date: 4/25/2022 8:24:37 PM

From 2/19/2020 to 2/19/2020

Galleria & Antelope Creek

Intersection: 84

	N				S				E				W				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
19/02/20 00:00-01:00	1	106	0	107	9	52	3	64	5	0	4	9	8	1	2	11	191
19/02/20 01:00-02:00	5	44	0	49	4	36	1	41	0	0	1	1	4	1	4	9	100
19/02/20 02:00-03:00	0	35	0	35	4	27	0	31	1	1	0	2	2	1	2	5	73
19/02/20 03:00-04:00	1	29	2	32	0	31	4	35	2	1	1	4	1	1	4	6	77
19/02/20 04:00-05:00	0	41	1	42	6	79	3	88	1	0	1	2	2	1	10	13	145
19/02/20 05:00-06:00	11	162	7	180	12	196	7	215	4	0	0	4	7	5	26	38	437
19/02/20 06:00-07:00	15	324	8	347	33	536	17	586	14	1	7	22	11	4	40	55	1010
19/02/20 07:00-08:00	14	699	32	745	61	982	40	1083	30	5	6	41	29	11	112	152	2021
19/02/20 08:00-09:00	17	919	32	968	78	1091	37	1206	49	11	10	70	38	15	112	165	2409
19/02/20 09:00-10:00	34	905	50	989	107	855	57	1019	57	16	21	94	58	27	98	183	2285
19/02/20 10:00-11:00	89	1030	90	1209	137	878	118	1133	115	23	38	176	88	54	131	273	2791
19/02/20 11:00-12:00	86	1106	119	1311	174	954	161	1289	190	35	62	287	166	51	156	373	3260
19/02/20 12:00-13:00	128	1236	144	1508	228	1063	146	1437	275	57	93	425	211	70	168	449	3819
19/02/20 13:00-14:00	98	1232	145	1475	231	1040	153	1424	314	67	112	493	247	89	208	544	3936
19/02/20 14:00-15:00	97	1313	127	1537	186	1052	138	1376	316	69	117	502	214	70	171	455	3870
19/02/20 15:00-16:00	91	1465	173	1729	152	935	144	1231	329	52	126	507	195	64	226	485	3952
19/02/20 16:00-	90	1607	141	1838	184	1005	126	1315	303	59	121	483	204	74	273	551	4187

Turning Movement Volume Report

Report Date: 4/25/2022 8:24:37 PM

From 2/19/2020 to 2/19/2020

Galleria & Antelope Creek

Intersection: 84

	N				S				E				W				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
19/02/20 17:00-18:00	76	1678	141	1895	198	1108	146	1452	290	46	107	443	196	63	315	574	4364
19/02/20 18:00-19:00	89	1381	161	1631	163	901	133	1197	266	47	93	406	204	64	217	485	3719
19/02/20 19:00-20:00	68	957	95	1120	144	620	112	876	279	48	116	443	162	55	123	340	2779
19/02/20 20:00-21:00	38	685	67	790	96	467	41	604	240	46	88	374	102	29	106	237	2005
19/02/20 21:00-22:00	19	543	21	583	49	407	24	480	226	27	84	337	81	12	50	143	1543
19/02/20 22:00-23:00	8	278	21	307	32	182	4	218	44	6	19	69	26	9	35	70	664
19/02/20 23:00-00:00	5	200	9	214	13	99	1	113	19	3	8	30	14	2	9	25	382
Summary	1080	17975	1586	20641	2301	14596	1616	18513	3369	620	1235	5224	2270	773	2598	5641	50019

Turning Movement Volume Report

Report Date: 4/25/2022 8:27:09 PM

From 2/20/2020 to 2/20/2020

Roseville Parkway & Chase

Intersection: 151

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
20/02/20 00:00-01:00	11	91		102		43	5	48	0		2	2				0	152
20/02/20 01:00-02:00	4	45		49		15	1	16	0		1	1				0	66
20/02/20 02:00-03:00	3	30		33		19	1	20	0		1	1				0	54
20/02/20 03:00-04:00	1	20		21		22	1	23	0		1	1				0	45
20/02/20 04:00-05:00	1	34		35		56	0	56	2		4	6				0	97
20/02/20 05:00-06:00	3	91		94		199	2	201	5		13	18				0	313
20/02/20 06:00-07:00	12	280		292		556	9	565	8		61	69				0	926
20/02/20 07:00-08:00	41	687		728		1585	26	1611	20		136	156				0	2495
20/02/20 08:00-09:00	136	819		955		1741	87	1828	124		157	281				0	3064
20/02/20 09:00-10:00	37	754		791		1272	48	1320	78		100	178				0	2289
20/02/20 10:00-11:00	70	786		856		1146	39	1185	34		79	113				0	2154
20/02/20 11:00-12:00	67	1109		1176		1423	39	1462	41		70	111				0	2749
20/02/20 12:00-13:00	66	1325		1391		1403	44	1447	34		72	106				0	2944
20/02/20 13:00-14:00	84	1429		1513		1390	37	1427	26		54	80				0	3020
20/02/20 14:00-15:00	96	1540		1636		1412	74	1486	52		74	126				0	3248
20/02/20 15:00-16:00	146	1707		1853		1485	77	1562	115		114	229				0	3644
20/02/20 16:00-	119	1790		1909		1596	68	1664	50		70	120				0	3693

Turning Movement Volume Report

Report Date: 4/25/2022 8:27:09 PM

From 2/20/2020 to 2/20/2020

Roseville Parkway & Chase

Intersection: 151

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
20/02/20 17:00-18:00	138	1948		2086		1601	76	1677	72		95	167				0	3930
20/02/20 18:00-19:00	101	1717		1818		1237	58	1295	37		73	110				0	3223
20/02/20 19:00-20:00	74	1302		1376		734	51	785	32		25	57				0	2218
20/02/20 20:00-21:00	61	986		1047		449	40	489	7		35	42				0	1578
20/02/20 21:00-22:00	49	778		827		325	18	343	11		13	24				0	1194
20/02/20 22:00-23:00	32	344		376		191	14	205	4		11	15				0	596
20/02/20 23:00-00:00	12	219		231		91	15	106	2		5	7				0	344
Summary	1364	19831	0	21195	0	19991	830	20821	754	0	1266	2020	0	0	0	0	44036

Turning Movement Volume Report

Report Date: 4/25/2022 8:26:22 PM

From 2/18/2020 to 2/18/2020

Roseville Parkway & Chase

Intersection: 151

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
18/02/20 00:00-01:00	6	85		91		34	3	37	0		0	0				0	128
18/02/20 01:00-02:00	2	35		37		15	1	16	0		1	1				0	54
18/02/20 02:00-03:00	3	27		30		11	1	12	0		4	4				0	46
18/02/20 03:00-04:00	2	21		23		20	1	21	0		1	1				0	45
18/02/20 04:00-05:00	2	43		45		61	0	61	2		3	5				0	111
18/02/20 05:00-06:00	4	100		104		210	3	213	9		20	29				0	346
18/02/20 06:00-07:00	12	264		276		590	10	600	10		49	59				0	935
18/02/20 07:00-08:00	47	700		747		1585	28	1613	22		127	149				0	2509
18/02/20 08:00-09:00	121	811		932		1735	86	1821	112		151	263				0	3016
18/02/20 09:00-10:00	44	721		765		1348	36	1384	69		88	157				0	2306
18/02/20 10:00-11:00	57	878		935		1138	38	1176	40		84	124				0	2235
18/02/20 11:00-12:00	60	1149		1209		1261	43	1304	42		72	114				0	2627
18/02/20 12:00-13:00	50	1363		1413		1221	47	1268	30		63	93				0	2774
18/02/20 13:00-14:00	69	1357		1426		1288	50	1338	28		56	84				0	2848
18/02/20 14:00-15:00	125	1434		1559		1336	67	1403	48		68	116				0	3078
18/02/20 15:00-16:00	123	1548		1671		1532	84	1616	120		107	227				0	3514
18/02/20 16:00-	112	1743		1855		1507	63	1570	53		71	124				0	3549

Turning Movement Volume Report

Report Date: 4/25/2022 8:26:22 PM

From 2/18/2020 to 2/18/2020

Roseville Parkway & Chase

Intersection: 151

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
18/02/20 17:00-18:00	120	1962		2082		1562	63	1625	47		68	115				0	3822
18/02/20 18:00-19:00	110	1718		1828		1234	62	1296	19		72	91				0	3215
18/02/20 19:00-20:00	74	1172		1246		723	38	761	28		33	61				0	2068
18/02/20 20:00-21:00	51	865		916		394	21	415	17		15	32				0	1363
18/02/20 21:00-22:00	40	708		748		296	25	321	12		12	24				0	1093
18/02/20 22:00-23:00	24	307		331		198	16	214	6		8	14				0	559
18/02/20 23:00-00:00	15	184		199		86	3	89	1		5	6				0	294
Summary	1273	19195	0	20468	0	19385	789	20174	715	0	1178	1893	0	0	0	0	42535

Turning Movement Volume Report

Report Date: 4/25/2022 8:26:47 PM

From 2/19/2020 to 2/19/2020

Roseville Parkway & Chase

Intersection: 151

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
19/02/20 00:00-01:00	9	82		91		31	5	36	0		1	1				0	128
19/02/20 01:00-02:00	1	40		41		25	0	25	1		1	2				0	68
19/02/20 02:00-03:00	2	36		38		15	0	15	0		3	3				0	56
19/02/20 03:00-04:00	0	18		18		21	0	21	1		0	1				0	40
19/02/20 04:00-05:00	2	29		31		66	0	66	2		6	8				0	105
19/02/20 05:00-06:00	4	90		94		219	2	221	5		18	23				0	338
19/02/20 06:00-07:00	11	285		296		612	15	627	14		56	70				0	993
19/02/20 07:00-08:00	34	702		736		1655	31	1686	28		136	164				0	2586
19/02/20 08:00-09:00	137	827		964		1735	97	1832	118		167	285				0	3081
19/02/20 09:00-10:00	58	758		816		1385	41	1426	68		114	182				0	2424
19/02/20 10:00-11:00	55	893		948		1124	47	1171	41		71	112				0	2231
19/02/20 11:00-12:00	61	1113		1174		1265	54	1319	50		62	112				0	2605
19/02/20 12:00-13:00	66	1301		1367		1321	37	1358	30		67	97				0	2822
19/02/20 13:00-14:00	67	1317		1384		1229	53	1282	29		56	85				0	2751
19/02/20 14:00-15:00	105	1411		1516		1287	53	1340	50		59	109				0	2965
19/02/20 15:00-16:00	112	1603		1715		1560	74	1634	136		105	241				0	3590
19/02/20 16:00-	114	1708		1822		1605	47	1652	41		68	109				0	3583

Turning Movement Volume Report

Report Date: 4/25/2022 8:26:47 PM

From 2/19/2020 to 2/19/2020

Roseville Parkway & Chase

Intersection: 151

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
19/02/20 17:00-18:00	117	2104		2221		1544	77	1621	58		69	127				0	3969
19/02/20 18:00-19:00	107	1651		1758		1195	64	1259	32		77	109				0	3126
19/02/20 19:00-20:00	66	1227		1293		728	43	771	18		49	67				0	2131
19/02/20 20:00-21:00	54	903		957		430	30	460	19		21	40				0	1457
19/02/20 21:00-22:00	48	766		814		287	23	310	16		24	40				0	1164
19/02/20 22:00-23:00	31	320		351		183	10	193	3		4	7				0	551
19/02/20 23:00-00:00	18	180		198		90	12	102	4		3	7				0	307
Summary	1279	19364	0	20643	0	19612	815	20427	764	0	1237	2001	0	0	0	0	43071

Turning Movement Volume Report

Report Date: 5/19/2021 1:28:02 PM

From 2/20/2020 to 2/20/2020

Roseville Parkway &
Creekside Ridge (332)

Intersection: 106

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
20/02/20 00:00-01:00	4	113	10	127	7	86	1	94	7	5	4	16	2	0	4	6	243
20/02/20 01:00-02:00	1	44	11	56	2	26	0	28	2	2	3	7	2	0	0	2	93
20/02/20 02:00-03:00	0	48	6	54	0	24	0	24	0	0	1	1	1	0	2	3	82
20/02/20 03:00-04:00	0	44	4	48	0	30	0	30	0	0	0	0	1	0	0	1	79
20/02/20 04:00-05:00	4	64	9	77	2	85	0	87	1	0	0	1	4	0	1	5	170
20/02/20 05:00-06:00	1	212	33	246	5	271	0	276	0	0	0	0	4	0	5	9	531
20/02/20 06:00-07:00	6	535	78	619	8	795	1	804	2	1	0	3	13	0	9	22	1448
20/02/20 07:00-08:00	19	1152	138	1309	39	1582	1	1622	3	2	4	9	28	0	21	49	2989
20/02/20 08:00-09:00	25	1549	189	1763	60	1881	9	1950	13	7	7	27	52	0	35	87	3827
20/02/20 09:00-10:00	29	1396	170	1595	45	1254	5	1304	10	4	7	21	32	0	14	46	2966
20/02/20 10:00-11:00	28	1438	155	1621	50	1102	10	1162	27	8	19	54	47	0	26	73	2910
20/02/20 11:00-12:00	44	1727	212	1983	72	1158	12	1242	23	7	24	54	83	0	46	129	3408
20/02/20 12:00-13:00	47	1815	273	2135	87	1336	16	1439	26	11	30	67	92	0	57	149	3790
20/02/20 13:00-14:00	54	1681	204	1939	100	1523	10	1633	40	15	36	91	101	0	64	165	3828
20/02/20 14:00-15:00	36	1728	212	1976	74	1518	11	1603	30	10	27	67	80	0	45	125	3771
20/02/20 15:00-16:00	30	1990	259	2279	75	1565	11	1651	30	7	21	58	101	0	59	160	4148
20/02/20 16:00-	42	2100	302	2444	85	1520	5	1610	30	12	27	69	96	0	73	169	4292

Turning Movement Volume Report

Report Date: 5/19/2021 1:28:02 PM

From 2/20/2020 to 2/20/2020

Roseville Parkway &
Creekside Ridge (332)

Intersection: 106

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
20/02/20 17:00-18:00	32	2253	321	2606	77	1559	10	1646	27	7	24	58	92	0	85	177	4487
20/02/20 18:00-19:00	27	1930	217	2174	69	1275	10	1354	25	8	23	56	89	0	42	131	3715
20/02/20 19:00-20:00	24	1287	113	1424	41	855	11	907	17	4	11	32	52	0	21	73	2436
20/02/20 20:00-21:00	14	855	86	955	43	718	4	765	15	7	12	34	49	0	22	71	1825
20/02/20 21:00-22:00	17	612	71	700	31	579	0	610	9	4	8	21	31	0	14	45	1376
20/02/20 22:00-23:00	8	380	33	421	19	266	1	286	1	0	5	6	10	0	4	14	727
20/02/20 23:00-00:00	11	227	24	262	9	159	0	168	2	2	4	8	7	0	0	7	445
Summary	503	25180	3130	28813	1000	21167	128	22295	340	123	297	760	1069	0	649	1718	53586

Turning Movement Volume Report

Report Date: 5/19/2021 1:27:25 PM

From 2/18/2020 to 2/18/2020

Roseville Parkway &
Creekside Ridge (332)

Intersection: 106

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
18/02/20 00:00-01:00	2	83	9	94	4	60	1	65	3	2	3	8	2	0	2	4	171
18/02/20 01:00-02:00	1	41	4	46	1	27	0	28	0	0	1	1	1	0	0	1	76
18/02/20 02:00-03:00	1	44	6	51	2	26	0	28	0	0	0	0	0	0	0	0	79
18/02/20 03:00-04:00	1	46	3	50	1	21	0	22	1	0	0	1	1	0	0	1	74
18/02/20 04:00-05:00	2	65	3	70	5	91	0	96	0	0	0	0	3	0	2	5	171
18/02/20 05:00-06:00	3	222	29	254	6	287	0	293	0	0	0	0	7	0	1	8	555
18/02/20 06:00-07:00	1	551	71	623	6	812	0	818	2	2	2	6	12	0	4	16	1463
18/02/20 07:00-08:00	9	1217	129	1355	34	1602	4	1640	6	3	1	10	24	0	19	43	3048
18/02/20 08:00-09:00	20	1534	206	1760	47	1890	7	1944	15	7	6	28	50	0	28	78	3810
18/02/20 09:00-10:00	38	1462	169	1669	47	1386	8	1441	10	3	11	24	19	0	25	44	3178
18/02/20 10:00-11:00	37	1546	175	1758	55	1122	10	1187	15	5	17	37	50	0	29	79	3061
18/02/20 11:00-12:00	42	1691	224	1957	68	1178	13	1259	31	7	11	49	66	0	39	105	3370
18/02/20 12:00-13:00	38	1756	242	2036	107	1260	11	1378	34	9	23	66	103	0	61	164	3644
18/02/20 13:00-14:00	47	1614	207	1868	110	1383	18	1511	47	15	26	88	91	0	57	148	3615
18/02/20 14:00-15:00	25	1641	184	1850	79	1481	10	1570	22	7	41	70	102	0	50	152	3642
18/02/20 15:00-16:00	47	1992	246	2285	88	1650	9	1747	27	10	15	52	85	0	55	140	4224
18/02/20 16:00-	34	2089	297	2420	68	1487	9	1564	30	9	21	60	97	0	80	177	4221

Turning Movement Volume Report

Report Date: 5/19/2021 1:27:25 PM

From 2/18/2020 to 2/18/2020

Roseville Parkway &
Creekside Ridge (332)

Intersection: 106

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
18/02/20 17:00-18:00	31	2250	314	2595	70	1517	7	1594	20	7	22	49	86	0	92	178	4416
18/02/20 18:00-19:00	33	1810	204	2047	77	1241	7	1325	23	6	17	46	70	0	45	115	3533
18/02/20 19:00-20:00	31	1186	122	1339	62	825	6	893	23	5	13	41	53	0	32	85	2358
18/02/20 20:00-21:00	24	800	94	918	33	625	7	665	17	9	10	36	43	0	15	58	1677
18/02/20 21:00-22:00	11	597	56	664	35	488	1	524	18	6	14	38	30	0	11	41	1267
18/02/20 22:00-23:00	9	322	33	364	24	251	0	275	11	4	13	28	16	0	3	19	686
18/02/20 23:00-00:00	3	185	27	215	15	147	2	164	7	2	3	12	8	0	2	10	401
Summary	490	24744	3054	28288	1044	20857	130	22031	362	118	270	750	1019	0	652	1671	52740

Turning Movement Volume Report

Report Date: 5/19/2021 1:27:45 PM

From 2/19/2020 to 2/19/2020

Roseville Parkway &
Creekside Ridge (332)

Intersection: 106

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
19/02/20 00:00-01:00	2	112	11	125	9	81	0	90	1	1	3	5	0	0	2	2	222
19/02/20 01:00-02:00	1	48	8	57	1	47	0	48	0	0	0	0	2	0	2	4	109
19/02/20 02:00-03:00	0	51	4	55	1	30	0	31	2	0	0	2	1	0	1	2	90
19/02/20 03:00-04:00	2	45	7	54	0	34	0	34	1	0	0	1	4	0	0	4	93
19/02/20 04:00-05:00	3	58	9	70	1	97	0	98	1	0	0	1	2	0	0	2	171
19/02/20 05:00-06:00	1	246	21	268	6	288	0	294	0	0	0	0	8	0	2	10	572
19/02/20 06:00-07:00	4	541	73	618	11	815	1	827	2	2	0	4	13	0	4	17	1466
19/02/20 07:00-08:00	15	1174	125	1314	33	1674	2	1709	4	2	2	8	27	0	26	53	3084
19/02/20 08:00-09:00	23	1489	188	1700	55	1901	4	1960	8	5	9	22	46	0	25	71	3753
19/02/20 09:00-10:00	20	1438	166	1624	60	1368	8	1436	10	3	12	25	34	0	28	62	3147
19/02/20 10:00-11:00	36	1451	193	1680	56	1081	10	1147	24	9	7	40	33	0	37	70	2937
19/02/20 11:00-12:00	69	1637	211	1917	66	1138	11	1215	24	7	14	45	53	0	43	96	3273
19/02/20 12:00-13:00	46	1748	227	2021	80	1356	17	1453	27	10	28	65	82	0	52	134	3673
19/02/20 13:00-14:00	33	1584	255	1872	109	1399	12	1520	35	12	28	75	98	0	41	139	3606
19/02/20 14:00-15:00	32	1659	174	1865	69	1410	13	1492	37	12	31	80	91	0	59	150	3587
19/02/20 15:00-16:00	28	1972	283	2283	74	1639	11	1724	34	11	30	75	92	0	57	149	4231
19/02/20 16:00-	41	2081	267	2389	62	1549	11	1622	25	9	16	50	76	0	80	156	4217

Turning Movement Volume Report

Report Date: 5/19/2021 1:27:45 PM

From 2/19/2020 to 2/19/2020

Roseville Parkway &
Creekside Ridge (332)

Intersection: 106

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
19/02/20 17:00-18:00	44	2229	341	2614	81	1530	12	1623	26	12	29	67	103	0	83	186	4490
19/02/20 18:00-19:00	26	1903	224	2153	73	1254	6	1333	29	9	22	60	80	0	56	136	3682
19/02/20 19:00-20:00	27	1313	134	1474	57	879	6	942	31	7	16	54	52	0	21	73	2543
19/02/20 20:00-21:00	16	808	82	906	52	716	5	773	21	7	11	39	40	0	16	56	1774
19/02/20 21:00-22:00	21	696	74	791	31	559	2	592	11	2	10	23	25	0	9	34	1440
19/02/20 22:00-23:00	16	395	33	444	15	270	1	286	7	2	10	19	10	0	6	16	765
19/02/20 23:00-00:00	2	211	19	232	12	160	2	174	12	2	7	21	6	0	2	8	435
Summary	508	24889	3129	28526	1014	21275	134	22423	372	124	285	781	978	0	652	1630	53360

Turning Movement Volume Report

Report Date: 5/19/2021 1:24:45 PM

From 2/20/2020 to 2/20/2020

Galleria & Roseville Pkwy

Intersection: 73

	N				S				E				W				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
20/02/20 00:00-01:00	28	19	1	48	33	17	12	62	27	56	35	118	7	72	51	130	358
20/02/20 01:00-02:00	14	12	1	27	12	7	11	30	8	11	14	33	4	26	18	48	138
20/02/20 02:00-03:00	7	11	0	18	5	8	7	20	5	18	16	39	3	27	19	49	126
20/02/20 03:00-04:00	5	11	3	19	18	11	1	30	4	10	8	22	1	24	19	44	115
20/02/20 04:00-05:00	10	17	1	28	49	29	6	84	9	39	21	69	4	33	30	67	248
20/02/20 05:00-06:00	19	38	2	59	133	51	11	195	18	147	52	217	12	108	94	214	685
20/02/20 06:00-07:00	53	75	9	137	351	146	34	531	54	451	190	695	18	273	234	525	1888
20/02/20 07:00-08:00	158	262	50	470	522	417	93	1032	114	1085	459	1658	59	647	439	1145	4305
20/02/20 08:00-09:00	203	309	50	562	598	398	164	1160	134	1307	585	2026	85	911	569	1565	5313
20/02/20 09:00-10:00	207	333	31	571	431	373	140	944	210	863	345	1418	95	726	555	1376	4309
20/02/20 10:00-11:00	251	434	39	724	436	415	177	1028	290	724	316	1330	168	791	531	1490	4572
20/02/20 11:00-12:00	300	539	79	918	441	551	272	1264	371	800	386	1557	245	917	612	1774	5513
20/02/20 12:00-13:00	333	559	87	979	542	563	309	1414	423	889	402	1714	272	1002	634	1908	6015
20/02/20 13:00-14:00	336	543	63	942	543	613	344	1500	450	1021	442	1913	250	959	608	1817	6172
20/02/20 14:00-15:00	347	569	49	965	579	649	329	1557	409	998	474	1881	221	1026	614	1861	6264
20/02/20 15:00-16:00	438	653	97	1188	591	611	303	1505	415	991	480	1886	239	1137	682	2058	6637
20/02/20 16:00-	471	685	59	1215	515	614	313	1442	425	1087	530	2042	205	1263	749	2217	6916

Turning Movement Volume Report

Report Date: 5/19/2021 1:24:45 PM

From 2/20/2020 to 2/20/2020

Galleria & Roseville Pkwy

Intersection: 73

	N				S				E				W				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
20/02/20 17:00-18:00	477	848	58	1383	558	629	355	1542	435	1057	480	1972	200	1384	796	2380	7277
20/02/20 18:00-19:00	349	582	54	985	495	517	312	1324	406	864	411	1681	189	1182	640	2011	6001
20/02/20 19:00-20:00	241	352	34	627	357	392	292	1041	339	530	236	1105	144	793	440	1377	4150
20/02/20 20:00-21:00	152	225	15	392	319	267	209	795	246	427	219	892	90	532	322	944	3023
20/02/20 21:00-22:00	95	127	20	242	253	235	134	622	146	320	166	632	50	398	207	655	2151
20/02/20 22:00-23:00	40	70	15	125	123	113	80	316	72	151	103	326	23	261	130	414	1181
20/02/20 23:00-00:00	49	53	4	106	66	47	37	150	42	90	45	177	17	142	83	242	675
Summary	4583	7326	821	12730	7970	7673	3945	19588	5052	13936	6415	25403	2601	14634	9076	26311	84032

Turning Movement Volume Report

Report Date: 5/19/2021 1:23:56 PM

From 2/18/2020 to 2/18/2020

Galleria & Roseville Pkwy

Intersection: 73

	N				S				E				W				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
18/02/20 00:00-01:00	27	14	0	41	22	25	11	58	13	33	28	74	5	49	40	94	267
18/02/20 01:00-02:00	5	9	1	15	15	15	7	37	10	12	6	28	2	23	16	41	121
18/02/20 02:00-03:00	12	6	1	19	17	9	9	35	9	9	9	27	2	26	18	46	127
18/02/20 03:00-04:00	5	12	0	17	10	8	6	24	3	12	8	23	4	18	23	45	109
18/02/20 04:00-05:00	6	18	0	24	50	19	4	73	10	49	27	86	2	35	31	68	251
18/02/20 05:00-06:00	17	34	2	53	137	46	14	197	20	153	55	228	7	116	96	219	697
18/02/20 06:00-07:00	48	69	8	125	370	164	38	572	55	473	183	711	19	260	255	534	1942
18/02/20 07:00-08:00	151	245	49	445	500	378	102	980	120	1091	478	1689	55	683	469	1207	4321
18/02/20 08:00-09:00	213	293	55	561	584	419	161	1164	153	1312	556	2021	120	860	561	1541	5287
18/02/20 09:00-10:00	185	302	45	532	468	389	122	979	231	932	385	1548	149	731	579	1459	4518
18/02/20 10:00-11:00	260	400	50	710	452	482	203	1137	301	706	347	1354	194	776	565	1535	4736
18/02/20 11:00-12:00	292	541	60	893	499	588	302	1389	379	767	318	1464	259	895	580	1734	5480
18/02/20 12:00-13:00	346	560	78	984	516	577	318	1411	434	824	389	1647	292	929	625	1846	5888
18/02/20 13:00-14:00	318	511	68	897	533	602	336	1471	455	927	433	1815	220	969	604	1793	5976
18/02/20 14:00-15:00	303	567	65	935	549	657	308	1514	377	988	438	1803	216	941	594	1751	6003
18/02/20 15:00-16:00	397	618	102	1117	559	566	262	1387	398	1102	458	1958	211	1151	715	2077	6539
18/02/20 16:00-	451	655	60	1166	486	614	275	1375	414	1026	474	1914	221	1248	738	2207	6662

