1908

TENTATIVE MAP NO. 6471

DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

JANUARY 2025

PREPARED FOR:

City of Fowler
128 South 5th Street
Fowler, CA 93625

PREPARED BY:

Provost & Pritchard Consulting Group

EST. 1968
PROVOST&
PRITCHARD
CONSULTING GROUP

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
BMP	Best Management Practices
CalEEMod	California Emissions Estimator Modeling (software)
CalFire	California Department of Forestry and Fire Protection
CBC	California Building Code
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CGS	California Geological Survey
CHRIS	California Historical Resources Information System
CIP	Capital Improvement Program
City	City of Fowler
CNDDB	California Natural Diversity Database
CO	Carbone Monoxide
CO_2	Carbon dioxide
County	Fresno County
dBA	A-weighted decibels
DCP	Dust Control Plan
DPM	Diesel Particulate Matter
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FGC	Fish and Game Code
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GHG	Greenhouse Gas
HMBP	Hazardous Materials Business Plan
IS	Initial Study
IS/MND	Initial Study/Mitigated Negative Declaration
mgd	million gallons per day
MMRP	Mitigation Monitoring and Reporting Program
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zones

MTCO$_2$e	metric tons of Carbon Dioxide and its equivalents
NAHC	Native American Heritage Commission
ND	Negative Declaration
NO$_2$	Nitrogen Dioxide
NO$_X$	Nitrogen Oxides
O$_3$	Ozone
Pb	Lead
PM$_{10}$	particulate matter 10 microns in size
PM$_{2.5}$	particulate matter 2.5 microns in size
ppb	parts per billion
ppm	parts per million
Project	Tentative Map No. 6471 Project
ROG	Reactive Organic Gases
RTP	Regional Transportation Plan
SB	South Bound
SCS	Sustainable Communities Strategy
SJVAPCD	San Joaquin Valley Air Pollution Control District
SKFCSD	Selma-Kingsburg-Fowler County Sanitation Department
SKGSA	South Kings Groundwater Sustainability Agency
SO$_2$	Sulfur Dioxide
SOI	Sphere of Influence
SSJVIC	Southern San Joaquin Valley Information Center
SR	State Route
SRA	State Responsibility Area
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
USC	United States Code
UST	underground storage tank
Valley	San Joaquin Valley
VMT	vehicle miles travelled
VOC	volatile organic compound
μg/m^3	micrograms per cubic meter

CHAPTER 1 INTRODUCTION

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of the City of Fowler (City) to address the environmental effects of the Tentative Map No. 6471 (Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq. The City is the CEQA lead agency for this Project.

The site and the Project are described in detail in Chapter 2 Project Description.

1.1 REGULATORY INFORMATION

An Initial Study (IS) is a document prepared by a lead agency to determine whether a project may have a significant effect on the environment. In accordance with California Code of Regulations Title 14 (Chapter 3, Section 15000, *et seq.*)-- also known as the CEQA Guidelines--Section 15064 (a)(1) states that an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that the Project under review may have a significant effect on the environment and should be further analyzed to determine mitigation measures or project alternatives that might avoid or reduce project impacts to less than significant levels. A negative declaration (ND) may be prepared instead if the lead agency finds that there is no substantial evidence in light of the whole record that the project may have a significant effect on the environment. An ND is a written statement describing the reasons why a proposed Project, not otherwise exempt from CEQA, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a ND or *mitigated* ND shall be prepared for a project subject to CEQA when either:

a. The IS shows there is no substantial evidence, in light of the whole record before the agency, that the proposed Project may have a significant effect on the environment, or
b. The IS identified potentially significant effects, but:
    1. Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed MND and IS is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and
    2. There is no substantial evidence, in light of the whole record before the agency, that the proposed Project as *revised* may have a significant effect on the environment.

1.2 DOCUMENT FORMAT

This IS/MND contains six chapters. Chapter 1 Introduction, provides an overview of the Project and the CEQA process. Chapter 2 Project Description, provides a detailed description of proposed Project components and objectives. Chapter 3 Determination, the Lead Agency's determination based upon this initial evaluation. Chapter 4 Environmental Impact Analysis presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. Chapter 5 Mitigation, Monitoring, and Reporting Program (MMRP), provides the proposed mitigation measures, implementation timelines, and the entity/agency responsible for ensuring implementation. Chapter 6 References details the documents and reports this document relies upon to provide its analysis.

The CalEEMod Output Files, Cultural Resources Assessment, and Traffic Impact Study are provided as technical Appendix A, Appendix B, and Appendix C respectively, at the end of this document.

CHAPTER 2 PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

2.1.1 Project Title

Tentative Map No. 6471

2.1.2 Lead Agency Name and Address

City of Fowler
128 South 5th Street
Fowler, CA 93625

2.1.3 Contact Person and Phone Number

Lead Agency Contact

Dawn E. Marple, City Planner
128 South 5th Street
Fowler, CA 93625
(559) 834-3113

CEQA Consultant

Provost & Pritchard Consulting Group
Jarred Olsen, Senior Planner
(559) 636-1166

2.1.4 Project Location

The Project is currently located outside the City of Fowler in central Fresno County, approximately 270 miles south of Sacramento and 150 miles north of Bakersfield (see Figure 2-1 and Figure 2-2), on the south side of Clayton Avenue east of Golden State Boulevard. The Project site is located approximately on Assessor's Parcel Number(s) 340-120-05, -06, -28, and -29. The centroid of the Project site is 36° 38' 24.06" N, 119° 41' 14.66" W. The Project site also includes the following street intersections located in the city of Fowler and unincorporated Fresno County:

- Golden State Boulevard and Jefferson Avenue
- Clovis Avenue and Lincoln Avenue
- Clayton Avenue and Golden State Boulevard
- State Route (SR) 99 Southbound Ramps and Clovis Avenue
- Merced Street and SR 99 South Bound (SB) Off Ramp-Fowler Avenue
- Merced Street and SR 99 SB Northbound Ramps

2.1.5 General Plan Designation and Zoning

Project Area	General Plan Designation	Zoning District
ONSITE	Light Industrial Medium-Low Density Residential	AE-20 (Existing) M-1, R-1-6 (Proposed)
ADJACENT LANDS	Light Industrial Heavy Industrial Medium Density Residential	AE-20 M-1 R-1-6

2.1.6 Description of Project

Project Description

The project proposes to annex approximately 83.04 acres of farmland into the City of Fowler and to prezone approximately 30.65 acres of the land to be annexed to the M-1 zone district with the remaining 52.39 acres prezoned to the R-1-6 zone district for future residential development ("Project"). 36.54 acres of the Project area is restricted to Williamson Act Contract No. 6340. As part of the Project, Williamson Act Contract No. 6340 would be canceled, and Ag Preserve Fowler-Selma-Kingsburg No. 27 would be diminished. The area zoned M-1 would be subdivided into 44 parcels for future Light Industrial land uses. Streets would be constructed and designed to City of Fowler standards. A stormwater retention basin is proposed which will be designed to accommodate the increased impermeability of the subdivision. Clayton Avenue would be widened to 60 feet along the Project frontage. Approximately 0.5 miles of sewer main would be constructed to connect to Selma-Kingsburg-Fowler County Sanitation District (SKFCSD) facilities in Golden State Boulevard. Approximately 1.3 miles of water main would be constructed to connect the subdivision to the existing mains in Golden State Boulevard and Fowler Avenue. Approximately 14.39 acres of the 52.39-acre area zoned R-1-6 would be designated as a remainder on the proposed subdivision map and would not be a part of the Project. The remaining 38 acres would be included in the annexation and prezoned R-1-6, but it would not be annotated on the proposed tentative map and would not be a part of the proposed subdivision. A lot line adjustment would be submitted to adjust the parcel lines in such a way to separate the designated remainder from the industrial subdivision. Future development for the whole R-1-6 zoned area would be subject to its own CEQA analysis.

The Project would also include improvements to several intersections that would be developed when intersection delay exceeds established parameters. They include:

- Golden State Boulevard and Jefferson Avenue (Horizon Year Without Project and Horizon Year Plus Project Conditions)
    - Widen the eastbound approach to the intersection to include a left turn lane and a right turn lane (adding one right turn lane).
- Clovis Avenue and Lincoln Avenue (Horizon Year Without Project and Horizon Year Plus Project Conditions)
    - Widen the westbound approach to the intersection to include a left turn lane and a right turn lane (adding one right turn lane).
- Clayton Avenue and Golden State Boulevard (Horizon Year Plus Project Conditions)
    - Install a traffic signal.
    - Widen the westbound approach to the intersection to include a shared left-through lane and a right turn lane (adding one right turn lane).
- SR 99 SB Ramps and Clovis Avenue (Horizon Year Without Project and Horizon Year Plus Project Conditions)

    - Install a traffic signal when warranted.
    - Widen the southbound approach to the intersection to include two left turn lanes, a through lane, and a shared through-right lane (adding one left turn lane).
- Merced Street and SR 99 SB Off Ramp-Fowler Avenue (Horizon Year Without Project and Horizon Year Plus Project Conditions)
    - Install a traffic signal when warranted.
    - Widen the northbound approach to the intersection to include a left turn lane and a right turn lane with right-turn overlap phasing (adding one right turn lane with right-turn overlap phasing).
    - Widen the southbound approach to the intersection to include a left turn lane and a shared through-right lane (adding one left turn lane).
- Merced Street and SR 99 SB NB Ramps (Horizon Year Without Project and Horizon Year Plus Project Conditions)
    - Install a traffic signal when warranted.
    - Widen the westbound approach to the intersection to include a through lane and a right turn lane (adding one right turn lane).

2.1.7 Other Public Agencies Whose Approval May Be Required

- Consolidated Irrigation District
- County of Fresno
- Fresno Local Agency Formation Committee
- California Department of Transportation (Caltrans)
- Selma-Kingsburg-Fowler County Sanitation District

2.1.8 Consultation with California Native American Tribes

Public Resources Code Section 21080.3.1, *et seq. [codification of Assembly Bill (AB) 52, 2013-14)*] requires that a lead agency, within fourteen (14) days of determining that it will undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

The City has received written correspondence from the Santa Rosa Rancheria Tachi Yokut Tribe pursuant to Public Resources Code Section 21080.3.1 requesting notification of proposed Project.

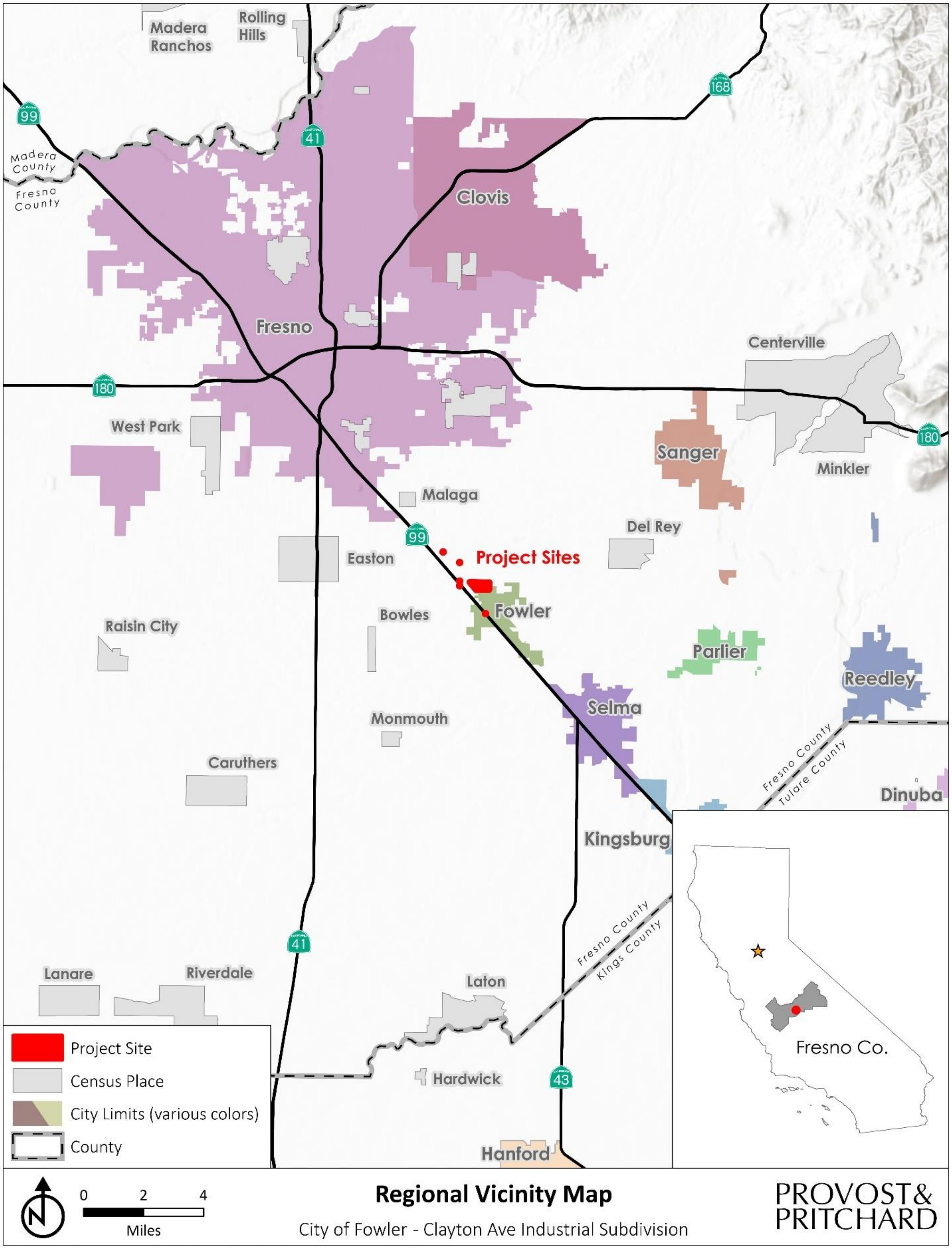


Figure 2-1: Regional Location

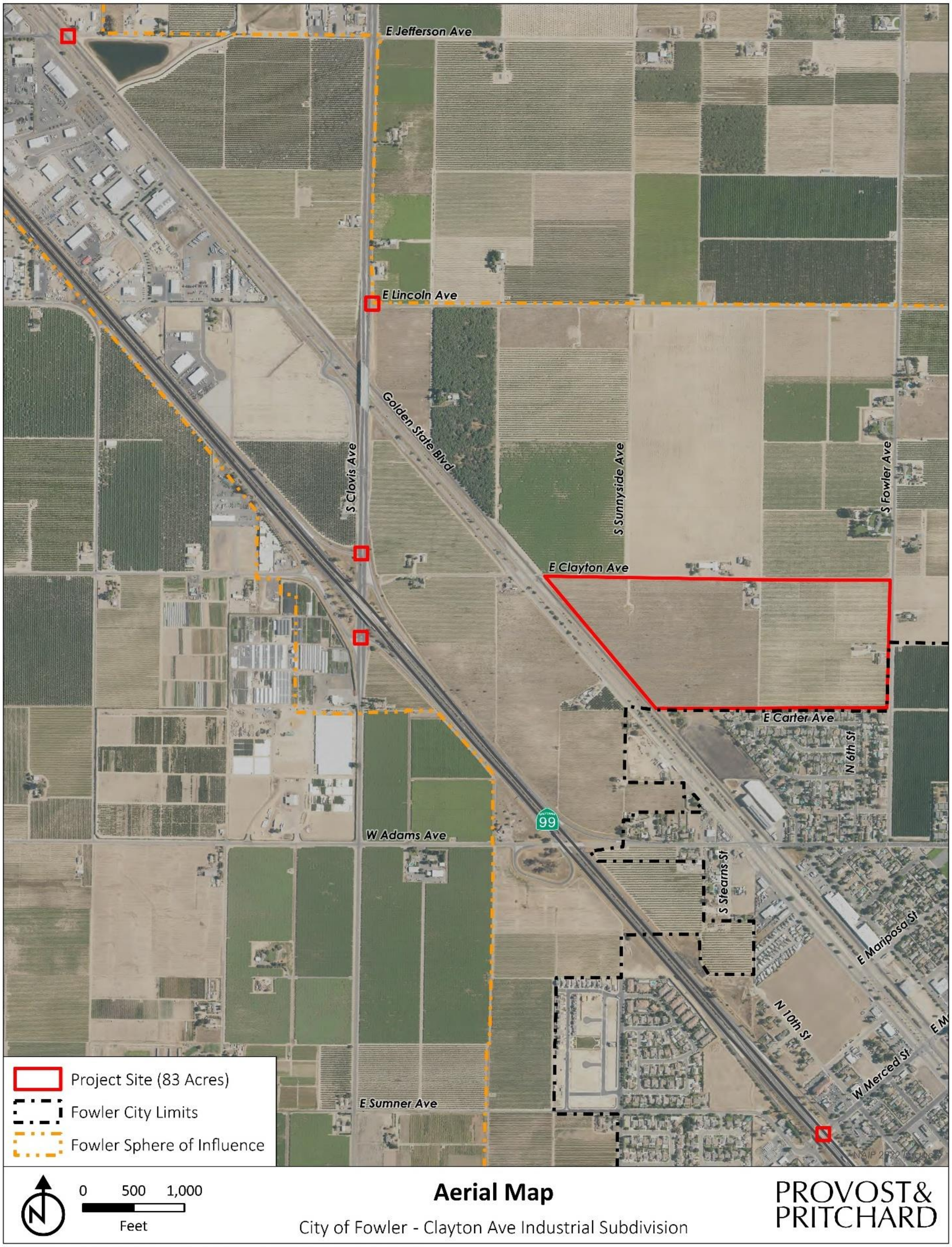
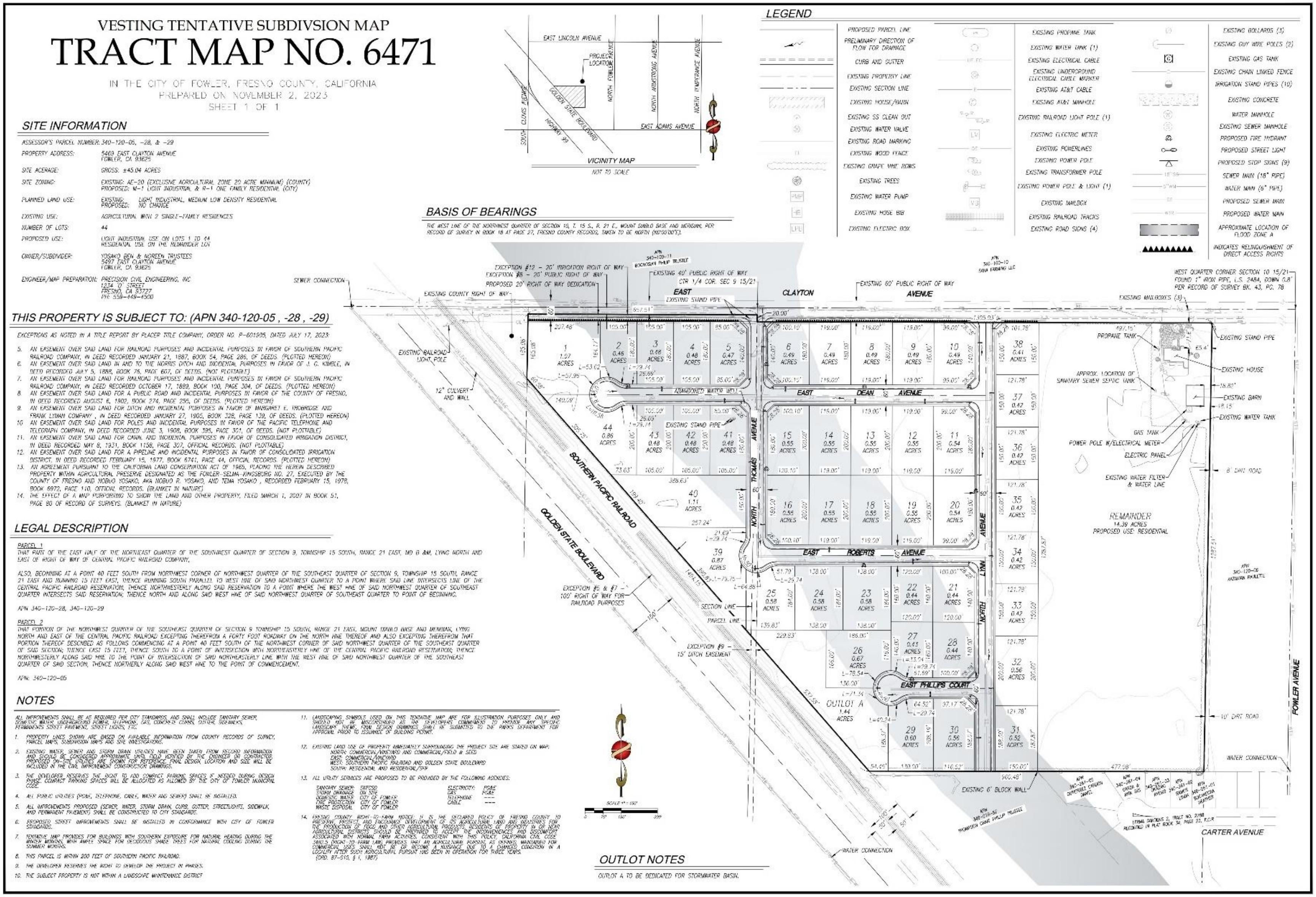