Turning Movement Volume Report

Report Date: 5/19/2021 1:23:56 PM

From 2/18/2020 to 2/18/2020

Galleria & Roseville Pkwy

Intersection: 73

	N				S				E				W				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
18/02/20 17:00-18:00	460	793	56	1309	527	568	347	1442	399	1046	498	1943	209	1386	764	2359	7053
18/02/20 18:00-19:00	388	581	54	1023	458	459	270	1187	373	869	391	1633	179	1168	601	1948	5791
18/02/20 19:00-20:00	202	306	33	541	358	365	225	948	327	537	236	1100	138	743	411	1292	3881
18/02/20 20:00-21:00	147	193	17	357	281	251	169	701	232	377	152	761	74	499	280	853	2672
18/02/20 21:00-22:00	116	134	16	266	218	197	128	543	138	284	163	585	61	382	234	677	2071
18/02/20 22:00-23:00	53	71	9	133	105	95	51	251	65	164	103	332	18	208	131	357	1073
18/02/20 23:00-00:00	50	39	2	91	52	48	37	137	27	87	34	148	10	114	87	211	587
Summary	4452	6971	831	12254	7766	7541	3705	19012	4943	13780	6169	24892	2667	14210	9017	25894	82052

Turning Movement Volume Report

Report Date: 5/19/2021 1:24:29 PM

From 2/19/2020 to 2/19/2020

Galleria & Roseville Pkwy

Intersection: 73

	N				S				E				W				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
19/02/20 00:00-01:00	30	26	5	61	45	25	18	88	27	60	38	125	7	68	70	145	419
19/02/20 01:00-02:00	11	9	1	21	22	16	9	47	9	24	6	39	1	30	22	53	160
19/02/20 02:00-03:00	13	3	0	16	15	9	5	29	7	17	9	33	2	27	24	53	131
19/02/20 03:00-04:00	3	17	0	20	17	13	5	35	1	18	12	31	3	30	14	47	133
19/02/20 04:00-05:00	10	12	2	24	50	28	4	82	5	46	22	73	1	28	31	60	239
19/02/20 05:00-06:00	13	40	1	54	136	49	14	199	21	165	42	228	13	111	117	241	722
19/02/20 06:00-07:00	60	88	8	156	353	147	43	543	40	491	192	723	16	278	235	529	1951
19/02/20 07:00-08:00	134	220	53	407	535	386	94	1015	119	1115	450	1684	55	659	453	1167	4273
19/02/20 08:00-09:00	235	309	52	596	583	383	182	1148	149	1339	518	2006	87	867	539	1493	5243
19/02/20 09:00-10:00	195	310	41	546	457	358	139	954	196	955	375	1526	128	775	565	1468	4494
19/02/20 10:00-11:00	248	408	39	695	449	394	174	1017	275	669	319	1263	122	807	573	1502	4477
19/02/20 11:00-12:00	329	492	58	879	455	494	280	1229	350	762	359	1471	233	861	598	1692	5271
19/02/20 12:00-13:00	288	560	74	922	539	580	303	1422	418	915	389	1722	238	1002	609	1849	5915
19/02/20 13:00-14:00	308	540	71	919	552	580	327	1459	420	933	369	1722	230	915	573	1718	5818
19/02/20 14:00-15:00	316	510	68	894	539	632	308	1479	414	931	473	1818	217	1004	574	1795	5986
19/02/20 15:00-16:00	398	633	127	1158	494	562	284	1340	429	1115	460	2004	246	1141	704	2091	6593
19/02/20 16:00-	452	694	60	1206	546	574	282	1402	451	1064	496	2011	224	1202	749	2175	6794

Turning Movement Volume Report

Report Date: 5/19/2021 1:24:29 PM

From 2/19/2020 to 2/19/2020

Galleria & Roseville Pkwy

Intersection: 73

	N				S				E				W				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
19/02/20 17:00-18:00	541	793	56	1390	524	634	338	1496	416	1100	491	2007	205	1406	746	2357	7250
19/02/20 18:00-19:00	320	582	48	950	476	508	315	1299	434	878	350	1662	182	1211	641	2034	5945
19/02/20 19:00-20:00	200	339	38	577	358	346	263	967	323	569	248	1140	152	795	461	1408	4092
19/02/20 20:00-21:00	149	222	30	401	314	258	153	725	224	432	171	827	95	515	301	911	2864
19/02/20 21:00-22:00	107	138	14	259	265	235	170	670	155	324	182	661	51	446	253	750	2340
19/02/20 22:00-23:00	53	95	6	154	105	83	61	249	60	165	96	321	29	272	131	432	1156
19/02/20 23:00-00:00	47	59	12	118	62	47	30	139	32	87	55	174	17	123	96	236	667
Summary	4460	7099	864	12423	7891	7341	3801	19033	4975	14174	6122	25271	2554	14573	9079	26206	82933

Turning Movement Volume Report

Report Date: 4/25/2022 8:28:29 PM

From 2/20/2020 to 2/20/2020

Roseville Parkway & Gibson

Intersection: 86

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
20/02/20 00:00-01:00	4	99	23	126	3	45	0	48	0	0	1	1	19	0	4	23	198
20/02/20 01:00-02:00	5	45	9	59	1	14	0	15	1	0	1	2	8	0	4	12	88
20/02/20 02:00-03:00	1	32	14	47	2	18	0	20	0	0	1	1	9	0	1	10	78
20/02/20 03:00-04:00	0	20	5	25	0	21	0	21	0	0	0	0	3	0	1	4	50
20/02/20 04:00-05:00	0	34	11	45	3	57	0	60	0	0	3	3	12	0	1	13	121
20/02/20 05:00-06:00	1	89	25	115	31	181	0	212	1	0	5	6	30	0	4	34	367
20/02/20 06:00-07:00	0	276	62	338	19	589	0	608	0	0	10	10	110	1	15	126	1082
20/02/20 07:00-08:00	5	684	221	910	30	1690	0	1720	3	3	19	25	193	2	45	240	2895
20/02/20 08:00-09:00	17	871	315	1203	61	1831	0	1892	3	2	27	32	222	2	73	297	3424
20/02/20 09:00-10:00	15	749	174	938	69	1297	0	1366	2	1	20	23	163	1	39	203	2530
20/02/20 10:00-11:00	13	796	150	959	62	1170	0	1232	1	1	21	23	172	1	48	221	2435
20/02/20 11:00-12:00	19	1126	162	1307	72	1422	1	1495	2	2	16	20	188	1	48	237	3059
20/02/20 12:00-13:00	21	1336	210	1567	91	1386	0	1477	1	1	11	13	242	2	55	299	3356
20/02/20 13:00-14:00	54	1451	211	1716	59	1386	1	1446	1	0	13	14	178	1	60	239	3415
20/02/20 14:00-15:00	43	1588	175	1806	60	1427	0	1487	3	2	23	28	200	1	58	259	3580
20/02/20 15:00-16:00	41	1771	198	2010	67	1536	0	1603	1	1	21	23	185	1	57	243	3879
20/02/20 16:00-	29	1847	218	2094	115	1550	0	1665	1	1	16	18	290	2	60	352	4129

Turning Movement Volume Report

Report Date: 4/25/2022 8:28:29 PM

From 2/20/2020 to 2/20/2020

Roseville Parkway & Gibson

Intersection: 86

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
20/02/20 17:00-18:00	39	2015	278	2332	159	1514	0	1673	1	1	10	12	318	3	84	405	4422
20/02/20 18:00-19:00	33	1711	203	1947	110	1216	0	1326	2	2	16	20	223	2	100	325	3618
20/02/20 19:00-20:00	49	1281	182	1512	54	698	0	752	3	2	10	15	131	1	75	207	2486
20/02/20 20:00-21:00	46	995	129	1170	38	458	0	496	0	0	7	7	80	1	57	138	1811
20/02/20 21:00-22:00	27	780	95	902	37	302	0	339	1	1	2	4	62	0	36	98	1343
20/02/20 22:00-23:00	27	353	63	443	13	189	0	202	0	0	1	1	30	0	22	52	698
20/02/20 23:00-00:00	21	218	36	275	10	86	0	96	0	0	1	1	30	0	13	43	415
Summary	510	20167	3169	23846	1166	20083	2	21251	27	20	255	302	3098	22	960	4080	49479

Turning Movement Volume Report

Report Date: 4/25/2022 8:27:40 PM

From 2/18/2020 to 2/18/2020

Roseville Parkway & Gibson

Intersection: 86

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
18/02/20 00:00-01:00	6	88	14	108	2	32	0	34	0	0	0	0	13	0	1	14	156
18/02/20 01:00-02:00	7	32	9	48	1	15	0	16	0	0	0	0	8	0	4	12	76
18/02/20 02:00-03:00	0	29	10	39	0	15	0	15	0	0	0	0	6	0	1	7	61
18/02/20 03:00-04:00	0	20	6	26	0	20	0	20	0	0	0	0	4	0	3	7	53
18/02/20 04:00-05:00	0	40	7	47	3	62	0	65	0	0	2	2	18	0	3	21	135
18/02/20 05:00-06:00	2	102	26	130	33	197	0	230	0	0	2	2	35	0	3	38	400
18/02/20 06:00-07:00	0	263	52	315	16	615	0	631	1	0	8	9	114	1	12	127	1082
18/02/20 07:00-08:00	7	715	217	939	27	1690	0	1717	2	2	20	24	197	2	32	231	2911
18/02/20 08:00-09:00	8	855	289	1152	69	1817	0	1886	3	2	23	28	198	2	72	272	3338
18/02/20 09:00-10:00	13	729	178	920	64	1371	0	1435	1	0	26	27	171	1	44	216	2598
18/02/20 10:00-11:00	15	865	160	1040	68	1159	0	1227	1	0	14	15	160	1	59	220	2502
18/02/20 11:00-12:00	16	1155	147	1318	92	1234	0	1326	3	3	10	16	166	1	65	232	2892
18/02/20 12:00-13:00	25	1333	173	1531	74	1214	0	1288	1	0	12	13	224	2	59	285	3117
18/02/20 13:00-14:00	32	1358	225	1615	57	1270	0	1327	2	1	15	18	187	1	62	250	3210
18/02/20 14:00-15:00	19	1513	176	1708	73	1342	0	1415	3	2	10	15	194	1	54	249	3387
18/02/20 15:00-16:00	28	1582	199	1809	85	1523	0	1608	2	1	16	19	192	1	73	266	3702
18/02/20 16:00-	33	1778	223	2034	94	1496	0	1590	1	1	11	13	253	2	71	326	3963

Turning Movement Volume Report

Report Date: 4/25/2022 8:27:40 PM

From 2/18/2020 to 2/18/2020

Roseville Parkway & Gibson

Intersection: 86

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
18/02/20 17:00-18:00	36	1982	292	2310	133	1479	0	1612	1	1	16	18	307	3	102	412	4352
18/02/20 18:00-19:00	40	1708	221	1969	112	1210	0	1322	1	0	14	15	207	1	111	319	3625
18/02/20 19:00-20:00	39	1156	165	1360	75	685	0	760	2	1	9	12	114	1	84	199	2331
18/02/20 20:00-21:00	36	854	125	1015	27	379	0	406	2	1	3	6	91	1	51	143	1570
18/02/20 21:00-22:00	41	705	90	836	29	282	0	311	0	0	0	0	53	0	38	91	1238
18/02/20 22:00-23:00	19	311	64	394	10	194	0	204	1	1	4	6	43	0	20	63	667
18/02/20 23:00-00:00	6	185	26	217	4	87	0	91	0	0	1	1	25	0	13	38	347
Summary	428	19358	3094	22880	1148	19388	0	20536	27	16	216	259	2980	21	1037	4038	47713

Turning Movement Volume Report

Report Date: 4/25/2022 8:28:08 PM

From 2/19/2020 to 2/19/2020

Roseville Parkway & Gibson

Intersection: 86

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
19/02/20 00:00-01:00	13	84	21	118	0	34	0	34	0	0	0	0	9	0	7	16	168
19/02/20 01:00-02:00	5	40	8	53	2	24	0	26	0	0	0	0	8	0	1	9	88
19/02/20 02:00-03:00	0	38	7	45	1	17	0	18	0	0	0	0	10	0	0	10	73
19/02/20 03:00-04:00	0	17	8	25	0	20	0	20	0	0	1	1	6	0	1	7	53
19/02/20 04:00-05:00	0	32	11	43	5	66	0	71	0	0	1	1	11	0	0	11	126
19/02/20 05:00-06:00	4	92	30	126	44	190	0	234	0	0	3	3	31	0	1	32	395
19/02/20 06:00-07:00	2	273	62	337	32	628	0	660	0	0	8	8	110	1	22	133	1138
19/02/20 07:00-08:00	5	692	221	918	53	1737	0	1790	2	1	21	24	198	2	42	242	2974
19/02/20 08:00-09:00	11	891	282	1184	72	1829	0	1901	3	2	25	30	210	2	74	286	3401
19/02/20 09:00-10:00	11	775	186	972	84	1407	0	1491	1	0	19	20	158	1	34	193	2676
19/02/20 10:00-11:00	9	893	163	1065	57	1134	0	1191	1	0	12	13	184	1	58	243	2512
19/02/20 11:00-12:00	11	1100	199	1310	94	1239	0	1333	2	1	18	21	208	1	69	278	2942
19/02/20 12:00-13:00	30	1296	195	1521	95	1296	0	1391	1	1	14	16	260	2	67	329	3257
19/02/20 13:00-14:00	48	1323	218	1589	71	1206	0	1277	2	2	17	21	206	1	56	263	3150
19/02/20 14:00-15:00	36	1456	169	1661	58	1290	1	1349	1	1	15	17	195	2	52	249	3276
19/02/20 15:00-16:00	33	1687	223	1943	82	1586	0	1668	2	1	23	26	207	2	56	265	3902
19/02/20 16:00-	32	1722	231	1985	110	1548	0	1658	1	1	11	13	298	2	80	380	4036

Turning Movement Volume Report

Report Date: 4/25/2022 8:28:08 PM

From 2/19/2020 to 2/19/2020

Roseville Parkway & Gibson

Intersection: 86

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
19/02/20 17:00-18:00	33	2139	274	2446	137	1471	0	1608	2	1	15	18	324	3	74	401	4473
19/02/20 18:00-19:00	40	1628	216	1884	103	1166	1	1270	2	1	10	13	206	2	95	303	3470
19/02/20 19:00-20:00	39	1220	183	1442	73	705	0	778	1	0	15	16	125	1	66	192	2428
19/02/20 20:00-21:00	49	888	127	1064	27	434	0	461	1	0	6	7	78	1	64	143	1675
19/02/20 21:00-22:00	44	785	102	931	25	278	0	303	1	0	7	8	69	0	27	96	1338
19/02/20 22:00-23:00	31	331	68	430	11	176	0	187	1	0	3	4	32	0	19	51	672
19/02/20 23:00-00:00	17	175	41	233	10	84	0	94	0	0	2	2	30	0	21	51	380
Summary	503	19577	3245	23325	1246	19565	2	20813	24	12	246	282	3173	24	986	4183	48603

Turning Movement Volume Report

Report Date: 4/25/2022 8:31:17 PM

From 2/20/2020 to 2/20/2020

Pleasant Grove &
Roseville Pkwy

Intersection: 85

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
20/02/20 00:00-01:00	69	31	35	135	11	16	1	28	2	45	17	64	36	78	9	123	350
20/02/20 01:00-02:00	41	18	20	79	2	6	4	12	2	29	7	38	15	43	2	60	189
20/02/20 02:00-03:00	28	11	8	47	3	5	0	8	2	21	12	35	9	23	2	34	124
20/02/20 03:00-04:00	17	10	13	40	5	5	0	10	2	46	19	67	2	27	3	32	149
20/02/20 04:00-05:00	23	16	23	62	7	10	0	17	1	71	39	111	13	26	3	42	232
20/02/20 05:00-06:00	61	43	59	163	25	61	0	86	1	166	110	277	50	70	3	123	649
20/02/20 06:00-07:00	190	110	119	419	59	133	2	194	7	375	337	719	133	237	22	392	1724
20/02/20 07:00-08:00	416	247	298	961	98	501	8	607	18	771	756	1545	508	484	46	1038	4151
20/02/20 08:00-09:00	530	294	395	1219	148	578	19	745	30	894	877	1801	556	556	99	1211	4976
20/02/20 09:00-10:00	448	263	365	1076	152	329	12	493	45	1039	719	1803	373	557	86	1016	4388
20/02/20 10:00-11:00	511	255	391	1157	122	233	19	374	26	920	665	1611	391	728	71	1190	4332
20/02/20 11:00-12:00	623	323	583	1529	193	305	25	523	31	1014	741	1786	545	948	112	1605	5443
20/02/20 12:00-13:00	766	392	635	1793	203	285	25	513	41	1050	677	1768	658	1074	173	1905	5979
20/02/20 13:00-14:00	845	423	633	1901	208	314	25	547	24	993	644	1661	667	1091	156	1914	6023
20/02/20 14:00-15:00	884	418	659	1961	171	359	21	551	34	836	658	1528	611	1131	146	1888	5928
20/02/20 15:00-16:00	1000	557	673	2230	218	431	24	673	65	1013	736	1814	545	1133	165	1843	6560
20/02/20 16:00-	1054	559	696	2309	174	463	24	661	41	1041	757	1839	629	1188	154	1971	6780

Turning Movement Volume Report

Report Date: 4/25/2022 8:31:17 PM

From 2/20/2020 to 2/20/2020

Pleasant Grove &
Roseville Pkwy

Intersection: 85

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
20/02/20 17:00-18:00	1051	636	814	2501	179	463	17	659	47	1001	780	1828	609	1250	142	2001	6989
20/02/20 18:00-19:00	985	501	703	2189	223	277	38	538	24	991	693	1708	543	1212	155	1910	6345
20/02/20 19:00-20:00	812	424	495	1731	101	155	18	274	23	682	385	1090	385	901	133	1419	4514
20/02/20 20:00-21:00	697	316	372	1385	82	107	5	194	10	453	257	720	247	679	77	1003	3302
20/02/20 21:00-22:00	576	257	280	1113	58	76	8	142	13	290	164	467	191	459	72	722	2444
20/02/20 22:00-23:00	275	123	132	530	24	46	9	79	6	181	116	303	109	321	35	465	1377
20/02/20 23:00-00:00	185	77	77	339	17	34	1	52	1	83	42	126	66	154	18	238	755
Summary	12087	6304	8478	26869	2483	5192	305	7980	496	14005	10208	24709	7891	14370	1884	24145	83703

Turning Movement Volume Report

Report Date: 4/25/2022 8:30:31 PM

From 2/18/2020 to 2/18/2020

Pleasant Grove &
Roseville Pkwy

Intersection: 85

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
18/02/20 00:00-01:00	72	29	27	128	4	8	0	12	2	40	15	57	27	65	12	104	301
18/02/20 01:00-02:00	33	14	14	61	6	5	0	11	2	16	7	25	7	30	5	42	139
18/02/20 02:00-03:00	17	15	3	35	4	1	0	5	1	23	9	33	4	23	0	27	100
18/02/20 03:00-04:00	13	9	13	35	2	6	0	8	0	34	19	53	6	17	4	27	123
18/02/20 04:00-05:00	24	16	28	68	11	7	0	18	1	64	47	112	12	23	3	38	236
18/02/20 05:00-06:00	66	51	49	166	29	47	0	76	3	149	142	294	45	63	9	117	653
18/02/20 06:00-07:00	212	116	116	444	59	134	6	199	7	344	372	723	144	225	26	395	1761
18/02/20 07:00-08:00	449	243	307	999	94	531	8	633	22	773	757	1552	471	469	41	981	4165
18/02/20 08:00-09:00	540	291	353	1184	144	545	22	711	42	895	893	1830	560	557	89	1206	4931
18/02/20 09:00-10:00	462	258	331	1051	148	369	17	534	39	1017	756	1812	368	575	78	1021	4418
18/02/20 10:00-11:00	552	254	426	1232	174	271	12	457	29	903	630	1562	406	688	88	1182	4433
18/02/20 11:00-12:00	677	341	557	1575	167	295	12	474	29	986	666	1681	449	935	125	1509	5239
18/02/20 12:00-13:00	775	390	681	1846	230	285	34	549	36	958	644	1638	508	1003	154	1665	5698
18/02/20 13:00-14:00	763	387	584	1734	168	318	24	510	21	910	649	1580	560	1072	163	1795	5619
18/02/20 14:00-15:00	786	417	594	1797	178	322	32	532	33	821	668	1522	544	1041	152	1737	5588
18/02/20 15:00-16:00	948	483	670	2101	201	440	23	664	50	940	753	1743	564	1077	190	1831	6339
18/02/20 16:00-	1016	530	716	2262	186	438	29	653	35	1089	728	1852	575	1186	173	1934	6701

Turning Movement Volume Report

Report Date: 4/25/2022 8:30:31 PM

From 2/18/2020 to 2/18/2020

Pleasant Grove &
Roseville Pkwy

Intersection: 85

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
18/02/20 17:00-18:00	1110	628	764	2502	181	458	24	663	42	978	696	1716	621	1183	163	1967	6848
18/02/20 18:00-19:00	940	515	667	2122	183	315	34	532	31	938	624	1593	577	1157	170	1904	6151
18/02/20 19:00-20:00	753	373	481	1607	94	162	11	267	24	603	395	1022	319	908	102	1329	4225
18/02/20 20:00-21:00	602	285	330	1217	88	106	13	207	16	404	196	616	234	665	72	971	3011
18/02/20 21:00-22:00	509	241	235	985	49	81	4	134	21	234	154	409	169	428	71	668	2196
18/02/20 22:00-23:00	245	106	98	449	18	51	3	72	3	158	97	258	117	260	31	408	1187
18/02/20 23:00-00:00	151	71	68	290	12	21	4	37	4	88	42	134	49	165	9	223	684
Summary	11715	6063	8112	25890	2430	5216	312	7958	493	13365	9959	23817	7336	13815	1930	23081	80746

Turning Movement Volume Report

Report Date: 4/25/2022 8:30:58 PM

From 2/19/2020 to 2/19/2020

Pleasant Grove &
Roseville Pkwy

Intersection: 85

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
19/02/20 00:00-01:00	77	24	29	130	5	8	0	13	2	40	10	52	30	58	13	101	296
19/02/20 01:00-02:00	31	16	14	61	5	10	0	15	0	23	11	34	13	28	1	42	152
19/02/20 02:00-03:00	41	14	7	62	6	1	0	7	4	20	10	34	6	24	4	34	137
19/02/20 03:00-04:00	13	7	14	34	2	7	2	11	0	39	15	54	5	27	3	35	134
19/02/20 04:00-05:00	17	12	20	49	9	11	1	21	2	68	47	117	14	22	3	39	226
19/02/20 05:00-06:00	55	50	53	158	37	47	0	84	3	168	138	309	60	65	10	135	686
19/02/20 06:00-07:00	188	122	138	448	62	129	4	195	6	362	369	737	172	221	23	416	1796
19/02/20 07:00-08:00	450	240	300	990	95	558	7	660	16	725	797	1538	498	510	57	1065	4253
19/02/20 08:00-09:00	527	305	407	1239	179	532	26	737	28	862	878	1768	553	559	98	1210	4954
19/02/20 09:00-10:00	496	269	373	1138	149	393	11	553	35	1054	763	1852	396	604	92	1092	4635
19/02/20 10:00-11:00	578	274	421	1273	139	279	19	437	31	927	636	1594	379	738	79	1196	4500
19/02/20 11:00-12:00	645	326	549	1520	187	312	19	518	28	1011	639	1678	467	919	132	1518	5234
19/02/20 12:00-13:00	742	392	605	1739	202	285	18	505	26	1096	704	1826	561	1003	153	1717	5787
19/02/20 13:00-14:00	798	373	588	1759	193	301	21	515	29	895	629	1553	535	1075	161	1771	5598
19/02/20 14:00-15:00	821	414	617	1852	176	335	29	540	28	833	621	1482	522	1092	128	1742	5616
19/02/20 15:00-16:00	974	502	613	2089	186	469	32	687	52	1000	759	1811	576	1072	149	1797	6384
19/02/20 16:00-	1019	551	675	2245	182	482	20	684	34	1003	719	1756	610	1180	166	1956	6641

Turning Movement Volume Report

Report Date: 4/25/2022 8:30:58 PM

From 2/19/2020 to 2/19/2020

Pleasant Grove &
Roseville Pkwy

Intersection: 85

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
19/02/20 17:00-18:00	1087	642	873	2602	181	456	20	657	35	1057	704	1796	632	1260	171	2063	7118
19/02/20 18:00-19:00	941	522	675	2138	161	295	25	481	31	955	672	1658	482	1195	140	1817	6094
19/02/20 19:00-20:00	793	388	457	1638	118	170	9	297	26	645	418	1089	314	903	127	1344	4368
19/02/20 20:00-21:00	590	301	328	1219	98	95	5	198	15	440	245	700	226	665	97	988	3105
19/02/20 21:00-22:00	568	251	255	1074	45	74	8	127	10	292	154	456	169	543	56	768	2425
19/02/20 22:00-23:00	271	108	101	480	22	46	2	70	5	152	99	256	99	250	28	377	1183
19/02/20 23:00-00:00	162	70	65	297	10	26	2	38	3	85	44	132	55	154	14	223	690
Summary	11884	6173	8177	26234	2449	5321	280	8050	449	13752	10081	24282	7374	14167	1905	23446	82012

Turning Movement Volume Report

Report Date: 5/19/2021 1:25:08 PM

From 2/20/2020 to 2/20/2020

Roseville Pkwy & Reserve

Intersection: 89

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
20/02/20 00:00-01:00	14	90	0	104	0	66	5	71	19	2	48	69	3	0	0	3	247
20/02/20 01:00-02:00	1	52	1	54	0	29	2	31	4	1	4	9	0	0	1	1	95
20/02/20 02:00-03:00	2	39	0	41	1	32	2	35	5	0	7	12	1	0	0	1	89
20/02/20 03:00-04:00	2	28	0	30	3	20	1	24	1	0	2	3	0	0	0	0	57
20/02/20 04:00-05:00	4	42	3	49	1	68	1	70	3	0	3	6	0	0	1	1	126
20/02/20 05:00-06:00	7	114	11	132	1	204	6	211	15	1	12	28	2	0	1	3	374
20/02/20 06:00-07:00	15	330	16	361	5	667	32	704	24	4	37	65	8	1	3	12	1142
20/02/20 07:00-08:00	53	824	21	898	4	1585	297	1886	110	10	76	196	11	2	8	21	3001
20/02/20 08:00-09:00	97	1140	42	1279	16	1895	133	2044	102	10	121	233	13	3	11	27	3583
20/02/20 09:00-10:00	92	902	73	1067	24	1283	123	1430	79	10	100	189	22	5	6	33	2719
20/02/20 10:00-11:00	141	892	185	1218	41	1119	129	1289	130	13	129	272	56	8	24	88	2867
20/02/20 11:00-12:00	176	1068	221	1465	45	1238	229	1512	202	20	162	384	125	18	62	205	3566
20/02/20 12:00-13:00	196	1233	204	1633	46	1283	236	1565	289	27	211	527	173	22	67	262	3987
20/02/20 13:00-14:00	190	1212	231	1633	45	1319	203	1567	321	29	310	660	193	24	80	297	4157
20/02/20 14:00-15:00	179	1335	193	1707	48	1371	234	1653	299	26	247	572	203	26	77	306	4238
20/02/20 15:00-16:00	200	1514	149	1863	32	1409	244	1685	348	30	245	623	183	22	79	284	4455
20/02/20 16:00-	182	1702	156	2040	50	1577	235	1862	278	27	245	550	150	23	68	241	4693

Turning Movement Volume Report

Report Date: 5/19/2021 1:25:08 PM

From 2/20/2020 to 2/20/2020

Roseville Pkwy & Reserve

Intersection: 89

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
20/02/20 17:00-18:00	219	1822	170	2211	51	1474	262	1787	361	32	267	660	157	23	79	259	4917
20/02/20 18:00-19:00	176	1485	178	1839	39	1208	221	1468	304	27	246	577	166	24	85	275	4159
20/02/20 19:00-20:00	168	1033	120	1321	15	728	133	876	255	22	199	476	112	16	56	184	2857
20/02/20 20:00-21:00	101	739	62	902	11	490	121	622	209	17	189	415	120	15	54	189	2128
20/02/20 21:00-22:00	69	531	21	621	9	408	52	469	120	10	112	242	86	11	55	152	1484
20/02/20 22:00-23:00	48	331	6	385	3	243	31	277	47	4	68	119	19	3	13	35	816
20/02/20 23:00-00:00	18	203	1	222	1	116	19	136	31	1	57	89	3	0	5	8	455
Summary	2350	18661	2064	23075	491	19832	2951	23274	3556	323	3097	6976	1806	246	835	2887	56212

Turning Movement Volume Report

Report Date: 5/19/2021 1:25:49 PM

From 2/18/2020 to 2/18/2020

Roseville Pkwy &
Reserve

Intersection: 89

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
18/02/20 00:00-01:00	4	78	0	82	0	55	3	58	17	1	20	38	1	0	3	4	182
18/02/20 01:00-02:00	4	31	0	35	0	25	4	29	3	0	4	7	3	0	2	5	76
18/02/20 02:00-03:00	3	41	0	44	0	19	0	19	3	0	9	12	0	0	0	0	75
18/02/20 03:00-04:00	3	26	0	29	2	21	0	23	1	0	3	4	0	0	0	0	56
18/02/20 04:00-05:00	4	42	2	48	2	83	0	85	4	1	6	11	1	0	0	1	145
18/02/20 05:00-06:00	7	130	8	145	1	218	8	227	9	1	11	21	1	0	0	1	394
18/02/20 06:00-07:00	25	299	15	339	6	683	38	727	36	4	42	82	9	2	1	12	1160
18/02/20 07:00-08:00	54	858	30	942	13	1597	279	1889	121	12	70	203	10	2	11	23	3057
18/02/20 08:00-09:00	97	1099	40	1236	14	1895	132	2041	103	11	103	217	15	3	4	22	3516
18/02/20 09:00-10:00	108	855	79	1042	21	1372	145	1538	126	12	107	245	20	3	7	30	2855
18/02/20 10:00-11:00	120	946	159	1225	35	1104	131	1270	152	14	133	299	57	8	23	88	2882
18/02/20 11:00-12:00	192	1093	197	1482	46	1095	165	1306	199	20	194	413	110	15	42	167	3368
18/02/20 12:00-13:00	178	1180	222	1580	44	1196	192	1432	307	29	247	583	150	20	54	224	3819
18/02/20 13:00-14:00	208	1208	200	1616	40	1200	221	1461	303	26	268	597	202	25	67	294	3968
18/02/20 14:00-15:00	186	1192	161	1539	28	1296	229	1553	366	33	270	669	178	23	72	273	4034
18/02/20 15:00-16:00	163	1470	174	1807	44	1498	192	1734	267	23	232	522	172	23	58	253	4316
18/02/20 16:00-	153	1665	152	1970	28	1479	202	1709	277	23	219	519	166	22	75	263	4461

Turning Movement Volume Report

Report Date: 5/19/2021 1:25:49 PM

From 2/18/2020 to 2/18/2020

Roseville Pkwy & Reserve

Intersection: 89

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
18/02/20 17:00-18:00	187	1843	150	2180	46	1489	270	1805	314	28	218	560	167	25	77	269	4814
18/02/20 18:00-19:00	167	1521	153	1841	42	1194	208	1444	314	28	211	553	130	20	53	203	4041
18/02/20 19:00-20:00	133	915	117	1165	30	700	131	861	228	21	209	458	125	16	59	200	2684
18/02/20 20:00-21:00	90	682	41	813	12	468	68	548	166	14	169	349	85	13	50	148	1858
18/02/20 21:00-22:00	71	530	20	621	10	364	63	437	114	11	102	227	72	10	45	127	1412
18/02/20 22:00-23:00	38	268	4	310	2	253	31	286	45	5	53	103	33	6	10	49	748
18/02/20 23:00-00:00	17	181	1	199	2	113	13	128	26	2	39	67	2	1	1	4	398
Summary	2212	18153	1925	22290	468	19417	2725	22610	3501	319	2939	6759	1709	237	714	2660	54319

Turning Movement Volume Report

Report Date: 5/19/2021 1:25:28 PM

From 2/19/2020 to 2/19/2020

Roseville Pkwy & Reserve

Intersection: 89

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
19/02/20 00:00-01:00	11	82	0	93	0	53	6	59	18	1	33	52	4	1	3	8	212
19/02/20 01:00-02:00	6	42	0	48	0	30	2	32	6	0	8	14	1	0	1	2	96
19/02/20 02:00-03:00	1	40	1	42	0	27	1	28	1	0	1	2	3	0	0	3	75
19/02/20 03:00-04:00	3	31	1	35	1	29	1	31	1	0	4	5	0	0	0	0	71
19/02/20 04:00-05:00	3	34	3	40	4	69	1	74	4	0	4	8	0	0	2	2	124
19/02/20 05:00-06:00	9	123	8	140	2	217	9	228	12	2	17	31	2	1	0	3	402
19/02/20 06:00-07:00	26	327	19	372	6	684	37	727	26	3	27	56	7	2	0	9	1164
19/02/20 07:00-08:00	47	812	30	889	12	1617	284	1913	132	12	68	212	12	2	6	20	3034
19/02/20 08:00-09:00	104	1139	38	1281	19	1862	153	2034	112	10	123	245	18	3	4	25	3585
19/02/20 09:00-10:00	109	922	75	1106	27	1410	131	1568	105	11	95	211	28	5	14	47	2932
19/02/20 10:00-11:00	117	943	163	1223	41	1078	120	1239	143	15	109	267	55	8	25	88	2817
19/02/20 11:00-12:00	175	1100	190	1465	54	1138	196	1388	191	18	159	368	131	18	49	198	3419
19/02/20 12:00-13:00	207	1190	202	1599	42	1281	235	1558	254	24	235	513	156	23	54	233	3903
19/02/20 13:00-14:00	176	1157	202	1535	38	1199	191	1428	284	26	294	604	159	23	69	251	3818
19/02/20 14:00-15:00	192	1208	184	1584	28	1285	221	1534	298	26	298	622	197	24	71	292	4032
19/02/20 15:00-16:00	201	1505	153	1859	42	1514	236	1792	338	30	257	625	164	21	61	246	4522
19/02/20 16:00-	183	1616	141	1940	34	1570	239	1843	291	27	248	566	147	21	81	249	4598

Turning Movement Volume Report

Report Date: 5/19/2021 1:25:28 PM

From 2/19/2020 to 2/19/2020

Roseville Pkwy &
Reserve

Intersection: 89

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
19/02/20 17:00-18:00	191	1915	156	2262	44	1534	252	1830	375	34	260	669	153	22	65	240	5001
19/02/20 18:00-19:00	203	1475	165	1843	37	1187	194	1418	308	26	256	590	128	18	63	209	4060
19/02/20 19:00-20:00	157	1012	98	1267	28	718	123	869	234	21	216	471	108	16	57	181	2788
19/02/20 20:00-21:00	95	658	53	806	19	510	79	608	196	17	163	376	110	15	47	172	1962
19/02/20 21:00-22:00	70	627	18	715	11	409	63	483	114	10	132	256	98	15	56	169	1623
19/02/20 22:00-23:00	45	338	4	387	1	224	31	256	40	3	59	102	18	3	10	31	776
19/02/20 23:00-00:00	15	180	1	196	2	122	11	135	26	2	44	72	6	1	1	8	411
Summary	2346	18476	1905	22727	492	19767	2816	23075	3509	318	3110	6937	1705	242	739	2686	55425

Turning Movement Volume Report

Report Date: 4/25/2022 8:29:44 PM

From 2/20/2020 to 2/20/2020

Roseville Parkway &
West Mall (332)

Intersection: 109

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
20/02/20 00:00-01:00	5	108	1	114	3	63	4	70	5	0	2	7	8	0	3	11	202
20/02/20 01:00-02:00	6	51	1	58	0	26	0	26	5	0	3	8	1	0	1	2	94
20/02/20 02:00-03:00	0	44	2	46	1	28	0	29	2	0	2	4	6	0	3	9	88
20/02/20 03:00-04:00	0	27	3	30	2	21	1	24	1	0	1	2	2	0	0	2	58
20/02/20 04:00-05:00	0	44	1	45	2	69	0	71	2	0	2	4	0	0	1	1	121
20/02/20 05:00-06:00	1	118	7	126	13	201	0	214	10	1	10	21	1	0	2	3	364
20/02/20 06:00-07:00	3	350	30	383	23	685	5	713	22	1	18	41	7	0	10	17	1154
20/02/20 07:00-08:00	7	914	37	958	29	1880	1	1910	22	1	21	44	6	0	9	15	2927
20/02/20 08:00-09:00	9	1197	56	1262	66	2007	7	2080	41	2	29	72	16	0	23	39	3453
20/02/20 09:00-10:00	15	906	95	1016	114	1375	9	1498	22	1	27	50	35	0	45	80	2644
20/02/20 10:00-11:00	13	937	96	1046	150	1213	11	1374	18	1	20	39	69	1	60	130	2589
20/02/20 11:00-12:00	15	1215	98	1328	205	1407	16	1628	30	2	28	60	77	1	126	204	3220
20/02/20 12:00-13:00	29	1472	93	1594	198	1443	10	1651	18	1	18	37	102	1	146	249	3531
20/02/20 13:00-14:00	18	1495	95	1608	179	1445	10	1634	25	1	24	50	120	2	178	300	3592
20/02/20 14:00-15:00	22	1604	109	1735	168	1489	14	1671	25	1	17	43	151	2	220	373	3822
20/02/20 15:00-16:00	25	1841	84	1950	167	1579	12	1758	13	1	18	32	139	2	194	335	4075
20/02/20 16:00-	26	1947	100	2073	180	1678	10	1868	15	1	12	28	137	2	200	339	4308

Turning Movement Volume Report

Report Date: 4/25/2022 8:29:44 PM

From 2/20/2020 to 2/20/2020

Roseville Parkway &
West Mall (332)

Intersection: 109

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
20/02/20 17:00-18:00	35	2164	97	2296	185	1646	14	1845	18	1	15	34	155	2	214	371	4546
20/02/20 18:00-19:00	33	1789	89	1911	153	1329	14	1496	27	1	17	45	117	2	175	294	3746
20/02/20 19:00-20:00	26	1299	48	1373	96	760	17	873	17	1	10	28	94	1	173	268	2542
20/02/20 20:00-21:00	25	976	22	1023	48	522	14	584	15	1	13	29	93	2	160	255	1891
20/02/20 21:00-22:00	15	712	15	742	24	347	10	381	13	1	9	23	114	2	179	295	1441
20/02/20 22:00-23:00	19	382	6	407	9	229	4	242	6	0	7	13	37	1	34	72	734
20/02/20 23:00-00:00	10	241	0	251	1	129	4	134	4	0	0	4	11	0	9	20	409
Summary	357	21833	1185	23375	2016	21571	187	23774	376	19	323	718	1498	21	2165	3684	51551

Turning Movement Volume Report

Report Date: 4/25/2022 8:28:59 PM

From 2/18/2020 to 2/18/2020

Roseville Parkway &
West Mall (332)

Intersection: 109

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
18/02/20 00:00-01:00	3	103	0	106	2	49	2	53	2	0	1	3	9	0	4	13	175
18/02/20 01:00-02:00	0	36	1	37	0	28	1	29	0	0	0	0	1	0	3	4	70
18/02/20 02:00-03:00	2	40	2	44	0	18	2	20	0	0	0	0	0	0	1	1	65
18/02/20 03:00-04:00	0	28	1	29	3	18	2	23	0	0	1	1	3	0	0	3	56
18/02/20 04:00-05:00	0	48	1	49	3	77	0	80	6	0	7	13	1	0	0	1	143
18/02/20 05:00-06:00	0	130	14	144	10	224	1	235	8	0	4	12	5	0	2	7	398
18/02/20 06:00-07:00	1	320	29	350	23	713	3	739	21	1	13	35	2	0	8	10	1134
18/02/20 07:00-08:00	3	954	43	1000	23	1891	1	1915	22	1	25	48	8	0	9	17	2980
18/02/20 08:00-09:00	16	1165	61	1242	48	1988	6	2042	44	2	38	84	12	0	19	31	3399
18/02/20 09:00-10:00	17	883	104	1004	104	1449	12	1565	25	1	31	57	48	1	37	86	2712
18/02/20 10:00-11:00	20	1022	86	1128	133	1204	10	1347	25	1	19	45	48	1	61	110	2630
18/02/20 11:00-12:00	14	1226	99	1339	167	1248	10	1425	17	1	12	30	80	1	123	204	2998
18/02/20 12:00-13:00	20	1412	100	1532	160	1298	11	1469	23	1	17	41	96	1	141	238	3280
18/02/20 13:00-14:00	29	1433	115	1577	166	1323	19	1508	28	1	23	52	121	2	165	288	3425
18/02/20 14:00-15:00	19	1540	86	1645	143	1401	9	1553	24	1	23	48	144	2	185	331	3577
18/02/20 15:00-16:00	24	1676	114	1814	165	1563	17	1745	20	1	14	35	154	2	175	331	3925
18/02/20 16:00-	34	1857	109	2000	176	1572	18	1766	22	1	17	40	143	2	199	344	4150

Turning Movement Volume Report

Report Date: 4/25/2022 8:28:59 PM

From 2/18/2020 to 2/18/2020

Roseville Parkway &
West Mall (332)

Intersection: 109

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
18/02/20 17:00-18:00	39	2140	96	2275	161	1645	21	1827	22	1	9	32	151	2	192	345	4479
18/02/20 18:00-19:00	30	1822	80	1932	131	1296	24	1451	24	1	17	42	122	2	178	302	3727
18/02/20 19:00-20:00	37	1185	45	1267	84	740	9	833	12	1	11	24	106	1	161	268	2392
18/02/20 20:00-21:00	23	875	29	927	32	460	10	502	15	1	12	28	83	1	115	199	1656
18/02/20 21:00-22:00	23	694	21	738	22	323	13	358	7	0	9	16	111	2	127	240	1352
18/02/20 22:00-23:00	5	329	5	339	14	234	10	258	12	1	6	19	43	1	45	89	705
18/02/20 23:00-00:00	10	199	2	211	4	109	7	120	5	0	3	8	17	0	10	27	366
Summary	369	21117	1243	22729	1774	20871	218	22863	384	17	312	713	1508	21	1960	3489	49794

Turning Movement Volume Report

Report Date: 4/25/2022 8:29:21 PM

From 2/19/2020 to 2/19/2020

Roseville Parkway &
West Mall (332)

Intersection: 109

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
19/02/20 00:00-01:00	1	106	2	109	1	51	5	57	4	0	3	7	6	0	3	9	182
19/02/20 01:00-02:00	2	50	0	52	0	31	4	35	2	0	0	2	1	0	3	4	93
19/02/20 02:00-03:00	2	41	1	44	0	26	1	27	0	0	1	1	1	0	4	5	77
19/02/20 03:00-04:00	2	26	3	31	1	25	1	27	1	0	2	3	3	0	1	4	65
19/02/20 04:00-05:00	0	43	1	44	6	71	0	77	3	0	3	6	1	0	0	1	128
19/02/20 05:00-06:00	0	125	12	137	7	220	1	228	9	0	8	17	5	0	4	9	391
19/02/20 06:00-07:00	2	340	26	368	25	719	1	745	19	1	13	33	2	0	7	9	1155
19/02/20 07:00-08:00	4	924	41	969	43	1925	4	1972	24	1	19	44	10	0	12	22	3007
19/02/20 08:00-09:00	11	1221	57	1289	60	1995	7	2062	39	2	35	76	17	0	29	46	3473
19/02/20 09:00-10:00	7	957	89	1053	99	1486	11	1596	20	1	26	47	39	1	27	67	2763
19/02/20 10:00-11:00	11	1020	75	1106	148	1185	12	1345	20	1	16	37	47	1	77	125	2613
19/02/20 11:00-12:00	17	1242	99	1358	181	1283	14	1478	26	1	22	49	91	1	105	197	3082
19/02/20 12:00-13:00	28	1406	87	1521	149	1428	13	1590	26	1	24	51	109	2	143	254	3416
19/02/20 13:00-14:00	17	1395	105	1517	149	1305	11	1465	24	1	21	46	109	1	171	281	3309
19/02/20 14:00-15:00	26	1483	79	1588	126	1393	9	1528	18	1	20	39	122	2	177	301	3456
19/02/20 15:00-16:00	28	1811	95	1934	155	1647	20	1822	17	1	15	33	154	3	186	343	4132
19/02/20 16:00-	32	1867	90	1989	167	1674	17	1858	27	1	22	50	150	2	167	319	4216

Turning Movement Volume Report

Report Date: 4/25/2022 8:29:21 PM

From 2/19/2020 to 2/19/2020

Roseville Parkway &
West Mall (332)

Intersection: 109

	NW				SE				NE				SW				
Time	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Int Total
17:00																	
19/02/20 17:00-18:00	35	2269	97	2401	144	1671	24	1839	26	1	20	47	138	2	213	353	4640
19/02/20 18:00-19:00	28	1750	74	1852	121	1276	20	1417	18	1	14	33	124	2	168	294	3596
19/02/20 19:00-20:00	29	1275	63	1367	97	759	14	870	19	1	13	33	102	2	150	254	2524
19/02/20 20:00-21:00	21	910	24	955	46	496	16	558	14	1	12	27	102	1	120	223	1763
19/02/20 21:00-22:00	26	787	19	832	20	351	10	381	19	1	9	29	129	2	151	282	1524
19/02/20 22:00-23:00	11	383	10	404	8	217	10	235	6	0	7	13	34	1	28	63	715
19/02/20 23:00-00:00	9	206	3	218	0	125	5	130	7	0	4	11	4	0	6	10	369
Summary	349	21637	1152	23138	1753	21359	230	23342	388	17	329	734	1500	23	1952	3475	50689

Appendix B

Analysis Worksheets for
Existing (2020) and Existing (2020) plus Project Conditions

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	7:50	7:50	7:50	7:50	7:50	7:50	7:50
End Time	9:00	9:00	9:00	9:00	9:00	9:00	9:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	9165	9150	9055	9095	9168	9112	9267
Vehs Exited	9173	9210	9001	9044	9175	9042	9248
Starting Vehs	354	441	354	379	361	373	356
Ending Vehs	346	381	408	430	354	443	375
Travel Distance (mi)	8209	8212	8073	8115	8250	8145	8202
Travel Time (hr)	388.6	392.2	383.6	383.7	402.7	392.8	421.7
Total Delay (hr)	182.9	186.7	181.4	180.9	195.2	189.0	215.8
Total Stops	11108	11378	11020	11144	11752	11515	12334
Fuel Used (gal)	353.2	353.4	346.1	348.3	358.7	350.4	362.5

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	7:50	7:50	7:50	7:50
End Time	9:00	9:00	9:00	9:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	9244	9253	9248	9171
Vehs Exited	9192	9261	9212	9159
Starting Vehs	332	418	380	369
Ending Vehs	384	410	416	392
Travel Distance (mi)	8291	8253	8177	8193
Travel Time (hr)	389.1	404.1	390.7	394.9
Total Delay (hr)	181.4	196.8	185.3	189.6
Total Stops	11322	11669	11413	11463
Fuel Used (gal)	355.1	358.1	351.9	353.8

Interval #0 Information Seeding

Start Time	7:50
End Time	8:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2256	2272	2264	2324	2298	2260	2302
Vehs Exited	2251	2316	2253	2318	2232	2230	2186
Starting Vehs	354	441	354	379	361	373	356
Ending Vehs	359	397	365	385	427	403	472
Travel Distance (mi)	2005	2098	2051	2068	2041	2028	2023
Travel Time (hr)	93.6	104.6	96.1	97.8	103.9	97.0	106.3
Total Delay (hr)	43.1	52.3	44.8	46.3	52.8	46.3	55.8
Total Stops	2567	2990	2644	2838	2897	2874	3020
Fuel Used (gal)	85.4	92.1	87.0	88.4	89.6	86.9	90.1

Interval #1 Information

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2350	2291	2360	2295
Vehs Exited	2293	2323	2333	2272
Starting Vehs	332	418	380	369
Ending Vehs	389	386	407	393
Travel Distance (mi)	2098	2085	2100	2060
Travel Time (hr)	94.5	100.5	102.1	99.6
Total Delay (hr)	42.1	48.2	49.3	48.1
Total Stops	2751	2837	2979	2838
Fuel Used (gal)	88.1	89.2	91.1	88.8

Interval #2 Information

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2297	2268	2243	2246	2265	2210	2302
Vehs Exited	2279	2285	2224	2311	2284	2309	2365
Starting Vehs	359	397	365	385	427	403	472
Ending Vehs	377	380	384	320	408	304	409
Travel Distance (mi)	2042	2028	2020	2047	1987	2016	2038
Travel Time (hr)	96.9	92.9	97.2	91.8	100.8	96.0	107.8
Total Delay (hr)	45.9	42.3	46.5	40.3	50.6	45.4	56.7
Total Stops	2828	2747	2824	2631	2996	2803	3222
Fuel Used (gal)	88.0	86.4	87.3	86.1	87.2	86.3	91.3

Interval #2 Information

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2344	2322	2264	2274
Vehs Exited	2360	2311	2286	2303
Starting Vehs	389	386	407	393
Ending Vehs	373	397	385	368
Travel Distance (mi)	2086	2093	1957	2031
Travel Time (hr)	98.3	103.9	92.5	97.8
Total Delay (hr)	46.1	51.3	43.4	46.9
Total Stops	2848	3060	2804	2876
Fuel Used (gal)	90.3	91.6	84.1	87.9

Interval #3 Information

Start Time	8:30
End Time	8:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2332	2345	2232	2243	2302	2297	2252
Vehs Exited	2275	2331	2280	2158	2266	2205	2258
Starting Vehs	377	380	384	320	408	304	409
Ending Vehs	434	394	336	405	444	396	403
Travel Distance (mi)	2047	2104	2024	2008	2109	2020	1992
Travel Time (hr)	99.2	99.4	95.8	93.2	100.7	97.5	101.3
Total Delay (hr)	48.1	46.9	45.3	43.2	47.8	47.1	51.1
Total Stops	2835	2776	2798	2636	2948	2760	2870
Fuel Used (gal)	88.7	89.6	86.8	85.3	90.6	86.9	86.9

Interval #3 Information

Start Time	8:30
End Time	8:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2215	2284	2279	2277
Vehs Exited	2216	2312	2308	2261
Starting Vehs	373	397	385	368
Ending Vehs	372	369	356	383
Travel Distance (mi)	2012	2056	2099	2047
Travel Time (hr)	96.9	98.4	101.0	98.3
Total Delay (hr)	46.7	47.1	48.2	47.1
Total Stops	2709	2704	2930	2789
Fuel Used (gal)	86.5	88.7	90.2	88.0

Interval #4 Information Recording

Start Time	8:45
End Time	9:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2280	2265	2316	2282	2303	2345	2411
Vehs Exited	2368	2278	2244	2257	2393	2298	2439
Starting Vehs	434	394	336	405	444	396	403
Ending Vehs	346	381	408	430	354	443	375
Travel Distance (mi)	2114	1981	1978	1993	2114	2081	2149
Travel Time (hr)	98.9	95.3	94.4	101.0	97.3	102.3	106.2
Total Delay (hr)	45.9	45.3	44.9	51.1	44.0	50.2	52.1
Total Stops	2878	2865	2754	3039	2911	3078	3222
Fuel Used (gal)	91.1	85.2	85.0	88.4	91.3	90.3	94.2

Interval #4 Information Recording

Start Time	8:45
End Time	9:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2335	2356	2345	2324
Vehs Exited	2323	2315	2285	2319
Starting Vehs	372	369	356	383
Ending Vehs	384	410	416	392
Travel Distance (mi)	2096	2019	2021	2055
Travel Time (hr)	99.3	101.3	95.2	99.1
Total Delay (hr)	46.6	50.2	44.3	47.5
Total Stops	3014	3068	2700	2953
Fuel Used (gal)	90.2	88.5	86.5	89.1

7: RV Parkway & Gibson Dr Performance by movement

Movement	EBL	EBT	WBT	WBR	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.3	0.0
Total Delay (hr)	0.5	0.5	0.8	0.1	0.2	2.2
Total Del/Veh (s)	10.8	1.0	3.3	4.1	2.6	2.4
Stop Delay (hr)	0.4	0.0	0.0	0.0	0.0	0.4
Stop Del/Veh (s)	8.3	0.0	0.1	0.1	0.0	0.5