Figure 2-2: Site Plan



SITE INFORMATION

ASSESSOR'S PARCEL NUMBER: 340-120-05, -28, & -29

PROPERTY ADDRESS: 5469 EAST CLAYTON AVENUE
FOWLER, CA 93625

SITE ACERAGE: GROSS: ±45.04 ACRES

SITE ZONING: EXISTING: AE-20 (EXCLUSIVE AGRICULTURAL ZONE 20 ACRE MINIMUM) (COUNTY)
PROPOSED: M-1 LIGHT INDUSTRIAL & R-1 ONE FAMILY RESIDENTIAL (CITY)

PLANNED LAND USE: EXISTING: LIGHT INDUSTRIAL, MEDIUM LOW DENSITY RESIDENTIAL
PROPOSED: NO CHANGE

EXISTING USE: AGRICULTURAL WITH 2 SINGLE-FAMILY RESIDENCES

NUMBER OF LOTS: 44

PROPOSED USE: LIGHT INDUSTRIAL USE ON LOTS 1 TO 44
RESIDENTIAL USE ON THE REMAINDER LOT

OWNER/SUBDIVIDER: YOSAKO BEN & NOREEN TRUSTEES
5497 EAST CLAYTON AVENUE
FOWLER, CA 93625

ENGINEER/MAP PREPARATION: PRECISION CIVIL ENGINEERING, INC
1234 "O" STREET
FRESNO, CA 93727
PH: 559-449-4500

THIS PROPERTY IS SUBJECT TO: (APN 340-120-05 , -28 , -29)

EXCEPTIONS AS NOTED IN A TITLE REPORT BY PLACER TITLE COMPANY, ORDER NO. P-601905, DATED JULY 17, 2023:

5. AN EASEMENT OVER SAID LAND FOR RAILROAD PURPOSES AND INCIDENTAL PURPOSES IN FAVOR OF SOUTHERN PACIFIC RAILROAD COMPANY, IN DEED RECORDED JANUARY 21, 1887, BOOK 54, PAGE 286, OF DEEDS. (PLOTTED HEREON)
6. AN EASEMENT OVER SAID LAND IN AND TO THE NORRIS DITCH AND INCIDENTAL PURPOSES IN FAVOR OF J. G. KIMBLE, IN DEED RECORDED JULY 5, 1888, BOOK 76, PAGE 607, OF DEEDS. (NOT PLOTTABLE)
7. AN EASEMENT OVER SAID LAND FOR RAILROAD PURPOSES AND INCIDENTAL PURPOSES IN FAVOR OF SOUTHERN PACIFIC RAILROAD COMPANY, IN DEED RECORDED OCTOBER 17, 1889, BOOK 100, PAGE 304, OF DEEDS. (PLOTTED HEREON)
8. AN EASEMENT OVER SAID LAND FOR A PUBLIC ROAD AND INCIDENTAL PURPOSES IN FAVOR OF THE COUNTY OF FRESNO, IN DEED RECORDED AUGUST 6, 1902, BOOK 274, PAGE 255, OF DEEDS. (PLOTTED HEREON)
9. AN EASEMENT OVER SAID LAND FOR DITCH AND INCIDENTAL PURPOSES IN FAVOR OF MARGARET E. TROBRIDGE AND FRANK LYMAN COMPANY , IN DEED RECORDED JANUARY 27, 1905, BOOK 328, PAGE 139, OF DEEDS. (PLOTTED HEREON)
10. AN EASEMENT OVER SAID LAND FOR POLES AND INCIDENTAL PURPOSES IN FAVOR OF THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY, IN DEED RECORDED JUNE 3, 1908, BOOK 395, PAGE 301, OF DEEDS. (NOT PLOTTABLE)
11. AN EASEMENT OVER SAID LAND FOR CANAL AND INCIDENTAL PURPOSES IN FAVOR OF CONSOLIDATED IRRIGATION DISTRICT, IN DEED RECORDED MAY 8, 1931, BOOK 1158, PAGE 307, OFFICIAL RECORDS. (NOT PLOTTABLE)
12. AN EASEMENT OVER SAID LAND FOR A PIPELINE AND INCIDENTAL PURPOSES IN FAVOR OF CONSOLIDATED IRRIGATION DISTRICT, IN DEED RECORDED FEBRUARY 15, 1977, BOOK 6741, PAGE 44, OFFICIAL RECORDS. (PLOTTED HEREON)
13. AN AGREEMENT PURSUANT TO THE CALIFORNIA LAND CONSERVATION ACT OF 1965, PLACING THE HEREIN DESCRIBED PROPERTY WITHIN AGRICULTURAL PRESERVE DESIGNATED AS THE FOWLER-SELMA-KINGSBURG NO. 27, EXECUTED BY THE COUNTY OF FRESNO AND NOBUO YOSAKO, AKA NOBUO R. YOSAKO, AND TEMA YOSAKO , RECORDED FEBRUARY 15, 1978, BOOK 6972, PAGE 110, OFFICIAL RECORDS. (BLANKET IN NATURE)
14. THE EFFECT OF A MAP PURPORTING TO SHOW THE LAND AND OTHER PROPERTY, FILED MARCH 1, 2007 IN BOOK 51, PAGE 80 OF RECORD OF SURVEYS. (BLANKET IN NATURE)

LEGAL DESCRIPTION

PARCEL 1

THAT PART OF THE EAST HALF OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 9, TOWNSHIP 15 SOUTH, RANGE 21 EAST, MD B &M, LYING NORTH AND EAST OF RIGHT OF WAY OF CENTRAL PACIFIC RAILROAD COMPANY,

ALSO, BEGINNING AT A POINT 40 FEET SOUTH FROM NORTHWEST CORNER OF NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 9, TOWNSHIP 15 SOUTH, RANGE 21 EAST AND RUNNING 15 FEET EAST, THENCE RUNNING SOUTH PARALLEL TO WEST HNE OF SAID NORTHWEST QUARTER TO A POINT WHERE SAID LINE INTERSECTS LINE OF THE CENTRAL PACIFIC RAILROAD RESERVATION, THENCE NORTHWESTERLY ALONG SAID RESERVATION TO A POINT WHERE THE WEST HNE OF SAID NORTHWEST QUARTER OF SOUTHEAST QUARTER INTERSECTS SAID RESERVATION; THENCE NORTH AND ALONG SAID WEST HNE OF SAID NORTHWEST QUARTER OF SOUTHEAST QUARTER TO POINT OF BEGINNING.

APN 340-120-28, 340-120-29

PARCEL 2

THAT PORTION OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 9 TOWNSHIP 15 SOUTH, RANGE 21 EAST, MOUNT DIABLO BASE AND MERIDIAN, LYING NORTH AND EAST OF THE CENTRAL PACIFIC RAILROAD EXCEPTING THEREFROM A FORTY FOOT ROADWAY ON THE NORTH HNE THEREOF AND ALSO EXCEPTING THEREFROM THAT PORTION THEREOF DESCRIBED AS FOLLOWS COMMENCING AT A POINT 40 FEET SOUTH OF THE NORTHWEST CORNER OF SAID NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION; THENCE EAST 15 FEET, THENCE SOUTH TO A POINT OF INTERSECTION WITH NORTHEASTERLY HNE OF THE CENTRAL PACIFIC RAILROAD RESERVATION; THENCE NORTHWESTERLY ALONG SAID HNE TO THE POINT OF INTERSECTION OF SAID NORTHEASTERLY LINE WITH THE WEST HNE OF SAID NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION, THENCE NORTHERLY ALONG SAID WEST HNE TO THE POINT OF COMMENCEMENT.

APN: 340-120-05

NOTES

ALL IMPROVEMENTS SHALL BE AS REQUIRED PER CITY STANDARDS, AND SHALL INCLUDE SANITARY SEWER, DOMESTIC WATER, UNDERGROUND POWER, TELEPHONE, GAS, CONCRETE CURBS, GUTTER, SIDEWALKS, PERMANENTS STREET PAVEMENT, STREET LIGHTS, ETC.

1. PROPERTY LINES SHOWN ARE BASED ON AVAILABLE INFORMATION FROM COUNTY RECORDS OF SURVEY, PARCEL MAPS, SUBDIVISION MAPS AND SITE INVESTIGATIONS.
2. EXISTING WATER, SEWER AND STORM DRAIN UTILITIES HAVE BEEN TAKEN FROM RECORD INFORMATION AND SHOULD BE CONSIDERED APPROXIMATE UNTIL FIELD VERIFIED BY THE ENGINEER OR CONTRACTOR. PROPOSED ON-SITE UTILITIES ARE SHOWN FOR REFERENCE. FINAL DESIGN, LOCATION AND SIZE WILL BE INCLUDED IN THE CIVIL IMPROVEMENT CONSTRUCTION DRAWINGS.
3. THE DEVELOPER RESERVES THE RIGHT TO ADD COMPACT PARKING SPACES IF NEEDED DURING DESIGN PHASE. COMPACT PARKING SPACES WILL BE ALLOCATED AS ALLOWED BY THE CITY OF FOWLER MUNICIPAL CODE.
4. ALL PUBLIC UTILITIES (PG&E, TELEPHONE, CABLE, WATER AND SEWER) SHALL BE INSTALLED.
5. ALL IMPROVEMENTS PROPOSED (SEWER, WATER, STORM DRAIN, CURB, GUTTER, STREETLIGHTS, SIDEWALK, AND PERMANENT PAVEMENT) SHALL BE CONSTRUCTED TO CITY STANDARDS.
6. PROPOSED STREET IMPROVEMENTS SHALL BE INSTALLED IN CONFORMANCE WITH CITY OF FOWLER STANDARDS.
7. TENTATIVE MAP PROVIDES FOR BUILDINGS WITH SOUTHERN EXPOSURE FOR NATURAL HEATING DURING THE WINTER MONTHS, WITH AMPLE SPACE FOR DECIDUOUS SHADE TREES FOR NATURAL COOLING DURING THE SUMMER MONTHS.
8. THIS PARCEL IS WITHIN 200 FEET OF SOUTHERN PACIFIC RAILROAD.
9. THE DEVELOPER RESERVES THE RIGHT TO DEVELOP THE PROJECT IN PHASES.
10. THE SUBJECT PROPERTY IS NOT WITHIN A LANDSCAPE MAINTENANCE DISTRICT
11. LANDSCAPING SYMBOLS USED ON THIS TENTATIVE MAP ARE FOR ILLUSTRATION PURPOSES ONLY AND SHOULD NOT BE MISCONSTRUED AS THE DEVELOPERS COMMITMENT TO PROVIDE ANY SPECIFIC LANDSCAPE THEME. FINAL DESIGN DRAWINGS SHALL BE SUBMITTED TO THE PARKS DEPARTMENT FOR APPROVAL PRIOR TO ISSUANCE OF BUILDING PERMIT.
12. EXISTING LAND USE OF PROPERTY IMMEDIATELY SURROUNDING THE PROJECT SITE ARE STATED ON MAP:
    NORTH: COMMERCIAL/VINEYARD AND COMMERCIAL/FIELD & SEED
    EAST: COMMETICAL/VINEYARD
    WEST: SOUTHERN PACIFIC RAILROAD AND GOLDEN STATE BOULEVARD
    SOUTH: RESIDENTIAL AND RESIDENTIAL/SFR
13. ALL UTILITY SERVICES ARE PROPOSED TO BE PROVIDED BY THE FOLLOWING AGENCIES:

SANITARY SEWER:	SKFCSD	ELECTRICITY:	PG&E
STORM DRAINAGE	ON SITE	GAS	PG&E
DOMESTIC WATER	CITY OF FOWLER	TELEPHONE	---
FIRE PROTECTION	CITY OF FOWLER	CABLE	---
WASTE DISPOSAL	CITY OF FOWLER		

14. FRESNO COUNTY RIGHT-TO-FARM NOTICE: IT IS THE DECLARED POLICY OF FRESNO COUNTY TO PRESERVE, PROTECT, AND ENCOURAGE DEVELOPMENT OF ITS AGRICULTURAL LAND AND INDUSTRIES FOR THE PRODUCTION OF FOOD AND OTHER AGRICULTURAL PRODUCTS. RESIDENTS OF PROPERTY IN OR NEAR AGRICULTURAL DISTRICTS SHOULD BE PREPARED TO ACCEPT THE INCONVENIENCES AND DISCOMFORT ASSOCIATED WITH NORMAL FARM ACTIVITIES. CONSISTENT WITH THIS POLICY, CALIFORNIA CIVIL CODE 3482.5 (RIGHT-TO-FARM LAW) PROVIDES THAT AN AGRICULTURAL PURSUIT, AS DEFINED, MAINTAINED FOR COMMERCIAL USES SHALL NOT BE OR BECOME A NUISANCE DUE TO A CHANGED CONDITION IN A LOCALITY AFTER SUCH AGRICULTURAL PURSUIT HAS BEEN IN OPERATION FOR THREE YEARS. (ORD. 87-010, § 1, 1987)

BASIS OF BEARINGS

THE WEST LINE OF THE NORTHWEST QUARTER OF SECTION 10, T. 15 S., R. 21 E., MOUNT DIABLO BASE AND MERIDIAN, PER RECORD OF SURVEY IN BOOK 18 AT PAGE 27, FRESNO COUNTY RECORDS, TAKEN TO BE NORTH (N0°00'00"E).

OUTLOT NOTES

OUTLOT A TO BE DEDICATED FOR STORMWATER BASIN.