73: Galleria & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.5	8.7	0.7	1.4	5.9	0.5	2.7	3.8	0.0	7.7	3.9	0.1
Total Del/Veh (s)	41.6	23.5	4.4	60.4	22.4	3.3	47.8	44.1	1.5	46.3	34.8	1.8
Stop Delay (hr)	1.4	6.2	0.0	1.4	4.2	0.0	2.5	3.3	0.0	6.9	3.3	0.0
Stop Del/Veh (s)	38.1	16.9	0.0	58.0	16.2	0.0	45.2	38.4	0.0	41.4	29.4	0.0

73: Galleria & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	36.9
Total Del/Veh (s)	24.7
Stop Delay (hr)	29.2
Stop Del/Veh (s)	19.5

84: Galleria & Antelope Creek Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0
Denied Del/Veh (s)	0.1	0.1	4.3	2.2	0.1	3.9	0.0	0.0	0.0	2.5	0.2	0.1
Total Delay (hr)	0.6	0.1	0.0	0.6	0.2	0.0	0.2	2.6	0.0	1.4	2.7	0.0
Total Del/Veh (s)	54.0	49.0	1.3	50.3	48.4	1.5	67.1	9.8	1.6	52.3	8.7	1.2
Stop Delay (hr)	0.5	0.1	0.0	0.6	0.2	0.0	0.2	1.6	0.0	1.3	1.7	0.0
Stop Del/Veh (s)	51.9	46.5	0.0	48.1	44.9	0.0	65.3	6.0	0.0	49.3	5.5	1.0

84: Galleria & Antelope Creek Dr Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.4
Total Delay (hr)	8.4
Total Del/Veh (s)	12.3
Stop Delay (hr)	6.1
Stop Del/Veh (s)	9.0

85: Pleasant Grove Blvd & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7	0.4	0.1	0.0
Denied Del/Veh (s)	2.9	0.2	3.1	0.0	0.0	0.0	2.2	0.7	2.6	2.7	0.3	0.4
Total Delay (hr)	2.2	10.3	0.0	8.6	4.0	0.4	0.5	13.1	2.2	10.3	3.9	0.1
Total Del/Veh (s)	53.2	61.9	7.3	58.3	49.0	3.6	66.3	52.1	8.9	64.7	24.8	2.3
Stop Delay (hr)	1.9	8.7	0.0	7.8	3.5	0.0	0.5	10.6	0.1	9.0	3.1	0.0
Stop Del/Veh (s)	48.0	52.2	1.9	52.9	42.7	0.0	61.7	42.0	0.2	56.6	19.4	0.0

85: Pleasant Grove Blvd & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	1.5
Denied Del/Veh (s)	1.1
Total Delay (hr)	55.5
Total Del/Veh (s)	39.5
Stop Delay (hr)	45.0
Stop Del/Veh (s)	32.0

86: Castaic Dr/Gibson Dr & RV Parkway Performance by movement

Movement	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.9	3.3	0.2	4.5	0.6	0.1	0.0	0.1	3.1	0.0	0.0	12.9
Total Del/Veh (s)	53.0	6.3	51.1	18.0	6.6	67.2	58.8	19.9	47.7	50.8	1.6	13.2
Stop Delay (hr)	0.8	1.7	0.2	3.1	0.0	0.1	0.0	0.1	2.9	0.0	0.0	9.1
Stop Del/Veh (s)	50.7	3.4	47.4	12.3	0.0	66.0	56.5	19.9	45.4	46.7	0.0	9.3

89: Reserve & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.7	3.8	0.1	0.1	0.1
Total Delay (hr)	0.3	6.2	0.2	1.5	1.1	0.0	1.6	0.1	0.3	0.3	0.1	0.0
Total Del/Veh (s)	50.5	11.4	3.8	54.8	3.4	1.6	50.9	49.7	9.9	57.2	49.6	1.3
Stop Delay (hr)	0.3	3.9	0.1	1.5	0.4	0.0	1.5	0.1	0.3	0.3	0.1	0.0
Stop Del/Veh (s)	48.7	7.2	2.1	52.7	1.4	0.0	47.7	44.8	8.4	55.3	46.9	0.0

89: Reserve & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	11.7
Total Del/Veh (s)	11.5
Stop Delay (hr)	8.4
Stop Del/Veh (s)	8.3

106: RV Parkway & Creekside Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.4
Denied Del/Veh (s)	0.0	0.0	0.0	1.9	0.5	2.1	0.8	0.2	4.2	0.2	4.0	0.4
Total Delay (hr)	0.7	1.8	0.0	0.4	5.0	0.4	0.2	0.1	0.0	0.8	0.2	9.6
Total Del/Veh (s)	41.6	3.4	0.5	59.3	11.5	7.1	56.4	61.6	15.6	55.0	16.7	8.8
Stop Delay (hr)	0.7	0.8	0.0	0.4	2.2	0.1	0.2	0.1	0.0	0.8	0.2	5.4
Stop Del/Veh (s)	39.8	1.5	0.4	56.8	5.1	1.8	54.9	58.5	15.4	52.2	15.8	5.0

109: West Mall & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.1	0.1	0.3	0.1	0.0
Total Delay (hr)	0.8	5.7	0.0	0.2	5.2	0.0	0.0	0.5	0.5	0.2	0.0	13.2
Total Del/Veh (s)	51.0	9.9	6.4	55.8	15.4	1.4	37.5	53.0	24.0	47.4	1.2	13.3
Stop Delay (hr)	0.7	2.1	0.0	0.2	3.8	0.0	0.0	0.5	0.5	0.2	0.0	8.1
Stop Del/Veh (s)	47.3	3.6	1.1	53.5	11.4	1.1	36.6	51.4	24.1	45.6	0.0	8.2

151: Chase Dr & RV Parkway Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.3	0.2	0.0
Total Delay (hr)	6.8	0.2	1.8	1.2	1.5	0.1	11.5
Total Del/Veh (s)	13.8	6.3	47.4	5.1	45.9	1.6	13.3
Stop Delay (hr)	3.3	0.0	1.6	0.5	1.4	0.0	6.9
Stop Del/Veh (s)	6.6	0.0	43.1	2.4	43.2	0.0	7.9

Total Network Performance

Denied Delay (hr)	2.5
Denied Del/Veh (s)	1.0
Total Delay (hr)	187.1
Total Del/Veh (s)	70.5
Stop Delay (hr)	119.8
Stop Del/Veh (s)	45.1

Intersection: 7: RV Parkway & Gibson Dr

Movement	EB	EB	B12	B12	B12	B12	WB
Directions Served	L	T	T	T	T		R
Maximum Queue (ft)	170	2	356	381	400	208	5
Average Queue (ft)	53	0	32	74	78	13	0
95th Queue (ft)	116	2	196	311	326	130	5
Link Distance (ft)		451	352	352	352	352	
Upstream Blk Time (%)			0	0	1	0	
Queuing Penalty (veh)			0	2	4	0	
Storage Bay Dist (ft)	225						600
Storage Blk Time (%)	0						
Queuing Penalty (veh)	2						

Intersection: 73: Galleria & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	UL	L	T	T	T	R	UL	L	T	T	T	R
Maximum Queue (ft)	87	116	217	222	243	47	56	87	177	162	176	30
Average Queue (ft)	29	51	121	123	130	3	13	24	72	68	74	1
95th Queue (ft)	70	95	202	207	216	45	39	60	146	143	151	31
Link Distance (ft)			568	568	568	568			414	414	414	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250					250	250				250
Storage Blk Time (%)			0						0		0	
Queuing Penalty (veh)			0						0		0	

Intersection: 73: Galleria & RV Parkway

Movement	B61	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	UL	L	T	T	T	UL	L	L	T	T	R
Maximum Queue (ft)	6	118	134	129	125	114	192	238	240	236	226	3
Average Queue (ft)	0	43	70	77	71	52	105	141	153	104	108	0
95th Queue (ft)	6	91	117	120	113	107	176	220	224	183	181	3
Link Distance (ft)	384			354	354	354			362	362	362	362
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)		250	250				260	260				
Storage Blk Time (%)							0	0	0			
Queuing Penalty (veh)							0	0	0			

Intersection: 73: Galleria & RV Parkway

Movement	B3
Directions Served	T
Maximum Queue (ft)	5
Average Queue (ft)	0
95th Queue (ft)	4
Link Distance (ft)	567
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 84: Galleria & Antelope Creek Dr

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	LT	L	L	LT	T	L	L	T	T	T
Maximum Queue (ft)	12	81	28	28	58	82	10	6	42	183	211	206
Average Queue (ft)	0	30	5	3	20	30	1	0	10	55	88	106
95th Queue (ft)	12	69	22	17	50	65	9	4	33	153	175	184
Link Distance (ft)		238	238			341	341			567	567	567
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	125			200	200			225	225			
Storage Blk Time (%)	0	0								0		
Queuing Penalty (veh)	0	0								0		

Intersection: 84: Galleria & Antelope Creek Dr

Movement	B3	SB	SB	SB	SB	SB	SB
Directions Served	T	L	L	T	T	T	R
Maximum Queue (ft)	34	73	113	232	226	190	37
Average Queue (ft)	1	24	55	100	89	58	7
95th Queue (ft)	34	62	93	193	182	141	28
Link Distance (ft)	362			663	663	663	663
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		250	250				
Storage Blk Time (%)				0			
Queuing Penalty (veh)				0			

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	B12
Directions Served	UL	L	T	T	T	R	UL	L	L	T	T	T
Maximum Queue (ft)	122	231	335	303	273	55	231	285	305	217	219	7
Average Queue (ft)	43	75	172	153	139	3	126	160	174	100	111	0
95th Queue (ft)	92	163	281	254	237	50	210	250	263	175	182	7
Link Distance (ft)			843	843	843				352	352	352	451
Upstream Blk Time (%)									0			
Queuing Penalty (veh)									0			
Storage Bay Dist (ft)	250	250				175	225	225				
Storage Blk Time (%)		0	2		6		0	2	4			
Queuing Penalty (veh)		0	4		1		0	3	13			

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	B12	B12	B12	NB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	T	UL	L	T	T	T	R	UL	L	T
Maximum Queue (ft)	40	82	41	31	205	408	428	450	235	410	458	368
Average Queue (ft)	1	3	1	3	26	213	206	187	26	215	237	98
95th Queue (ft)	39	60	41	18	104	346	355	360	168	357	387	246
Link Distance (ft)	451	451	451			737	737	737				811
Upstream Blk Time (%)								0				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)				250	250				250	400	400	
Storage Blk Time (%)						7		4		1	2	0
Queuing Penalty (veh)						2		36		2	3	0

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	325	208
Average Queue (ft)	93	76
95th Queue (ft)	207	150
Link Distance (ft)	811	811
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 86: Castaic Dr/Gibson Dr & RV Parkway

Movement	EB	EB	EB	EB	B6	B6	B6	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	T	T	T	L	T	T	T	L
Maximum Queue (ft)	116	196	212	236	87	47	91	109	387	386	388	29
Average Queue (ft)	49	66	85	97	3	2	3	16	81	79	87	3
95th Queue (ft)	101	144	163	177	64	48	67	70	264	266	269	17
Link Distance (ft)		505	505	505	454	454	454		1077	1077	1077	185
Upstream Blk Time (%)						0	0					
Queuing Penalty (veh)						0	0					
Storage Bay Dist (ft)	250							250				
Storage Blk Time (%)		0		19					3			
Queuing Penalty (veh)		0		0					1			

Intersection: 86: Castaic Dr/Gibson Dr & RV Parkway

Movement	NB	SB	SB	SB
Directions Served	TR	L	L	LT
Maximum Queue (ft)	64	118	122	107
Average Queue (ft)	20	74	64	53
95th Queue (ft)	47	112	108	96
Link Distance (ft)	185	202	202	202
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 89: Reserve & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	B66	B66	B66	WB	WB	WB
Directions Served	L	L	T	T	T	R	T	T	T	L	L	T
Maximum Queue (ft)	12	46	273	294	362	285	9	9	157	92	98	89
Average Queue (ft)	1	16	128	147	212	54	0	1	12	35	52	30
95th Queue (ft)	7	42	235	259	339	178	9	11	85	77	89	75
Link Distance (ft)			285	285	285		905	905	905			381
Upstream Blk Time (%)			0	0	2	0						
Queuing Penalty (veh)			1	2	17	0						
Storage Bay Dist (ft)	255	255				235				215	215	
Storage Blk Time (%)			0		5	0						
Queuing Penalty (veh)			0		8	0						

Intersection: 89: Reserve & RV Parkway

Movement	WB	WB	B64	B64	B64	NB	NB	NB	SB	SB
Directions Served	T	T	T	T	T	L	LT	R	L	LT
Maximum Queue (ft)	99	133	97	49	49	89	143	94	58	50
Average Queue (ft)	35	50	3	2	2	30	72	44	15	11
95th Queue (ft)	85	115	71	50	50	70	120	77	46	36
Link Distance (ft)	381	381	568	568	568		525		283	283
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)						235		240		
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 106: RV Parkway & Creekside

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB
Directions Served	UL	T	T	T	R	UL	T	T	T	R	L	LT
Maximum Queue (ft)	102	135	144	148	40	67	208	355	440	262	17	49
Average Queue (ft)	44	42	42	50	9	23	83	96	162	43	2	12
95th Queue (ft)	91	109	109	115	32	56	169	247	342	142	10	37
Link Distance (ft)		384	384	384	384		1152	1152	1152			169
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230					220				235	60	
Storage Blk Time (%)							0		3			1
Queuing Penalty (veh)							0		5			0

Intersection: 106: RV Parkway & Creekside

Movement	NB	SB	SB	SB
Directions Served	R	L	LT	R
Maximum Queue (ft)	19	26	89	63
Average Queue (ft)	3	3	41	19
95th Queue (ft)	14	16	79	45
Link Distance (ft)			360	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	60	100		100
Storage Blk Time (%)			0	0
Queuing Penalty (veh)			0	0

Intersection: 109: West Mall & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	T	R	L	T	T	T	R	LT
Maximum Queue (ft)	60	75	270	296	327	20	50	392	457	480	48	93
Average Queue (ft)	13	36	82	102	130	1	11	79	95	129	11	33
95th Queue (ft)	42	65	213	244	282	12	36	276	317	359	36	74
Link Distance (ft)			1077	1077	1077			905	905	905	905	224
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	275	275				250	275					
Storage Blk Time (%)			0		2			3				
Queuing Penalty (veh)			0		0			0				

Intersection: 109: West Mall & RV Parkway

Movement	NB	SB	SB
Directions Served	R	L	LT
Maximum Queue (ft)	96	12	49
Average Queue (ft)	42	1	12
95th Queue (ft)	83	7	35
Link Distance (ft)	224		287
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		125	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 151: Chase Dr & RV Parkway

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B6	B6	B6	NB
Directions Served	T	T	T	R	UL	T	T	T	T	T	T	L
Maximum Queue (ft)	270	287	312	108	260	287	228	164	58	99	53	184
Average Queue (ft)	120	144	158	4	107	52	48	52	0	4	2	89
95th Queue (ft)	236	256	269	61	218	174	149	123	4	73	54	157
Link Distance (ft)	1633	1633	1633			454	454	454	505	505	505	201
Upstream Blk Time (%)						0	0		0	0	0	0
Queuing Penalty (veh)						0	0		0	0	0	0
Storage Bay Dist (ft)				225	200							
Storage Blk Time (%)			2		3	0						
Queuing Penalty (veh)			2		7	0						

Network Summary

Network wide Queuing Penalty: 120

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	4:50	4:50	4:50	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	13662	13587	13656	14004	13641	13924	13904
Vehs Exited	13591	13540	13594	13938	13595	13765	13540
Starting Vehs	663	669	680	757	706	623	632
Ending Vehs	734	716	742	823	752	782	996
Travel Distance (mi)	10931	10755	10901	10972	10930	10951	11026
Travel Time (hr)	865.6	873.1	881.9	808.2	946.2	839.3	978.4
Total Delay (hr)	585.5	597.2	603.0	526.5	666.3	558.6	696.6
Total Stops	27047	24842	25744	26192	26531	26713	30216
Fuel Used (gal)	572.2	568.3	575.3	558.3	588.4	565.4	599.5

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	13797	13746	13781	13772
Vehs Exited	13699	13562	13657	13648
Starting Vehs	682	595	676	665
Ending Vehs	780	779	800	788
Travel Distance (mi)	10876	10776	10967	10909
Travel Time (hr)	876.9	790.3	921.4	878.1
Total Delay (hr)	598.1	513.6	640.9	598.6
Total Stops	26763	23856	26496	26440
Fuel Used (gal)	573.9	546.2	583.5	573.1

Interval #0 Information Seeding

Start Time	4:50
End Time	5:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3527	3474	3396	3504	3390	3594	3447
Vehs Exited	3383	3330	3357	3515	3352	3424	3259
Starting Vehs	663	669	680	757	706	623	632
Ending Vehs	807	813	719	746	744	793	820
Travel Distance (mi)	2763	2720	2685	2773	2699	2733	2714
Travel Time (hr)	194.3	193.7	193.9	181.1	188.2	178.5	181.4
Total Delay (hr)	123.1	124.1	125.2	110.0	119.2	108.7	112.0
Total Stops	6404	6515	6365	6047	6340	6116	6009
Fuel Used (gal)	137.6	136.7	135.8	135.8	134.6	133.4	132.8

Interval #1 Information

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3441	3436	3494	3468
Vehs Exited	3353	3327	3365	3367
Starting Vehs	682	595	676	665
Ending Vehs	770	704	805	774
Travel Distance (mi)	2678	2676	2756	2720
Travel Time (hr)	184.0	162.6	191.4	184.9
Total Delay (hr)	115.2	94.1	121.0	115.3
Total Stops	6430	5307	6450	6198
Fuel Used (gal)	133.1	127.4	136.6	134.4

Interval #2 Information

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3399	3352	3423	3539	3551	3373	3469
Vehs Exited	3432	3470	3380	3526	3448	3385	3433
Starting Vehs	807	813	719	746	744	793	820
Ending Vehs	774	695	762	759	847	781	856
Travel Distance (mi)	2743	2708	2679	2780	2806	2729	2749
Travel Time (hr)	200.5	202.6	214.3	191.9	220.7	207.4	230.2
Total Delay (hr)	130.5	132.9	145.5	120.5	148.9	137.3	159.8
Total Stops	7020	6159	6353	6202	6788	6753	7682
Fuel Used (gal)	139.8	139.0	141.4	138.6	146.4	140.4	147.5

Interval #2 Information

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3441	3536	3401	3447
Vehs Exited	3449	3497	3417	3442
Starting Vehs	770	704	805	774
Ending Vehs	762	743	789	772
Travel Distance (mi)	2740	2765	2724	2742
Travel Time (hr)	209.9	188.4	238.9	210.5
Total Delay (hr)	139.6	117.5	169.0	140.2
Total Stops	6524	6236	6689	6642
Fuel Used (gal)	142.5	136.6	147.7	142.0

Interval #3 Information

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3385	3308	3482	3492	3302	3589	3452
Vehs Exited	3354	3325	3459	3415	3296	3545	3378
Starting Vehs	774	695	762	759	847	781	856
Ending Vehs	805	678	785	836	853	825	930
Travel Distance (mi)	2673	2617	2825	2716	2649	2835	2750
Travel Time (hr)	231.3	221.3	232.5	216.2	251.6	221.0	268.4
Total Delay (hr)	162.9	154.1	160.7	146.4	183.7	148.4	198.1
Total Stops	7123	5886	6800	7208	6357	7063	7929
Fuel Used (gal)	145.3	140.9	149.8	142.0	147.7	147.3	155.0

Interval #3 Information

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3441	3376	3418	3426
Vehs Exited	3393	3420	3444	3402
Starting Vehs	762	743	789	772
Ending Vehs	810	699	763	793
Travel Distance (mi)	2693	2686	2764	2721
Travel Time (hr)	231.9	207.3	243.8	232.5
Total Delay (hr)	162.9	138.2	173.3	162.9
Total Stops	7097	5937	6799	6822
Fuel Used (gal)	145.0	138.5	149.5	146.1

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3351	3453	3355	3469	3398	3368	3536
Vehs Exited	3422	3415	3398	3482	3499	3411	3470
Starting Vehs	805	678	785	836	853	825	930
Ending Vehs	734	716	742	823	752	782	996
Travel Distance (mi)	2752	2711	2712	2703	2776	2655	2813
Travel Time (hr)	239.4	255.4	241.2	219.0	285.7	232.4	298.4
Total Delay (hr)	169.0	186.1	171.7	149.5	214.5	164.2	226.7
Total Stops	6500	6282	6226	6735	7046	6781	8596
Fuel Used (gal)	149.5	151.7	148.3	141.9	159.6	144.3	164.2

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3474	3398	3468	3428
Vehs Exited	3504	3318	3431	3436
Starting Vehs	810	699	763	793
Ending Vehs	780	779	800	788
Travel Distance (mi)	2765	2649	2723	2726
Travel Time (hr)	251.2	232.0	247.3	250.2
Total Delay (hr)	180.4	163.8	177.5	180.3
Total Stops	6712	6376	6558	6774
Fuel Used (gal)	153.3	143.7	149.7	150.6

7: RV Parkway & Gibson Dr Performance by movement

Movement	EBL	EBT	WBT	WBR	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.4	0.1
Total Delay (hr)	2.9	0.6	12.2	0.4	0.6	16.7
Total Del/Veh (s)	60.7	1.4	21.5	21.1	4.2	13.7
Stop Delay (hr)	2.8	0.1	5.3	0.2	0.1	8.4
Stop Del/Veh (s)	57.8	0.2	9.3	10.5	1.0	6.9

73: Galleria & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.3	0.1
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.3	0.1	0.0	0.0	0.0	1.0	1.6	0.9
Total Delay (hr)	9.4	10.8	0.5	4.6	35.6	4.1	7.4	13.4	0.0	10.8	15.0	0.7
Total Del/Veh (s)	74.7	36.5	3.9	89.8	98.3	20.0	54.7	55.8	2.5	68.9	84.1	7.6
Stop Delay (hr)	8.6	8.8	0.0	4.2	29.7	2.2	6.6	11.3	0.0	10.0	13.4	0.4
Stop Del/Veh (s)	67.8	29.6	0.1	81.6	82.1	10.7	49.1	47.1	0.0	63.4	75.0	4.1

73: Galleria & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	0.6
Denied Del/Veh (s)	0.3
Total Delay (hr)	112.4
Total Del/Veh (s)	56.2
Stop Delay (hr)	95.1
Stop Del/Veh (s)	47.6

84: Galleria & Antelope Creek Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.1	0.1	0.0	0.3	0.0	0.0	0.0	0.1	0.1	0.0
Denied Del/Veh (s)	0.1	0.1	3.3	1.4	0.3	3.3	0.0	0.0	0.0	2.3	0.3	0.2
Total Delay (hr)	4.3	0.6	0.1	2.7	1.0	0.2	1.9	13.5	0.1	3.1	8.2	0.1
Total Del/Veh (s)	44.7	41.8	1.5	47.9	45.4	2.4	71.9	27.4	2.7	49.6	25.8	3.7
Stop Delay (hr)	4.0	0.6	0.0	2.5	0.9	0.0	1.8	8.0	0.0	2.8	6.0	0.1
Stop Del/Veh (s)	41.1	37.9	0.0	44.1	40.7	0.0	65.7	16.2	0.1	45.0	19.0	2.7

84: Galleria & Antelope Creek Dr Performance by movement

Movement	All
Denied Delay (hr)	0.7
Denied Del/Veh (s)	0.6
Total Delay (hr)	35.9
Total Del/Veh (s)	27.8
Stop Delay (hr)	26.6
Stop Del/Veh (s)	20.6

85: Pleasant Grove Blvd & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.3	9.6	7.3	0.3	0.1	0.0
Denied Del/Veh (s)	2.8	0.2	2.8	0.0	0.0	0.0	30.6	32.7	37.5	1.9	0.4	0.4
Total Delay (hr)	3.1	7.8	0.0	21.4	8.6	1.5	1.1	45.8	8.5	14.3	12.5	0.2
Total Del/Veh (s)	59.7	59.5	4.5	71.7	50.0	6.5	110.1	153.1	44.2	78.6	35.2	3.2
Stop Delay (hr)	2.8	6.6	0.0	18.6	7.2	0.0	1.0	40.3	5.2	12.5	9.2	0.0
Stop Del/Veh (s)	54.6	50.6	0.0	62.4	41.8	0.0	98.0	134.7	27.2	68.2	25.9	0.0

85: Pleasant Grove Blvd & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	17.8
Denied Del/Veh (s)	9.1
Total Delay (hr)	124.7
Total Del/Veh (s)	63.1
Stop Delay (hr)	103.4
Stop Del/Veh (s)	52.3

86: Castaic Dr/Gibson Dr & RV Parkway Performance by movement

Movement	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	2.1	4.9	0.5	13.0	0.5	0.0	0.0	0.1	4.3	0.0	0.0	25.4
Total Del/Veh (s)	54.9	11.7	49.8	21.9	7.5	89.6	63.6	15.2	47.4	33.5	1.6	20.4
Stop Delay (hr)	1.9	2.1	0.4	6.7	0.0	0.0	0.0	0.1	4.0	0.0	0.0	15.2
Stop Del/Veh (s)	50.0	5.0	42.6	11.2	0.1	87.8	61.3	15.2	44.7	30.1	0.0	12.2

89: Reserve & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.2	3.3	0.1	0.1	0.1
Total Delay (hr)	0.6	12.0	0.5	3.2	6.7	0.1	5.2	0.5	1.1	2.1	0.3	0.0
Total Del/Veh (s)	50.3	27.6	7.7	63.0	13.1	2.3	49.7	53.9	14.8	48.5	52.1	1.5
Stop Delay (hr)	0.6	9.6	0.4	3.0	3.9	0.0	4.7	0.4	0.9	2.0	0.3	0.0
Stop Del/Veh (s)	47.7	22.1	5.5	59.2	7.6	0.0	44.7	47.1	12.1	45.5	48.1	0.0

89: Reserve & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	0.3
Total Delay (hr)	32.3
Total Del/Veh (s)	23.6
Stop Delay (hr)	25.7
Stop Del/Veh (s)	18.8

106: RV Parkway & Creekside Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	1.6	77.2	11.8	0.0	0.0	0.0	0.0	0.1	90.8
Denied Del/Veh (s)	0.0	0.0	0.0	130.1	124.1	123.8	0.8	0.2	4.1	0.4	3.9	72.1
Total Delay (hr)	0.8	1.4	0.0	0.8	33.7	7.2	0.4	0.2	0.1	1.3	0.7	46.5
Total Del/Veh (s)	37.6	3.2	0.2	69.3	57.9	80.3	56.0	59.3	13.3	48.0	29.8	38.4
Stop Delay (hr)	0.8	0.6	0.0	0.7	20.0	4.8	0.3	0.2	0.1	1.3	0.7	29.4
Stop Del/Veh (s)	35.6	1.4	0.2	58.0	34.4	53.3	54.3	56.0	13.1	44.8	28.5	24.2