Figure 2-3: Proposed Subdivision Map

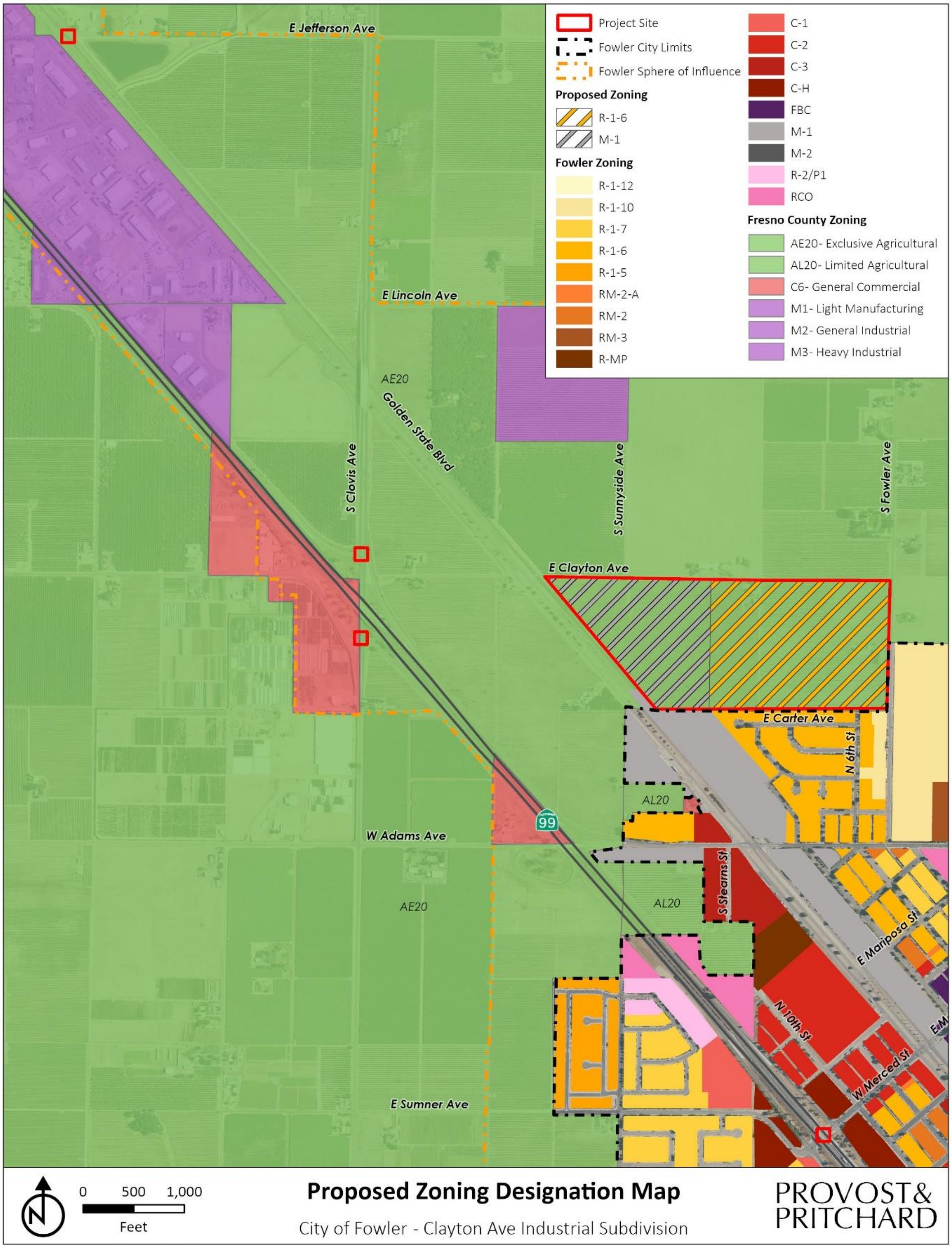


Figure 2-4: Proposed Zoning Map

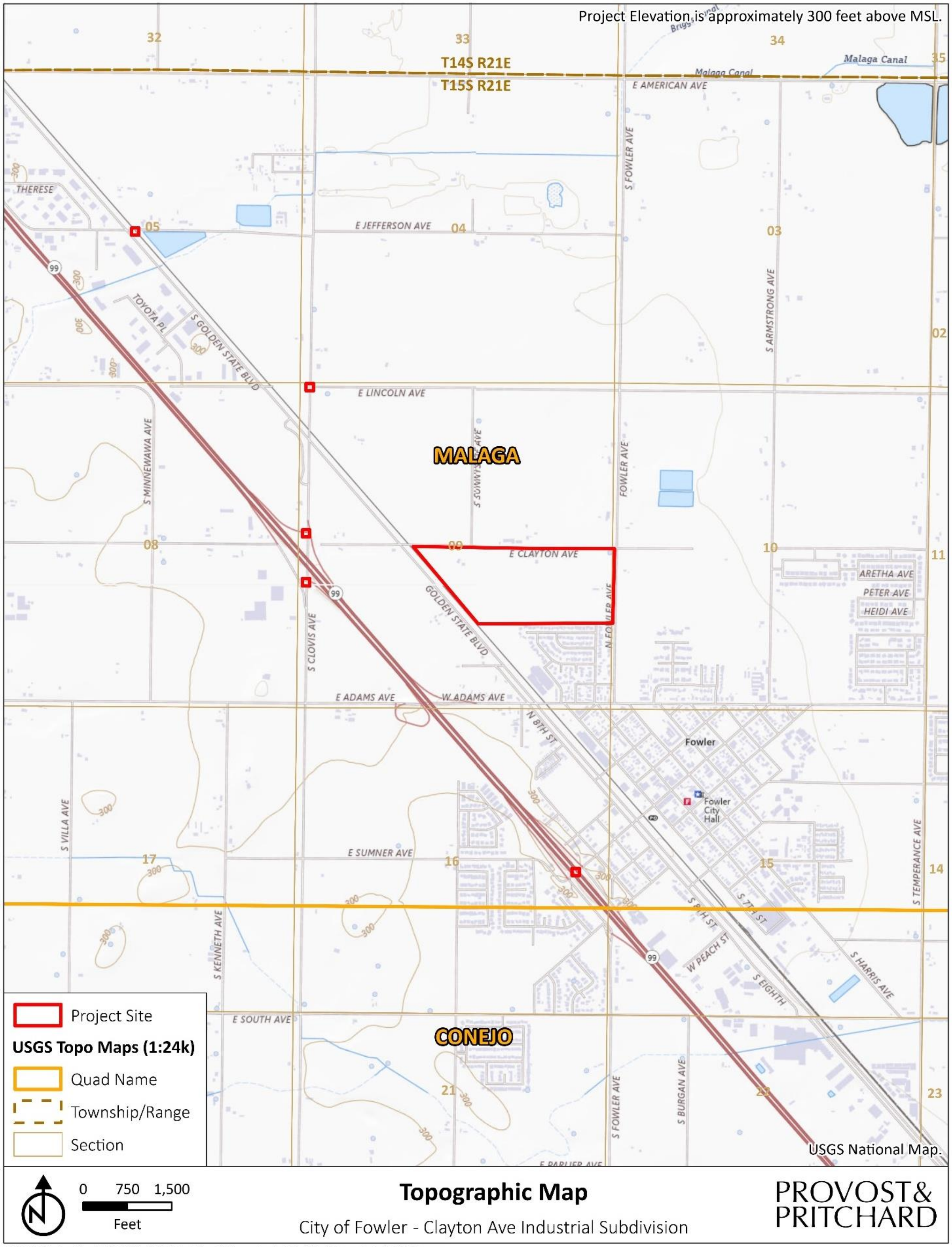


Figure 2-5: Topo Quad

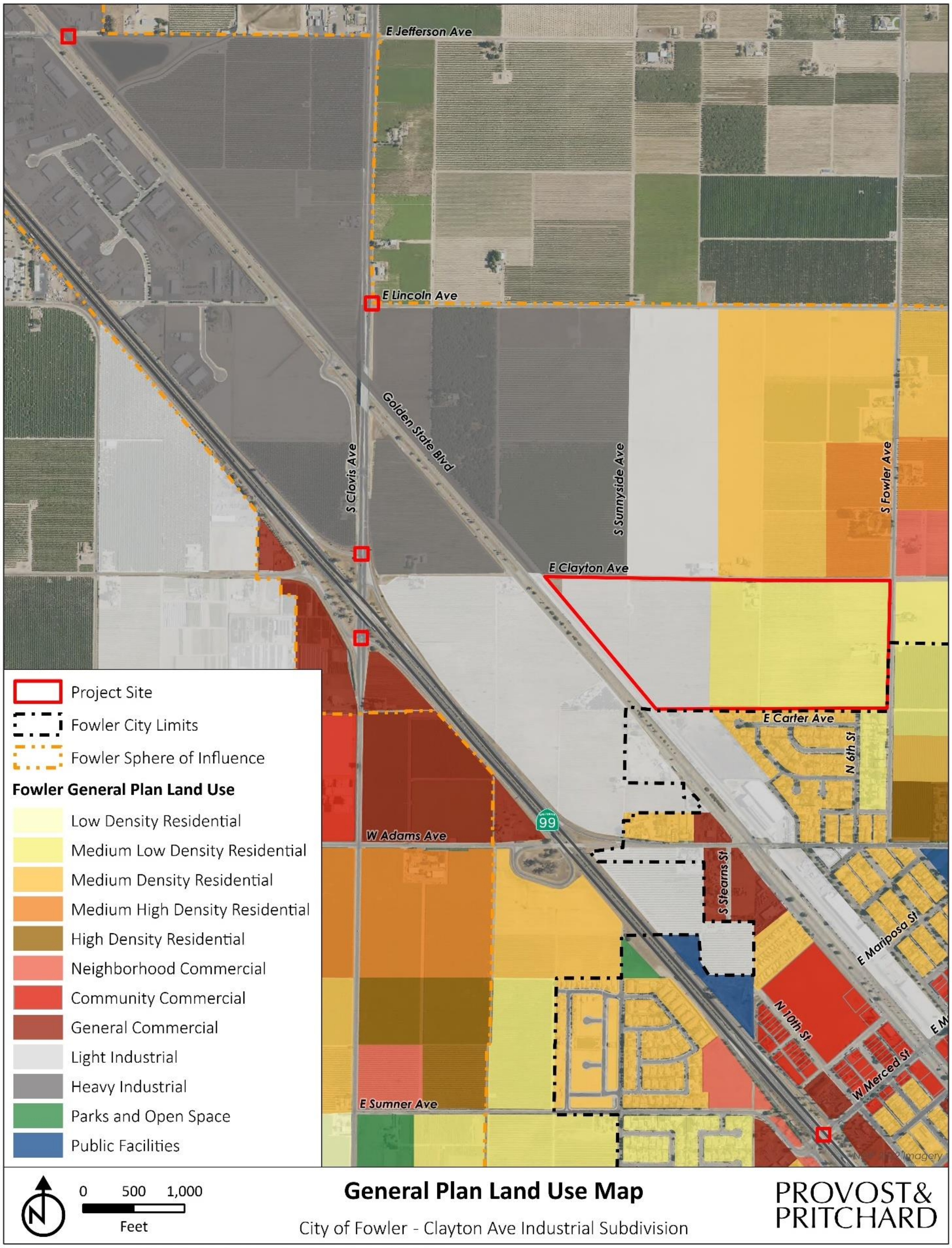


Figure 2-6: General Plan Land Use Designation Map

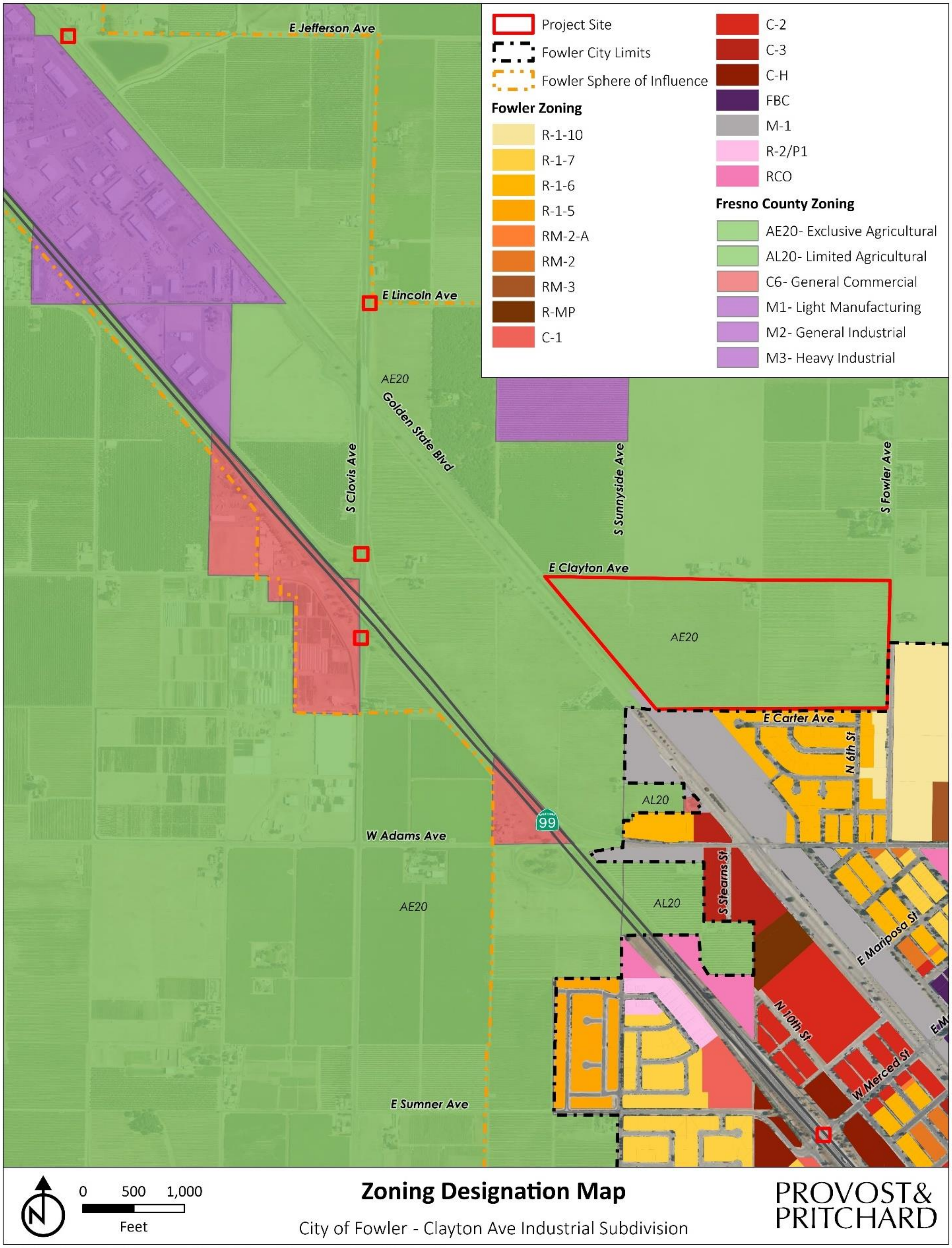


Figure 2-7: Zone District Map

CHAPTER 3 DETERMINATION

3.1 POTENTIAL ENVIRONMENTAL IMPACTS

As indicated by the discussions of existing and baseline conditions, and impact analyses that follow in this Chapter, environmental factors not checked below would have no impacts or less than significant impacts resulting from the project. Environmental factors that are checked below would have potentially significant impacts resulting from the project. Mitigation measures are recommended for each of the potentially significant impacts that would reduce the impact to less than significant.

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

The analyses of environmental impacts in Chapter 4 Impact Analysis result in an impact statement, which shall have the following meanings.

Potentially Significant Impact. This category is applicable if there is substantial evidence that an effect may be significant, and no feasible mitigation measures can be identified to reduce impacts to a less than significant level. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.

Less than Significant with Mitigation Incorporated. This category applies where the incorporation of mitigation measures would reduce an effect from a “Potentially Significant Impact” to a “Less than Significant Impact.” The lead agency must describe the mitigation measure(s), and briefly explain how they would reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

Less than Significant Impact. This category is identified when the proposed Project would result in impacts below the threshold of significance, and no mitigation measures are required.

No Impact. This category applies when a project would not create an impact in the specific environmental issue area. “No Impact” answers do not require a detailed explanation if they are adequately supported by the information sources cited by the lead agency, which show that the impact does not apply to the specific project (e.g. the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

3.2 DETERMINATION

On the basis of this initial evaluation (to be completed by the Lead Agency):

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Dawn Marple

Signature

December 30, 2024

Date

City Planner

Printed Name/Position

CHAPTER 4 ENVIRONMENTAL IMPACT ANALYSIS

4.1 AESTHETICS

Table 4-1: Aesthetics Impacts

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) 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 which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

4.1.1 Baseline Conditions

The Project site is located along the floor of the San Joaquin Valley (Valley) just north of the city of Fowler, which lies along SR 99. The predominant landscape feature of the San Joaquin Valley is a wide variety of agricultural land. Regional views from the Valley floor are generally limited due to the flatness of the region; however, on clear days the Sierra Nevada Mountains are visible to the east. Fowler is characterized as a freestanding city with small town atmosphere surrounded by agricultural land. As one of the cities along the Fresno County Blossom Trail, Fowler offers scenic views of blossoming orchards from February to March.

The Project site consists primarily of row crops; however, there are two existing homes on the property. The site would be visible from the adjacent Golden State Boulevard and from the residential neighborhood to the south. Excluding the neighborhood to the south, the surrounding area is generally considered rural and low density, with agricultural land scattered with farming residences to the north, east, and west. There are no scenic vistas on the Project site or in the vicinity. There are no designated State Scenic Highways within the City or surrounding area. In Fresno County, a portion of SR 180 has been officially identified by

Caltrans as a "designated State Scenic Highway," however, that segment is approximately 13 miles northeast of the Project site.[1]

4.1.2 Impact Analysis

a) Have substantial adverse effect on a scenic vista?

No Impact. Scenic features in the vicinity may include the vast expanse of agricultural land; however, neither Fresno County nor Fowler have designated any scenic vistas in the Project vicinity. The Project site is not within the viewshed of any water features or scenic vistas. Therefore, there would be no impact.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. In Fresno County, a portion of SR 180 has been officially identified by Caltrans as a "designated State Scenic Highway." However, Project activities would take place approximately 13 miles southwest and would not have the potential to affect the highway. There would be no impact.

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?

Less than Significant Impact. The existing visual character of the Project site and its surroundings consist of urban development and agricultural land. To the north, west, and east, the Project site is surrounded by agricultural land and scattered farming residences, and to the south contains a residential neighborhood. It could be argued that the development of an industrial subdivision could visually degrade the visual character of the surrounding agricultural land. However, the City has designated the site as Light Industrial and Medium Low Density Residential in the General Plan and associated with adoption of the General Plan and certification of the General Plan EIR, adopted a statement of overriding considerations determining that the benefits of placing industrial uses at the site outweighed the impacts of the loss of farmland and all the impacts, such as aesthetic impacts associated with it. With the City's adoption of the overriding findings, no further analysis of the loss of farmland is necessary. The General Plan EIR determined that any development that is consistent with the General Plan would be subject to applicable design guidelines found in the Fowler Municipal Code (FMC). The applicable development standards for the industrial subdivision are included in Section 9-5.1402 of the FMC.[2] Furthermore, the industrial development would offer attractive landscaping and architectural design to reduce any visual effect to the surrounding properties pursuant to Section 9–5.1406 of the FMC.[3]

The Project also includes the construction of traffic improvements to several intersections that would be developed when warranted. These improvements all occur within the existing right-of-way that are improved with pavement at minimum. Implementation of these improvements would not substantially

---

[1] (California Department of Transportation 2023)

[2] (Municode Codification 2024)

[3] (Municode Codification 2024)

deviate from the existing visual setting as the roadways already exist and additional traffic improvements would not be peculiar. Any impacts would be less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less than Significant Impact. Implementation of the Project would create new sources of light typical of industrial development and traffic improvements. Nighttime lighting levels would increase over current levels, as sources of new and nighttime lighting and illumination would include, but are not necessarily limited to, lighting from the new industrial use, lights associated with vehicular travel (i.e., car headlights), and street lighting. Increased nighttime lighting and illumination could result in adverse effects to adjacent land uses through the “spilling over” of light into these areas and “sky glow” conditions. However, all future development under the Project would have to comply with Title 9 of the City of Fowler Zoning Ordinance, which ensures that proposed lighting is so arranged as to deflect the light away from adjoining properties. This would assist in reducing potential impacts associated with daytime glare and nighttime light. As such, any potential light and glare would be reduced to a less than significant impact.

4.2 AGRICULTURE AND FORESTRY RESOURCES

Table 4-2: Agriculture and Forest Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

4.2.1 Baseline Conditions

The Project is located in California's Central Valley in Fresno County and more specifically within the City of Fowler planning area. Fresno County is located within California's agricultural heartland. In 2023, Fresno County ranked as one of the top agricultural counties in the State in the annual market value of farm products.[4]

A wide range of commodities are grown in the county, with major production of grapes, almonds, pistachios, and milk.[5] Rich soil; irrigation water; Mediterranean climate; and steady access to local, national, and global markets make this possible.

Farmland Mapping and Monitoring Program: The Farmland Mapping and Monitoring Program (FMMP) produces maps and statistical data used for analyzing impacts to California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance. The California Department of Conservation's 2020 FMMP

---

[4] (The County of Fresno Department of Agriculture and Weights and Measures 2024)

[5] Ibid.

is a non-regulatory program that produces "Important Farmland" maps and statistical data used for analyzing impacts on California's agricultural resources. The Important Farmland maps identify eight land use categories, five of which are agriculture related: prime farmland, farmland of statewide importance, unique farmland, farmland of local importance, and grazing land — rated according to soil quality and irrigation status. Each is summarized below:

- PRIME FARMLAND: Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- FARMLAND OF STATEWIDE IMPORTANCE: Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- UNIQUE FARMLAND: Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non- irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.
- FARMLAND OF LOCAL IMPORTANCE: Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- GRAZING LAND: Land on which the existing vegetation is suited to the grazing of livestock. The minimum mapping unit for Grazing Land is 40 acres.
- URBAN AND BUILT-UP LAND: Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
- OTHER LAND (X): Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and disturbed land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

As demonstrated in Figure 4-1, the FMMP for the subdivision area is designated as Prime Farmland.[6] The traffic signal areas are indicated as Urban and Built-Up Land and Prime Farmland, however these locations consist of paving and exist road infrastructure, therefore the analysis below does not discuss agricultural impacts were existing road infrastructure is located.

4.2.2 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?

Less than Significant Impact. The Project site consists of prime farmland. However, the City has designated the site as Light Industrial and Medium Low Density Residential in the General Plan and,

---

[6] (California Department of Conservation 2020)

associated with adoption of the General Plan and certification of the General Plan EIR, adopted a statement of overriding considerations determining that the benefits of placing industrial uses at the site outweighed the impacts of the loss of prime farmland. With the City's adoption of the overriding findings, no further analysis of the loss of prime farmland is necessary.

Traffic improvements associated with the Project would be located within existing improved ROW and would not impact agricultural land. Impacts would be less than significant.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Less than Significant Impact. The Project site is currently located in Fresno County with a zoning designation of AE-20 (Agricultural, 20-acre minimum parcel size). The Project is also located within the City of Fowler's planning area and has a general plan land use designation of Light Industrial and Medium Low Density Residential. As part of the Project, the Project site would be prezoned to the M-1 and R-1-6 zone districts. The proposed prezones would be consistent with the underlying City of Fowler Land Use Diagram as found in the 2040 General Plan and mentioned above (see **Figure 2-4**).[7] Therefore, pursuant to the proposed prezone, the Project would not conflict with an existing zoning for an agricultural use.

The Project site is encumbered by a Williamson Act contract. The Williamson Act enables local governments to contract with private landowners to restrict land to agricultural or related open space uses. In return, landowners receive reduced property taxes. Since the Project site would eventually be developed into an industrial use, it would no longer comply with the requirements of the Williamson Act. As a regulatory requirement, prior to tentative map approval, the applicant would be required to secure a cancellation of its Williamson Act contract. Once the contract is canceled, implementation of the Project would not conflict with the Williamson Act as the site would no longer be encumbered by such contract.

Traffic improvements associated with the Project would be located within existing improved ROW and would not impact agricultural land. Overall, impacts would be less than significant.

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?

c and d) No Impact. There are no forest lands or timberlands within the Project site or vicinity. There would be no impact.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Less than Significant Impact. The Project site is prime farmland and is adjacent to active prime farmland to the north, west, and east. The farmland to the north, west, and east is designated for Light Industrial, Heavy Industrial, Medium Density Residential, Medium High Density Residential, and Medium Low Density Residential by the Fowler General Plan. The traffic signals would be located in existing disturbed areas and would not cause the conversion of farmland to be a non-agricultural use. Therefore, the potential conversion of this adjacent agricultural land to non-agricultural use has been evaluated by the

---

[7] (Provost and Pritchard 2023)

City's General Plan EIR and the General Plan anticipates its conversion to non-agricultural uses. Therefore, the Project would not involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use. Impacts would be less than significant.

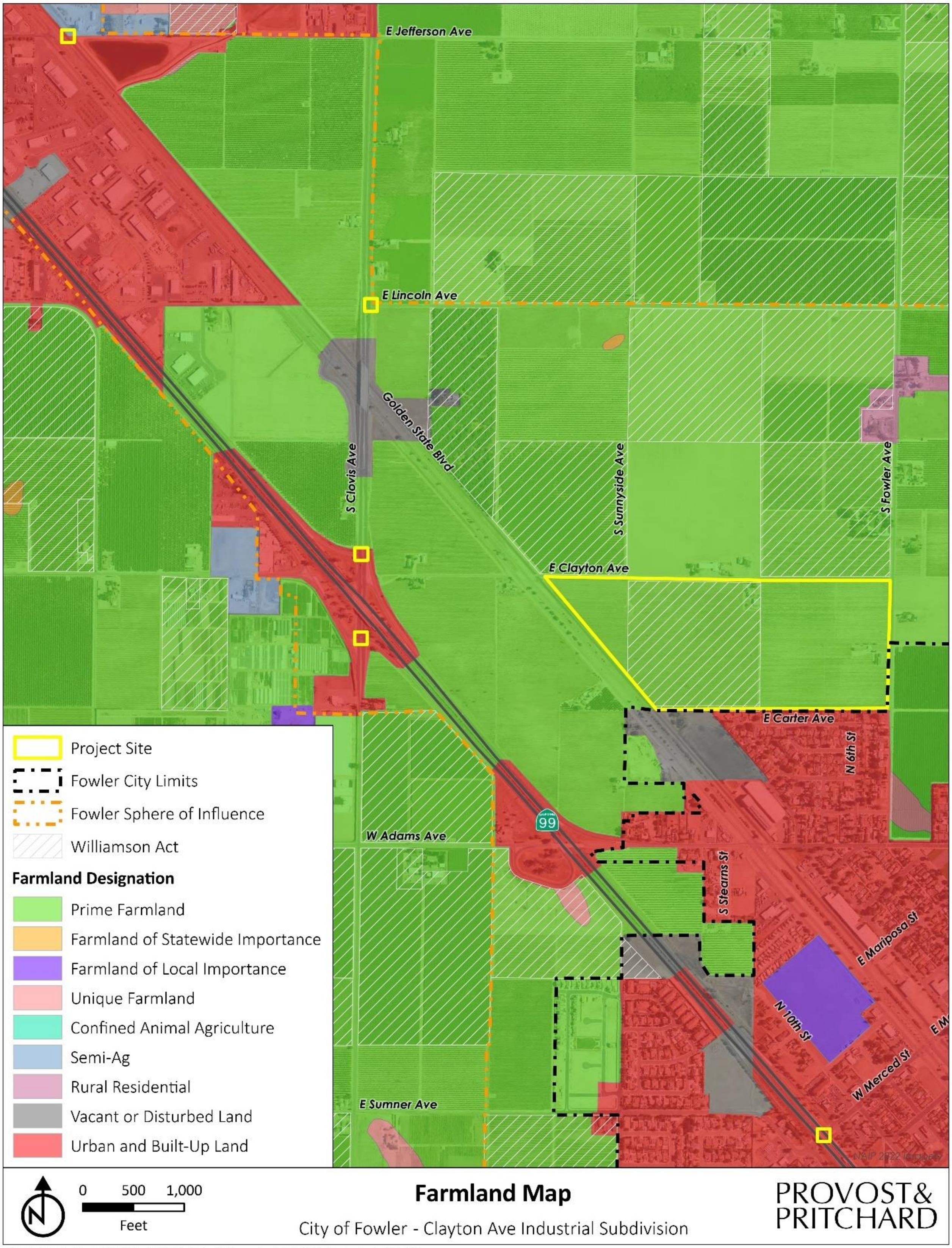


Figure 4-1: Farmland Map

4.3 AIR QUALITY

Table 4-3: Air Quality Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
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?	☐	☐	☒	☐

4.3.1 Baseline Conditions

Current air emissions on the site come from the activities associated with the farming of the existing vineyard. Cultivation requires the use of vehicles to transport workers and to haul harvested grapes off-site. Small off-road vehicles are often used to inspect and treat the vineyards.

4.3.2 Applicable Regulations

Regulation VIII—Fugitive PM_{10} Prohibitions

Regulation VIII is a control measure that is one main strategies from the 2006 PM_{10} Plan for reducing the particulate matter 10 microns in size (PM_{10})emissions that are part of fugitive dust. Projects over 10 acres are required to file a Dust Control Plan (DCP) containing dust control practices sufficient to comply with Regulation VIII. The Project is required to prepare a DCP to comply with Regulation VIII.

Rule 4002—National Emissions Standards for Hazardous Air Pollutants

The purpose of the rule is to incorporate the National Emission Standards for Hazardous Air Pollutants from Part 61, Chapter I, Subchapter C, Title 40, Code of Federal Regulations and the National Emission Standards for Hazardous Air Pollutants for Source Categories from Part 63, Chapter I, Subchapter C, Title 40, Code of Federal Regulations to protect the health and safety of the public from hazardous air pollutants, such as asbestos.

Rule 4102—Nuisance

The purpose of this rule is to protect the health and safety of the public and applies to any source operation that emits or may emit air contaminants or other materials. Agricultural activities are exempt from the nuisance rule.

Rule 9510 – Indirect Source Review

The purpose of this rule is to ensure that land use development projects reduce their construction/operational Nitrogen Oxides (NO_X) and PM_{10} emissions by 20%/40% and 33.3%/50%, respectively. Operational emissions are required to be reduced over a period of 10 years. Emission reductions can be obtained either by implementing on-site improvements, such as using more efficient construction equipment, improved land use design, electrical vehicle chargers, photovoltaic panels, or by simply paying an in-lieu fee that goes towards emission-reducing projects elsewhere in the Air District's region. This project is required to submit an Air Impact Assessment and address its emissions prior to commencement of both construction and operation.

Other Measures

Other control measures that apply to the Project are Rule 4641—Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operation that requires reductions in volatile organic compound (VOC) emissions during paving and Rule 4601—Architectural Coatings that limits the VOC content of all types of paints and coatings sold in the San Joaquin Valley. These measures apply at the point of sale of the asphalt and coatings, so Project compliance is ensured.

4.3.3 Thresholds

Mass Emissions

The District's annual mass emission significance thresholds used for the Project define the substantial contribution for both operational and construction emissions as follows:

Table 4-4: Thresholds of Significance for Criteria Air Pollutants

Criteria Pollutant	Emissions (in tons per year)	
	Construction	Operations
ROG	10	10
CO	100	100
NO_X	10	10
SO_X	27	27
PM_{10}	15	15
$PM_{2.5}$	15	15

Toxic Air Contaminants

The District's current thresholds of significance for toxic air contaminant (TAC) emissions from the operations of both permitted and non-permitted sources are combined and presented in Table 4-5 below.

Table 4-5: Thresholds of Significance for Toxic Air Contaminants

Toxic Air Contaminant Type	Threshold
Carcinogens	Maximally Exposed Individual risk equals or exceeds 20 in one million
Non-Carcinogen, Acute Effects	Hazard Index equals or exceeds 1 for the Maximally Exposed Individual
Non-Carcinogen, Chronic Effects	Hazard Index equals or exceeds 1 for the Maximally Exposed Individual

Odors

Odor impacts on residential areas and other sensitive receptors, such as hospitals, day-care centers, schools, etc. warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas. The District has determined the common land use types that are known to produce odors in the Air Basin. These types are shown in Table 4-6.

Table 4-6: Screening Levels for Potential Odor Sources

Odor Generator	Screening Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfills	1 mile
Transfer Stations	1 mile
Composting Facilities	1 mile
Petroleum Refineries	2 miles
Asphalt Batch Plants	1 mile
Chemical Manufacturers	1 mile
Fiberglass Manufacturers	1 mile
Painting/Coating Operations	1 mile
Food Processors	1 mile
Feed Lots and Dairies	1 mile
Rendering Plants	1 mile

Table 4-7: Summary of Ambient Air Quality Standards and Attainment Designation

Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Primary	Attainment Status
Ozone (O_3)	1-hour	0.09 ppm	Nonattainment/ Severe	–	No Federal Standard
	8-hour	0.070 ppm	Nonattainment	0.075 ppm	Nonattainment (Extreme)**
Particulate Matter (PM_{10})	AAM	20 µg/m^3	Nonattainment	–	Attainment
	24-hour	50 µg/m^3		150 µg/m^3	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 µg/m^3	Nonattainment	12 µg/m^3	Nonattainment
	24-hour	No Standard		35 µg/m^3	
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment/ Unclassified	35 ppm	Attainment/ Unclassified
	8-hour	9 ppm		9 ppm	
	8-hour (Lake Tahoe)	6 ppm		–	
Nitrogen Dioxide (NO_2)	AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
	1-hour	0.18 ppm		100 ppb	
Sulfur Dioxide (SO_2)	AAM	–	Attainment	--	Attainment/ Unclassified
	24-hour	0.04 ppm		--	
	3-hour	–		0.5 ppm	
	1-hour	0.25 ppm		75 ppb	
Lead (Pb)	30-day Average	1.5 µg/m^3	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		--	
	Rolling 3-Month Average	–		0.15 µg/m^3	
Sulfates (SO_4)	24-hour	25 µg/m^3	Attainment	No Federal Standards	
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm (42 µg/m^3)	Unclassified		
Vinyl Chloride (C_2H_3Cl)	24-hour	0.01 ppm (26 µg/m^3)	Attainment		

Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Primary	Attainment Status
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more due to particles when the relative humidity is less than 70%.	Unclassified		
Note: ppm – parts per million; ppb – parts per billion; µg/m^3 – micrograms per cubic meter					

** For more information on standards visit: https://ww3.arb.ca.gov/research/aaqs/aaqs2.pdf*
*** No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard.*
****Secondary Standard*
Source: http://www.valleyair.org/aqinfo/attainment.htm.

4.3.4 Impact Analysis

Short-Term Construction-Generated Emissions

Estimated construction-generated emissions are summarized in Table 4-8 and Table 4-9, also in Appendix A. Emissions resulting from the addition of traffic signals to existing streets would be minimal.

Table 4-8: Unmitigated Short-Term Construction Generated Emissions of Criteria Air Pollutants

Source	Annual Emissions (Tons per Year)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
MAXIMUM ANNUAL PROJECT CONSTRUCTION EMISSIONS	1.21	2.00	2.68	<0.005	0.23	0.09
SJVAPCD THRESHOLD	*10*	*10*	*100*	*27*	*15*	*15*
THRESHOLD EXCEEDED?	No	No	No	No	No	No

Table 4-9: Maximum Daily Construction Related Emissions of Criteria Air Pollutants

Source	Daily Emissions Maximum (in pounds)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
CONSTRUCTION – SUMMER	104	12.2	19.8	0.06	1.55	0.68
CONSTRUCTION – WINTER	3.38	31.7	30.7	0.06	9.13	5.22
SJVAPCD THRESHOLD	*100*	*100*	*100*	*100*	*100*	*100*
THRESHOLD EXCEEDED?	Yes	No	No	No	No	No

Long-Term Operational Emissions

Long-term air pollutant emission impacts are those associated with mobile sources (e.g., vehicle trips), energy sources (e.g., electricity and natural gas), and area sources (e.g., architectural coatings and the use of landscape maintenance equipment) related to the Project. Operational emissions of the proposed Project would be considered negligible due to the type of use proposed on-site. Emissions are weighed against thresholds designated by the San Joaquin Valley Air Pollution Control District (SJVAPCD). Table 4-10 and Table 4-11 summarizes estimated operational emissions. No operational emissions exceed SJVAPCD thresholds.

Table 4-10: Unmitigated Long-Term Operational Emissions

Source	Annual Emissions (Tons per Year)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
MAXIMUM ANNUAL PROJECT CONSTRUCTION EMISSIONS	2.83	2.24	10.4	0.03	1.88	0.53
SJVAPCD THRESHOLD	*10*	*10*	*100*	*27*	*15*	*15*
THRESHOLD EXCEEDED?	No	No	No	No	No	No

Table 4-11: Maximum Daily Operational Related Emissions of Criteria Air Pollutants

Source	Daily Emissions Maximum (in pounds)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
CONSTRUCTION – SUMMER	17.5	11.8	76.4	0.16	10.5	2.98
CONSTRUCTION – WINTER	14.0	12.7	47.5	0.14	10.5	2.96
SJVAPCD THRESHOLD	*100*	*100*	*100*	*100*	*100*	*100*
THRESHOLD EXCEEDED?	No	No	No	No	No	No

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. The Project would conflict with or obstruct implementation of applicable air quality plans if the Project exceeded established thresholds of significance for criteria air pollutants or violate adopted Air District rules. As described above in Table 4-8, Table 4-9, Table 4-10, and Table 4-11, the Project, for the most part, would not exceed thresholds for criteria air pollutants. While the analysis depicts a construction daily emissions of 104 pounds per day for reactive organic gases (ROG), the calculation assumes that 100% of the buildings would be painted all at once, and given the individual development nature of the Project, would be highly unlikely. Therefore, impacts would be less than significant.

b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less than Significant Impact. Excluding daily emissions for ROG, Project-generated emissions are below the SJVAPCD's regional significance thresholds, and the Project is consistent with current air quality attainment plans including control measures and regulations. The SJVAPCD through its Guidelines for Assessing and Mitigating Air Quality Impacts has determined that projects that exceed regional thresholds would have a cumulatively considerable health impact. As described above, calculation assumes that 100% of the buildings would be painted all at once, and given the individual development nature of the Project, would be highly unlikely. Therefore, its cumulatively considerable impacts would be less than significant.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact with Mitigation Incorporated. Construction of the Project will most likely utilize diesel-powered off-road equipment, spanning the course of over two (2) years cumulatively. Each building would be developed as desired. Construction in subsequent years are anticipated to generate fewer emissions due to the eventual replacement of old diesel construction equipment fleets with equipment compliant with current regulations. Cancer health risks associated with Project construction would equate to a 10.99 in a million risk of cancer. Chronic and acute health risks associated with the Project would be minimal and less than significant. Construction of traffic signals is not anticipated to generate significant emissions, and given their distance to sensitive receptors, would result in a less than significant impact.

Project operations would also involve the use of diesel-powered trucks, which too would generate Diesel Particulate Matter (DPM). These trucks would most likely leave and enter the site by way of Golden State Boulevard, to either Clovis Avenue to the north or Adams Avenue to the south. Cancer health risks associated with Project operations would equate to 10.61 in a million risk of cancer. Chronic and acute health risks associated with the Project would be minimal and less than significant.

Together, without mitigation, cancer health risks would exceed the Air District threshold of 20 in a million and would result in a significant impact. To mitigate the impact to less than significant, subdivision construction and its buildings would be required to use Environmental Protection Agency (EPA) Tier 3 engines with Level 3 Diesel Particulate Filters or EPA Tier 4 Final engines, or better. The use of Level 3 Diesel Particulate Filters would reduce construction DPM emissions by approximately 75%, and presumably the cancer risk associated with construction would too fall by 75%, which would be sufficient to comply with Air District thresholds. This has been memorialized as **AIR-1**.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact. Construction of the Project would utilize diesel-powered equipment, which would likely generate odors. These odors, however, are not generally found to adversely affect people, and due to the proximity of the site to sensitive receptors, would not affect a substantial number of people. Project operations would also utilize diesel-powered equipment, however the number of truck trips generated would be minimal and their distance sufficiently away from sensitive receptors. Impacts would be less than significant.

4.3.5 Mitigation

AIR-1	Construction of the subdivision and the buildings within shall utilize EPA Tier 4 Final engines or EPA Tier 3 engines with Level 3 Diesel Particulate Filters.

4.4 BIOLOGICAL RESOURCES

Table 4-12: Biological Resources Impacts

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

4.4.1 Baseline Conditions

The Project site is located in the San Joaquin Valley and consists of ruderal and agricultural habitats. The San Joaquin Valley is bordered by the Sierra Nevada Mountain range to the east and the California Coastal Mountain ranges to the west. According to the California Wildlife Habitat Relationship system's vegetation cover data, the only habitat types found within the Project site are agricultural (vineyard) and ruderal (urban).[8]

---

[8] (California Department of Fish and Wildlife 2024)

According to the California Natural Diversity Database (CNDDB) found in the General Plan EIR, there are no areas of designated critical habitat or natural communities of special concern within the Project site.[9]

The Project site does not contain features that would be likely to function as wildlife movement corridors. Furthermore, the City is located in a region often disturbed by intensive agricultural cultivation practices and human disturbance which would discourage dispersal and migration.

4.4.2 Applicable Regulations

Federal

Endangered Species Act

The Endangered Species Act ESA, passed in 1973, defines an endangered species as any species or subspecies that is in danger of extinction throughout all or a significant portion of its range. A threatened species is defined as any species or subspecies that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Once a species is listed, it is fully protected from a “take” unless a take permit is issued by the United States Fish and Wildlife Service. A take is defined as the harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct, including modification of its habitat ((16 USC (United States Code) 1532, 50 Code of Federal Regulations 17.3)). Proposed endangered or threatened species are those species for which a proposed regulation, but not a final rule, has been published in the Federal Register.

State

California Endangered Species Act

The California Endangered Species Act (CESA), codified at Fish and Game Code (FGC) Section 2050, et seq., protects certain plant and animal species when they are of special ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. CESA established that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats. CESA was expanded upon the original Native Plant Protection Act and enhanced legal protection for plants. To be consistent with federal regulations, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the Act as threatened species but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Under State law, plant and animal species may be formally designated by official listing by the California Fish and Game Commission. Predatory Birds – Fish and Game Code Section 3503, 3503.5, 3800 Under FGC Sections, 3503, 3503.5, and 3800, all predatory birds in the order Falconiformes or Strigiformes in California, generally called “raptors,” are protected. The law indicates that it is unlawful to take, posses, or destroy the nest or eggs of any such bird unless it is in accordance with the code. Any activity that would cause a nest to be abandoned or cause a reduction or loss in a reproductive effort is considered a take. This generally includes construction activities.

---

[9] (Provost & Pritchard Consulting Group 2022)

4.4.3 Impact Analysis

a) Would the project 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?

Less than Significant Impact. According to CNDDB data, there have been no documented occurrences of special status species within the Project site. While there are several special status species known to occur in the region, based on the highly disturbed (non-natural, urbanized state) nature of the planning area, sensitive species are not expected to regularly occur. San Joaquin kit fox, for example, is a highly mobile species that has both core and satellite populations throughout the Central Valley. However, the range of this species does not cross over the Project site, with the nearest suspected populations mapped approximately 50 miles southeast and 40 miles northwest of Fowler, respectively.[10] It is highly unlikely that this species would pass through the Project site during dispersal between populations. Developed and agriculturally disturbed areas within or surrounding the Project site include vineyards, orchards, irrigated row and field crops, residential development, commercial development, and industrial development. Species that occur in these habitats are typically adapted to anthropogenic disturbance and/or are ornamental species. Plant species in urban habitats typically consist of ornamental and other non-native invasive plant species, with large, developed areas lacking vegetation. Therefore, development would have a less than significant impact to special status species.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No Impact. Riparian habitat is absent from the Project site. The San Joaquin River Ecological reserve, located approximately 18 miles northwest in Fresno, includes a largely undisturbed riparian corridor.[11] The only water bodies present within the planning area and surrounding region are irrigation canals, which are highly maintained and used primarily for agricultural water. Additionally, there are no CNDDB-designated "natural communities of special concern" recorded within the Project site or surrounding lands. There would be no impact.

c) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. The Project site does not contain any federally protected wetlands. Runoff from the Project site would be directed to proposed stormwater basins. There would be no impact.

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?

No Impact. Wildlife movement corridors are routes that wild animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines,

---

[10] (United States Fish & Wildlife Service 2022)

[11] (California Department of Fish and Wildlife 2024)

and rivers and creeks supporting riparian vegetation. The Project site does not contain any federally protected wetlands. Runoff from the Project site would be directed to proposed stormwater basins. There would be no impact.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. There are no applicable local policies or ordinances protecting biological resources. As such, there would be no impact.

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?

No Impact. There are no Habitat Conservation Plans or Natural Community Conservation Plans applicable to the planning area. Therefore, there would be no impact.

4.5 CULTURAL RESOURCES

Table 4-13: Cultural Resources Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in § 15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

4.5.1 Baseline Conditions

Following the completion of the transcontinental railroad in 1869, the Central Pacific Railroad, predecessor to the Southern Pacific Railroad, began construction of a Central Valley route to connect southern California with the commerce center of the San Francisco Bay. The segment through Fowler was laid around 1872. Thomas Fowler, a State Senator from 1869–1872, owned the ranch where a railroad switch was built by the Central Pacific Railroad. The town developed around the railroad switch and became known as Fowler's Switch. The Valley branch of the historic Southern Pacific Railroad is presently owned and operated by the Union Pacific Railroad. A post office branch was established in Fowler in 1882, the name was eventually shortened, and the City of Fowler was incorporated in 1908. In May 1973, Fowler's Switch was registered as a California Point of Interest for its local significance to Fowler. The marker for the Fowler Switch is located at the intersection of East Merced Street and South 7th Street and is not visible from the Project site.

The Project site is located on a previously farmed piece of land. Throughout the years of farming the site, it has been heavily disturbed through planting, harvesting, and discing. The traffic improvement areas are located in disturbed areas that have been developed with roadway infrastructure.

Records Search

A records search from the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System (CHRIS), located at California State University, Bakersfield was conducted in September 2024. The SSJVIC records search includes a review of all recorded archaeological and built-environment resources as well as a review of cultural resource reports on file. In addition, the California Points of Historical Interest, the California Historical Landmarks, the California Register of Historical Resources, the National Register of Historic Places, and the California State Built Environment Resources Directory listings were reviewed for the Project site and an additional ½-mile radius. According to the search, no cultural resource studies have been previously completed within the Project area, but four have been completed within the ½-mile radius. Furthermore, no recorded cultural resources have been discovered within the Project site; however, three have been discovered within the ½-mile radius. See Appendix B for the CHRIS records search results letter.

4.5.2 Regulatory Setting

The following Fowler General Policies would apply to the Project:

- **Policy CDES-12**: All construction shall cease, and the Community Development Director and City Engineer shall be notified immediately if any prehistoric, archaeological, or fossil artifact or resource is uncovered during construction. All construction shall immediately stop and an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained, at the applicant's and/or successors-in-interest's expense, to evaluate the find(s) and recommend appropriate action according to Section 15064.5 of the California Environmental Quality Act (CEQA) Guidelines. If avoidance is infeasible, other appropriate measures would be instituted. Work may proceed on other parts of the project subject to direction of the archaeologist while assessment of historic resources or unique archaeological resources is being carried out.
- **Policy CDES-13**: All construction shall cease if any human remains are uncovered, and the Community Development Director, City Engineer and Fresno County Medical Examiner and Coroner shall be notified in accordance to Section 7050.5 of the California Health and Safety Code. If human remains are determined to be those of a Native American or has reason to believe that they are those of a Native American, the Native American Heritage Commission (NAHC) shall be contacted, and the procedures outlined in California Environmental Quality Act (CEQA) Section 15064.5(e) shall be followed.

4.5.3 Impact Analysis

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to in § 15064.5?

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

a and b) Less than Significant Impact. A CHRIS records search, from SSJVIC, was conducted in September 2024 and confirmed there have been no previous cultural resource studies conducted within the Project area. There have been four previous cultural resource studies within the ½-mile mile radius: FR-00135, 02287, 02452, 02642. The search also confirmed there are no recorded resources within the Project area, but three within the ½-mile mile radius: P-10-002962, 003930, 004423. It is unlikely that the Project has the potential to result in significant impacts or adverse effects to cultural or historical resources, such as archaeological remains, artifacts, or historic properties. Conformance with General Plan Policies CDES-12 and CDES-13 would reduce impacts to less than significant.

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant Impact. There is no evidence that the Project site has the potential to be an unknown burial site, or the site of buried human remains. In the unlikely event of such a discovery, General Plan Policies CDES-12 and CDES-13 identify the procedures that are required to be taken. mitigation will be implemented. Impacts resulting from the discovery of remains interred in the Project site would be less than significant.

4.6 ENERGY

Table 4-14: Energy Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☒	☐

4.6.1 Baseline Conditions

The Project site consists of farmland and a rural residential dwelling. Energy consumption from the dwelling and farmland would consist of electricity (pumps, dwelling), natural gas (dwelling), gasoline (automobiles), and diesel (dwelling, harvesting).

4.6.2 Impact Analysis

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant Impact. Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. For heavy-duty construction equipment, horsepower and load factor were assumed using default data from the California Emissions Estimator Model (CalEEMod). Fuel use associated with construction vehicle trips generated by the Project was also estimated; trips include construction worker trips, haul trucks trips for material transport, and vendor trips for construction material deliveries. Fuel use from these vehicles traveling to the Project was based on (1) the projected number of trips the Project would generate (CalEEMod default values), (2) default average trip distance by land use in CalEEMod, and (3) fuel efficiencies estimated in the California Air Resources Board 2017 Emissions Factors model (EMFAC2017) mobile source emission model.

Construction is estimated to consume a total of 99,178.75 gallons of diesel fuel and 19,533.25 gallons of gasoline fuel.[12] California Code of Regulations Title 13, Motor Vehicles, Section 2449(d)(2), Idling, limits idling times of construction vehicles to no more than five (5) minutes, thereby precluding unnecessary and wasteful consumption of fuel because of unproductive idling of construction equipment. In addition, the energy consumption for construction activities would not be ongoing as they would be limited to the duration of Project construction.

---

[12] Emissions for the Project were quantified using CalEEMod Output Files Version 2020.4.0. Refer to Appendix A for modeling results and assumptions.

The development's anticipated annual energy consumption is approximately 590,073 kilowatt-hours and 17,792 therms of natural gas.[13] Energy consumption of residential uses is currently governed by the 2019 California Building Code, Part 6 for the structure itself, and Title 20 of the California Code of Regulations for appliances. Energy consumption is anticipated to decrease over time as more energy efficient standards take effect and energy-consuming equipment reach their end-of-life and necessitates replacement. Therefore, impacts would be less than significant.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant Impact. State and local authorities regulate energy use and consumption. These regulations at the State level are intended to reduce energy use and greenhouse gas (GHG) emissions. These 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, Parts 6 and 11 – California Energy Code and Green Building Standards. The Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Therefore, impacts would be less than significant.