109: West Mall & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	1.0	0.4	0.2
Total Delay (hr)	2.7	5.1	0.1	0.6	9.6	0.0	0.4	0.0	0.1	1.7	0.0	0.1
Total Del/Veh (s)	67.3	10.7	8.3	60.3	15.7	1.6	59.4	32.9	17.5	45.3	33.7	1.8
Stop Delay (hr)	2.4	1.3	0.0	0.5	4.6	0.0	0.4	0.0	0.1	1.6	0.0	0.0
Stop Del/Veh (s)	60.3	2.7	0.9	55.3	7.5	1.2	58.2	31.7	17.8	42.3	30.5	0.0

109: West Mall & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.1
Total Delay (hr)	20.4
Total Del/Veh (s)	16.0
Stop Delay (hr)	11.0
Stop Del/Veh (s)	8.6

151: Chase Dr & RV Parkway Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	4.7	0.1	1.8	5.5	0.8	0.0	13.0
Total Del/Veh (s)	11.0	4.8	56.4	9.8	49.9	1.4	12.0
Stop Delay (hr)	2.3	0.0	1.6	2.0	0.8	0.0	6.7
Stop Del/Veh (s)	5.3	0.0	52.0	3.6	47.7	0.0	6.2

Total Network Performance

Denied Delay (hr)	110.7
Denied Del/Veh (s)	28.5
Total Delay (hr)	487.9
Total Del/Veh (s)	121.7
Stop Delay (hr)	332.7
Stop Del/Veh (s)	83.0

Intersection: 7: RV Parkway & Gibson Dr

Movement	EB	EB	EB	EB	B12	B12	B12	B12	WB	WB	WB	WB
Directions Served	L	T	T	T	T	T	T		U	T	T	T
Maximum Queue (ft)	263	290	254	57	316	391	393	238	30	650	799	622
Average Queue (ft)	127	43	21	1	29	84	76	11	11	96	104	123
95th Queue (ft)	240	195	136	27	186	336	318	120	104	627	680	689
Link Distance (ft)		451	451	451	352	352	352	352		1633	1633	1633
Upstream Blk Time (%)			0		0	0	1	0		0	0	1
Queuing Penalty (veh)			0		0	2	4	0		0	2	9
Storage Bay Dist (ft)	225								225			
Storage Blk Time (%)	6	1							0	5		5
Queuing Penalty (veh)	30	2							0	0		3

Intersection: 7: RV Parkway & Gibson Dr

Movement	WB	SB
Directions Served	R	R
Maximum Queue (ft)	81	124
Average Queue (ft)	31	14
95th Queue (ft)	264	102
Link Distance (ft)		300
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)	600	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 23: Bend

Movement	SB	SB
Directions Served	T	T
Maximum Queue (ft)	200	170
Average Queue (ft)	7	6
95th Queue (ft)	87	80
Link Distance (ft)	354	354
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 73: Galleria & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	UL	L	T	T	T	R	UL	L	T	T	T	R
Maximum Queue (ft)	265	284	330	272	272	126	167	300	504	504	517	300
Average Queue (ft)	158	177	165	160	159	9	58	197	374	377	409	233
95th Queue (ft)	256	273	291	249	245	80	122	388	575	574	605	438
Link Distance (ft)			568	568	568	568			414	414	414	
Upstream Blk Time (%)									21	20	33	
Queuing Penalty (veh)									165	153	258	
Storage Bay Dist (ft)	250	250					250	250				250
Storage Blk Time (%)	1	5	1				0	0	44		45	0
Queuing Penalty (veh)	4	16	6				0	2	88		361	1

Intersection: 73: Galleria & RV Parkway

Movement	B61	B61	B61	NB	NB	NB	NB	NB	NB	B23	B23	SB
Directions Served	T	T	T	UL	L	T	T	T	R	T	T	UL
Maximum Queue (ft)	413	448	474	242	296	344	309	282	68	46	29	206
Average Queue (ft)	96	114	219	138	177	203	196	187	4	3	1	112
95th Queue (ft)	324	369	543	219	277	320	294	277	61	37	30	185
Link Distance (ft)	384	384	384			354	354	354		484	484	
Upstream Blk Time (%)	1	1	7			1	0	0	0			
Queuing Penalty (veh)	5	9	55			0	0	0	0			
Storage Bay Dist (ft)				250	250				290			260
Storage Blk Time (%)				0	1	4		1				0
Queuing Penalty (veh)				1	4	19		1				0

Intersection: 73: Galleria & RV Parkway

Movement	SB	SB	SB	SB	SB	B3	B3	B3	B3
Directions Served	L	L	T	T	R	T	T	T	T
Maximum Queue (ft)	298	394	383	388	356	68	81	58	62
Average Queue (ft)	153	184	230	237	85	12	12	9	10
95th Queue (ft)	262	345	373	377	327	99	109	83	87
Link Distance (ft)		362	362	362	362	567	567	567	567
Upstream Blk Time (%)		4	6	6	4				
Queuing Penalty (veh)		14	20	22	15				
Storage Bay Dist (ft)	260								
Storage Blk Time (%)	1	4							
Queuing Penalty (veh)	1	16							

Intersection: 84: Galleria & Antelope Creek Dr

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	LT	T	L	L	LT	T	L	L	T	T
Maximum Queue (ft)	158	203	159	126	62	167	192	160	85	273	517	538
Average Queue (ft)	114	145	86	11	11	71	112	53	31	76	225	248
95th Queue (ft)	174	184	153	66	42	148	173	148	69	214	462	484
Link Distance (ft)		238	238	238			341	341			567	567
Upstream Blk Time (%)		0									1	1
Queuing Penalty (veh)		0									4	5
Storage Bay Dist (ft)	125				200	200			225	225		
Storage Blk Time (%)	4	12		0		0	0	0			8	
Queuing Penalty (veh)	4	13		0		0	0	0			9	

Intersection: 84: Galleria & Antelope Creek Dr

Movement	NB	NB	B3	B3	B3	B3	SB	SB	SB	SB	SB	SB
Directions Served	T	R	T	T	T	T	L	L	T	T	T	R
Maximum Queue (ft)	519	96	293	377	367	197	132	171	277	280	284	73
Average Queue (ft)	258	8	20	38	49	10	69	96	175	170	164	34
95th Queue (ft)	480	99	151	218	257	109	119	150	255	253	254	61
Link Distance (ft)	567	567	362	362	362	362			663	663	663	663
Upstream Blk Time (%)	1	0	0	0	0	0						
Queuing Penalty (veh)	7	1	0	1	2	0						
Storage Bay Dist (ft)							250	250				
Storage Blk Time (%)									1			
Queuing Penalty (veh)									2			

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	B12
Directions Served	UL	L	T	T	T	UL	L	L	T	T	R	T
Maximum Queue (ft)	166	179	225	213	186	274	325	442	392	392	106	446
Average Queue (ft)	65	88	142	127	108	244	305	375	242	239	7	187
95th Queue (ft)	126	146	204	189	175	295	365	493	379	358	85	490
Link Distance (ft)			843	843	843			352	352	352	352	451
Upstream Blk Time (%)								20	2	1	0	5
Queuing Penalty (veh)								130	16	9	0	31
Storage Bay Dist (ft)	250	250				225	225					
Storage Blk Time (%)		0	0		1	16	33	41				
Queuing Penalty (veh)		0	0		0	56	119	294				

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	B12	B12	B12	NB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	T	UL	L	T	T	T	R	UL	L	T
Maximum Queue (ft)	476	501	513	40	350	723	717	760	350	423	450	497
Average Queue (ft)	150	185	149	7	100	554	550	606	277	278	297	267
95th Queue (ft)	474	561	509	27	331	811	803	922	510	432	450	434
Link Distance (ft)	451	451	451			737	737	737				811
Upstream Blk Time (%)	4	7	6			3	2	28				0
Queuing Penalty (veh)	29	43	37			0	0	0				0
Storage Bay Dist (ft)				250	250				250	400	400	
Storage Blk Time (%)						65		59	0	3	5	1
Queuing Penalty (veh)						22		418	1	14	19	4

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	479	366	24
Average Queue (ft)	259	229	1
95th Queue (ft)	403	323	24
Link Distance (ft)	811	811	811
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 86: Castaic Dr/Gibson Dr & RV Parkway

Movement	EB	EB	EB	EB	B6	B6	B6	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	T	T	T	L	T	T	T	R
Maximum Queue (ft)	213	271	301	293	43	89	5	98	482	712	725	526
Average Queue (ft)	94	123	128	142	2	3	0	27	191	224	235	19
95th Queue (ft)	174	249	264	273	44	63	3	70	359	469	456	249
Link Distance (ft)		505	505	505	454	454	454		1077	1077	1077	1077
Upstream Blk Time (%)						0				0	0	0
Queuing Penalty (veh)						0				0	0	0
Storage Bay Dist (ft)	250							250				
Storage Blk Time (%)	0	0		14					3			
Queuing Penalty (veh)	0	1		0					1			

Intersection: 86: Castaic Dr/Gibson Dr & RV Parkway

Movement	NB	NB	SB	SB	SB
Directions Served	L	TR	L	L	LT
Maximum Queue (ft)	23	38	171	165	141
Average Queue (ft)	1	13	101	92	74
95th Queue (ft)	11	36	154	153	124
Link Distance (ft)	185	185	202	202	202
Upstream Blk Time (%)			0	0	
Queuing Penalty (veh)			0	0	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 89: Reserve & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	B66	B66	B66	WB	WB	WB
Directions Served	L	L	T	T	T	R	T	T	T	L	L	T
Maximum Queue (ft)	57	199	351	337	365	285	72	56	180	132	141	203
Average Queue (ft)	10	36	206	200	255	135	3	2	19	72	82	120
95th Queue (ft)	37	124	340	324	389	316	33	22	97	122	129	179
Link Distance (ft)			285	285	285		905	905	905			381
Upstream Blk Time (%)		0	4	3	8	1						
Queuing Penalty (veh)		0	23	20	49	0						
Storage Bay Dist (ft)	255	255				235				215	215	
Storage Blk Time (%)			6		15							0
Queuing Penalty (veh)			3		38							0

Intersection: 89: Reserve & RV Parkway

Movement	WB	WB	WB	B64	B64	B64	B64	NB	NB	NB	SB	SB
Directions Served	T	T	R	T	T	T	T	L	LT	R	L	LT
Maximum Queue (ft)	233	253	103	423	529	473	308	243	278	228	164	147
Average Queue (ft)	144	159	6	23	31	26	12	136	168	90	83	58
95th Queue (ft)	209	225	56	197	230	208	139	219	248	170	144	118
Link Distance (ft)	381	381	381	568	568	568	568		525		283	283
Upstream Blk Time (%)				0	0	0						
Queuing Penalty (veh)				0	0	0						
Storage Bay Dist (ft)								235		240		
Storage Blk Time (%)								0	1	0		
Queuing Penalty (veh)								0	5	0		

Intersection: 106: RV Parkway & Creekside

Movement	EB	EB	EB	EB	EB	B61	B61	WB	WB	WB	WB	WB
Directions Served	UL	T	T	T	R	T	T	UL	T	T	T	R
Maximum Queue (ft)	133	93	106	113	16	34	35	186	1168	1181	1200	285
Average Queue (ft)	53	18	30	37	1	1	1	43	607	927	1003	236
95th Queue (ft)	109	66	79	86	8	35	36	109	1332	1583	1527	390
Link Distance (ft)		384	384	384	384	414	414		1152	1152	1152	
Upstream Blk Time (%)									1	16	44	
Queuing Penalty (veh)									0	0	0	
Storage Bay Dist (ft)	230							220				235
Storage Blk Time (%)	0								6		43	0
Queuing Penalty (veh)	0								3		146	0

Intersection: 106: RV Parkway & Creekside

Movement	NB	NB	NB	SB	SB	SB
Directions Served	L	LT	R	L	LT	R
Maximum Queue (ft)	21	80	43	79	111	110
Average Queue (ft)	2	22	12	12	62	44
95th Queue (ft)	13	56	34	49	103	91
Link Distance (ft)		169			360	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	60		60	100		100
Storage Blk Time (%)		3	0	0	1	2
Queuing Penalty (veh)		1	0	0	1	2

Intersection: 109: West Mall & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	B66
Directions Served	L	L	T	T	T	R	L	T	T	T	R	T
Maximum Queue (ft)	114	130	246	253	293	56	121	354	403	396	43	30
Average Queue (ft)	51	70	74	70	93	4	33	138	158	172	13	1
95th Queue (ft)	100	114	178	181	220	37	87	274	309	312	36	31
Link Distance (ft)			1077	1077	1077			905	905	905	905	285
Upstream Blk Time (%)												0
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	275	275				250	275					
Storage Blk Time (%)			0		1			1				
Queuing Penalty (veh)			0		0			0				

Intersection: 109: West Mall & RV Parkway

Movement	B66	B66	NB	NB	SB	SB
Directions Served	T	T	LT	R	L	LT
Maximum Queue (ft)	8	26	86	45	124	153
Average Queue (ft)	0	1	27	12	31	69
95th Queue (ft)	6	26	67	33	86	130
Link Distance (ft)	285	285	224	224		287
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)					125	
Storage Blk Time (%)					0	1
Queuing Penalty (veh)					0	1

Intersection: 151: Chase Dr & RV Parkway

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B6	B6	B6	NB
Directions Served	T	T	T	R	UL	T	T	T	T	T	T	L
Maximum Queue (ft)	257	247	236	13	244	374	424	442	128	197	138	110
Average Queue (ft)	120	115	123	0	90	106	124	146	5	8	6	49
95th Queue (ft)	234	227	227	10	173	283	321	354	77	100	74	93
Link Distance (ft)	1633	1633	1633			454	454	454	505	505	505	201
Upstream Blk Time (%)						0	0	2	0	0	0	
Queuing Penalty (veh)						0	3	14	0	0	0	
Storage Bay Dist (ft)				225	200							
Storage Blk Time (%)			1		0	2						
Queuing Penalty (veh)			1		2	2						

Network Summary

Network wide Queuing Penalty: 2897

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	7:50	7:50	7:50	7:50	7:50	7:50	7:50
End Time	9:00	9:00	9:00	9:00	9:00	9:00	9:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	9402	9233	9223	9082	9093	9227	9251
Vehs Exited	9364	9214	9149	9100	9128	9210	9239
Starting Vehs	340	347	349	381	411	362	356
Ending Vehs	378	366	423	363	376	379	368
Travel Distance (mi)	8408	8209	8162	8107	8155	8242	8296
Travel Time (hr)	400.8	381.8	388.6	385.6	391.7	395.1	397.4
Total Delay (hr)	188.0	174.1	182.8	180.8	185.5	186.9	187.6
Total Stops	13017	12529	12549	12371	12668	13065	12986
Fuel Used (gal)	359.7	350.8	351.3	349.1	353.4	357.1	357.0

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	7:50	7:50	7:50	7:50
End Time	9:00	9:00	9:00	9:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	9180	9043	9107	9182
Vehs Exited	9137	9076	9146	9173
Starting Vehs	367	378	410	364
Ending Vehs	410	345	371	368
Travel Distance (mi)	8117	8081	8205	8198
Travel Time (hr)	390.3	386.9	391.5	391.0
Total Delay (hr)	184.6	182.0	184.6	183.7
Total Stops	12811	12503	12785	12727
Fuel Used (gal)	350.8	349.7	352.8	353.2

Interval #0 Information Seeding

Start Time	7:50
End Time	8:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2316	2326	2383	2319	2206	2383	2299
Vehs Exited	2266	2286	2343	2338	2212	2350	2265
Starting Vehs	340	347	349	381	411	362	356
Ending Vehs	390	387	389	362	405	395	390
Travel Distance (mi)	2025	2060	2038	2096	2004	2111	2068
Travel Time (hr)	93.3	100.2	96.9	99.5	97.0	98.0	97.2
Total Delay (hr)	42.0	48.3	45.7	46.7	46.4	44.6	44.9
Total Stops	3083	3245	3131	3174	3003	3232	3174
Fuel Used (gal)	85.9	88.7	87.7	90.4	86.9	90.7	87.8

Interval #1 Information

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2283	2222	2313	2304
Vehs Exited	2267	2255	2298	2285
Starting Vehs	367	378	410	364
Ending Vehs	383	345	425	386
Travel Distance (mi)	1962	2040	2074	2048
Travel Time (hr)	91.0	92.1	106.1	97.1
Total Delay (hr)	40.9	40.8	54.0	45.4
Total Stops	3005	3018	3436	3150
Fuel Used (gal)	83.5	85.9	90.8	87.8

Interval #2 Information

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2324	2278	2260	2306	2313	2244	2262
Vehs Exited	2263	2307	2234	2238	2298	2306	2246
Starting Vehs	390	387	389	362	405	395	390
Ending Vehs	451	358	415	430	420	333	406
Travel Distance (mi)	1998	2046	2020	2065	2058	2071	2017
Travel Time (hr)	99.3	91.8	101.8	96.3	103.6	97.0	103.4
Total Delay (hr)	48.5	40.0	50.9	44.1	51.4	44.7	52.5
Total Stops	3280	2960	3361	3132	3435	3272	3390
Fuel Used (gal)	86.3	87.0	89.3	88.2	90.9	89.0	89.3

Interval #2 Information

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2356	2292	2218	2282
Vehs Exited	2348	2212	2288	2272
Starting Vehs	383	345	425	386
Ending Vehs	391	425	355	391
Travel Distance (mi)	2068	1991	2091	2042
Travel Time (hr)	98.1	101.2	99.2	99.2
Total Delay (hr)	45.9	50.5	46.4	47.5
Total Stops	3347	3228	3377	3273
Fuel Used (gal)	89.6	88.0	90.3	88.8

Interval #3 Information

Start Time	8:30
End Time	8:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2402	2300	2256	2298	2385	2319	2362
Vehs Exited	2393	2262	2318	2330	2428	2311	2387
Starting Vehs	451	358	415	430	420	333	406
Ending Vehs	460	396	353	398	377	341	381
Travel Distance (mi)	2221	2057	2067	2003	2149	2017	2165
Travel Time (hr)	104.4	93.8	96.1	97.3	101.3	101.8	102.2
Total Delay (hr)	48.4	41.9	44.0	46.5	47.1	51.1	47.5
Total Stops	3326	3057	2946	3063	3260	3368	3250
Fuel Used (gal)	93.7	87.2	87.9	86.1	92.5	89.2	92.1

Interval #3 Information

Start Time	8:30
End Time	8:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2271	2254	2235	2307
Vehs Exited	2262	2271	2219	2317
Starting Vehs	391	425	355	391
Ending Vehs	400	408	371	385
Travel Distance (mi)	2053	2043	1982	2076
Travel Time (hr)	98.1	98.9	90.0	98.4
Total Delay (hr)	46.1	47.1	40.0	46.0
Total Stops	3076	3132	2823	3129
Fuel Used (gal)	87.7	88.7	83.8	88.9

Interval #4 Information Recording

Start Time	8:45
End Time	9:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	2360	2329	2324	2159	2189	2281	2328
Vehs Exited	2442	2359	2254	2194	2190	2243	2341
Starting Vehs	460	396	353	398	377	341	381
Ending Vehs	378	366	423	363	376	379	368
Travel Distance (mi)	2164	2045	2036	1943	1944	2044	2047
Travel Time (hr)	103.8	95.9	93.8	92.4	89.9	98.3	94.6
Total Delay (hr)	49.1	44.0	42.2	43.3	40.6	46.5	42.8
Total Stops	3328	3267	3111	3002	2970	3193	3172
Fuel Used (gal)	93.8	87.9	86.4	84.4	83.1	88.2	87.8

Interval #4 Information Recording

Start Time	8:45
End Time	9:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	2270	2275	2341	2284
Vehs Exited	2260	2338	2341	2294
Starting Vehs	400	408	371	385
Ending Vehs	410	345	371	368
Travel Distance (mi)	2034	2008	2058	2032
Travel Time (hr)	103.1	94.8	96.1	96.3
Total Delay (hr)	51.7	43.6	44.1	44.8
Total Stops	3383	3125	3149	3169
Fuel Used (gal)	90.1	87.1	87.9	87.7

73: Galleria & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	1.6	8.1	0.8	1.2	5.7	0.7	2.7	3.9	0.1	8.1	3.9	0.4
Total Del/Veh (s)	42.6	22.0	5.0	48.2	22.3	4.6	48.2	43.5	4.5	48.3	34.3	8.9
Stop Delay (hr)	1.5	5.4	0.2	1.1	4.1	0.4	2.6	3.4	0.0	7.3	3.3	0.4
Stop Del/Veh (s)	40.2	14.8	1.3	46.3	15.9	2.7	46.0	37.9	3.5	43.5	28.9	7.6

73: Galleria & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	37.2
Total Del/Veh (s)	24.9
Stop Delay (hr)	29.7
Stop Del/Veh (s)	19.9

84: Galleria & Antelope Creek Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0
Denied Del/Veh (s)	0.1	0.1	4.1	2.0	0.1	3.8	0.0	0.0	0.0	2.4	0.2	0.1
Total Delay (hr)	0.6	0.1	0.0	0.6	0.2	0.0	0.2	2.5	0.0	1.5	2.5	0.0
Total Del/Veh (s)	51.2	60.6	1.3	49.8	53.1	1.5	62.9	9.8	1.7	52.8	8.0	1.2
Stop Delay (hr)	0.5	0.1	0.0	0.5	0.2	0.0	0.2	1.7	0.0	1.4	1.5	0.0
Stop Del/Veh (s)	49.0	57.1	0.0	47.5	49.5	0.0	61.4	6.5	0.0	49.8	5.0	1.1

84: Galleria & Antelope Creek Dr Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.4
Total Delay (hr)	8.2
Total Del/Veh (s)	12.0
Stop Delay (hr)	6.2
Stop Del/Veh (s)	9.0

85: Pleasant Grove Blvd & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.4	0.1	0.1
Denied Del/Veh (s)	3.0	0.2	2.8	0.0	0.0	0.0	2.3	0.7	2.6	2.7	0.4	2.4
Total Delay (hr)	2.2	9.5	0.1	8.4	3.8	0.4	0.5	12.2	1.8	8.5	3.6	0.1
Total Del/Veh (s)	50.6	58.7	11.1	56.6	46.7	3.6	64.3	48.1	7.6	53.1	23.2	3.7
Stop Delay (hr)	2.0	8.0	0.0	7.6	3.3	0.0	0.5	9.7	0.0	7.5	2.8	0.1
Stop Del/Veh (s)	45.5	49.3	7.8	51.3	40.6	0.0	59.9	38.3	0.1	46.9	18.0	2.0

85: Pleasant Grove Blvd & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	1.5
Denied Del/Veh (s)	1.1
Total Delay (hr)	51.1
Total Del/Veh (s)	36.6
Stop Delay (hr)	41.5
Stop Del/Veh (s)	29.7

86: Castaic Dr/Gibson Dr & RV Parkway Performance by movement

Movement	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	0.9	3.3	0.3	4.7	0.9	0.0	0.1	0.2	2.9	0.0	0.1	13.4
Total Del/Veh (s)	50.8	6.5	54.0	18.4	10.0	57.4	66.4	22.5	48.4	40.1	5.6	13.8
Stop Delay (hr)	0.8	1.8	0.2	3.2	0.5	0.0	0.1	0.2	2.8	0.0	0.1	9.7
Stop Del/Veh (s)	48.8	3.5	50.2	12.6	5.4	56.1	64.3	22.4	46.1	36.3	5.3	10.0

89: Reserve & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.5	3.8	0.1	0.1	0.1
Total Delay (hr)	0.3	4.9	0.1	1.6	0.4	0.0	2.0	0.2	0.6	0.3	0.0	0.0
Total Del/Veh (s)	53.7	9.5	3.4	53.3	1.4	0.5	62.1	66.0	16.7	57.2	58.4	4.8
Stop Delay (hr)	0.3	3.0	0.1	1.5	0.1	0.0	1.9	0.2	0.6	0.3	0.0	0.0
Stop Del/Veh (s)	52.1	5.7	1.9	51.3	0.3	0.1	58.7	61.1	15.6	55.4	55.4	4.7

89: Reserve & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.2
Total Delay (hr)	10.5
Total Del/Veh (s)	10.5
Stop Delay (hr)	7.9
Stop Del/Veh (s)	7.9

106: RV Parkway & Creekside Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.4
Denied Del/Veh (s)	0.0	0.0	0.0	2.0	0.5	2.2	0.6	0.1	4.0	0.2	4.0	0.4
Total Delay (hr)	0.9	3.6	0.0	0.4	4.3	0.4	0.2	0.1	0.0	0.8	0.1	10.9
Total Del/Veh (s)	52.7	6.9	0.8	53.8	10.0	6.8	56.1	57.3	11.0	50.9	10.6	9.9
Stop Delay (hr)	0.8	2.0	0.0	0.4	2.0	0.1	0.2	0.1	0.0	0.7	0.1	6.5
Stop Del/Veh (s)	50.7	3.8	0.6	51.5	4.5	1.9	54.5	54.3	11.0	48.3	9.5	5.9

109: West Mall & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.4	4.1	0.0
Total Delay (hr)	0.8	5.2	0.0	0.2	4.7	0.0	0.0	0.5	0.4	0.2	0.1	12.2
Total Del/Veh (s)	47.4	9.3	7.1	55.8	13.9	1.3	55.6	53.7	17.2	52.5	9.1	12.4
Stop Delay (hr)	0.8	1.9	0.0	0.2	3.6	0.0	0.0	0.5	0.4	0.2	0.1	7.7
Stop Del/Veh (s)	44.1	3.4	1.5	53.6	10.6	1.1	54.3	52.0	17.0	50.5	8.9	7.8

151: Chase Dr & RV Parkway Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.1	0.0	0.2	0.2	0.0
Total Delay (hr)	7.2	0.2	1.7	1.3	1.5	0.1	12.0
Total Del/Veh (s)	14.7	6.6	46.1	5.8	47.1	1.6	13.9
Stop Delay (hr)	3.5	0.0	1.5	0.6	1.5	0.0	7.2
Stop Del/Veh (s)	7.3	0.1	42.0	2.8	44.4	0.0	8.3

Total Zone Performance

Denied Delay (hr)	2.4
Denied Del/Veh (s)	1.1
Total Delay (hr)	155.4
Total Del/Veh (s)	1770.8
Stop Delay (hr)	116.3
Stop Del/Veh (s)	1324.7

Intersection: 73: Galleria & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	78	97	222	230	229	188	92	59	62	137	112	136
Average Queue (ft)	20	38	105	116	117	54	14	9	14	68	51	50
95th Queue (ft)	57	76	199	213	210	146	54	35	42	119	98	106
Link Distance (ft)			531	531	531	531				378	378	378
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	400	400					225	250	250			
Storage Blk Time (%)						0						
Queuing Penalty (veh)						0						