---

[13] Emissions for the Project were quantified using CalEEMod Output Files Version 2020.4.0. Refer to Appendix A for modeling results and assumptions.

4.7 GEOLOGY AND SOILS

Table 4-15: Geology and Soils Impacts

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

4.7.1 Baseline Conditions

Geology and Soils

The proposed Project is located in Fresno County, in the southern section of California's Great Valley Geomorphic Province, or Central Valley. The Sacramento Valley makes up the northern third and the San Joaquin Valley makes up the southern two-thirds of the geomorphic province. Both valleys are watered by large rivers flowing west from the Sierra Nevada Range, with smaller tributaries flowing east from the Coast Ranges. Most of the surface of the Great Valley is covered by Quaternary (present day to 1.6 million years ago) alluvium. The sedimentary formations are steeply upturned along the western margin due to the uplifted Sierra Nevada Range.[14] From the time the Valley first began to form, sediments derived from erosion of igneous and metamorphic rocks and consolidated marine sediments in the surrounding mountains have been transported into the Valley by streams.

Using the United States Department of Agriculture Natural Resources Conservation Service soil survey of Fresno County, an analysis of the soils onsite was performed. Soils on the Project site consist of Delhi loamy sand, Hanford sandy loam, Hesperia sandy loam, and Hesperia fine sandy loam.[15]

Faults and Seismicity

The Project is not located within an Alquist-Priolo Earthquake Fault Zone and there are no known active faults within the City. The nearest major fault is the San Andreas Fault, located approximately 66 miles southwest of the Project site. The San Andreas fault is the dominant active tectonic feature of the Coast Ranges and represents the boundary of the North American and Pacific plates. The Nunez Fault is approximately 51 miles southwest and the Poso Fault is approximately 51 miles southwest.[16]

Liquefaction

The potential for liquefaction, which is the loss of soil strength due to seismic forces, is dependent on soil types and density, the groundwater table, and the duration and intensity of ground shaking. Although no specific liquefaction hazard areas have been identified in the county, this potential is recognized throughout the San Joaquin Valley where unconsolidated sediments and a high-water table coincide. according to the California State Geoportal, Fowler is not located in or near a zone that has been designated as an area that has experienced soil liquefaction.[17] Furthermore, the average depth to groundwater within the planning area is approximately 85 to 95 feet, which also minimizes liquefaction potential.[18]

Soil Subsidence

There are two types of Subsidence: Land subsidence and hydrocompaction subsidence. Hydrocompaction subsidence occurs when a large land area settles due to over-saturation. These areas are typically composed of open-textured soils that become saturated, high in silt or clay content. Land subsidence occurs when an extensive amount of ground water, oil, or natural gas is withdrawn from below the ground surface. The San Joaquin Valley has become an area that has increasingly experienced subsidence due to excessive groundwater pumping activities lowering the water table. The Project site consists of Atwater loam, Atwater loamy sand, and Greenfield Sandy loam. These soil types have a low to moderate risk of subsidence.

Landslides

Landslides usually occur in locations with steep slopes and unstable soils. Fowler is located on the Central Valley floor where no major geologic landforms exist, and the topography is essentially flat and level. The nearest foothills are approximately 15 miles northeast of the Project site. Therefore, the Project site has minimal-to-no landslide susceptibility.

---

[14] (Harden 1998)
[15] (United States Department of Agriculture 2024)
[16] (California Department of Conservation 2023)
[17] (California State Geoportal 2022)
[18] (City of Fowler 2023)

4.7.2 Regulatory Setting

The following Fowler General Policies would apply to the Project:

- **Policy CDES-12**: All construction shall cease, and the Community Development Director and City Engineer shall be notified immediately if any prehistoric, archaeological, or fossil artifact or resource is uncovered during construction. All construction shall immediately stop and an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained, at the applicant's and/or successors-in-interest's expense, to evaluate the find(s) and recommend appropriate action according to Section 15064.5 of the California Environmental Quality Act (CEQA) Guidelines. If avoidance is infeasible, other appropriate measures would be instituted. Work may proceed on other parts of the project subject to direction of the archaeologist while assessment of historic resources or unique archaeological resources is being carried out.

4.7.3 Impact Analysis

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

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

No Impact. There are no known active earthquake faults in Fresno County, inclusive of the City of Fowler and the Project site, nor is Fresno County within an Alquist-Priolo earthquake fault zone as established by the Alquist-Priolo Fault Zoning Act. Thus, the Project would not cause rupture of a known earthquake fault and therefore, would have no impact.

ii. Strong seismic ground shaking?

Less than Significant Impact. The Project site is not located in an area traditionally characterized by high levels of seismic activity. Future development would be required to comply with current seismic protection standards in the California Building Code (CBC) which would significantly limit potential damage to structures and thereby reduce potential impacts including the risk of loss, injury, or death. Compliance with the CBC would ensure impacts to be less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less than Significant Impact. As mentioned above, there are no known active earthquake faults in Fresno County and Fresno County has historically been subject to low to moderate ground shaking. The Project site is in an area with low susceptibility to liquefaction with no known geologic hazards or unstable soil conditions. Due to the distance from an active fault, there is low potential for ground rupture. Further, the Project site is primarily made up of loamy sand and sandy loam that are well drained, which are less susceptible to liquefaction than silt or sands. In addition, development would be required to comply with CBC, the City's grading and drainage standards, and specific requirements that address liquefaction. For these reasons, the Project would not result in seismic-related ground failure including liquefaction. Impacts would be less than significant impact.

iv. Landslides?

No Impact. Characteristic of the Central Valley, the topography of the Project site is relatively flat. Soils on the Project site are native and stable. No large slopes deriving from rivers or streams are found within the Project site that would be susceptible to landslides. Therefore, there would be no impact.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. Soil erosion and loss of topsoil can be caused by natural factors, such as wind and flowing water, and human activity. Construction of the Project site would require typical site preparation activities such as grading and trenching which may result in the potential for short-term soil disturbance or erosion impacts. Construction would also involve the use of water that may cause further soil disturbance. Such impacts would be addressed through compliance with regulations set by the State Water Resources Control Board (SWRCB). Namely, the SWRCB requires sites larger than one (1) acre to comply with the General Permit for Discharges of Storm Water Associated with Construction Activity. The General Permit Order No. 2022-0057-DWQ requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer prior to the start of construction activities. The SWPPP estimates the sediment risk associated with construction activities and Soil erosion and loss of topsoil can be caused by natural factors, such as wind and flowing water, and human activity. includes best management practices (BMP) to control erosion. BMPs specific to erosion control cover erosion, sediment, tracking, and waste management controls. Implementation of the SWPPP minimizes the potential for the Project to result in substantial soil erosion or loss of topsoil. Furthermore, development of the Project site would comply with Section 8-14.08 Grading of the Fowler Municipal Code to control soil erosion and erosion potential during Project operations. With these provisions in place, impacts to soil and topsoil by the Project would be considered less than significant.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less than Significant Impact. Land subsidence is the settling or sinking of surface soil deposits with little or no horizontal motion. Soils with high silt or clay content are subject to subsidence. Subsidence typically occurs in areas with groundwater withdrawal or oil or natural gas extraction. The site is not within an identified California Department of Conservation – Geologic Energy Management Division oil/gas field.[19] The topography of the site is relatively flat with stable, native soils and no apparent unique or significant landforms. Furthermore, the Project is in an area of low significance for seismic activity due to its distance from faults. Such factors minimize the potential for other geologic hazards such as landslides, lateral spreading, subsidence, liquefaction, or collapse. Therefore, any development on the native, stable soils is unlikely to become unstable and result in geologic hazards. In addition, the Project would be required to comply with current seismic protection standards in the CBC which would significantly limit potential seismic-related hazards such as landslides, lateral spreading, subsidence, liquefaction, or collapse. Compliance with the CBC would ensure a less than significant impact.

d) Would the project 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?

Less than Significant Impact. The Project site is relatively flat with native soils of fine sandy loam, which is not expansive. Sandy loam soils are not classified as expansive soil, as defined in Table 18-1-B of the

---

[19] (California Department of Conservation 2024)

Uniform Building Code and would not create substantial direct or indirect risks to life or property. Thus, no impact would occur because of the Project.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. Once annexed, the Project site would be located within the Fowler city limits and would connect to the City's wastewater services. Thus, no permanent septic tanks or alternative wastewater disposal systems would be installed. There would be no impact.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

Less than Significant Impact. No known paleontological resources have been identified at the Project site. However, if a paleontological resource is found General Plan Policy CDES-12 describes the procedures necessary during construction activities to reduce impacts. All construction would be required to immediately stop and an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology would be retained, at the applicant's and/or successors-in-interest's expense, to evaluate the find(s) and recommend appropriate action according to Section 15064.5 of the CEQA Guidelines. If avoidance is infeasible, other appropriate measures would be instituted. Work may proceed on other parts of the project subject to direction of the archaeologist while assessment of historic resources or unique archaeological resources is being carried out. Implementation of this General Plan policy would reduce impacts to less than significant.

4.8 GREENHOUSE GAS EMISSIONS

Table 4-16: Greenhouse Gas Emissions Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☒	☐	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☒	☐	☐

4.8.1 Baseline Conditions

The subject property is developed with vineyards. Cultivation requires the use of vehicles to transport workers and to haul harvested grapes off-site. Small off-road vehicles are often used to inspect and treat the vineyards.

4.8.2 Thresholds

As the Project proposes to develop consistent with the 2040 Fowler General Plan, the Project would exceed thresholds of significance if the Project proposes not to implement the GHG mitigation measures of the 2040 Fowler General Plan Program EIR.

4.8.3 Impact Analysis

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

a) and b) Less than Significant Impact with Mitigation Incorporated. Construction of the Project would generate approximately 855.1 metric tons of Carbon Dioxide and its equivalents (MTCO$_2$e). Operation of the Project would generate approximately 4,263 MTCO$_2$e.The City of Fowler has not adopted an applicable plan, policy, or regulation for the purpose of reducing the emissions of GHGs. Therefore, the significance of the Project's consistency with an applicable plan was evaluated in comparison to the GHG-reduction strategies contained in the 2022 Fresno Council of Governments Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS); as well as State's 2022 Climate Change Scoping Plan. The Project is consistent with the General Plan, which was found to be consistent with the 2022 RTP/SCS. In order for subsequent projects to comply with the 2022 Scoping Plan, the Program EIR adopted mitigation measures GHG-1 and GHG-2, described below, which would apply the Project's fair share of greenhouse gas impacts. With implementation of these mitigation measures, impacts would be less than significant.

4.8.4 Mitigation

GHG-1	Buildings in the subdivision shall be constructed with electrically-powered appliances and building mechanical equipment in place of natural-gas fueled equipment.
GHG-2	Off-street parking in the subdivision shall exceed the California Green Building Standard Code Tier 2 requirements for electric vehicle charging infrastructure.

4.9 HAZARDS AND HAZARDOUS MATERIALS

Table 4-17: Hazards and Hazardous Materials Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise 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?	☐	☐	☐	☒

4.9.1 Baseline Conditions

Hazardous Materials

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to develop at least annually an updated Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. DTSC's EnviroStor database provides DTSC's component of Cortese List data. In addition to the EnviroStor database, the SWRCB Geotracker database provides information on regulated hazardous waste facilities in California, including underground storage tank (UST) cases and non-UST cleanup programs, including Spills-Leaks-Investigations-Cleanups sites, Department of Defense sites, and Land Disposal program. A search of the DTSC EnviroStor database and the SWRCB Geotracker performed on October 7, 2024, determined that there are no known active hazardous waste generators or hazardous material spill sites within the Project site or immediate surrounding vicinity.[20]

Airports

The Fresno Yosemite International Airport is located approximately nine miles north-northwest and the Selma Municipal Airport is located approximately four miles south-southeast of the Project.

Emergency Response Plan

The Fresno County Office of Emergency Services coordinates the development and maintenance of the Fresno County Operational area Master Plan.

Sensitive Receptors

The nearest sensitive receptors to the Project site is the residential subdivision to the south. Additionally, the Project site is roughly a quarter mile from John Fremont Elementary School.

4.9.2 Impact Analysis

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Would the project 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?

a) and b) Less than Significant Impact. Construction activities for the Project site would include typical site preparation, grading, paving, and trenching, all of which would require the transportation of building materials and equipment. Demolition would not be required. The site includes a single-family residence; however, it would remain in the portion of the Project site that would be designated for residential uses. Generally, hazardous materials associated with construction include, but are not limited to, motor oil, gasoline, diesel, solvents, acids, fugitive dust, and stormwater runoff. Potential hazardous materials associated with construction could result from the use of fuels and lubricants for construction equipment (i.e., motor oil, gasoline and diesel), in addition to grading and drainage activities (i.e., fugitive dust and stormwater runoff). The Project's grading and drainage plans are subject to City approval and would determine the limits of grading and disturbance. Compliance with these regulations would limit visible dust and ensure that disturbed surfaces or soils remain stable. Workers would be trained to properly identify and handle all hazardous materials, and hazardous waste would either be recycled or disposed of at a permitted and licensed treatment and/or disposal facility. All hazardous waste shipped off-site for recycling or disposal would be transported by a licensed and permitted hazardous waste hauler and disposed of at an approved location. During construction, nonhazardous construction debris would be generated and disposed of at the American Avenue Landfill, pursuant to applicable laws and regulations. Sanitary waste would be managed using portable toilets located at a reasonably accessible on-site location. Compliance with applicable laws and regulations would ensure that construction of the proposed project would not create a significant hazard to the public or the environment through the

---

[20] (California Department of Toxic Substances Control 2024); (State of California 2024)

routine transport, use, or disposal of hazardous materials. Overall, the relatively limited use and small quantities of typical hazardous materials, and subsequent transport and disposal of such materials, during construction would be controlled through compliance with applicable laws and regulations pursuant to a comprehensive regulatory framework administered by the DTSC and other relevant public agencies.

The Project proposes an industrial subdivision with light industrial uses unknown at this time. It is assumed that the future use of the Project site would be industrial with specifics complying with the permitted uses found in the Fowler Zoning Ordinance. The California Environmental Protection Agency (CalEPA) oversees the Statewide implementation of the Hazardous Materials Business Plan (HMBP), which aims to prevent or minimize harm to public health and safety, and the environment from the release or threatened release of hazardous material. The minimum reporting quantities for hazardous materials is 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compress gas.[21] If a business handles hazardous materials at or in excess of the minimum thresholds, a HMBP is required to be prepared and approved by the State and local jurisdictions. The project tenants/operator will be required to submit information to the California Environmental Reporting System, Fresno County Department of Public Health, and the City regarding the use and storage of hazardous materials. Both the proposed gas station/mini-mart and future industrial uses would be subject to the HMBP requirements if they handle hazardous materials in excess of minimum reporting quantities Based on known operations, it is not expected that the Project would involve the routine transport, use, or disposal of hazardous materials. Nevertheless, if future uses would involve transport, use, or disposal of hazardous materials, then the Fresno County Department of Public Health would require that the Project and future uses on the site submit an HMBP in order to provide for safe storage and use of chemicals. Therefore, if the facility does handle hazardous materials and/or hazardous waste, compliance with the HMBP as approved by the County would reduce any impacts to less than significant. Some appliances and electronics used or stored within buildings may contain hazardous components (e.g., refrigerants, oils, etc.); however, these hazardous components are regulated by the EPA under the Toxic Substances Control Act and Clean Air Act and transport of such components are regulated by the United States Department of Transportation, Office of Hazardous Materials Safety as implemented in California by California Code of Regulations Title 13, California Building Code, and Uniform Fire Code. Through compliance with the aforementioned regulations, the Project is not expected to create a significant hazard to the public or the environment. In addition, stormwater runoff resulting from the anticipated buildout of the Project would be managed by the City in compliance with the regulatory requirements pursuant to NPDES General Permit Requirements, as discussed in Section 4.7). This includes runoff consisting of any hazardous materials, including fuels and lubricants used for construction equipment. In addition, the quality of stormwater runoff would be maintained by design components specific to the Project including the required preparation of a SWPPP, and the City's approval of the Project's grading and drainage plans. Together, compliance with the aforementioned plans, policies, and regulatory requirements in addition to Project design components, would reduce potential impacts related to stormwater quality to a less than significant level.

c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than Significant Impact. The Project site, including the proposed traffic improvements, is roughly a quarter mile from John Fremont Elementary School, located in the City of Fowler. As discussed above, the Project would comply with regulatory requirements such as potential Hazardous Materials

---

[21] (County of Fresno Department of Public Health 2024)

Management Plans and a SWPPP during construction. With the implementation of said regulatory compliance measures, impacts would be less than significant.

d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. The Project does not involve land that is listed as a hazardous materials site pursuant to Government Code Section 65962.5 and is not included on a list compiled by the Department of Toxic Substances Control. A search of the DTSC EnviroStor database and the SWRCB Geotracker determined that there are no known active hazardous waste generators or known hazardous material spill sites within the Project site. There would be no impact.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

No Impact. The Project is not located within an airport land use plan or within two (2) miles of an airport. The Fresno Yosemite International Airport is located approximately nine (9) miles north-northwest and the Selma Municipal Airport is located approximately four (4) miles south-southeast of the Project. Construction and implementation of the Project would not be a safety hazard for people working in the area. There would be no impact.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. Construction activities would be temporary in nature and would not cause any road closures that could interfere with any adopted emergency response or evacuation plans. The construction contractor would be required to work with the City and County (public works, police/fire, etc.) if and when roadway diversions are required to ensure that adequate access is maintained for residents and emergency vehicles. The Project would also include traffic improvements; however, these improvements are necessary to maintain efficient levels of service and to support the existing circulation system. Accordingly, any impacts would be less than significant.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

No Impact. According to California Department of Forestry and Fire Protection (CalFire), the Project is not located within a State Responsibility Area (SRA), meaning CalFire does not assume responsibility for wildfire prevention and protection but is managed at the local level.[22] Furthermore, according to CalFire, the proposed Project area is not located within a very high fire hazard severity zone, nor is the Project located within a high or moderate fire hazard severity zone.[23] Given the absence of wildlands in the vicinity, implementation of the Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. There would be no impact.

---

[22] (California Department of Forestry and Fire Protection 2022)

[23] (ArcGIS 2023)

4.10 HYDROLOGY AND WATER QUALITY

Table 4-18: Hydrology and Water Quality Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 such that 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 which would:				
i. result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
iii. 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	☐	☐	☒	☐
iv. 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?	☐	☐	☒	☐

4.10.1 Baseline Conditions

The San Joaquin River and the Kings River are the two principal drainages within the San Joaquin Valley, and Fowler is generally located approximately 18 miles south of the San Joaquin River and nine miles west of the Kings River.

Fowler lies entirely within the Kings Groundwater Subbasin of the San Joaquin Valley Groundwater Basin.[24] Due to groundwater overdraft and contamination from agricultural chemicals, provision of reliable sources of groundwater in both quantity and quality have been a challenge throughout most of the Central Valley.

---

[24] (California Department of Water Resources 2018)

Water supply is produced from six groundwater wells located throughout the City and distribution is provided by the Water Division of the City's Public Works Department through a system in which pumps deliver water from beneath the ground to a network of water mains, pipelines, and laterals, which distribute water to residents and businesses. Municipal water is tested monthly to ensure quality. According to the Annual Water Quality Report (2023), the average depth to groundwater is 85 to 95 feet.[25]

Fowler is also a member city of South Kings Groundwater Sustainability Agency (SKGSA). SKGSA comprises five (5) cities and two (2) community services districts. These public entities formed a joint-powers authority in May 2017 to take on the responsibility of sustainable groundwater management in the portion of the Kings Subbasin underlying the GSA's boundary. In 2019, Fowler along with the other members of the SKGSA adopted the SKGSA Groundwater Sustainability Plan.

The Project site is located within a 100-year flood zone (see Figure 4-2).

4.10.2 Impact Analysis

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less than Significant Impact. Since the Project site is greater than one (1) acre in size, the Project is required to prepare a SWPPP in compliance with the General Permit for Discharges of Storm Water Associated with Construction Activity (i.e., General Permit Order No. 2022-0057-DWQ). The SWPPP estimates the sediment risk associated with construction activities and includes BMPs to control erosion. BMPs specific to erosion control cover erosion, sediment, tracking, and waste management controls. Implementation of the SWPPP minimizes the potential for the Project to result in substantial soil erosion or loss of topsoil. These provisions minimize the potential for the Project to violate any waste discharge requirements or otherwise substantially degrade surface or ground water quality. Further, runoff resulting from the Project would be managed in compliance with the approved grading and drainage plans. Thus, compliance with existing regulations including the General Construction Permit, BMPs, and the Fowler Municipal Code, in addition to approved plans, would reduce potential impacts related to water quality and waste discharge to less than significant levels.