Intersection: 73: Galleria & RV Parkway

Movement	WB	WB	NB	NB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	L	L	T	T	T	R	L	L	L
Maximum Queue (ft)	148	120	70	114	137	139	128	110	55	174	247	272
Average Queue (ft)	59	19	10	29	59	73	64	48	19	102	139	151
95th Queue (ft)	124	78	40	79	110	119	109	102	45	168	220	231
Link Distance (ft)	378	378				326	326	326				335
Upstream Blk Time (%)												0
Queuing Penalty (veh)												0
Storage Bay Dist (ft)			250	250	250				290	260	260	
Storage Blk Time (%)											0	0
Queuing Penalty (veh)											0	1

Intersection: 73: Galleria & RV Parkway

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	238	214	55	139
Average Queue (ft)	100	103	4	56
95th Queue (ft)	194	186	28	110
Link Distance (ft)	335	335	335	
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				275
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 84: Galleria & Antelope Creek Dr

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	LT	T	L	L	LT	T	L	T	T	T	L
Maximum Queue (ft)	90	26	2	31	58	79	22	45	165	182	191	79
Average Queue (ft)	32	4	0	5	15	31	1	12	54	86	104	27
95th Queue (ft)	70	18	2	23	43	66	9	36	138	158	168	67
Link Distance (ft)	238	238	238			341	341		564	564	564	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)				200	200			225				250
Storage Blk Time (%)	0											
Queuing Penalty (veh)	0											

Intersection: 84: Galleria & Antelope Creek Dr

Movement	SB	SB	SB	SB	SB
Directions Served	L	T	T	T	R
Maximum Queue (ft)	108	207	208	177	41
Average Queue (ft)	56	93	83	56	8
95th Queue (ft)	92	185	175	136	29
Link Distance (ft)		663	663	663	663
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	250				
Storage Blk Time (%)		0			
Queuing Penalty (veh)		0			

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	B12
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T
Maximum Queue (ft)	117	223	317	279	269	63	214	271	287	214	223	42
Average Queue (ft)	48	77	162	147	134	14	125	159	173	97	111	0
95th Queue (ft)	92	153	252	235	226	49	207	245	255	172	184	0
Link Distance (ft)			834	834	834				346	346	346	451
Upstream Blk Time (%)									0		0	
Queuing Penalty (veh)									0		0	
Storage Bay Dist (ft)	250	250				175	225	225				
Storage Blk Time (%)		0	2		5		0	1	3			
Queuing Penalty (veh)		0	3		1		0	2	12			

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T
Maximum Queue (ft)	17	109	372	373	399	264	241	278	291	189	183	174
Average Queue (ft)	1	16	192	182	162	20	119	155	169	84	83	71
95th Queue (ft)	9	68	305	305	298	136	217	233	245	151	145	137
Link Distance (ft)			722	722	722					802	802	802
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	250	250				250	400	400	400			
Storage Blk Time (%)			4		3							
Queuing Penalty (veh)			1		22							

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	SB
Directions Served	R
Maximum Queue (ft)	62
Average Queue (ft)	28
95th Queue (ft)	53
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	250
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 86: Castaic Dr/Gibson Dr & RV Parkway

Movement	EB	EB	EB	EB	B6	B6	B6	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	T	T	T	L	T	T	T	T
Maximum Queue (ft)	115	156	206	257	48	90	41	143	408	472	395	376
Average Queue (ft)	42	54	72	93	2	3	3	19	76	78	85	34
95th Queue (ft)	92	123	151	181	46	66	60	82	250	278	261	212
Link Distance (ft)		492	492	492	454	454	454		1064	1064	1064	1064
Upstream Blk Time (%)					0	0				0		
Queuing Penalty (veh)					0	0				0		
Storage Bay Dist (ft)	250							250				
Storage Blk Time (%)				16					3			1
Queuing Penalty (veh)				0					1			5

Intersection: 86: Castaic Dr/Gibson Dr & RV Parkway

Movement	WB	NB	NB	SB	SB	SB	SB
Directions Served	R	L	TR	L	L	LT	R
Maximum Queue (ft)	254	31	73	125	124	120	63
Average Queue (ft)	65	3	24	69	55	53	25
95th Queue (ft)	163	17	55	108	106	99	49
Link Distance (ft)		185	185	179	179	179	
Upstream Blk Time (%)						0	
Queuing Penalty (veh)						0	
Storage Bay Dist (ft)	200						225
Storage Blk Time (%)	1					0	
Queuing Penalty (veh)	1					0	

Intersection: 89: Reserve & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	14	50	197	210	221	294	203	91	101	46	61	65
Average Queue (ft)	1	19	99	107	120	156	35	34	57	5	8	9
95th Queue (ft)	10	45	172	181	196	263	111	78	91	27	36	37
Link Distance (ft)			308	308	308	308				376	376	376
Upstream Blk Time (%)						0						
Queuing Penalty (veh)						1						
Storage Bay Dist (ft)	255	255					235	215	215			
Storage Blk Time (%)			0			1						
Queuing Penalty (veh)			0			2						

Intersection: 89: Reserve & RV Parkway

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	LT	R	L	LT	R
Maximum Queue (ft)	78	28	82	131	105	49	45	30
Average Queue (ft)	16	2	27	66	44	14	11	4
95th Queue (ft)	53	13	66	111	82	42	36	20
Link Distance (ft)	376			513		258	258	258
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		225	235		240			
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 106: RV Parkway & Creekside

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	T	T	T	T	R	L
Maximum Queue (ft)	116	236	258	277	44	69	199	221	372	539	163	20
Average Queue (ft)	46	105	114	127	11	23	68	52	50	146	33	2
95th Queue (ft)	95	204	217	227	35	57	147	144	212	360	107	11
Link Distance (ft)		381	381	381	381		1150	1150	1150	1150		
Upstream Blk Time (%)				0								
Queuing Penalty (veh)				0								
Storage Bay Dist (ft)	230					220					235	60
Storage Blk Time (%)		0					1			2		
Queuing Penalty (veh)		0					0			5		

Intersection: 106: RV Parkway & Creekside

Movement	NB	NB	SB	SB	SB
Directions Served	LT	R	L	LT	R
Maximum Queue (ft)	56	19	24	90	53
Average Queue (ft)	14	3	2	38	17
95th Queue (ft)	42	13	16	77	41
Link Distance (ft)	169			347	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		60	100		100
Storage Blk Time (%)	1			0	
Queuing Penalty (veh)	0			0	

Intersection: 109: West Mall & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	T	T	T	T	R
Maximum Queue (ft)	64	75	246	277	376	42	43	318	352	363	411	43
Average Queue (ft)	12	33	60	76	135	2	11	68	73	80	92	9
95th Queue (ft)	40	64	164	196	295	32	35	212	227	244	283	30
Link Distance (ft)			1064	1064	1064			879	879	879	879	879
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	275	275				250	275					
Storage Blk Time (%)			0		2			1				
Queuing Penalty (veh)			0		0			0				

Intersection: 109: West Mall & RV Parkway

Movement	NB	NB	SB	SB	SB
Directions Served	LT	R	L	LT	R
Maximum Queue (ft)	82	96	12	62	44
Average Queue (ft)	37	45	1	13	14
95th Queue (ft)	74	82	6	41	35
Link Distance (ft)	222	222		275	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			125		125
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 151: Chase Dr & RV Parkway

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB
Directions Served	T	T	T	R	UL	T	T	T	L
Maximum Queue (ft)	270	300	337	140	260	232	174	210	179
Average Queue (ft)	119	147	168	6	105	51	51	62	91
95th Queue (ft)	236	263	286	69	212	142	128	148	151
Link Distance (ft)	1633	1633	1633			454	454	454	201
Upstream Blk Time (%)									0
Queuing Penalty (veh)									0
Storage Bay Dist (ft)				225	200				
Storage Blk Time (%)			3		2	0			
Queuing Penalty (veh)			3		6	0			

Zone Summary

Zone wide Queuing Penalty: 67

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	4:50	4:50	4:50	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	13954	14266	14103	14022	13831	13981	13962
Vehs Exited	13867	13902	14014	13897	13887	13866	13874
Starting Vehs	592	663	704	587	682	673	665
Ending Vehs	679	1027	793	712	626	788	753
Travel Distance (mi)	11090	11238	11173	11112	11033	11143	11147
Travel Time (hr)	682.9	804.3	766.3	680.0	689.1	742.4	721.3
Total Delay (hr)	396.2	513.6	477.7	392.4	403.7	454.2	432.9
Total Stops	24189	28488	27180	23724	24138	26614	25231
Fuel Used (gal)	533.6	565.3	559.3	535.5	532.1	550.7	545.0

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	14015	13812	13923	13990
Vehs Exited	13915	13764	13909	13889
Starting Vehs	756	640	640	652
Ending Vehs	856	688	654	752
Travel Distance (mi)	11266	11076	11119	11140
Travel Time (hr)	729.0	672.7	682.4	717.0
Total Delay (hr)	437.3	386.2	395.2	428.9
Total Stops	26150	22802	23576	25214
Fuel Used (gal)	553.7	530.1	537.3	544.3

Interval #0 Information Seeding

Start Time	4:50
End Time	5:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3521	3595	3539	3444	3426	3453	3544
Vehs Exited	3450	3520	3536	3395	3434	3461	3501
Starting Vehs	592	663	704	587	682	673	665
Ending Vehs	663	738	707	636	674	665	708
Travel Distance (mi)	2728	2877	2905	2772	2772	2782	2780
Travel Time (hr)	162.8	181.5	192.6	161.0	178.8	169.4	177.8
Total Delay (hr)	92.0	107.0	117.6	89.5	107.4	97.7	105.8
Total Stops	5610	6381	6754	5521	6203	5727	6401
Fuel Used (gal)	129.0	139.1	144.1	131.1	134.7	134.2	135.0

Interval #1 Information

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3408	3402	3529	3482
Vehs Exited	3455	3366	3494	3459
Starting Vehs	756	640	640	652
Ending Vehs	709	676	675	675
Travel Distance (mi)	2811	2717	2838	2798
Travel Time (hr)	180.5	162.7	167.2	173.4
Total Delay (hr)	107.9	92.4	94.0	101.1
Total Stops	6534	5410	5606	6014
Fuel Used (gal)	137.1	129.8	135.0	134.9

Interval #2 Information

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3538	3497	3547	3533	3448	3556	3420
Vehs Exited	3485	3505	3549	3484	3509	3494	3421
Starting Vehs	663	738	707	636	674	665	708
Ending Vehs	716	730	705	685	613	727	707
Travel Distance (mi)	2847	2767	2784	2759	2731	2752	2814
Travel Time (hr)	171.1	183.1	183.0	173.6	164.0	172.6	179.1
Total Delay (hr)	97.5	111.1	110.9	101.7	93.3	101.1	106.7
Total Stops	5958	6695	6671	6216	5633	6082	6064
Fuel Used (gal)	136.4	135.6	138.1	133.5	130.5	133.6	136.8

Interval #2 Information

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3533	3464	3430	3495
Vehs Exited	3550	3486	3468	3495
Starting Vehs	709	676	675	675
Ending Vehs	692	654	637	684
Travel Distance (mi)	2840	2786	2781	2786
Travel Time (hr)	179.7	169.3	167.2	174.3
Total Delay (hr)	106.0	97.1	95.5	102.1
Total Stops	6265	5739	5719	6106
Fuel Used (gal)	139.4	133.7	133.0	135.1

Interval #3 Information

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3440	3589	3508	3548	3465	3425	3459
Vehs Exited	3473	3432	3417	3523	3381	3437	3470
Starting Vehs	716	730	705	685	613	727	707
Ending Vehs	683	887	796	710	697	715	696
Travel Distance (mi)	2769	2817	2740	2805	2764	2798	2721
Travel Time (hr)	183.5	206.5	186.7	176.5	171.7	195.0	175.2
Total Delay (hr)	112.1	133.9	116.3	104.0	100.4	122.9	104.6
Total Stops	6787	7266	6611	6167	6004	7124	6191
Fuel Used (gal)	136.4	142.9	135.9	137.2	132.1	139.3	132.8

Interval #3 Information

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3498	3456	3552	3488
Vehs Exited	3412	3468	3417	3442
Starting Vehs	692	654	637	684
Ending Vehs	778	642	772	732
Travel Distance (mi)	2754	2796	2816	2778
Travel Time (hr)	171.2	168.4	174.4	180.9
Total Delay (hr)	100.0	96.5	101.7	109.2
Total Stops	5995	5729	5984	6388
Fuel Used (gal)	133.6	133.6	136.5	136.1

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3455	3585	3509	3497	3492	3547	3539
Vehs Exited	3459	3445	3512	3495	3563	3474	3482
Starting Vehs	683	887	796	710	697	715	696
Ending Vehs	679	1027	793	712	626	788	753
Travel Distance (mi)	2746	2777	2745	2776	2767	2811	2832
Travel Time (hr)	165.5	233.2	203.9	169.0	174.6	205.3	189.2
Total Delay (hr)	94.6	161.6	133.0	97.2	102.5	132.5	115.8
Total Stops	5834	8146	7144	5820	6298	7681	6575
Fuel Used (gal)	131.8	147.6	141.3	133.6	134.8	143.5	140.3

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3576	3490	3412	3508
Vehs Exited	3498	3444	3530	3486
Starting Vehs	778	642	772	732
Ending Vehs	856	688	654	752
Travel Distance (mi)	2862	2776	2685	2778
Travel Time (hr)	197.5	172.2	173.6	188.4
Total Delay (hr)	123.4	100.2	104.0	116.5
Total Stops	7356	5924	6267	6703
Fuel Used (gal)	143.7	132.9	132.8	138.2

73: Galleria & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	7.9	11.0	0.7	3.5	13.9	6.5	6.1	11.2	0.1	10.7	14.1	1.8
Total Del/Veh (s)	65.7	36.6	5.2	61.1	35.5	29.5	46.1	46.6	5.4	69.0	79.3	18.4
Stop Delay (hr)	7.3	9.0	0.3	3.3	10.7	5.4	5.6	9.3	0.1	9.9	12.5	1.5
Stop Del/Veh (s)	60.8	30.1	2.3	58.0	27.3	24.6	42.3	38.8	3.4	64.0	70.6	15.5

73: Galleria & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	87.5
Total Del/Veh (s)	42.8
Stop Delay (hr)	75.0
Stop Del/Veh (s)	36.7

84: Galleria & Antelope Creek Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.1	0.1	0.0	0.3	0.0	0.0	0.0	0.1	0.1	0.0
Denied Del/Veh (s)	0.1	0.1	3.2	1.5	0.3	3.2	0.0	0.0	0.0	2.3	0.3	0.2
Total Delay (hr)	4.1	0.7	0.0	2.5	1.0	0.2	2.0	19.1	0.1	3.1	8.0	0.1
Total Del/Veh (s)	43.5	46.0	1.5	45.9	47.4	2.4	66.7	38.5	2.6	51.3	25.5	3.7
Stop Delay (hr)	3.8	0.6	0.0	2.3	0.9	0.0	1.8	13.2	0.0	2.9	5.9	0.1
Stop Del/Veh (s)	40.0	42.0	0.0	42.2	42.4	0.0	60.2	26.7	0.2	46.7	18.8	2.8

84: Galleria & Antelope Creek Dr Performance by movement

Movement	All
Denied Delay (hr)	0.7
Denied Del/Veh (s)	0.6
Total Delay (hr)	41.1
Total Del/Veh (s)	31.9
Stop Delay (hr)	31.6
Stop Del/Veh (s)	24.5

85: Pleasant Grove Blvd & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1	0.3	0.2	0.1
Denied Del/Veh (s)	2.8	0.2	2.7	0.0	0.0	0.0	4.4	3.6	5.7	2.0	0.5	1.7
Total Delay (hr)	3.0	7.7	0.1	23.9	9.1	1.5	0.8	31.8	3.8	10.0	12.8	0.3
Total Del/Veh (s)	59.2	59.2	20.2	79.9	51.4	6.6	84.8	105.4	19.4	57.7	35.4	6.7
Stop Delay (hr)	2.8	6.6	0.1	21.1	7.6	0.0	0.7	27.2	1.6	8.8	9.5	0.1
Stop Del/Veh (s)	53.9	50.3	17.4	70.5	43.1	0.1	76.6	90.0	8.1	50.7	26.4	2.7

85: Pleasant Grove Blvd & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	3.0
Denied Del/Veh (s)	1.5
Total Delay (hr)	105.0
Total Del/Veh (s)	52.8
Stop Delay (hr)	86.1
Stop Del/Veh (s)	43.3

86: Castaic Dr/Gibson Dr & RV Parkway Performance by movement

Movement	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	2.0	5.0	0.5	14.1	0.8	0.0	0.0	0.1	4.5	0.0	0.2	27.2
Total Del/Veh (s)	53.2	12.1	49.5	23.0	9.8	59.1	87.0	16.0	48.5	58.1	7.3	21.3
Stop Delay (hr)	1.8	2.3	0.4	7.4	0.3	0.0	0.0	0.1	4.2	0.0	0.1	16.7
Stop Del/Veh (s)	48.8	5.5	42.9	12.0	4.0	57.6	84.3	16.0	45.9	53.1	6.8	13.1

89: Reserve & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	3.3	0.1	0.2	0.1
Total Delay (hr)	0.6	11.4	0.5	3.4	6.0	0.1	5.2	0.6	1.3	2.1	0.3	0.1
Total Del/Veh (s)	46.6	26.2	7.4	62.8	11.3	3.3	50.0	58.3	18.4	47.4	49.1	6.4
Stop Delay (hr)	0.6	9.2	0.4	3.2	3.8	0.1	4.7	0.5	1.2	1.9	0.3	0.1
Stop Del/Veh (s)	44.0	21.2	5.1	59.6	7.2	1.3	45.0	51.9	16.3	44.4	45.2	6.0

89: Reserve & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	0.3
Total Delay (hr)	31.6
Total Del/Veh (s)	22.6
Stop Delay (hr)	25.9
Stop Del/Veh (s)	18.5

106: RV Parkway & Creekside Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	1.6	0.4	0.0	0.0	0.0	0.0	0.1	2.1
Denied Del/Veh (s)	0.0	0.0	0.0	3.6	2.5	3.8	0.9	0.2	4.1	0.4	3.9	1.7
Total Delay (hr)	0.9	1.8	0.0	0.8	14.8	2.6	0.4	0.2	0.1	1.3	0.3	23.1
Total Del/Veh (s)	36.9	4.2	0.4	59.9	23.6	26.5	53.5	57.7	11.7	47.1	14.6	18.4
Stop Delay (hr)	0.8	0.9	0.0	0.7	7.0	1.0	0.3	0.2	0.1	1.2	0.3	12.6
Stop Del/Veh (s)	35.0	2.2	0.2	55.3	11.1	9.7	51.8	54.5	11.4	43.9	13.1	10.0

109: West Mall & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2
Denied Del/Veh (s)	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	1.5	1.0	3.8
Total Delay (hr)	2.5	5.2	0.1	0.6	8.0	0.0	0.4	0.0	0.1	1.7	0.0	1.1
Total Del/Veh (s)	64.6	11.0	7.3	63.0	12.6	1.4	53.9	54.7	15.4	45.9	48.4	18.8
Stop Delay (hr)	2.3	1.4	0.0	0.5	3.8	0.0	0.4	0.0	0.1	1.6	0.0	1.0
Stop Del/Veh (s)	58.0	3.0	0.5	59.5	6.0	1.0	52.6	52.8	15.3	42.9	43.5	17.6

109: West Mall & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	0.3
Denied Del/Veh (s)	0.2
Total Delay (hr)	19.7
Total Del/Veh (s)	15.2
Stop Delay (hr)	11.2
Stop Del/Veh (s)	8.6

151: Chase Dr & RV Parkway Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	4.9	0.1	2.0	5.9	0.8	0.0	13.7
Total Del/Veh (s)	11.5	5.2	59.8	10.2	48.2	1.3	12.5
Stop Delay (hr)	2.4	0.0	1.8	2.1	0.7	0.0	7.1
Stop Del/Veh (s)	5.6	0.0	54.8	3.7	46.0	0.0	6.4

Total Zone Performance

Denied Delay (hr)	6.5
Denied Del/Veh (s)	2.1
Total Delay (hr)	348.9
Total Del/Veh (s)	2308.6
Stop Delay (hr)	266.1
Stop Del/Veh (s)	1760.8

Intersection: 73: Galleria & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	239	248	241	234	210	167	125	117	147	218	213	284
Average Queue (ft)	121	139	122	121	119	70	16	42	50	88	86	103
95th Queue (ft)	211	230	210	196	187	154	66	96	109	166	170	219
Link Distance (ft)			529	529	529	529				384	384	384
Upstream Blk Time (%)												0
Queuing Penalty (veh)												0
Storage Bay Dist (ft)	400	400					225	250	250			
Storage Blk Time (%)										0		
Queuing Penalty (veh)										1		

Intersection: 73: Galleria & RV Parkway

Movement	WB	WB	NB	NB	NB	NB	NB	NB	NB	B23	SB	SB
Directions Served	T	R	L	L	L	T	T	T	R	T	L	L
Maximum Queue (ft)	366	398	144	213	268	311	277	246	63	6	189	295
Average Queue (ft)	159	252	68	100	131	176	173	168	20	0	106	149
95th Queue (ft)	333	408	122	167	204	263	246	234	47	6	168	253
Link Distance (ft)	384	384				326	326	326		484		
Upstream Blk Time (%)	2	4			0	0	0					
Queuing Penalty (veh)	7	19			0	0	0					
Storage Bay Dist (ft)			250	250	250				290		260	260
Storage Blk Time (%)				0	0	1		0			0	0
Queuing Penalty (veh)				0	0	5		0			0	0

Intersection: 73: Galleria & RV Parkway

Movement	SB	SB	SB	SB	SB
Directions Served	L	T	T	T	R
Maximum Queue (ft)	345	344	355	318	293
Average Queue (ft)	171	215	224	58	147
95th Queue (ft)	294	339	344	228	250
Link Distance (ft)	336	336	336	336	
Upstream Blk Time (%)	2	3	4	1	0
Queuing Penalty (veh)	6	10	15	3	0
Storage Bay Dist (ft)					275
Storage Blk Time (%)	3			1	0
Queuing Penalty (veh)	11			3	1

Intersection: 84: Galleria & Antelope Creek Dr

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB
Directions Served	L	L	LT	T	L	L	LT	T	L	L	T	T
Maximum Queue (ft)	157	195	157	116	78	153	170	160	106	328	531	549
Average Queue (ft)	111	145	82	9	16	68	109	50	38	86	279	294
95th Queue (ft)	179	183	149	56	52	138	163	144	83	234	506	516
Link Distance (ft)		238	238	238			341	341			565	565
Upstream Blk Time (%)		0									2	2
Queuing Penalty (veh)		0									9	11
Storage Bay Dist (ft)	125				200	200			225	225		
Storage Blk Time (%)	3	11		0			0	0			14	
Queuing Penalty (veh)	4	12		0			0	0			14	

Intersection: 84: Galleria & Antelope Creek Dr

Movement	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	R	L	L	T	T	T	R
Maximum Queue (ft)	557	132	159	172	282	269	291	72
Average Queue (ft)	306	14	68	94	173	169	161	33
95th Queue (ft)	526	145	124	145	250	250	251	60
Link Distance (ft)	565	565			663	663	663	663
Upstream Blk Time (%)	3	0						
Queuing Penalty (veh)	15	1						
Storage Bay Dist (ft)			250	250				
Storage Blk Time (%)					1			
Queuing Penalty (veh)					2			

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	R
Maximum Queue (ft)	139	166	221	206	192	52	274	325	448	401	389	172
Average Queue (ft)	64	90	149	128	109	13	251	314	396	268	258	8
95th Queue (ft)	119	141	206	189	179	41	294	355	484	408	378	97
Link Distance (ft)			834	834	834				346	346	346	346
Upstream Blk Time (%)									28	4	2	0
Queuing Penalty (veh)									183	27	11	1
Storage Bay Dist (ft)	250	250				175	225	225				
Storage Blk Time (%)		0	0		1		19	41	49			
Queuing Penalty (veh)		0	0		0		69	147	354			

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	B12	B12	B12	B12	NB	NB	NB	NB	NB	NB	SB	SB
Directions Served	T	T	T	T	L	L	T	T	T	R	L	L
Maximum Queue (ft)	489	484	504	516	33	320	627	621	653	350	241	293
Average Queue (ft)	268	212	206	170	4	59	396	394	407	165	140	172
95th Queue (ft)	567	553	585	550	19	242	641	645	734	450	220	248
Link Distance (ft)	451	451	451	451			722	722	722			
Upstream Blk Time (%)	9	7	10	10			0	0	7			
Queuing Penalty (veh)	57	45	63	67			0	0	0			
Storage Bay Dist (ft)					250	250				250	400	400
Storage Blk Time (%)						0	41		32	0		
Queuing Penalty (veh)						0	14		225	0		

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	SB	SB	SB	SB	SB
Directions Served	L	T	T	T	R
Maximum Queue (ft)	324	351	344	345	224
Average Queue (ft)	191	238	239	230	51
95th Queue (ft)	269	331	331	322	150
Link Distance (ft)		802	802	802	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	400				250
Storage Blk Time (%)	0	0		6	
Queuing Penalty (veh)	0	0		10	

Intersection: 86: Castaic Dr/Gibson Dr & RV Parkway

Movement	EB	EB	EB	EB	B6	B6	WB	WB	WB	WB	WB	WB
Directions Served	L	T	T	T	T	T	L	T	T	T	T	R
Maximum Queue (ft)	200	254	262	292	42	46	118	479	501	431	378	219
Average Queue (ft)	84	118	118	148	1	2	29	185	212	220	102	59
95th Queue (ft)	165	234	241	287	43	47	80	363	404	375	295	149
Link Distance (ft)		492	492	492	454	454		1064	1064	1064	1064	
Upstream Blk Time (%)						0			0			
Queuing Penalty (veh)						0			0			
Storage Bay Dist (ft)	250						250					200
Storage Blk Time (%)	0	0		14				3			2	0
Queuing Penalty (veh)	1	0		0				1			7	0

Intersection: 86: Castaic Dr/Gibson Dr & RV Parkway

Movement	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	L	LT	R
Maximum Queue (ft)	24	47	169	165	169	117
Average Queue (ft)	1	14	98	89	79	28
95th Queue (ft)	10	37	149	150	139	68
Link Distance (ft)	185	185	179	179	179	
Upstream Blk Time (%)			0	0	0	0
Queuing Penalty (veh)			0	0	0	0
Storage Bay Dist (ft)						225
Storage Blk Time (%)					0	0
Queuing Penalty (veh)					0	0

Intersection: 89: Reserve & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	58	166	327	257	276	342	285	144	150	159	174	205
Average Queue (ft)	11	34	176	135	149	204	95	74	84	79	99	118
95th Queue (ft)	38	97	299	235	252	328	234	128	133	137	150	176
Link Distance (ft)			326	326	326	326				375	375	375
Upstream Blk Time (%)			1		0	2						
Queuing Penalty (veh)			4		0	8						
Storage Bay Dist (ft)	255	255					235	215	215			
Storage Blk Time (%)			4			7			0	0		
Queuing Penalty (veh)			2			17			0	0		

Intersection: 89: Reserve & RV Parkway

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	LT	R	L	LT	R
Maximum Queue (ft)	221	60	243	322	230	164	154	57
Average Queue (ft)	135	27	131	164	88	83	61	28
95th Queue (ft)	198	57	217	251	171	144	125	52
Link Distance (ft)	375			513		258	258	258
Upstream Blk Time (%)				0				
Queuing Penalty (veh)				0				
Storage Bay Dist (ft)		225	235		240			
Storage Blk Time (%)	0		0	1	0			
Queuing Penalty (veh)	0		1	5	1			

Intersection: 106: RV Parkway & Creekside

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	T	T	T	T	R	L
Maximum Queue (ft)	143	117	126	135	14	120	252	419	808	944	285	27
Average Queue (ft)	54	26	38	50	1	42	136	129	281	449	165	3
95th Queue (ft)	108	83	90	104	7	93	222	317	837	987	356	16
Link Distance (ft)		381	381	381	381		1150	1150	1150	1150		
Upstream Blk Time (%)									1	4		
Queuing Penalty (veh)									0	0		
Storage Bay Dist (ft)	230					220					235	60
Storage Blk Time (%)							0			17	0	0
Queuing Penalty (veh)							0			58	0	0

Intersection: 106: RV Parkway & Creekside

Movement	NB	NB	SB	SB	SB
Directions Served	LT	R	L	LT	R
Maximum Queue (ft)	72	54	101	126	80
Average Queue (ft)	21	13	12	66	32
95th Queue (ft)	53	36	56	114	63
Link Distance (ft)	169			347	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		60	100		100
Storage Blk Time (%)	2	0	0	3	0
Queuing Penalty (veh)	1	0	0	3	0

Intersection: 109: West Mall & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	T	T	T	T	R
Maximum Queue (ft)	100	114	238	253	300	45	78	258	287	288	282	44
Average Queue (ft)	45	63	70	63	101	3	30	102	112	117	103	12
95th Queue (ft)	89	103	167	163	229	33	68	196	212	219	205	34
Link Distance (ft)			1064	1064	1064			859	859	859	859	859
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	275	275				250	275					
Storage Blk Time (%)			0		1			0				
Queuing Penalty (veh)			0		0			0				

Intersection: 109: West Mall & RV Parkway

Movement	NB	NB	SB	SB	SB
Directions Served	LT	R	L	LT	R
Maximum Queue (ft)	86	46	134	190	165
Average Queue (ft)	28	17	30	79	74
95th Queue (ft)	64	44	94	161	141
Link Distance (ft)	222	222		275	
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)			125		125
Storage Blk Time (%)			0	2	3
Queuing Penalty (veh)			0	6	4

Intersection: 151: Chase Dr & RV Parkway

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B6	B6	B6	B6
Directions Served	T	T	T	R	UL	T	T	T	T	T	T	
Maximum Queue (ft)	257	276	284	107	252	385	442	463	132	244	333	53
Average Queue (ft)	114	117	135	4	96	97	118	136	4	11	19	2
95th Queue (ft)	226	233	244	59	188	271	311	340	67	120	177	54
Link Distance (ft)	1633	1633	1633			454	454	454	492	492	492	492
Upstream Blk Time (%)						0	1	2		0	0	0
Queuing Penalty (veh)						0	4	17		0	1	0
Storage Bay Dist (ft)				225	200							
Storage Blk Time (%)			2		1	2						
Queuing Penalty (veh)			1		4	2						

Intersection: 151: Chase Dr & RV Parkway

Movement	NB
Directions Served	L
Maximum Queue (ft)	117
Average Queue (ft)	48
95th Queue (ft)	98
Link Distance (ft)	201
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 1571

Appendix C

Analysis Worksheets for
Cumulative (2035) plus Project Conditions

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	7:50	7:50	7:50	7:50	7:50	7:50	7:50
End Time	9:00	9:00	9:00	9:00	9:00	9:00	9:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	12162	12375	12659	12438	12457	12421	12402
Vehs Exited	11847	12243	12361	12270	12218	12197	12063
Starting Vehs	666	739	678	757	735	721	648
Ending Vehs	981	871	976	925	974	945	987
Travel Distance (mi)	10187	10472	10596	10463	10370	10447	10357
Travel Time (hr)	1706.2	1812.3	1666.0	1834.5	1678.3	1812.0	1715.4
Total Delay (hr)	1443.9	1542.5	1393.8	1565.4	1411.2	1543.1	1448.9
Total Stops	23628	25102	24331	24675	23978	24869	24299
Fuel Used (gal)	719.0	753.5	723.4	759.2	718.1	753.1	727.0

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	7:50	7:50	7:50	7:50
End Time	9:00	9:00	9:00	9:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	12189	12343	12186	12364
Vehs Exited	11981	12055	12118	12135
Starting Vehs	775	726	708	707
Ending Vehs	983	1014	776	937
Travel Distance (mi)	10384	10332	10305	10391
Travel Time (hr)	1814.0	1741.0	1809.3	1758.9
Total Delay (hr)	1547.2	1474.7	1543.7	1491.4
Total Stops	23665	23997	25155	24370
Fuel Used (gal)	748.9	727.2	744.6	737.4

Interval #0 Information Seeding

Start Time	7:50
End Time	8:00
Total Time (min)	10

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3027	3090	3195	3092	3085	3258	3176
Vehs Exited	2951	3017	3098	3074	3067	3119	3029
Starting Vehs	666	739	678	757	735	721	648
Ending Vehs	742	812	775	775	753	860	795
Travel Distance (mi)	2509	2565	2620	2530	2531	2669	2575
Travel Time (hr)	241.9	273.8	250.5	278.2	241.6	260.8	259.8
Total Delay (hr)	177.3	208.0	183.4	213.1	176.4	192.0	193.3
Total Stops	5252	5871	5428	5712	5153	5978	5824
Fuel Used (gal)	137.2	146.1	141.8	145.7	136.0	146.0	142.4

Interval #1 Information

Start Time	8:00
End Time	8:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3101	3155	3225	3138
Vehs Exited	3087	3125	3068	3061
Starting Vehs	775	726	708	707
Ending Vehs	789	756	865	791
Travel Distance (mi)	2673	2671	2696	2604
Travel Time (hr)	279.3	261.8	274.9	262.3
Total Delay (hr)	210.3	192.9	205.6	195.2
Total Stops	5924	5887	6083	5705
Fuel Used (gal)	149.8	145.7	148.8	143.9

Interval #2 Information

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3053	3112	3101	3105	3116	2997	3042
Vehs Exited	2957	3008	3037	2935	3015	2996	2991
Starting Vehs	742	812	775	775	753	860	795
Ending Vehs	838	916	839	945	854	861	846
Travel Distance (mi)	2551	2678	2586	2630	2616	2581	2577
Travel Time (hr)	368.8	405.6	352.5	408.1	369.4	377.1	365.9
Total Delay (hr)	303.0	336.8	285.9	340.8	302.2	310.9	299.6
Total Stops	5720	6405	5676	6230	6100	6034	5801
Fuel Used (gal)	167.2	179.3	164.7	179.4	169.6	169.5	166.8

Interval #2 Information

Start Time	8:15
End Time	8:30
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3011	2986	3055	3056
Vehs Exited	2916	2898	3031	2976
Starting Vehs	789	756	865	791
Ending Vehs	884	844	889	867
Travel Distance (mi)	2525	2535	2619	2590
Travel Time (hr)	390.9	367.5	411.7	381.7
Total Delay (hr)	326.3	302.4	344.4	315.2
Total Stops	5648	5692	6671	5999
Fuel Used (gal)	171.5	164.0	178.3	171.0

Interval #3 Information

Start Time	8:30
End Time	8:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3035	3063	3165	3134	3092	3060	3113
Vehs Exited	2969	3038	3023	3127	3085	2976	3039
Starting Vehs	838	916	839	945	854	861	846
Ending Vehs	904	941	981	952	861	945	920
Travel Distance (mi)	2540	2580	2682	2608	2594	2538	2630
Travel Time (hr)	486.3	515.3	472.5	520.5	476.7	518.0	481.4
Total Delay (hr)	420.7	448.6	403.9	452.8	410.0	452.6	413.7
Total Stops	6221	6437	6544	6220	6206	6254	6469
Fuel Used (gal)	192.8	201.6	195.1	203.4	193.1	200.9	195.2

Interval #3 Information

Start Time	8:30
End Time	8:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3016	3074	3006	3072
Vehs Exited	2991	2981	2964	3018
Starting Vehs	884	844	889	867
Ending Vehs	909	937	931	922
Travel Distance (mi)	2620	2551	2521	2586
Travel Time (hr)	515.1	494.1	514.3	499.4
Total Delay (hr)	448.0	428.0	449.4	432.8
Total Stops	6099	5982	6394	6284
Fuel Used (gal)	201.5	194.1	198.8	197.7

Interval #4 Information Recording

Start Time	8:45
End Time	9:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	3047	3110	3198	3107	3164	3106	3071
Vehs Exited	2970	3180	3203	3134	3051	3106	3004
Starting Vehs	904	941	981	952	861	945	920
Ending Vehs	981	871	976	925	974	945	987
Travel Distance (mi)	2588	2649	2708	2694	2629	2659	2576
Travel Time (hr)	609.2	617.6	590.4	627.7	590.5	656.3	608.4
Total Delay (hr)	542.9	549.2	520.6	558.6	522.7	587.7	542.2
Total Stops	6435	6389	6683	6513	6519	6603	6205
Fuel Used (gal)	221.8	226.5	221.9	230.8	219.4	236.7	222.6

Interval #4 Information Recording

Start Time	8:45
End Time	9:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3061	3128	2900	3087
Vehs Exited	2987	3051	3055	3072
Starting Vehs	909	937	931	922
Ending Vehs	983	1014	776	937
Travel Distance (mi)	2566	2574	2469	2611
Travel Time (hr)	628.7	617.6	608.3	615.5
Total Delay (hr)	562.7	551.3	544.3	548.2
Total Stops	5994	6436	6007	6377
Fuel Used (gal)	226.1	223.4	218.6	224.8

73: Galleria & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	3.7	9.0	0.5	1.4	19.2	1.5	26.7	10.4	0.1	20.7	6.6	2.2
Total Del/Veh (s)	56.3	28.8	3.4	70.3	45.3	11.3	128.6	53.6	6.3	114.9	47.5	23.5
Stop Delay (hr)	3.4	7.6	0.1	1.4	14.9	1.3	25.2	8.8	0.1	19.6	5.6	1.9
Stop Del/Veh (s)	53.0	24.2	0.9	67.3	35.1	9.3	121.5	45.8	3.6	108.6	40.1	20.4

73: Galleria & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	102.0
Total Del/Veh (s)	53.1
Stop Delay (hr)	89.8
Stop Del/Veh (s)	46.8

84: Galleria & Antelope Creek Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.0
Denied Del/Veh (s)	0.1	0.1	4.1	1.8	0.1	3.9	0.0	0.0	0.0	2.1	0.3	0.3
Total Delay (hr)	0.8	0.2	0.0	1.0	0.1	0.0	0.3	3.3	0.1	5.5	3.9	0.1
Total Del/Veh (s)	62.1	67.7	1.2	65.7	73.8	1.4	77.8	10.5	2.6	63.2	10.2	1.8
Stop Delay (hr)	0.8	0.2	0.0	0.9	0.1	0.0	0.3	2.1	0.0	5.0	2.4	0.0
Stop Del/Veh (s)	59.6	64.7	0.0	63.2	70.1	0.0	76.0	6.7	0.0	58.2	6.4	1.1

84: Galleria & Antelope Creek Dr Performance by movement

Movement	All
Denied Delay (hr)	0.4
Denied Del/Veh (s)	0.5
Total Delay (hr)	15.2
Total Del/Veh (s)	17.0
Stop Delay (hr)	12.0
Stop Del/Veh (s)	13.4

85: Pleasant Grove Blvd & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	9.3	58.3	1.4	0.0	0.0	0.0	0.0	1.2	1.5	387.9	315.7	80.7
Denied Del/Veh (s)	198.4	191.9	201.0	0.0	0.0	0.0	4.3	3.4	5.2	1363.6	1346.6	1358.4
Total Delay (hr)	9.0	73.1	1.0	7.9	28.8	0.6	0.5	24.0	6.2	71.9	2.2	0.1
Total Del/Veh (s)	209.9	262.1	164.3	52.8	110.7	5.1	80.1	67.0	20.7	707.7	32.8	2.9
Stop Delay (hr)	8.4	67.6	1.0	7.1	25.3	0.0	0.5	18.9	1.6	71.3	2.0	0.0
Stop Del/Veh (s)	195.4	242.5	152.9	47.5	97.4	0.0	73.3	52.9	5.3	701.4	29.7	1.9

85: Pleasant Grove Blvd & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	856.0
Denied Del/Veh (s)	404.0
Total Delay (hr)	225.4
Total Del/Veh (s)	131.3
Stop Delay (hr)	203.8
Stop Del/Veh (s)	118.7

86: Castaic Dr/Gibson Dr & RV Parkway Performance by movement

Movement	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	3.6	4.2	0.8	6.6	14.7	0.0	0.1	0.2	6.3	0.0	0.5	36.9
Total Del/Veh (s)	75.4	9.1	78.9	14.8	54.5	102.6	72.0	22.4	55.0	72.7	9.2	26.3
Stop Delay (hr)	3.4	2.4	0.7	4.0	8.3	0.0	0.1	0.2	6.0	0.0	0.4	25.5
Stop Del/Veh (s)	71.0	5.3	75.0	8.9	30.6	100.9	69.9	22.3	52.0	65.6	8.1	18.1

89: Reserve & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.3	0.6	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	15.5	13.7	16.5	0.1	0.1	0.1
Total Delay (hr)	0.1	5.7	0.3	4.7	6.7	0.1	9.9	3.4	1.3	1.0	0.3	0.0
Total Del/Veh (s)	75.6	12.1	4.4	69.7	10.8	3.7	120.2	139.8	35.1	67.0	75.5	6.8
Stop Delay (hr)	0.1	4.0	0.2	4.5	3.8	0.0	9.2	3.2	1.1	1.0	0.3	0.0
Stop Del/Veh (s)	74.1	8.5	2.5	66.0	6.2	1.2	111.9	129.9	30.5	64.6	71.7	6.8

89: Reserve & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	2.2
Denied Del/Veh (s)	1.6
Total Delay (hr)	33.5
Total Del/Veh (s)	23.7
Stop Delay (hr)	27.4
Stop Del/Veh (s)	19.4

106: RV Parkway & Creekside Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.8
Denied Del/Veh (s)	0.0	0.0	0.0	2.0	0.8	2.1	0.5	0.1	3.9	0.3	4.0	0.7
Total Delay (hr)	0.9	0.6	0.0	0.4	5.0	1.8	0.1	0.1	0.0	1.1	0.1	10.2
Total Del/Veh (s)	46.3	1.3	0.1	77.3	10.1	11.1	66.8	74.6	14.1	64.8	10.3	8.6
Stop Delay (hr)	0.9	0.1	0.0	0.4	1.8	0.3	0.1	0.1	0.0	1.0	0.1	4.9
Stop Del/Veh (s)	44.4	0.3	0.1	74.8	3.6	2.0	65.4	71.7	14.2	61.7	9.1	4.1

109: West Mall & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.4
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	10.4	8.8	3.7	0.5	4.0	0.3
Total Delay (hr)	2.3	4.8	0.0	0.2	10.0	0.0	1.7	2.0	0.2	0.1	0.9	22.2
Total Del/Veh (s)	68.3	8.7	5.7	65.8	14.6	2.4	143.7	147.4	17.8	75.4	40.6	16.5
Stop Delay (hr)	2.1	1.7	0.0	0.2	5.8	0.0	1.7	1.9	0.2	0.1	0.9	14.6
Stop Del/Veh (s)	63.8	3.0	1.1	64.0	8.4	2.1	142.1	145.6	17.6	73.7	40.8	10.9

151: Chase Dr & RV Parkway Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.2	0.0
Total Delay (hr)	4.5	0.1	1.0	2.2	0.7	0.1	8.6
Total Del/Veh (s)	9.7	5.6	55.1	4.8	62.7	1.5	8.6
Stop Delay (hr)	1.9	0.0	1.0	1.0	0.7	0.0	4.6
Stop Del/Veh (s)	4.1	0.0	52.3	2.3	60.5	0.0	4.6

Total Zone Performance

Denied Delay (hr)	859.8
Denied Del/Veh (s)	275.4
Total Delay (hr)	454.0
Total Del/Veh (s)	2403.3
Stop Delay (hr)	382.5
Stop Del/Veh (s)	2025.1

Intersection: 73: Galleria & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	133	164	189	179	174	131	43	69	229	296	309	345
Average Queue (ft)	60	82	94	97	98	38	5	11	43	187	185	214
95th Queue (ft)	117	140	166	161	160	109	24	41	145	271	276	318
Link Distance (ft)			531	531	531	531				378	378	378
Upstream Blk Time (%)										0	0	0
Queuing Penalty (veh)										1	0	1
Storage Bay Dist (ft)	400	400					225	250	250			
Storage Blk Time (%)						0			0	1		
Queuing Penalty (veh)						0			0	1		

Intersection: 73: Galleria & RV Parkway

Movement	WB	WB	NB	NB	NB	NB	NB	NB	NB	B23	B23	SB
Directions Served	T	R	L	L	L	T	T	T	R	T	T	L
Maximum Queue (ft)	382	369	280	316	326	413	345	331	88	524	492	279
Average Queue (ft)	253	83	199	291	310	367	228	206	23	328	256	191
95th Queue (ft)	360	264	297	361	363	481	344	309	64	684	603	291
Link Distance (ft)	378	378				326	326	326		484	484	
Upstream Blk Time (%)	0	0		1	18	40	1	1	0	27	2	
Queuing Penalty (veh)	2	2		0	0	0	0	0	0	0	0	
Storage Bay Dist (ft)			250	250	250				290			260
Storage Blk Time (%)			2	16	59	31		2				1
Queuing Penalty (veh)			4	38	138	229		1				3

Intersection: 73: Galleria & RV Parkway

Movement	SB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R
Maximum Queue (ft)	309	367	353	336	275	286
Average Queue (ft)	240	262	239	208	35	149
95th Queue (ft)	350	395	387	337	170	247
Link Distance (ft)		335	335	335	335	
Upstream Blk Time (%)		12	8	0	0	0
Queuing Penalty (veh)		43	28	1	0	0
Storage Bay Dist (ft)	260					275
Storage Blk Time (%)	14	21			0	0
Queuing Penalty (veh)	29	89			1	1

Intersection: 84: Galleria & Antelope Creek Dr

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	L	LT	L	L	LT	T	L	L	T	T	T
Maximum Queue (ft)	35	102	41	33	81	92	37	14	54	233	272	274
Average Queue (ft)	2	41	9	6	20	33	2	1	15	59	95	112
95th Queue (ft)	28	89	30	25	56	76	20	9	43	171	198	208
Link Distance (ft)		238	238			341	341			564	564	564
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	125			200	200			225	225			
Storage Blk Time (%)	0	0								0		
Queuing Penalty (veh)	0	0								0		

Intersection: 84: Galleria & Antelope Creek Dr

Movement	NB	SB	SB	SB	SB	SB	SB
Directions Served	R	L	L	T	T	T	R
Maximum Queue (ft)	5	238	262	274	263	267	56
Average Queue (ft)	0	121	145	119	115	105	19
95th Queue (ft)	5	199	223	233	225	221	49
Link Distance (ft)	564			663	663	663	663
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		250	250				
Storage Blk Time (%)		0	0	0			
Queuing Penalty (veh)		0	1	1			

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	B12
Directions Served	L	L	T	T	T	R	L	L	L	T	T	T
Maximum Queue (ft)	99	350	874	862	850	275	210	270	283	448	447	474
Average Queue (ft)	42	302	826	798	698	113	123	156	167	413	413	202
95th Queue (ft)	87	482	960	962	921	333	202	239	249	455	452	556
Link Distance (ft)			834	834	834				346	346	346	432
Upstream Blk Time (%)			75	21	6				0	64	68	7
Queuing Penalty (veh)			0	0	0				0	340	359	37
Storage Bay Dist (ft)	250	250				175	225	225				
Storage Blk Time (%)			83		91		0	1	3			
Queuing Penalty (veh)			143		23		0	2	11			

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	B12	B12	B12	NB	NB	NB	NB	NB	NB	SB	SB	SB
Directions Served	T	T	T	L	L	T	T	T	R	L	L	L
Maximum Queue (ft)	470	467	458	17	318	525	579	654	350	450	500	550
Average Queue (ft)	324	324	118	2	35	342	350	377	206	447	498	549
95th Queue (ft)	592	583	433	10	176	508	553	662	446	458	509	551
Link Distance (ft)	432	432	432			722	722	722				
Upstream Blk Time (%)	12	10	3			0	0	4				
Queuing Penalty (veh)	63	54	16			0	0	0				
Storage Bay Dist (ft)				250	250				250	400	400	400
Storage Blk Time (%)						26		18	5	90	77	91
Queuing Penalty (veh)						6		194	21	245	210	246

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	SB	SB	SB	SB
Directions Served	T	T	T	R
Maximum Queue (ft)	843	781	109	62
Average Queue (ft)	820	193	40	20
95th Queue (ft)	834	674	97	53
Link Distance (ft)	802	802	802	
Upstream Blk Time (%)	91	0		
Queuing Penalty (veh)	0	0		
Storage Bay Dist (ft)				250
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 86: Castaic Dr/Gibson Dr & RV Parkway

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB	NB
Directions Served	L	T	T	T	L	T	T	T	T	R	L	TR
Maximum Queue (ft)	250	249	252	288	99	266	273	356	939	300	21	68
Average Queue (ft)	142	71	81	106	36	111	122	140	483	272	1	23
95th Queue (ft)	229	170	179	221	81	215	228	280	1094	365	10	54
Link Distance (ft)		492	492	492		1064	1064	1064	1064		185	185
Upstream Blk Time (%)									0			
Queuing Penalty (veh)									2			
Storage Bay Dist (ft)	250				250					200		
Storage Blk Time (%)	1	0		19		0			0	36		
Queuing Penalty (veh)	8	0		0		0			1	138		

Intersection: 86: Castaic Dr/Gibson Dr & RV Parkway

Movement	SB	SB	SB	SB	B20	B20
Directions Served	L	L	LT	R	T	T
Maximum Queue (ft)	220	176	231	179	37	39
Average Queue (ft)	127	117	123	71	2	2
95th Queue (ft)	194	172	201	158	20	24
Link Distance (ft)	179	179	179		164	164
Upstream Blk Time (%)	1	0	2	0		0
Queuing Penalty (veh)	0	0	0	0		0
Storage Bay Dist (ft)				225		
Storage Blk Time (%)			2	0		
Queuing Penalty (veh)			4	0		

Intersection: 89: Reserve & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	3	39	239	220	228	315	233	183	191	202	238	279
Average Queue (ft)	0	7	118	112	118	151	56	107	121	112	139	166
95th Queue (ft)	4	27	223	213	221	281	160	168	181	188	215	258
Link Distance (ft)			308	308	308	308				376	376	376
Upstream Blk Time (%)						0						
Queuing Penalty (veh)						2						
Storage Bay Dist (ft)	255	255					235	215	215			
Storage Blk Time (%)			0			2			0	0		
Queuing Penalty (veh)			0			6			0	0		

Intersection: 89: Reserve & RV Parkway

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	LT	R	L	LT	R
Maximum Queue (ft)	311	250	285	523	290	91	86	30
Average Queue (ft)	212	40	190	347	131	38	32	6
95th Queue (ft)	303	156	330	602	325	82	73	25
Link Distance (ft)	376			513		258	258	258
Upstream Blk Time (%)				18				
Queuing Penalty (veh)				0				
Storage Bay Dist (ft)		225	235		240			
Storage Blk Time (%)	5	0	2	38	0			
Queuing Penalty (veh)	6	0	7	105	0			

Intersection: 106: RV Parkway & Creekside

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	T	T	T	T	R	L
Maximum Queue (ft)	143	120	47	66	2	82	154	148	226	328	265	9
Average Queue (ft)	56	10	7	14	0	20	76	60	63	137	79	1
95th Queue (ft)	113	56	29	45	2	55	137	118	157	258	175	7
Link Distance (ft)		381	381	381	381		1150	1150	1150	1150		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	230					220					235	60
Storage Blk Time (%)										1	0	
Queuing Penalty (veh)										5	0	

Intersection: 106: RV Parkway & Creekside

Movement	NB	NB	SB	SB	SB
Directions Served	LT	R	L	LT	R
Maximum Queue (ft)	37	16	47	106	70
Average Queue (ft)	7	2	4	49	20
95th Queue (ft)	25	11	25	96	49
Link Distance (ft)	169			347	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		60	100		100
Storage Blk Time (%)	0			1	
Queuing Penalty (veh)	0			1	

Intersection: 109: West Mall & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	T	T	T	T	R
Maximum Queue (ft)	116	125	251	297	353	6	47	190	370	440	616	95
Average Queue (ft)	40	63	56	65	122	0	9	63	97	132	327	10
95th Queue (ft)	92	105	170	190	284	3	33	150	269	370	638	66
Link Distance (ft)			1064	1064	1064			879	879	879	879	879
Upstream Blk Time (%)										0	1	
Queuing Penalty (veh)										0	4	
Storage Bay Dist (ft)	275	275				250	275					
Storage Blk Time (%)			0		2							
Queuing Penalty (veh)			0		0							

Intersection: 109: West Mall & RV Parkway

Movement	NB	NB	SB	SB	SB
Directions Served	LT	R	L	LT	R
Maximum Queue (ft)	211	91	8	60	118
Average Queue (ft)	123	31	0	8	49
95th Queue (ft)	230	70	6	48	104
Link Distance (ft)	222	222		275	
Upstream Blk Time (%)	10				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)			125		125
Storage Blk Time (%)					1
Queuing Penalty (veh)					0