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

Less than Significant Impact. Groundwater is pumped from the Kings River Basin underground aquifer through six groundwater wells operated by the City of Fowler. As per the Schematic Design Technical Memorandum prepared by for an unrelated Fowler project, the six wells can produce an estimated maximum of 5,735 gpm with maximum production of all six existing wells at about 8.2 million gallons per day (mgd).[26] As of the 2020 Census the City had 6,700 residents and pumped an average of 205 gallons per day/per person for all municipal uses, or about 1.4 mgd. That leaves 6.8 mgd remaining well capacity. As a result, adequate groundwater resources are available to meet the long-term water demand of the City; no surface water would need to be imported. The Project includes the development of industrial uses, consistent with the General Plan. The amount of water required from the Project to serve the site with industrial uses would be less than the amount of water required to serve the site as it exists today with agricultural uses. This would not substantially decrease groundwater supplies or interfere with

---

[25] (City of Fowler 2023)

[26] (Provost and Pritchard 2023)

groundwater recharge. Furthermore, the Project in and of itself would not promote or increase population growth in the area and current water demand would not be substantially increased. As a result, the Project would have a less than significant impact.

c) Would the project 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:

i. result in substantial erosion or siltation on- or off-site;

ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

iii. 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

iv. impede or redirect flood flows?

c) (i - iv) Less than Significant Impact. The Project includes changes to the existing stormwater drainage pattern of the area through the backfilling of the site and installation of impermeable (concrete/asphalt) surfaces and/or structures associated with the future industrial facilities. A stormwater retention basin is proposed and would be designed to adequately handle the amount of runoff generated and would be designed to be above the 100-year base flood elevation. It is not expected that the increase in impermeable surface will substantially alter the drainage pattern of the area. Standard construction practices and compliance with State and federal regulations, City ordinances and regulations, the California Building Code, and adherence to professional engineering design approved by the City of Fowler would reduce or eliminate potential drainage impacts from the Project. Therefore, any impacts resulting from drainage patterns would be less than significant.

d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundations?

Less than Significant Impact. As seen in Figure 4-2, a portion of the Project site is located in flood zone. In order to avoid any impacts related to the release of pollutants, implementation of the aforementioned SWPPP and compliance with the City's Floodplain Management regulations (Chapter 8 of Title 8 of the Fowler Municipal Code) would ensure that the proper management of potential pollutants is enforced. Therefore, impacts would be less than significant.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact. The Project complies with the Fowler General Plan and therefore is not anticipated to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The Project would not obstruct the implementation of projects adopted in the South Kings Groundwater Sustainability Plan. Impacts would be less than significant.

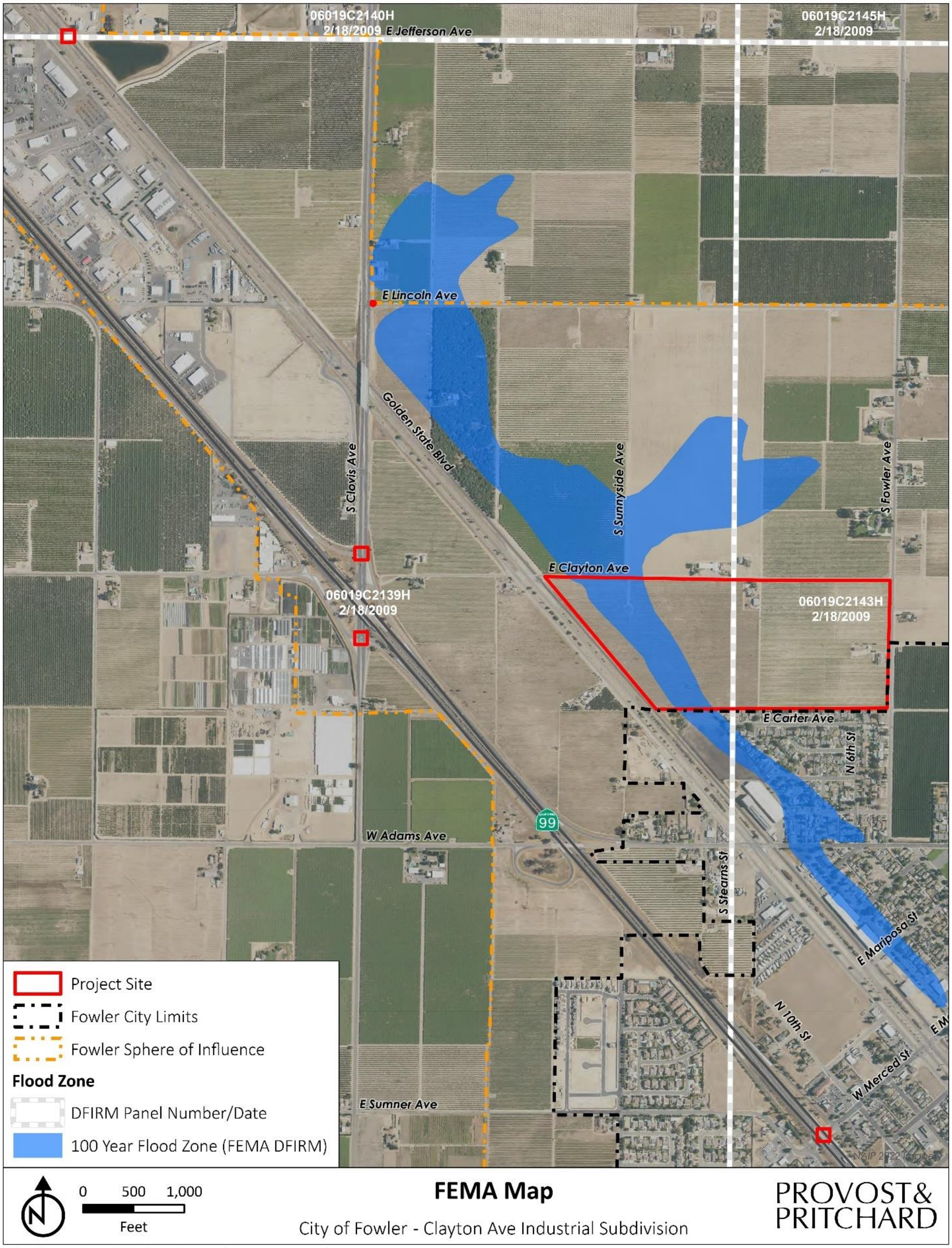


Figure 4-2: FEMA Flood Map

4.11 LAND USE AND PLANNING

Table 4-19: Land Use and Planning Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Physically divide an established community?	☐	☐	☐	☒
g) 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?	☐	☐	☐	☒

4.11.1 Baseline Conditions

The Project site is currently located in Fresno County with a zoning designation of AE-20 (Agricultural, 20-acre minimum parcel size). The Project is also located within the City of Fowler's planning area and has a general plan land use designation of Light Industrial and Medium Low Density Residential. Fresno County is currently the land use authority for the Project site.

4.11.2 Impact Analysis

a) Would the project physically divide an established community?

No Impact. The Project includes annexation of the site from Fresno County to the City of Fowler. The site is located in the northeastern region of the Fowler planning area and, once annexed, would be located at the edge of the Fowler city limits. No new barriers would be constructed, and no ROW is proposed to be abandoned. While construction of the Project would require work in the existing ROW for utility lines; it is anticipated that only minor detours to allow vehicles to maneuver around active construction areas would be implemented. Impacts to the ROW would be temporary. Furthermore, construction of the proposed traffic improvements would not result in any impacts to related to this impact question. Therefore, the Project would have no impact associated with the physical division of established land uses in the community. There would be no impact.

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

No Impact. As part of the Project, the Project site would be prezoned to the M-1 and R-1-6 zone districts. The proposed prezones would be consistent with the underlying City of Fowler Land Use Diagram as found in the 2040 General Plan.[27] Therefore, pursuant to the proposed prezone, the Project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. There would be no impact.

---

[27] (Provost and Pritchard 2023)

4.12 MINERAL RESOURCES

Table 4-20: Mineral Resources Impacts

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

4.12.1 Baseline Conditions

Fresno County has been a leading producer of minerals because of the abundance and wide variety of mineral resources that are present in the County. These resources include aggregate products (sand and gravel), fossil fuels (oil and coal), metals (chromite, copper, gold, mercury, and tungsten), and other minerals used in construction or industrial applications (asbestos, high-grade clay, diatomite, granite, gypsum, and limestone).[28] No active or inactive mines are mapped in the City of Fowler planning area, which includes the Project stie, according to the California Department of Conservation's Mines Online website.[29] The Project lies within a large region that has been classified by California Geological Survey (CGS) as Mineral Resource Zone-3 (MRZ-3), representing an area containing mineral deposits the significance of which cannot be evaluated from available data.

According to the CGS's Aggregate Sustainability Map, the Project is not within the vicinity of a site being used for aggregate production.[30] In addition, California's Division of Oil, Gas and Geothermal Resources has no record of active or inactive oil or gas wells or petroleum resources on the Project site or in the vicinity.[31]

4.12.2 Impact Analysis

a) Would the project 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) Would the project 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?

a and b) No Impact. As mentioned, the Project is not within the vicinity of a site being used for aggregate production, nor are there any active or inactive mines in the vicinity. In addition, California's Division of Oil, Gas and Geothermal Resources has no record of active or inactive oil or gas wells or petroleum resources on the Project site or in the vicinity. The Project lies within a large region that has been classified by CGS as MRZ-3, representing an area containing mineral deposits the significance of which cannot be evaluated from available data. However, there are no known current or historic mineral

---

[28] (Provost & Pritchard Consulting Group 2022)

[29] (California Department of Conservation 2016)

[30] (California Department of Conservation 2018)

[31] (California Department of Conservation 2024)

resource extraction or recovery operations in the Project vicinity nor are there any known significant mineral resources onsite. Therefore, implementation of the Project would not result in the loss of availability of a known mineral resource since no known mineral resources occur in this area. Furthermore, the Project area has not been designated as a locally important mineral resource recovery site by a general plan, specific plan, or land use plan. There would be no impact.

4.13 NOISE

Table 4-21: Noise Impacts

Would the project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive ground borne vibration or ground borne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

4.13.1 Baseline Conditions

Noise is most often described as unwanted sound. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. The City of Fowler is impacted by a multitude of noise sources. Principal noise sources include traffic on roadways, agricultural noise, and industrial noise. Mobile sources of noise, especially cars and trucks, are the most common and significant sources of noise in most communities, and they are predominant sources of noise in the City. The Project is located in an area consisting of residential and agricultural uses. The predominant noise sources in the Project site include traffic on local roadways and noise associated with active agriculture surrounding the Project site to the north, east, and west. Sensitive receptors (residences) abut the site to the south.

4.13.2 Applicable Regulations

City of Fowler Noise Ordinance: In addition to General Plan requirements, the City has established a Noise Ordinance in its municipal code. Noise ordinances establish noise limits for which penalties may be imposed or enforcement action may be taken. Therefore, while General Plan limits are to be taken into consideration during the development of a project and may or may not be strictly applied depending on the particular circumstances of the project, a noise ordinance generally must not be exceeded. In preparing a noise element, a city or county must identify local noise sources and analyze and quantify, to the extent practicable, current and projected noise levels for various sources, including highways and freeways; passenger and freight railroad operations; ground rapid transit systems; commercial, general, and military aviation and airport operations; and other ground stationary noise sources.

The Project is subject to the City of Fowler Noise Ordinance, which is covered in Chapter 21, Article 6 of the Municipal Code. It prohibits continued loud noise or noise which disturbs others by placing time constraints on noise producing activities and volume limits on noise amplification devices.

Construction is specifically addressed in Chapter 21, Article 6, Section 5-21.601(d):

> *The erection (including excavating), demolition, alteration or repair of any building other than between the hours of 7:00 a.m. and 8:00 p.m., except by special permit issued by the City Manager, Building Official, or City Engineer upon a determination that the public health and safety will not be impaired thereby. Nothing in this section shall be deemed to alter construction hours beyond those set forth in the conditions of approval for a development project.*

Furthermore, noise level standards by receiving land use category have been established by the City of Fowler Municipal Code, as illustrated in Table 4-22, below.

Table 4-22: Noise Level Standards

Receiving Land Use Category	Time Period	Noise Level (dBA)
Residential	10:00 p.m.—7:00 a.m.	50
	7:00 a.m.—10:00 p.m.	60
Public Uses *	10:00 p.m.—7:00 a.m.	55
	7:00 a.m.—10:00 p.m.	60
Commercial	10:00 p.m.—7:00 a.m.	60
	7:00 a.m.—10:00 p.m.	65
Industrial	Any time	70
* Public uses include schools, libraries, hospitals, churches, and parks.		

4.13.3 Impact Analysis

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact. The Project would involve the construction of traffic control improvements and future industrial uses. The site is located in an area that is dominated by agricultural uses; however, there are single-family residences to the south of the site. The City of Fowler General Plan and the City municipal code establish a range of 50 dBA (A-weighted decibels) to 60 dBA as the normally acceptable exterior noise criteria for urban residential and noise sensitive receptors or public uses.

Activities associated with construction would result in temporary elevated noise levels, with maximum construction noise levels ranging between 74 dBA to 89 dBA at 50 feet distance. Typical construction equipment would include backhoes, tractors, air compressors, scrapers, drills, concrete mixers, and numerous other miscellaneous tools and equipment. Construction of the Project would result in temporary increased noise levels in the immediate vicinity.

As illustrated in Table 4-22 above, typical construction noise levels could range between 74 to 89 dBA at a distance of 50 feet from the source, according to criteria from the Federal Transit Administration (FTA).[32] Implementation of feasible noise control measures, such as the installation of mufflers or engine casing, would result in noise reduction of 5-10 dBA per source. Generally, in accordance with the Fowler Municipal Code, construction would occur between the hours of 7am and 8pm, Monday through Friday, excluding holidays. Additionally, as required by Section 9-5.1406 of the Fowler Municipal Code, a solid wall or screen six feet in height would be required to be built to buffer any adjoining non-industrial lands.

---

[32] (Federal Highway Administration 2017)

Because of these project features and the fact that construction noise will be temporary in nature, impacts would be less than significant.

b) Would the project result in generation of excessive ground borne vibration or ground borne noise levels?

Less than Significant Impact. The FTA publication concerning noise and vibration impact assessment from transit activities has vibration standards suggestions. Although the FTA guidelines are to be applied to transit activities and construction, they may be reasonably applied to the assessment of the potential for annoyance or structural damage resulting from other activities. To prevent vibration annoyance in residences, a level of 80 VdB (vibration velocity level in dB) or less is suggested when there are fewer than 70 vibration events per day. A level of 100 VdB or less is suggested by the FTA guidelines to prevent damage to fragile buildings. Table 4-23 describes the typical construction equipment vibration levels. While these construction-related activities would result in ground borne vibration, such ground borne noise or vibration would attenuate rapidly from the source and would not be generally perceptible outside of the construction-related areas. In addition, there would not be any vibrational impacts from operation and maintenance activities.

Table 4-23: Typical Construction Equipment Vibration Sources Levels

Typical Construction Equipment Vibration Sources Levels		
Equipment	PPV at 25 ft, in/sec	Approximate Lv* at 25 ft
Large bulldozer	0.089	87
Caisson drilling	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

*RMS velocity in decibels, VdB re 1 micro-in/sec
Source: (John A. Volpe National Transportation Systems Center 2018)

Construction-related activities in general can have the potential to create ground borne vibrations. However, based on the soil types found in the general Project vicinity, there would not be any blasting or pile-driving in connection with construction of the Project. Therefore, the potential for ground borne vibrations to occur as part of construction-related activities of the Project would not be significant. Additionally, operation of the Project would not contain any activities that would create excessive ground borne vibrations. The Project would not result in exposure of persons to, or generation of excessive ground borne vibration or ground borne noise levels. Therefore, impacts would be less than significant

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The Project site is not located within an airport land use plan or within two miles of an airport. The Fresno Yosemite International Airport is located approximately nine miles north-northwest and the Selma Municipal Airport is located approximately four miles south-southeast of the Project. There would be no impact.

4.14 POPULATION AND HOUSING

Table 4-24: Population and Housing Impacts

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

4.14.1 Baseline Conditions

The Project is located in Fresno County, within the planning area of the City of Fowler and unincorporated Fresno County. The City of Fowler planning area contains all the lands located in the Fowler's city limits, it's sphere of influence (SOI), and additional lands beyond Fowler's SOI. As of 2022, Fresno County, which includes both unincorporated and incorporated areas, had a total population of 1,011,499.[33] The unincorporated area makes up for 158,846 of the total population in Fresno County.[34] As of 2022, the City of Fowler had a total population of 7,168.[35] Unincorporated Fresno County maintains an average of 3.0 persons per household and 57,924 total housing units, while the City of Fowler maintains an average of 3.1 persons per household and 2,237 total housing units.[36]

4.14.2 Impact Analysis

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The Project would not increase population or propose new homes. The Project would develop an industrial subdivision that would be developed internally with new roads that would connect to Clayton Avenue for access (see Figure 2-2). In addition to the development of new roads, wet and dry utility infrastructure would be constructed in the right of way of the new roads and would ultimately connect to the existing infrastructure surrounding the site. While the Project would propose the extension of roads and other infrastructure, they would not support residential development. Therefore, the Project would not induce population growth directly or indirectly. There would be no impact.

---

[33] (Fresno Council of Governments 2023)

[34] Ibid.

[35] Ibid.

[36] Ibid.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Project site is primarily farmland; however, there is one single-family residence located at the northeastern corner of the Project site. As part of the Project, a 14.39-acre portion of the Project site, which includes the residence, would be prezoned to the R-1-6 zone district, which allows one dwelling unit per 7,000 square feet of land. In addition, this 14.39-acre area would be designated as a remainder on the proposed subdivision map and therefore would not be a part of the proposed subdivision and would be further analyzed in the future if and when an additional tentative map is placed on the property. Additionally, the residence would not be removed, and the site is being prezoned as residential in order for it to remain with a legal, conforming status with the City of Fowler. Therefore, the Project would not displace existing housing or people necessitating the construction of replacement housing elsewhere. There would be no impact.

4.15 PUBLIC SERVICES

Table 4-25: Public Services

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

4.15.1 Baseline Conditions

Fire Protection: The City of Fowler contracts with the Fresno County Fire Protection District for primary fire protection within the city limits. The nearest Fresno County Fire Protection District station, Fresno County Fire Station 89 is located approximately 4.9 miles west-northwest of the Project site.

Police Protection: The Fowler Police Department, located 0.6 miles southeast of the Project site, provides 24-hour policing services within the city limits.

Schools: John Fremont Elementary School is the nearest school to the Project site, located approximately a quarter-mile south.

Parks: The City of Fowler has four designated City Parks, all of which are managed by the City’s Department of Recreation. Panzak Park is the nearest park to the Project site, located approximately 0.5 miles southeast.

Library: The Fowler branch of the Fresno County Public Library is located 0.8 miles south of the Project site.

4.15.2 Impact Analysis

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i. Fire Protection:

Less than Significant Impact. The Project would be served by the City of Fowler by way of the Fresno County Fire Protection District. The Project would be subject to the development impact fees for construction and acquisition costs for improvements to fire protection services and facilities. For these reasons, it can be determined that the Project can be served by existing facilities and would not result in the need for new or altered facilities Impacts would be less than significant.

ii. Police Protection:

Less than Significant Impact. The Project would be served by the Fowler Police Department. The Project would be subject to the development impact fees for construction and acquisition costs for improvements to police protection services and facilities. For these reasons, it can be determined that the Project can be served by existing facilities and would not result in the need for new or altered facilities Impacts would be less than significant.

iii. Schools:

No Impact. The Project proposes an industrial subdivision and would not result in a net increase in the area population. The Project would include land pre-zoned for residential development; however, this area would not be included as a part of the proposed subdivision and would be subject to its own environmental analysis once/if it is further subdivided in the future. Thus, because of the nature of the Project and the characteristics of the area (i.e., industrial), there would be no increased demand for existing schools and the Project would thereby not result in adverse physical impacts or the need for altered or new facilities. Therefore, there would be no impact.

iv. Parks:

No Impact. Park and recreational facilities are typically impacted by an increase in use from proposed residential development. As mentioned above, the portion of the Project site proposed to be pre-zoned to the R-1-6 zone district would require its own environmental analysis upon future subdivision unrelated to the Project. As the Project proposes industrial use, it can be presumed that it would not result in a net increase in the area population. Thus, because of the nature of the Project and the characteristics of the area (i.e., industrial), there would be no increased demand for existing neighborhood and regional parks, or other associated with the Project and the Project would thereby not result in adverse physical impacts or the need for altered or new facilities. Therefore, no impact would occur as a result of the Project.

v. Other public facilities:

No Impact. As discussed throughout this section, the Project would not result in an increase in residents that would require other public services such as libraries or post offices. Therefore, the Project would not result in the need for new or altered facilities to provide other public services and no impact would occur as a result of the Project.

4.16 RECREATION

Table 4-26: Recreation Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

4.16.1 Baseline Conditions

There are currently four City Parks in Fowler, all of which are administered by the Department of Parks and Recreation. Panzak Park covers an area of approximately 2.5 acres and includes a covered picnic area, large shade trees, playground equipment, and tennis courts. The recently developed Donny Wright Park covers an area of approximately six acres and includes an expanse of irrigated lawn and trails for recreation. Margaret Cowings Park is an approximate 0.05-acre pocket park comprised of irrigated lawn and shade trees on the corner of Merced Street and Sixth Street in downtown Fowler. Also considered a City Park, the Fowler Veteran's Monument covers an area of approximately 0.10 acres and includes benches on paved surfaces, a scenic fountain, several flag poles, ornamental hedges, and rose gardens. There are no State or regional parks within the planning area.

In addition to the four City Parks mentioned above, the City of Fowler also operates the Edwin Blayney Senior Center, which offers a meeting place and specialized recreation opportunities for senior citizens.

4.16.2 Impact Analysis

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. As the Project proposes to develop a 44-unit industrial subdivision, there is no anticipation that the Project would result in the increase in use of existing parks or other recreational facilities. Therefore, the Project would not result in the physical deterioration of any such facilities. There would be no impact.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The Project would not include or require the construction or expansion of recreational facilities. As mentioned, the Project would develop an industrial subdivision. The subdivision would not include any temporary or permanent residences that would accommodate inhabitants that could require additional facilities. While the Project would also include the annexation of land planned for residential use, there would not be residential development proposed as part of the Project. Development of the proposed residential land would be carried out at a later time and would warrant its own environmental review separate from the Project. Therefore, there would be no impact.