Intersection: 151: Chase Dr & RV Parkway

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B6	B6	B6	NB
Directions Served	T	T	T	R	UL	T	T	T	T	T	T	L
Maximum Queue (ft)	257	270	283	64	154	211	220	230	102	105	157	99
Average Queue (ft)	89	100	120	3	64	61	69	80	4	4	6	43
95th Queue (ft)	211	225	245	57	123	159	172	188	74	77	95	87
Link Distance (ft)	1627	1627	1627			454	454	454	492	492	492	201
Upstream Blk Time (%)						0		0	0	0	0	
Queuing Penalty (veh)						0		0	0	0	0	
Storage Bay Dist (ft)				225	200							
Storage Blk Time (%)			1			0						
Queuing Penalty (veh)			1			0						

Zone Summary

Zone wide Queuing Penalty: 2876

Summary of All Intervals

Run Number	1	10	2	3	4	5	6
Start Time	4:50	4:50	4:50	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4	4
Vehs Entered	17133	17021	16906	16989	16970	17153	17051
Vehs Exited	16786	16663	16355	16605	16538	16889	16742
Starting Vehs	1041	1044	1023	1063	1022	1077	1079
Ending Vehs	1388	1402	1574	1447	1454	1341	1388
Travel Distance (mi)	12897	12863	12603	12927	12940	13047	12879
Travel Time (hr)	3115.3	3088.1	3270.9	3215.1	3061.7	3068.6	3023.3
Total Delay (hr)	2775.4	2749.5	2938.2	2874.7	2721.5	2725.7	2684.4
Total Stops	44573	46205	44542	42627	44093	44007	43442
Fuel Used (gal)	1154.7	1144.6	1180.4	1179.0	1143.3	1149.1	1131.6

Summary of All Intervals

Run Number	7	8	9	Avg
Start Time	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70
Time Recorded (min)	60	60	60	60
# of Intervals	5	5	5	5
# of Recorded Intervals	4	4	4	4
Vehs Entered	16736	16803	17085	16984
Vehs Exited	16486	16261	16683	16602
Starting Vehs	985	1045	1048	1039
Ending Vehs	1235	1587	1450	1423
Travel Distance (mi)	12694	12476	12921	12825
Travel Time (hr)	3085.7	3288.2	3082.6	3129.9
Total Delay (hr)	2752.2	2959.7	2742.6	2792.4
Total Stops	42032	43446	43428	43838
Fuel Used (gal)	1142.3	1180.0	1147.3	1155.2

Interval #0 Information Seeding

Start Time	4:50
End Time	5:00
Total Time (min)	10

Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	4315	4296	4287	4331	4354	4384	4277
Vehs Exited	4089	4076	4098	4127	4177	4199	4186
Starting Vehs	1041	1044	1023	1063	1022	1077	1079
Ending Vehs	1267	1264	1212	1267	1199	1262	1170
Travel Distance (mi)	3216	3253	3197	3220	3271	3301	3269
Travel Time (hr)	441.4	425.2	434.5	436.4	425.1	435.2	430.6
Total Delay (hr)	356.7	339.7	349.9	351.7	339.1	348.3	344.7
Total Stops	9568	9880	9599	9149	9512	9990	9553
Fuel Used (gal)	211.7	207.9	209.1	211.4	209.5	212.9	209.8

Interval #1 Information

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	4362	4362	4249	4316
Vehs Exited	4066	4096	4052	4117
Starting Vehs	985	1045	1048	1039
Ending Vehs	1281	1311	1245	1244
Travel Distance (mi)	3226	3201	3277	3243
Travel Time (hr)	425.6	438.0	451.6	434.4
Total Delay (hr)	341.1	354.1	365.2	349.1
Total Stops	9500	9578	9874	9621
Fuel Used (gal)	207.2	209.8	214.8	210.4

Interval #2 Information

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	4288	4350	4210	4214	4269	4231	4368
Vehs Exited	4251	4134	4015	4147	4141	4205	4142
Starting Vehs	1267	1264	1212	1267	1199	1262	1170
Ending Vehs	1304	1480	1407	1334	1327	1288	1396
Travel Distance (mi)	3271	3218	3083	3240	3245	3271	3256
Travel Time (hr)	678.2	650.3	697.8	684.4	661.3	659.1	646.4
Total Delay (hr)	592.1	565.6	616.4	599.1	575.8	573.1	560.7
Total Stops	11479	11542	11411	10119	10825	10948	10902
Fuel Used (gal)	266.9	259.1	264.4	267.0	262.0	263.0	257.9

Interval #2 Information

Start Time	5:15
End Time	5:30
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	4199	4018	4332	4247
Vehs Exited	4115	4097	4231	4150
Starting Vehs	1281	1311	1245	1244
Ending Vehs	1365	1232	1346	1343
Travel Distance (mi)	3176	3084	3273	3212
Travel Time (hr)	663.8	697.4	671.7	671.0
Total Delay (hr)	580.3	616.1	585.8	586.5
Total Stops	10740	10531	10867	10939
Fuel Used (gal)	261.6	265.9	265.8	263.4

Interval #3 Information

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	4305	4207	3983	4184	4210	4310	4304
Vehs Exited	4185	4155	4117	4089	4195	4196	4304
Starting Vehs	1304	1480	1407	1334	1327	1288	1396
Ending Vehs	1424	1532	1273	1429	1342	1402	1396
Travel Distance (mi)	3211	3195	3093	3237	3240	3234	3213
Travel Time (hr)	887.3	896.6	942.9	929.2	880.7	875.7	852.3
Total Delay (hr)	802.6	812.4	861.4	844.1	796.0	790.8	767.7
Total Stops	12136	12808	11175	11033	12055	11222	11393
Fuel Used (gal)	313.2	313.1	322.4	323.2	312.9	311.0	306.1

Interval #3 Information

Start Time	5:30
End Time	5:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	4205	4221	4321	4223
Vehs Exited	4193	4069	4280	4175
Starting Vehs	1365	1232	1346	1343
Ending Vehs	1377	1384	1387	1388
Travel Distance (mi)	3169	3105	3192	3189
Travel Time (hr)	890.6	931.4	862.9	894.9
Total Delay (hr)	807.1	849.3	779.0	811.0
Total Stops	10981	11037	11349	11515
Fuel Used (gal)	313.1	319.9	307.0	314.2

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	10	2	3	4	5	6
Vehs Entered	4225	4168	4426	4260	4137	4228	4102
Vehs Exited	4261	4298	4125	4242	4025	4289	4110
Starting Vehs	1424	1532	1273	1429	1342	1402	1396
Ending Vehs	1388	1402	1574	1447	1454	1341	1388
Travel Distance (mi)	3198	3198	3230	3229	3185	3241	3141
Travel Time (hr)	1108.4	1116.0	1195.7	1165.0	1094.7	1098.5	1094.1
Total Delay (hr)	1023.9	1031.7	1110.5	1079.9	1010.7	1013.5	1011.3
Total Stops	11390	11975	12357	12326	11701	11847	11594
Fuel Used (gal)	363.0	364.6	384.5	377.4	358.9	362.2	357.8

Interval #4 Information Recording

Start Time	5:45
End Time	6:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	7	8	9	Avg
Vehs Entered	3970	4202	4183	4183
Vehs Exited	4112	3999	4120	4157
Starting Vehs	1377	1384	1387	1388
Ending Vehs	1235	1587	1450	1423
Travel Distance (mi)	3123	3086	3178	3181
Travel Time (hr)	1105.8	1221.4	1096.4	1129.6
Total Delay (hr)	1023.8	1140.2	1012.6	1045.8
Total Stops	10811	12300	11338	11758
Fuel Used (gal)	360.4	384.4	359.8	367.3

73: Galleria & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	27.2	18.3	2.1	8.3	43.1	10.2	10.6	13.6	0.1	26.1	22.0	5.8
Total Del/Veh (s)	185.2	47.7	9.6	119.0	93.9	52.1	63.3	48.9	6.7	143.8	104.6	37.7
Stop Delay (hr)	25.5	14.2	0.5	7.7	36.1	8.7	9.8	11.4	0.1	24.6	19.5	4.8
Stop Del/Veh (s)	173.8	37.1	2.3	111.5	78.7	44.1	58.6	40.9	4.2	135.7	93.1	31.2

73: Galleria & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.0
Total Delay (hr)	187.4
Total Del/Veh (s)	75.3
Stop Delay (hr)	162.9
Stop Del/Veh (s)	65.5

84: Galleria & Antelope Creek Dr Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.1	0.2	0.0	0.4	0.0	0.0	0.0	0.4	1.2	0.2
Denied Del/Veh (s)	0.2	0.2	3.0	1.9	0.7	3.2	0.0	0.0	0.0	5.0	3.2	3.3
Total Delay (hr)	7.6	1.1	0.1	7.5	1.3	0.4	2.5	15.4	0.1	10.0	17.8	0.5
Total Del/Veh (s)	53.7	49.1	1.7	61.1	53.4	3.1	84.6	32.1	3.1	108.5	47.2	6.6
Stop Delay (hr)	7.1	1.0	0.0	6.9	1.2	0.0	2.4	10.9	0.0	9.2	13.9	0.3
Stop Del/Veh (s)	49.8	44.8	0.1	56.0	47.9	0.0	79.4	22.8	0.0	100.3	36.9	4.4

84: Galleria & Antelope Creek Dr Performance by movement

Movement	All
Denied Delay (hr)	2.6
Denied Del/Veh (s)	1.7
Total Delay (hr)	64.2
Total Del/Veh (s)	41.1
Stop Delay (hr)	52.8
Stop Del/Veh (s)	33.8

85: Pleasant Grove Blvd & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	2.5	5.4	0.1	0.0	0.1	0.0	1.1	30.0	19.9	279.7	522.8	94.9
Denied Del/Veh (s)	21.7	19.4	19.2	0.0	0.5	0.1	81.2	77.8	79.8	1183.0	1185.1	1206.6
Total Delay (hr)	11.7	40.7	0.4	12.9	20.2	1.8	1.5	49.5	11.6	74.9	9.7	0.2
Total Del/Veh (s)	102.3	146.6	64.4	59.1	82.6	7.4	111.3	131.8	48.7	711.8	58.9	7.3
Stop Delay (hr)	10.0	35.7	0.3	11.4	17.5	0.0	1.3	42.0	6.9	74.3	8.4	0.1
Stop Del/Veh (s)	87.3	128.5	55.1	52.1	71.2	0.1	99.4	111.9	29.0	705.5	50.8	3.9

85: Pleasant Grove Blvd & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	956.5
Denied Del/Veh (s)	383.2
Total Delay (hr)	235.1
Total Del/Veh (s)	116.2
Stop Delay (hr)	207.8
Stop Del/Veh (s)	102.8

86: Castaic Dr/Gibson Dr & RV Parkway Performance by movement

Movement	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Total Delay (hr)	4.3	5.5	1.2	53.8	7.2	0.0	0.0	0.7	17.3	0.1	2.3	92.5
Total Del/Veh (s)	93.9	12.3	109.7	84.7	44.1	82.8	55.2	52.5	67.9	86.8	27.5	55.9
Stop Delay (hr)	4.1	3.0	1.0	36.8	4.1	0.0	0.0	0.7	16.3	0.1	2.1	68.3
Stop Del/Veh (s)	88.4	6.8	90.8	57.9	25.2	81.4	53.1	52.4	63.9	80.7	25.1	41.3

89: Reserve & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	49.7	11.7	47.6	0.1	0.1	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	409.5	414.4	412.8	1.2	1.2	0.9
Total Delay (hr)	0.6	24.3	0.8	7.0	13.2	0.4	16.3	4.4	9.3	4.0	3.0	0.3
Total Del/Veh (s)	86.4	40.9	12.1	83.6	21.4	6.5	164.8	188.3	102.2	52.8	58.0	11.5
Stop Delay (hr)	0.6	19.7	0.5	6.6	9.8	0.2	15.2	4.1	8.7	3.7	2.7	0.2
Stop Del/Veh (s)	82.3	33.2	7.5	78.5	15.9	3.4	153.6	175.7	95.6	49.1	52.5	10.8

89: Reserve & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	109.2
Denied Del/Veh (s)	59.7
Total Delay (hr)	83.7
Total Del/Veh (s)	46.6
Stop Delay (hr)	72.1
Stop Del/Veh (s)	40.2

106: RV Parkway & Creekside Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.0	0.0	0.0	0.8	36.6	5.3	0.0	0.0	0.0	0.5	0.0	0.2
Denied Del/Veh (s)	0.0	0.0	0.0	64.8	58.0	57.1	1.6	0.2	4.0	3.6	6.7	5.5
Total Delay (hr)	1.0	6.5	0.0	1.0	37.3	7.9	0.6	0.3	0.1	7.1	0.1	1.2
Total Del/Veh (s)	58.5	12.3	0.5	91.9	59.9	87.1	89.8	89.2	18.2	52.7	65.3	28.5
Stop Delay (hr)	1.0	4.2	0.0	0.9	23.2	5.1	0.6	0.3	0.1	6.4	0.0	1.0
Stop Del/Veh (s)	55.6	7.8	0.2	82.0	37.2	56.1	87.9	85.8	17.8	47.1	57.3	24.7

106: RV Parkway & Creekside Performance by movement

Movement	All
Denied Delay (hr)	43.4
Denied Del/Veh (s)	29.3
Total Delay (hr)	63.4
Total Del/Veh (s)	42.9
Stop Delay (hr)	42.9
Stop Del/Veh (s)	29.0

109: West Mall & RV Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Delay (hr)	0.1	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	1.0
Denied Del/Veh (s)	0.9	1.4	0.0	0.0	0.0	0.0	0.2	0.1	0.1	8.9	16.1	10.3
Total Delay (hr)	4.9	33.7	0.4	0.8	15.4	0.1	0.6	0.4	0.2	2.3	0.0	4.7
Total Del/Veh (s)	78.3	51.8	63.2	73.4	22.0	2.1	77.2	81.9	33.9	63.4	39.7	48.7
Stop Delay (hr)	4.3	22.9	0.3	0.7	10.0	0.0	0.5	0.4	0.2	2.2	0.0	4.5
Stop Del/Veh (s)	67.8	35.2	46.7	68.9	14.3	1.6	75.6	79.8	33.8	59.7	35.3	47.0

109: West Mall & RV Parkway Performance by movement

Movement	All
Denied Delay (hr)	2.3
Denied Del/Veh (s)	1.4
Total Delay (hr)	63.5
Total Del/Veh (s)	39.4
Stop Delay (hr)	46.2
Stop Del/Veh (s)	28.7

151: Chase Dr & RV Parkway Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Total Delay (hr)	14.1	0.2	4.9	6.8	0.9	0.0	26.8
Total Del/Veh (s)	29.6	10.4	42.7	11.7	61.8	1.4	22.0
Stop Delay (hr)	8.6	0.0	3.9	2.4	0.8	0.0	15.7
Stop Del/Veh (s)	18.1	1.2	33.9	4.1	59.5	0.0	12.8

Total Zone Performance

Denied Delay (hr)	1114.1
Denied Del/Veh (s)	255.5
Total Delay (hr)	816.6
Total Del/Veh (s)	2884.9
Stop Delay (hr)	668.8
Stop Del/Veh (s)	2362.7

Intersection: 73: Galleria & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	414	449	531	475	448	402	205	193	300	421	407	421
Average Queue (ft)	320	354	374	206	183	128	31	101	171	282	275	318
95th Queue (ft)	481	522	653	401	347	310	126	174	331	454	438	458
Link Distance (ft)			529	529	529	529				382	382	382
Upstream Blk Time (%)			15	1	1	1				11	6	7
Queuing Penalty (veh)			125	5	4	6				57	30	38
Storage Bay Dist (ft)	400	400					225	250	250			
Storage Blk Time (%)	7	20	28			2	0	0	0	31		
Queuing Penalty (veh)	29	81	182			17	0	0	0	80		

Intersection: 73: Galleria & RV Parkway

Movement	WB	WB	NB	NB	NB	NB	NB	NB	NB	B23	B23	SB
Directions Served	T	R	L	L	L	T	T	T	R	T	T	L
Maximum Queue (ft)	433	445	215	297	321	390	330	327	151	51	20	280
Average Queue (ft)	367	377	115	153	193	233	224	228	31	2	1	213
95th Queue (ft)	461	459	185	252	295	338	307	307	108	28	21	300
Link Distance (ft)	382	382				326	326	326		484	484	
Upstream Blk Time (%)	22	25		0	0	1	0	0	0			
Queuing Penalty (veh)	117	134		0	0	0	0	0	0			
Storage Bay Dist (ft)			250	250	250				290			260
Storage Blk Time (%)			0	0	3	5		1	0			3
Queuing Penalty (veh)			0	1	8	31		1	0			7

Intersection: 73: Galleria & RV Parkway

Movement	SB	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	T	R
Maximum Queue (ft)	310	399	385	389	394	325
Average Queue (ft)	282	335	332	330	260	270
95th Queue (ft)	370	427	413	414	506	388
Link Distance (ft)		335	335	335	335	
Upstream Blk Time (%)		31	35	35	18	2
Queuing Penalty (veh)		156	174	171	91	0
Storage Bay Dist (ft)	260					275
Storage Blk Time (%)	18	42			14	17
Queuing Penalty (veh)	40	185			77	43

Intersection: 84: Galleria & Antelope Creek Dr

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	L	LT	T	R	L	L	LT	T	L	L	T
Maximum Queue (ft)	215	254	246	202	18	185	269	326	249	108	205	376
Average Queue (ft)	153	188	153	61	1	97	175	206	123	50	67	223
95th Queue (ft)	201	245	221	176	18	186	260	298	252	95	137	343
Link Distance (ft)		238	238	238				341	341			565
Upstream Blk Time (%)	0	2	1	0				1	0			
Queuing Penalty (veh)	0	0	0	0				0	0			
Storage Bay Dist (ft)	125				125	200	200			225	225	
Storage Blk Time (%)	11	32		1		0	1	12	0			7
Queuing Penalty (veh)	19	53		1		0	2	34	2			9

Intersection: 84: Galleria & Antelope Creek Dr

Movement	NB	NB	NB	SB	SB	SB	SB	SB	SB
Directions Served	T	T	R	L	L	T	T	T	R
Maximum Queue (ft)	381	378	39	278	336	526	522	506	282
Average Queue (ft)	244	255	1	173	213	301	303	316	96
95th Queue (ft)	358	360	14	281	348	525	529	531	353
Link Distance (ft)	565	565	565			663	663	663	663
Upstream Blk Time (%)						1	1	4	2
Queuing Penalty (veh)						0	0	0	0
Storage Bay Dist (ft)				250	250				
Storage Blk Time (%)				5	9	14			
Queuing Penalty (veh)				22	39	42			

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	L	L	T	T	R
Maximum Queue (ft)	268	350	807	773	717	275	267	324	427	436	436	256
Average Queue (ft)	141	290	574	524	451	65	178	244	284	366	373	24
95th Queue (ft)	242	441	986	925	786	246	254	344	423	471	470	171
Link Distance (ft)			834	834	834				346	346	346	346
Upstream Blk Time (%)			24	2	0				7	26	30	0
Queuing Penalty (veh)			0	0	0				58	228	267	4
Storage Bay Dist (ft)	250	250				175	225	225				
Storage Blk Time (%)	1	2	55		69		1	7	13			
Queuing Penalty (veh)	4	7	222		14		4	24	99			

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	B12	B12	B12	B12	NB	NB	NB	NB	NB	NB	SB	SB
Directions Served	T	T	T	T	L	L	T	T	T	R	L	L
Maximum Queue (ft)	368	326	276	184	39	350	744	749	769	350	450	500
Average Queue (ft)	83	77	73	34	7	126	619	621	699	342	442	495
95th Queue (ft)	312	279	258	203	26	378	790	785	871	419	471	518
Link Distance (ft)	432	432	432	432			722	722	722			
Upstream Blk Time (%)	1	0	0	0			5	4	41			
Queuing Penalty (veh)	6	4	1	3			0	0	0			
Storage Bay Dist (ft)					250	250				250	400	400
Storage Blk Time (%)						0	64		62	5	83	94
Queuing Penalty (veh)						0	29		543	22	431	489

Intersection: 85: Pleasant Grove Blvd & RV Parkway

Movement	SB	SB	SB	SB	SB
Directions Served	L	T	T	T	R
Maximum Queue (ft)	550	849	811	428	133
Average Queue (ft)	548	821	525	152	38
95th Queue (ft)	562	835	1040	315	106
Link Distance (ft)		802	802	802	
Upstream Blk Time (%)		88	0		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)	400				250
Storage Blk Time (%)	98	19		3	
Queuing Penalty (veh)	505	157		8	

Intersection: 86: Castaic Dr/Gibson Dr & RV Parkway

Movement	EB	EB	EB	EB	B6	B6	B6	B6	WB	WB	WB	WB
Directions Served	L	T	T	T	T	T	T		L	T	T	T
Maximum Queue (ft)	281	308	317	377	166	174	187	86	350	949	991	989
Average Queue (ft)	153	55	61	89	9	13	17	5	75	572	589	600
95th Queue (ft)	263	228	240	294	105	130	156	79	246	1009	1038	1055
Link Distance (ft)		492	492	492	454	454	454	454		1064	1064	1064
Upstream Blk Time (%)		0	1	2	0	0	1	0		0	0	1
Queuing Penalty (veh)		2	4	16	0	0	3	0		3	4	5
Storage Bay Dist (ft)	250								250			
Storage Blk Time (%)	2	1		19						40		
Queuing Penalty (veh)	15	2		0						17		

Intersection: 86: Castaic Dr/Gibson Dr & RV Parkway

Movement	WB	WB	NB	NB	SB	SB	SB	SB	B20	B20		
Directions Served	T	R	L	TR	L	L	LT	R	T	T		
Maximum Queue (ft)	984	300	24	127	269	236	265	179	191	210		
Average Queue (ft)	570	211	2	40	229	175	250	165	132	181		
95th Queue (ft)	1090	371	14	94	316	232	269	232	235	196		
Link Distance (ft)	1064		185	185	179	179	179		164	164		
Upstream Blk Time (%)	1				45	19	58	3	19	60		
Queuing Penalty (veh)	4				0	0	0	0	0	0		
Storage Bay Dist (ft)		200						225				
Storage Blk Time (%)	19	7					58	3				
Queuing Penalty (veh)	111	43					212	12				

Intersection: 89: Reserve & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	T	R	L	L	T	T	T
Maximum Queue (ft)	45	228	337	336	349	347	285	232	264	328	333	342
Average Queue (ft)	9	36	258	230	240	323	197	147	164	194	207	226
95th Queue (ft)	33	138	366	340	355	347	385	223	254	298	296	319
Link Distance (ft)			309	309	309	309				378	378	378
Upstream Blk Time (%)		0	20	3	4	41				0	0	0
Queuing Penalty (veh)		0	148	20	27	308				2	0	0
Storage Bay Dist (ft)	255	255					235	215	215			
Storage Blk Time (%)		0	27			50	0	1	4	6		
Queuing Penalty (veh)		0	9			170	0	8	21	18		

Intersection: 89: Reserve & RV Parkway

Movement	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	T	R	L	LT	R	L	LT	R
Maximum Queue (ft)	387	250	285	562	290	278	284	278
Average Queue (ft)	258	126	254	530	280	163	219	70
95th Queue (ft)	370	295	332	559	339	274	306	207
Link Distance (ft)	378			513		258	258	258
Upstream Blk Time (%)	1			62		3	10	2
Queuing Penalty (veh)	4			0		0	0	0
Storage Bay Dist (ft)		225	235		240			
Storage Blk Time (%)	14	0	15	62	23			
Queuing Penalty (veh)	32	1	112	391	120			

Intersection: 106: RV Parkway & Creekside

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	T	T	T	R	L	T	T	T	T	R	L
Maximum Queue (ft)	145	226	223	229	16	269	850	1083	1178	1197	285	54
Average Queue (ft)	56	98	112	119	1	63	287	523	1012	1079	224	6
95th Queue (ft)	113	186	191	198	8	179	540	1169	1464	1402	387	31
Link Distance (ft)		384	384	384	384		1150	1150	1150	1150		
Upstream Blk Time (%)							0	1	15	44		
Queuing Penalty (veh)							0	0	0	0		
Storage Bay Dist (ft)	230					220					235	60
Storage Blk Time (%)		0				0	13			41	0	1
Queuing Penalty (veh)		0				0	6			137	0	0

Intersection: 106: RV Parkway & Creekside

Movement	NB	NB	SB	SB	SB
Directions Served	LT	R	L	LT	R
Maximum Queue (ft)	104	73	149	387	150
Average Queue (ft)	32	13	137	277	96
95th Queue (ft)	84	45	168	418	187
Link Distance (ft)	169			347	
Upstream Blk Time (%)	1			9	
Queuing Penalty (veh)	0			0	
Storage Bay Dist (ft)		60	100		100
Storage Blk Time (%)	9		29	46	3
Queuing Penalty (veh)	3		115	182	16

Intersection: 109: West Mall & RV Parkway

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	R	L	T	T	T	T	R
Maximum Queue (ft)	178	374	1039	1036	1044	270	170	336	337	346	364	59
Average Queue (ft)	94	150	447	550	740	48	42	183	185	190	201	18
95th Queue (ft)	157	314	987	1150	1273	225	109	297	296	307	335	47
Link Distance (ft)			1064	1064	1064			871	871	871	871	871
Upstream Blk Time (%)			1	1	7							
Queuing Penalty (veh)			6	16	76							
Storage Bay Dist (ft)	275	275				250	275					
Storage Blk Time (%)		0	8		46		0	2				
Queuing Penalty (veh)		0	23		14		0	1				

Intersection: 109: West Mall & RV Parkway

Movement	NB	NB	SB	SB	SB
Directions Served	LT	R	L	LT	R
Maximum Queue (ft)	125	68	168	309	175
Average Queue (ft)	49	22	41	212	159
95th Queue (ft)	105	54	125	360	205
Link Distance (ft)	222	222		275	
Upstream Blk Time (%)				17	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)			125		125
Storage Blk Time (%)			0	4	41
Queuing Penalty (veh)			1	17	55

Intersection: 151: Chase Dr & RV Parkway

Movement	EB	EB	EB	EB	WB	WB	WB	WB	B6	B6	B6	B6
Directions Served	T	T	T	R	UL	T	T	T	T	T	T	
Maximum Queue (ft)	437	456	483	325	300	524	500	500	453	482	476	50
Average Queue (ft)	246	251	271	40	253	272	244	214	34	51	45	2
95th Queue (ft)	420	435	453	209	354	581	532	468	215	281	275	51
Link Distance (ft)	1627	1627	1627			454	454	454	492	492	492	492
Upstream Blk Time (%)						3	1	1	0	0	0	0
Queuing Penalty (veh)						26	7	9	0	0	2	0
Storage Bay Dist (ft)				225	200							
Storage Blk Time (%)			17		20	3						
Queuing Penalty (veh)			13		151	12						

Intersection: 151: Chase Dr & RV Parkway

Movement	NB
Directions Served	L
Maximum Queue (ft)	112
Average Queue (ft)	46
95th Queue (ft)	96
Link Distance (ft)	201
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 7973