4.17 TRANSPORTATION

Table 4-27: Transportation Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☒	☐

4.17.1 Baseline Conditions

The Project is located in Fresno County just north of the City of Fowler. The Project site is bordered to the north by East Clayton Avenue, to the west by Golden State Boulevard, and to the east by North Fowler Avenue. The southern end of the Project site fronts a residential neighborhood. Access to the Project site would be provided at East Clayton Avenue between Golden State Boulevard and North Fowler Avenue. At the south end of the Project, Lynn Avenue dead ends at the south property line.

A Traffic Impact Study was prepared for the Project and can be found at the end of this document as Appendix C.

4.17.2 Impact Analysis

a) Would the project conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less than Significant Impact. A Traffic Study was prepared for the Project and recommended that several street intersections be upgraded in the future to satisfy the street circulation flow requirements of the 2040 Fowler General Plan, which are included in the project and can be seen in more detail in Section 2.1.6. These improvements include widening roads, adding turning lanes, and developing traffic signals to reduce any impacts that the Project may have on the existing circulation system. The Project would also be required to construct its fair share of Clayton Avenue right-of-way and provide for connections to the adjacent undeveloped land to the south. The Project would not conflict with plans, ordinances, and policies addressing the circulation system. Impacts would be less than significant.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b)?

Less than Significant Impact. The City has designated the site as Light Industrial and Medium Low Density Residential in the recently adopted General Plan and, associated with adoption of the General Plan and certification of the General Plan EIR, determined that vehicle miles traveled (VMT) would not result in a significant impact. According to the General Plan EIR, neither VMT per capita or per employee would exceed the adopted thresholds. Therefore, as identified in the General Plan, the Project would not conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b). No further analysis is necessary.

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

Less than Significant Impact. The Project will introduce six new local streets which will connect onto the City's existing collector street system at Armstrong Avenue on the west border of the subdivision. The Project will introduce additional local streets consistent with the City's Circulation Element. All roads will be built according to City of Fowler Street Design Standards. All rights-of-way proposed within the subdivision will be designed and constructed to meet City of Fowler Standard Specifications. The Project would not increase hazards due to Project design features or through the introduction of incompatible land uses into the existing community. There would be a less than significant impact

d) Would the project result in inadequate emergency access?

Less than Significant Impact. The Project shall comply with all emergency access laws determined by federal, State, and local regulations. The proposed street layouts within the subdivision and all right-of-way improvements along major street frontages would be constructed to provide adequate emergency access. The Project would comply with the City of Fowler General Plan. As such, the Project would have a less than significant impact on emergency access.

4.18 TRIBAL CULTURAL RESOURCES

Table 4-28: Tribal Cultural Resources Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) 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:				
i. Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
ii. 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

4.18.1 Baseline Conditions

Penutian-speaking Yokuts tribal groups occupied the southern San Joaquin Valley region and much of the nearby Sierra Nevada. For a variety of historical reasons, existing research information emphasizes the central Yokuts tribes who occupied both the valley and particularly the foothills of the Sierra. The northernmost tribes suffered from the influx of Euro-Americans during the Gold Rush and their populations were in substantial decline by the time ethnographic studies began in the early twentieth century. In contrast, the southernmost tribes were partially removed by the Spanish to missions and eventually absorbed into multi-tribal communities on the Sebastian Indian Reservation (on Tejon Ranch), and later the Tule River Reservation and Santa Rosa Rancheria to the north, as well as other reservations in the foothills and Sierras. The result is an unfortunate scarcity of ethnographic detail on valley tribes, especially in relation to the rich information collected from the central foothills tribes where native speakers of the Yokuts dialects are still found. Regardless, the general details of indigenous life-ways were similar across the broad expanse of Yokuts territory, particularly in terms of environmentally influenced subsistence and adaptation and with regard to religion and belief, which were similar everywhere.

Although population estimates vary and population size was greatly affected by the introduction of Euro-American diseases and social disruption, the Yokuts were one of the largest, most successful groups in Native California. It is estimated that the Yokuts region contained 27 percent of the aboriginal population in the state at the time of contact; other estimates are even higher. Many Yokut descendants continue to live in Fresno County, either on tribal reservations, or in local towns and communities.

Records Search

An archival records search was conducted at the California State University, Bakersfield, SSJVIC, in September 2024, to determine: (i) if prehistoric or historical cultural resources had previously been recorded within the area of potential effect; (ii) if the Project area had been systematically surveyed by archaeologists prior to the initiation of this field study; and/or (iii) whether the region of the Project was known to contain archaeological sites and to thereby be archaeologically sensitive. (Appendix B)

According to the records search results, no previous studies have been conducted in the Project area, and no resources of any kind are known to exist within it. (Appendix B).

Assembly Bill 52

Public Resources Code Section 21080.3.1, *et seq. [codification of Assembly Bill (AB) 52, 2013-14)*] requires that a lead agency, within fourteen (14) days of determining that it will undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate request formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

The City has received written correspondence from the Santa Rosa Rancheria Tachi Yokut Tribe pursuant to Public Resources Code Section 21080.3.1 requesting notification of proposed projects. On October 24, 2024, the City sent a letter, via certified mail, to the Santa Rosa Rancheria Tachi Yokut Tribe notifying them of the Project. To date, a response has not been received by the Santa Rosa Rancheria Tachi Yokut Tribe.

4.18.2 Regulatory Setting

The following Fowler General Policies would apply to the Project:

- **Policy CDES-12**: All construction shall cease, and the Community Development Director and City Engineer shall be notified immediately if any prehistoric, archaeological, or fossil artifact or resource is uncovered during construction. All construction shall immediately stop and an archaeologist that meets the Secretary of the Interior’s Professional Qualifications Standards in prehistoric or historical archaeology shall be retained, at the applicant’s and/or successors-in-interest’s expense, to evaluate the find(s) and recommend appropriate action according to Section 15064.5 of the California Environmental Quality Act (CEQA) Guidelines. If avoidance is infeasible, other appropriate measures would be instituted. Work may proceed on other parts of the project subject to direction of the archaeologist while assessment of historic resources or unique archaeological resources is being carried out.
- **Policy CDES-13**: All construction shall cease if any human remains are uncovered, and the Community Development Director, City Engineer and Fresno County Medical Examiner and Coroner shall be notified in accordance to Section 7050.5 of the California Health and Safety Code.

If human remains are determined to be those of a Native American or has reason to believe that they are those of a Native American, the Native American Heritage Commission shall be contacted, and the procedures outlined in California Environmental Quality Act (CEQA) Section 15064.5(e) shall be followed.

4.18.3 Impact Assessment

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:

i. Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code section 5020.1(k), or

ii. 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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less than Significant Impact. No requests for tribal consultation for the Project have been received. In addition, the NAHC Sacred Lands File search results confirmed there were no recorded tribal cultural resources in the Project area. In the unlikely event that an archaeological resource is uncovered during construction, tribal in relation or not, all construction would cease, and a qualified archaeologist would be contacted to assess the resource. The Project would adhere to all applicable federal, State, and local requirements in regard to tribal cultural resources. General Plan Policies CDES-12 and CDES-13 described above, which are imposed as general conditions of approval, would ensure that potential impacts related to historic resources are less than significant.

4.19 UTILITIES AND SERVICE SYSTEMS

Table 4-29: Utilities and Service Systems Impacts

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, 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 which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
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?	☐	☐	☒	☐

4.19.1 Baseline Conditions

The Project is located in Fresno County just north and adjacent to the City of Fowler. Lands within the unincorporated part of Fresno County rely on private wells for water and individual septic systems for sewage services. The subdivision area is planted with vineyards that are generally irrigated by drip, which is assumed to have a water consumption rate of 2.4 acre-feet per acre.[37] The City of Fowler relies on groundwater pumped by City-owned wells to serve its residents. Sanitary sewer service is provided by SKFCSD and solid waste services are provided by Waste Management. Solid waste within Fresno County is transferred to the American Avenue Landfill in Kerman, CA, approximately 25 miles northwest of the Project site.

4.19.2 Impact Analysis

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

---

[37] (United States Department of Agriculture 2023)

Less than Significant Impact. Upon development, the Project would connect to the City's sanitary sewer system. According to District staff, the SKFCSD Treatment Plant has a capacity of 8.0 (mgd) with existing flows of 4.2 mgd (52.5% of capacity). By 2025, the SKFCSD Capital Improvement Program (CIP) projects total flow at 5.71 mgd (71% of capacity). The Project is anticipated to generate approximately 1,290 gallons per day per acre, or approximately 0.04 mgd.[38] Thus it is anticipated that the Project can be served by the SKFCSD Treatment Plant, and no new facilities would be needed.

Sewer infrastructure plans must be submitted to the District, including detailed floor and plumbing plans. All sewer system facilities must be designed and constructed in accordance with the District's Collection System Construction Standards, the District's Sewer System Master Plan, and other requirements as may be specified by the District.

Expansion plans for a wastewater treatment plant are generally required by the Regional Water Quality Control Board when 70% of design capacity is reached. This threshold is not expected at the SKFCSD plant until after 2025. The District, however, is currently updating its Master Plan to include provisions for long-term expansion of the plant and will make interim improvements (such as refurbishing aerators, basin improvements, fleet replacements, etc.) in conformance with the 10-year CIP.

In accordance with Policy PF-17 of the City, the developer would be responsible for planning and installing wastewater collection and water delivery facilities as determined by the City Engineer. In addition, the developer would pay current development fees to off-set potential impacts to these facilities. Impacts would be less than significant.

The Fowler General Plan EIR concluded that implementation of the General Plan may require new or expanded water facilities to serve development within the SOI. The Project site is proposed for industrial and residential uses, consistent with the General Plan designation. Based on this consistency, the Project would not result in the need for new or expanded water facilities as a result of its development.

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

No Impact. As discussed in Impact Analysis "b" of Section 4.10, the City has 6.8 mgd of remaining well capacity. As a result, adequate groundwater resources are available to meet the long-term water demand of the City; no surface water would need to be imported. The Project includes the development of industrial uses, consistent with the General Plan. The amount of water required from the Project to serve the site with industrial uses would be less than the amount of water required to serve the site as it exists today with agricultural uses, as typical industrial uses consume approximately 2.07 acre-feet per acre.[39] Since the City of Fowler has the same water source as the existing site, and would use less water than the existing on-site use, the Project would not substantially decrease groundwater supplies or interfere with groundwater recharge. The Project would have sufficient water supplies to be served, including reasonably foreseeable future development, during normal, dry, and multiple dry years. There would be no impact.

c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

---

[38] (Akel Engineering 2020)

[39] Ibid.

Less than Significant Impact. As discussed above in Impact Analysis “a”, the SKF County Sanitation District Treatment Plant has a capacity of 8.0 mgd with existing flows of 4.2 mgd (52.5% of capacity). By 2025, the SKFCSD CIP projects total flow at 5.71 mgd (71% of capacity). The Treatment Plant can adequately handle the Project’s wastewater generation. It is anticipated that the Project can be served by the SKFCSD Treatment Plant, and no new facilities would be needed. Furthermore, the developer would pay current development fees to off-set potential impacts to these facilities. These fees would go towards future facility upgrades that may be needed as development occurs throughout the City. Impacts would be less than significant.

d) Would the project 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) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

d) and e) Less than Significant Impact. Project construction would generate minimal amounts of solid waste, which has to comply with construction debris recycling requirements. Operation of subsequent industrial developments would generate solid waste, and comply with state and local regulations regarding recycling, composting, and solid waste diversion requirements. The proposed road improvements would not generate any solid waste during operation. Therefore, the Project would comply with all federal, State, and local statutes and regulations related to solid waste during construction. Any impact would be less than significant.

4.20 WILDFIRE

Table 4-30: Wildfire Impacts

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 uncontrollable spread of 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?	☐	☐	☐	☒

4.20.1 Baseline Conditions

The Project site is located in Fresno County, inside the planning area of the City of Fowler. As mentioned in Section 4.15, the Project site would be served by Fresno County Fire Protection District for its fire protection needs. The site itself is in a agriculturally area with various row crops planted throughout the 45 acres it encompasses. Lands surrounding the site are similar in development.

According to CalFire, the Project is not located within an SRA, meaning CalFire does not assume responsibility for wildfire prevention and protection but is managed at the local level.[40] Furthermore, according to CalFire, the proposed Project area is not located within a very high fire hazard severity zone, nor is the proposed Project located within a high or moderate fire hazard severity zone.[41]

4.20.2 Impact Analysis

a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

b) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks and

---

[40] (California Department of Forestry and Fire Protection 2022)

[41] (ArcGIS 2023)

thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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?

a) - d) No Impact. The Project area is located in a section of Fresno County that has not been designated as either a very high fire hazard severity zone or an SRA. Therefore, further analysis is not required and there would be no impact.

4.21 CEQA MANDATORY FINDINGS OF SIGNIFICANCE

Table 4-31: CEQA Mandatory Findings of Significance

Does the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) 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) 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) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

4.21.1 Statement of Findings

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?

Less than Significant Impact with Mitigation Incorporated. The analysis conducted in this Initial Study/Mitigated Negative Declaration results in a determination that the Project, with incorporation of mitigation measures, will have a less than significant effect on the environment. The potential for impacts related to air quality and greenhouse gas emissions from the implementation of the Project will be less than significant with the incorporation of the mitigation measures discussed in Chapter 5 Mitigation, Monitoring, and Reporting Program. One mitigation measure related to Air Quality is annotated as **AIR-1**, which requires that construction of the subdivision and the buildings within shall utilize EPA Tier 4 Final engines or EPA Tier 3 engines with Level 3 Diesel Particulate Filter. The use of Level 3 Diesel Particulate Filters would reduce construction DPM emissions by approximately 75%, and presumably the cancer risk associated with construction would too fall by 75%, which would be sufficient to comply with Air District thresholds. Mitigation measures related to Greenhouse Gas Emissions include **GHG-1** and **GHG-2**. **GHG-1** requires that buildings in the subdivision shall be constructed with electrically-powered appliances and building mechanical equipment in place of natural-gas fueled equipment.

GHG-2 requires that off-street parking in the subdivision shall exceed the California Green Building Standard Code Tier 2 requirements for electric vehicle charging infrastructure. Accordingly, with the inclusion of said mitigation measures, the Project would involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period 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)?

Less than Significant Impact with Mitigation Incorporated. CEQA Guidelines Section 15064(i) States that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. The Project would not result in direct or indirect unplanned population growth. Furthermore, potentially significant impacts of the Project would be reduced to a less than significant level following implementation of mitigation measures AIR-1, GHG-1, and GHG-2. Presumably, previously completed projects have also implemented mitigation as necessary. Accordingly, the Project would not otherwise combine with impacts of related development to add considerably to any cumulative impacts in the Project region. With the inclusion of said mitigation, the Project would not have impacts that are individually limited but cumulatively considerable. Therefore, the Project would have a less than cumulatively considerable impact with implementation of mitigation measures.

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

Less than Significant Impact. The Project proposes an industrial subdivision, traffic signal improvements, and the annexation of the Project property into the City of Fowler. The Project in and of itself would not create a significant hazard to the public or the environment. Construction-related air quality/dust exposure impacts could occur temporarily as a result of Project construction. Industrial facilities may handle hazardous materials but would require to prepare and implement a Hazard Material Business Plan, the implementation of which is monitored by the County of Fresno. However, implementation of basic regulatory requirements identified in this IS/MND and mitigation measures referenced above would ensure that impacts are less than significant. Therefore, the Project would not have any direct or indirect adverse impacts on humans. This impact would be less than significant.

CHAPTER 5 MITIGATION, MONITORING, AND REPORTING PROGRAM

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Project. The MMRP lists mitigation measures recommended in the IS/MND for the Project and identifies monitoring and reporting requirements.

Table 5-1: Mitigation, Monitoring, and Reporting Program presents the mitigation measures identified for the Project. Each mitigation measure is numbered with a symbol indicating the topical section to which it pertains, a hyphen, and the impact number. For example, AIR-2 would be the second mitigation measure identified in the Air Quality analysis of the IS/MND.

The first column of ***Table 5-1: Mitigation, Monitoring, and Reporting*** Program identifies the mitigation measure. The second column, entitled “When Monitoring is to Occur,” identifies the time the mitigation measure should be initiated. The third column, “Frequency of Monitoring,” identifies the frequency of the monitoring of the mitigation measure. The fourth column, “Agency Responsible for Monitoring,” names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last columns will be used by the Lead and Responsible Agencies to ensure that individual mitigation measures have been complied with and monitored

Table 5-1: Mitigation, Monitoring, and Reporting Program

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Air Quality						
AIR-1	Construction of the subdivision and the buildings within shall utilize EPA Tier 4 Final engines or EPA Tier 3 engines with Level 3 Diesel Particulate Filters.	During construction	During construction	Subdivider	Rule 9510 Application	
Greenhouse Gas Emissions						
GHG-1	Buildings in the subdivision shall be constructed with electrically-powered appliances and building mechanical equipment in place of natural-gas fueled equipment.	During construction	During construction	Subdivider	Building plans	
GHG-2	Off-street parking in the subdivision shall exceed the California Green Building Standard Code Tier 2 requirements for electric vehicle charging infrastructure.	During construction	During construction	Subdivider	Building plans	

CHAPTER 6 REFERENCES

Akel Engineering. 2020. "Water and Wastewater Unit Factor Update for Metropolitan Water Resources Management Plan Update."

ArcGIS. 2023. *Is Your Home in a Fire Hazard Severity Zone?*

https://www.arcgis.com/apps/Styler/index.html?appid=5e96315793d445419b6c96f89ce5d153.

Calfornia Department of Conservation. 2020. *Important Farmland Categories.* https://www.conservation.ca.gov/dlrp/fmmp/Pages/Important-Farmland-Categories.aspx.

California Department of Conservation. 2018. "California Geological Survey - Aggregate Sustainability in California."

https://www.conservation.ca.gov/cgs/Documents/Publications/Map-Sheets/MS_052_California_Aggregates_Map_201807.pdf.

—. 2023. *Earthquake Zones of Required Investigation.* https://maps.conservation.ca.gov/cgs/EQZApp/app/.

—. 2016. *Mines Online.* https://maps.conservation.ca.gov/mol/index.html.

—. 2024. *Oil & Gas Well Finder.* https://maps.conservation.ca.gov/doggr/wellfinder/.

—. 2024. *Well Finder.* https://maps.conservation.ca.gov/doggr/wellfinder/.

California Department of Fish and Wildlife. 2024. *California Natural Diversity Database.* https://wildlife.ca.gov/Data/CNDDB.

California Department of Forestry and Fire Protection. 2022. *California State Responsibility Areas.* https://www.arcgis.com/apps/mapviewer/index.html?layers=5ac1dae3cb2544629a845d9a19e83991.

California Department of Toxic Substances Control. 2024. *California Department of Toxic Substances Control EnviroStor.* https://www.envirostor.dtsc.ca.gov/public/.

California Department of Transportation. 2023. *California State Scenic Highway System Map.* https://www.arcgis.com/apps/webappviewer/index.html?id=2e921695c43643b1aaf7000dfcc19983.

California Department of Water Resources. 2018. *DWR Groundwater Basin Boundary Assessment Tool.* https://gis.water.ca.gov/app/bbat/.

California State Geoportal. 2022. *CGS Seismic Hazards Program: Liquefaction Zones.* February 11. https://gis.data.ca.gov/datasets/cadoc::cgs-seismic-hazards-program-liquefaction-zones-1/explore?location=36.619171%2C-119.721226%2C9.55.

City of Fowler. 2023. "Annual Water Quality Report." Fowler. https://fowlercity.org/wp-content/uploads/2024/06/Annual-Water-Quality-Report-2023.pdf.

County of Fresno Department of Public Health. 2024. "Hazardous Materials Business Plans." https://www.fresnocountyca.gov/Departments/Public-Health/Environmental-Health/Hazardous-Materials-Business-Plans.

Federal Highway Administration . 2017. *Construction Noise Handbook.* Accessed April 2023. https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm.

Fresno Council of Governments. 2023. "Fresno Multi-Jurisdictional 2023-2031 Housing Element HCD Review Draft." https://www.fresnocountyca.gov/files/assets/county/v/1/2023-2031_mjhe_regional_fresnocounty.pdf.

Harden, D.R. 1998. *California Geology.* Prentice Hall.

John A. Volpe National Transportation Systems Center. 2018. "FTA Transit Noise and Vibration Impact Assessment Manual ." https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.

Municode Codification. 2024. *Fowler, CA Municipal Code Section 9-5.1402.* https://library.municode.com/ca/fowler/codes/zoning?nodeId=ZONING_ORDINANCE_ART14-LINDI_9-5.1402SPPRDEST.

—. 2024. *Fowler, CA Municipal Code Section 9-5.1406.*

https://library.municode.com/ca/fowler/codes/zoning?nodeId=ZONING_ORDINANCE_ART14-LINDI_9-5.1402SPPRDEST.

Provost & Pritchard Consulting Group. 2022. "City of Fowler 2040 General Plan Draft Environmental Impact Report." Draft Environmental Impact Report, Fowler. https://fowlercity.org/wp-content/uploads/2022/12/Fowler-General-Plan-DEIR_Combined-II.pdf.

Provost and Pritchard. 2023. "City of Fowler, Well No. 9 Schematic Design Technical Memorandum." 49. Accessed July 2023.

State of California. 2024. *State Water Resources Control Board Geo Tracker.* https://geotracker.waterboards.ca.gov/.

The County of Fresno Department of Agriculture and Weights and Measures. 2024. "2023 Crop Report." https://www.fresnocountyca.gov/files/sharedassets/county/v/1/agricultural-commissioner/ag-crop-reports/2023-ag-crop-report.pdf.

United States Department of Agriculture. 2023. "2022 Census of Agriculture, 2023 Irrigation and Water Management Survey."

—. 2024. *Web Soil Survey.* Accessed January 29, 2024.

https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx.

United States Fish & Wildlife Service. 2022. *Environmental Conservation Online System.* https://ecos.fws.gov/ecp/.

Appendix A: CalEEMod Output Files

Clayton Avenue Tentative Map Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Clayton Avenue Tentative Map
Construction Start Date	1/1/2025
Operational Year	2025
Lead Agency	City of Fowler
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	25.4
Location	36.640257631018144, -119.68908606371927
County	Fresno
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2535
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Industrial Park	392	1000sqft	9.00	392,000	0.00	—	—	—

Parking Lot	22.0	Acre	22.0	0.00	143,487	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-6	Use Diesel Particulate Filters

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	104	104	12.2	19.8	0.03	0.44	1.11	1.55	0.41	0.27	0.68	—	4,241	4,241	0.15	0.19	5.93	4,306
Mit.	104	104	12.2	19.8	0.03	0.08	1.11	1.19	0.07	0.27	0.34	—	4,241	4,241	0.15	0.19	5.93	4,306
% Reduced	—	—	—	—	—	83%	—	24%	83%	—	50%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.01	3.38	31.7	30.7	0.06	1.37	7.76	9.13	1.26	3.96	5.22	—	6,706	6,706	0.27	0.19	0.15	6,731
Mit.	4.01	3.38	31.7	30.7	0.06	0.20	7.76	7.97	0.19	3.96	4.15	—	6,706	6,706	0.27	0.19	0.15	6,731
% Reduced	—	—	—	—	—	85%	—	13%	85%	—	20%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.77	6.65	11.0	14.7	0.02	0.42	1.21	1.63	0.38	0.40	0.79	—	3,250	3,250	0.12	0.12	1.54	3,290
Mit.	6.77	6.65	11.0	14.7	0.02	0.07	1.21	1.28	0.06	0.40	0.47	—	3,250	3,250	0.12	0.12	1.54	3,290

% Reduced	—	—	—	—	—	84%	—	21%	84%	—	41%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.24	1.21	2.00	2.68	< 0.005	0.08	0.22	0.30	0.07	0.07	0.14	—	538	538	0.02	0.02	0.25	545
Mit.	1.24	1.21	2.00	2.68	< 0.005	0.01	0.22	0.23	0.01	0.07	0.09	—	538	538	0.02	0.02	0.25	545
% Reduced	—	—	—	—	—	84%	—	21%	84%	—	41%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.16	1.88	12.2	19.8	0.03	0.44	1.11	1.55	0.41	0.27	0.68	—	4,241	4,241	0.15	0.19	5.93	4,306
2026	104	104	11.5	19.2	0.03	0.39	1.11	1.50	0.36	0.27	0.63	—	4,204	4,204	0.15	0.19	5.33	4,268
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.01	3.38	31.7	30.7	0.06	1.37	7.76	9.13	1.26	3.96	5.22	—	6,706	6,706	0.27	0.19	0.15	6,731
2026	1.94	1.69	11.7	18.1	0.03	0.39	1.11	1.50	0.36	0.27	0.63	—	4,096	4,096	0.15	0.19	0.14	4,155
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.71	1.47	11.0	14.7	0.02	0.42	1.21	1.63	0.38	0.40	0.79	—	3,250	3,250	0.12	0.12	1.54	3,290
2026	6.77	6.65	5.34	8.38	0.01	0.18	0.48	0.66	0.17	0.12	0.28	—	1,848	1,848	0.07	0.08	0.99	1,875
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.31	0.27	2.00	2.68	< 0.005	0.08	0.22	0.30	0.07	0.07	0.14	—	538	538	0.02	0.02	0.25	545
2026	1.24	1.21	0.98	1.53	< 0.005	0.03	0.09	0.12	0.03	0.02	0.05	—	306	306	0.01	0.01	0.16	310

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.16	1.88	12.2	19.8	0.03	0.08	1.11	1.19	0.07	0.27	0.34	—	4,241	4,241	0.15	0.19	5.93	4,306
2026	104	104	11.5	19.2	0.03	0.07	1.11	1.18	0.06	0.27	0.33	—	4,204	4,204	0.15	0.19	5.33	4,268
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.01	3.38	31.7	30.7	0.06	0.20	7.76	7.97	0.19	3.96	4.15	—	6,706	6,706	0.27	0.19	0.15	6,731
2026	1.94	1.69	11.7	18.1	0.03	0.07	1.11	1.18	0.06	0.27	0.33	—	4,096	4,096	0.15	0.19	0.14	4,155
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.71	1.47	11.0	14.7	0.02	0.07	1.21	1.28	0.06	0.40	0.47	—	3,250	3,250	0.12	0.12	1.54	3,290
2026	6.77	6.65	5.34	8.38	0.01	0.03	0.48	0.51	0.03	0.12	0.14	—	1,848	1,848	0.07	0.08	0.99	1,875
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.31	0.27	2.00	2.68	< 0.005	0.01	0.22	0.23	0.01	0.07	0.09	—	538	538	0.02	0.02	0.25	545
2026	1.24	1.21	0.98	1.53	< 0.005	0.01	0.09	0.09	0.01	0.02	0.03	—	306	306	0.01	0.01	0.16	310

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	18.4	17.5	11.8	76.4	0.16	0.45	10.0	10.5	0.44	2.54	2.98	436	24,206	24,642	45.8	1.32	147	26,329
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	14.7	14.0	12.7	47.5	0.14	0.42	10.0	10.5	0.42	2.54	2.96	436	22,981	23,417	45.9	1.37	103	25,075
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	16.3	15.5	12.3	57.2	0.15	0.44	9.87	10.3	0.43	2.50	2.93	436	23,342	23,777	45.8	1.35	122	25,446
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.97	2.83	2.24	10.4	0.03	0.08	1.80	1.88	0.08	0.46	0.53	72.1	3,864	3,937	7.59	0.22	20.1	4,213

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.86	5.44	7.43	55.8	0.13	0.10	10.0	10.1	0.10	2.54	2.64	—	13,312	13,312	0.43	0.78	45.2	13,599
Area	12.1	11.8	0.14	17.0	< 0.005	0.03	—	0.03	0.02	—	0.02	—	70.1	70.1	< 0.005	< 0.005	—	70.4
Energy	0.46	0.23	4.21	3.53	0.03	0.32	—	0.32	0.32	—	0.32	—	10,622	10,622	1.35	0.12	—	10,692
Water	—	—	—	—	—	—	—	—	—	—	—	174	202	376	17.8	0.43	—	949
Waste	—	—	—	—	—	—	—	—	—	—	—	262	0.00	262	26.2	0.00	—	917
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	102	102
Total	18.4	17.5	11.8	76.4	0.16	0.45	10.0	10.5	0.44	2.54	2.98	436	24,206	24,642	45.8	1.32	147	26,329
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.19	4.75	8.48	44.0	0.12	0.10	10.0	10.1	0.10	2.54	2.64	—	12,156	12,156	0.50	0.82	1.17	12,416
Area	9.03	9.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.46	0.23	4.21	3.53	0.03	0.32	—	0.32	0.32	—	0.32	—	10,622	10,622	1.35	0.12	—	10,692
Water	—	—	—	—	—	—	—	—	—	—	—	174	202	376	17.8	0.43	—	949
Waste	—	—	—	—	—	—	—	—	—	—	—	262	0.00	262	26.2	0.00	—	917
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	102	102

Total	14.7	14.0	12.7	47.5	0.14	0.42	10.0	10.5	0.42	2.54	2.96	436	22,981	23,417	45.9	1.37	103	25,075
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.27	4.85	7.97	45.3	0.12	0.10	9.87	9.97	0.10	2.50	2.60	—	12,483	12,483	0.46	0.80	19.5	12,752
Area	10.5	10.4	0.07	8.41	< 0.005	0.01	—	0.01	0.01	—	0.01	—	34.6	34.6	< 0.005	< 0.005	—	34.7
Energy	0.46	0.23	4.21	3.53	0.03	0.32	—	0.32	0.32	—	0.32	—	10,622	10,622	1.35	0.12	—	10,692
Water	—	—	—	—	—	—	—	—	—	—	—	174	202	376	17.8	0.43	—	949
Waste	—	—	—	—	—	—	—	—	—	—	—	262	0.00	262	26.2	0.00	—	917
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	102	102
Total	16.3	15.5	12.3	57.2	0.15	0.44	9.87	10.3	0.43	2.50	2.93	436	23,342	23,777	45.8	1.35	122	25,446
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.96	0.88	1.46	8.27	0.02	0.02	1.80	1.82	0.02	0.46	0.47	—	2,067	2,067	0.08	0.13	3.23	2,111
Area	1.92	1.90	0.01	1.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.72	5.72	< 0.005	< 0.005	—	5.74
Energy	0.08	0.04	0.77	0.64	< 0.005	0.06	—	0.06	0.06	—	0.06	—	1,759	1,759	0.22	0.02	—	1,770
Water	—	—	—	—	—	—	—	—	—	—	—	28.8	33.5	62.2	2.95	0.07	—	157
Waste	—	—	—	—	—	—	—	—	—	—	—	43.4	0.00	43.4	4.33	0.00	—	152
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.9	16.9
Total	2.97	2.83	2.24	10.4	0.03	0.08	1.80	1.88	0.08	0.46	0.53	72.1	3,864	3,937	7.59	0.22	20.1	4,213

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.86	5.44	7.43	55.8	0.13	0.10	10.0	10.1	0.10	2.54	2.64	—	13,312	13,312	0.43	0.78	45.2	13,599
Area	12.1	11.8	0.14	17.0	< 0.005	0.03	—	0.03	0.02	—	0.02	—	70.1	70.1	< 0.005	< 0.005	—	70.4
Energy	0.46	0.23	4.21	3.53	0.03	0.32	—	0.32	0.32	—	0.32	—	10,622	10,622	1.35	0.12	—	10,692
Water	—	—	—	—	—	—	—	—	—	—	—	174	202	376	17.8	0.43	—	949

Waste	—	—	—	—	—	—	—	—	—	—	—	262	0.00	262	26.2	0.00	—	917
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	102	102
Total	18.4	17.5	11.8	76.4	0.16	0.45	10.0	10.5	0.44	2.54	2.98	436	24,206	24,642	45.8	1.32	147	26,329
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.19	4.75	8.48	44.0	0.12	0.10	10.0	10.1	0.10	2.54	2.64	—	12,156	12,156	0.50	0.82	1.17	12,416
Area	9.03	9.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.46	0.23	4.21	3.53	0.03	0.32	—	0.32	0.32	—	0.32	—	10,622	10,622	1.35	0.12	—	10,692
Water	—	—	—	—	—	—	—	—	—	—	—	174	202	376	17.8	0.43	—	949
Waste	—	—	—	—	—	—	—	—	—	—	—	262	0.00	262	26.2	0.00	—	917
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	102	102
Total	14.7	14.0	12.7	47.5	0.14	0.42	10.0	10.5	0.42	2.54	2.96	436	22,981	23,417	45.9	1.37	103	25,075
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.27	4.85	7.97	45.3	0.12	0.10	9.87	9.97	0.10	2.50	2.60	—	12,483	12,483	0.46	0.80	19.5	12,752
Area	10.5	10.4	0.07	8.41	< 0.005	0.01	—	0.01	0.01	—	0.01	—	34.6	34.6	< 0.005	< 0.005	—	34.7
Energy	0.46	0.23	4.21	3.53	0.03	0.32	—	0.32	0.32	—	0.32	—	10,622	10,622	1.35	0.12	—	10,692
Water	—	—	—	—	—	—	—	—	—	—	—	174	202	376	17.8	0.43	—	949
Waste	—	—	—	—	—	—	—	—	—	—	—	262	0.00	262	26.2	0.00	—	917
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	102	102
Total	16.3	15.5	12.3	57.2	0.15	0.44	9.87	10.3	0.43	2.50	2.93	436	23,342	23,777	45.8	1.35	122	25,446
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.96	0.88	1.46	8.27	0.02	0.02	1.80	1.82	0.02	0.46	0.47	—	2,067	2,067	0.08	0.13	3.23	2,111
Area	1.92	1.90	0.01	1.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.72	5.72	< 0.005	< 0.005	—	5.74
Energy	0.08	0.04	0.77	0.64	< 0.005	0.06	—	0.06	0.06	—	0.06	—	1,759	1,759	0.22	0.02	—	1,770
Water	—	—	—	—	—	—	—	—	—	—	—	28.8	33.5	62.2	2.95	0.07	—	157
Waste	—	—	—	—	—	—	—	—	—	—	—	43.4	0.00	43.4	4.33	0.00	—	152
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.9	16.9

Total	2.97	2.83	2.24	10.4	0.03	0.08	1.80	1.88	0.08	0.46	0.53	72.1	3,864	3,937	7.59	0.22	20.1	4,213

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.87	0.83	< 0.005	0.04	—	0.04	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.05	0.53	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	94.2	94.2	< 0.005	< 0.005	0.01	95.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.67	2.67	< 0.005	< 0.005	< 0.005	2.72
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	0.20	—	0.20	0.19	—	0.19	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.87	0.83	< 0.005	0.01	—	0.01	0.01	—	0.01	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.16	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.05	0.53	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	94.2	94.2	< 0.005	< 0.005	0.01	95.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.67	2.67	< 0.005	< 0.005	< 0.005	2.72
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.31	2.85	2.71	0.01	0.12	—	0.12	0.11	—	0.11	—	633	633	0.03	0.01	—	635
Dust From Material Movement	—	—	—	—	—	—	0.34	0.34	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.52	0.50	< 0.005	0.02	—	0.02	0.02	—	0.02	—	105	105	< 0.005	< 0.005	—	105

Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.05	0.60	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	108	108	< 0.005	0.01	0.01	109
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.02	10.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.77	1.77	< 0.005	< 0.005	< 0.005	1.80
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	0.19	—	0.19	0.17	—	0.17	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.31	2.85	2.71	0.01	0.02	—	0.02	0.02	—	0.02	—	633	633	0.03	0.01	—	635
Dust From Material Movement	—	—	—	—	—	—	0.34	0.34	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.52	0.50	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	105	105	< 0.005	< 0.005	—	105
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.05	0.60	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	108	108	< 0.005	0.01	0.01	109
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.02	10.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.77	1.77	< 0.005	< 0.005	< 0.005	1.80
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	0.67	6.17	7.71	0.01	0.26	—	0.26	0.23	—	0.23	—	1,417	1,417	0.06	0.01	—	1,422
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	1.13	1.41	< 0.005	0.05	—	0.05	0.04	—	0.04	—	235	235	0.01	< 0.005	—	235
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.75	0.71	0.37	6.13	0.00	0.00	0.90	0.90	0.00	0.21	0.21	—	998	998	0.03	0.04	3.74	1,015
Vendor	0.07	0.05	1.36	0.60	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	845	845	0.02	0.12	2.20	885

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.67	0.62	0.45	4.97	0.00	0.00	0.90	0.90	0.00	0.21	0.21	—	886	886	0.04	0.04	0.10	900
Vendor	0.06	0.04	1.45	0.63	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	847	847	0.02	0.12	0.06	884
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.40	0.37	0.24	2.98	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	542	542	0.02	0.03	0.95	551
Vendor	0.04	0.03	0.83	0.36	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	500	500	0.01	0.07	0.56	523
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.54	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	89.8	89.8	< 0.005	< 0.005	0.16	91.3
Vendor	0.01	< 0.005	0.15	0.07	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	82.8	82.8	< 0.005	0.01	0.09	86.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.06	—	0.06	0.06	—	0.06	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.06	—	0.06	0.06	—	0.06	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80	0.67	6.17	7.71	0.01	0.04	—	0.04	0.04	—	0.04	—	1,417	1,417	0.06	0.01	—	1,422
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	1.13	1.41	< 0.005	0.01	—	0.01	0.01	—	0.01	—	235	235	0.01	< 0.005	—	235
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.75	0.71	0.37	6.13	0.00	0.00	0.90	0.90	0.00	0.21	0.21	—	998	998	0.03	0.04	3.74	1,015
Vendor	0.07	0.05	1.36	0.60	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	845	845	0.02	0.12	2.20	885
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.67	0.62	0.45	4.97	0.00	0.00	0.90	0.90	0.00	0.21	0.21	—	886	886	0.04	0.04	0.10	900

Vendor	0.06	0.04	1.45	0.63	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	847	847	0.02	0.12	0.06	884
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.40	0.37	0.24	2.98	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	542	542	0.02	0.03	0.95	551
Vendor	0.04	0.03	0.83	0.36	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	500	500	0.01	0.07	0.56	523
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.54	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	89.8	89.8	< 0.005	< 0.005	0.16	91.3
Vendor	0.01	< 0.005	0.15	0.07	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	82.8	82.8	< 0.005	0.01	0.09	86.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	0.45	4.17	5.48	0.01	0.16	—	0.16	0.15	—	0.15	—	1,013	1,013	0.04	0.01	—	1,017
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.76	1.00	< 0.005	0.03	—	0.03	0.03	—	0.03	—	168	168	0.01	< 0.005	—	168
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.70	0.65	0.34	5.64	0.00	0.00	0.90	0.90	0.00	0.21	0.21	—	977	977	0.03	0.04	3.39	994
Vendor	0.07	0.05	1.32	0.59	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	829	829	0.02	0.12	1.94	869
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.60	0.58	0.42	4.56	0.00	0.00	0.90	0.90	0.00	0.21	0.21	—	868	868	0.04	0.04	0.09	881
Vendor	0.06	0.04	1.40	0.61	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	831	831	0.02	0.12	0.05	869
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.25	0.16	1.96	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	380	380	0.01	0.02	0.62	386
Vendor	0.03	0.02	0.58	0.25	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	351	351	0.01	0.05	0.35	367

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.36	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	62.9	62.9	< 0.005	< 0.005	0.10	63.9
Vendor	0.01	< 0.005	0.11	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	58.1	58.1	< 0.005	0.01	0.06	60.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.06	—	0.06	0.05	—	0.05	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.06	—	0.06	0.05	—	0.05	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	0.45	4.17	5.48	0.01	0.02	—	0.02	0.02	—	0.02	—	1,013	1,013	0.04	0.01	—	1,017

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.76	1.00	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	168	168	0.01	< 0.005	—	168
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.70	0.65	0.34	5.64	0.00	0.00	0.90	0.90	0.00	0.21	0.21	—	977	977	0.03	0.04	3.39	994
Vendor	0.07	0.05	1.32	0.59	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	829	829	0.02	0.12	1.94	869
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.60	0.58	0.42	4.56	0.00	0.00	0.90	0.90	0.00	0.21	0.21	—	868	868	0.04	0.04	0.09	881
Vendor	0.06	0.04	1.40	0.61	0.01	0.01	0.22	0.23	0.01	0.06	0.07	—	831	831	0.02	0.12	0.05	869
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27	0.25	0.16	1.96	0.00	0.00	0.37	0.37	0.00	0.09	0.09	—	380	380	0.01	0.02	0.62	386
Vendor	0.03	0.02	0.58	0.25	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	351	351	0.01	0.05	0.35	367
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.03	0.36	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	62.9	62.9	< 0.005	< 0.005	0.10	63.9
Vendor	0.01	< 0.005	0.11	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	58.1	58.1	< 0.005	0.01	0.06	60.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	2.88	2.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.39	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.16	0.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.03	0.51	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.0	89.0	< 0.005	< 0.005	0.31	90.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.49	4.49	< 0.005	< 0.005	0.01	4.56
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.74	0.74	< 0.005	< 0.005	< 0.005	0.76
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.05	—	0.05	0.04	—	0.04	—	1,511	1,511	0.06	0.01	—	1,516
Paving	2.88	2.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.39	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.16	0.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.03	0.51	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	89.0	89.0	< 0.005	< 0.005	0.31	90.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.49	4.49	< 0.005	< 0.005	0.01	4.56

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.74	0.74	< 0.005	< 0.005	< 0.005	0.76
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	104	104	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34

Architectural	5.71	5.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	1.04	1.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.07	1.13	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	195	195	0.01	0.01	0.68	199
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.85	9.85	< 0.005	< 0.005	0.02	10.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.63	1.63	< 0.005	< 0.005	< 0.005	1.66
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	104	104	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	5.71	5.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	1.04	1.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.07	1.13	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	195	195	0.01	0.01	0.68	199
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.85	9.85	< 0.005	< 0.005	0.02	10.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.63	1.63	< 0.005	< 0.005	< 0.005	1.66
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	5.86	5.44	7.43	55.8	0.13	0.10	10.0	10.1	0.10	2.54	2.64	—	13,312	13,312	0.43	0.78	45.2	13,599
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	5.86	5.44	7.43	55.8	0.13	0.10	10.0	10.1	0.10	2.54	2.64	—	13,312	13,312	0.43	0.78	45.2	13,599
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	5.19	4.75	8.48	44.0	0.12	0.10	10.0	10.1	0.10	2.54	2.64	—	12,156	12,156	0.50	0.82	1.17	12,416
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	5.19	4.75	8.48	44.0	0.12	0.10	10.0	10.1	0.10	2.54	2.64	—	12,156	12,156	0.50	0.82	1.17	12,416
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.96	0.88	1.46	8.27	0.02	0.02	1.80	1.82	0.02	0.46	0.47	—	2,067	2,067	0.08	0.13	3.23	2,111
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.96	0.88	1.46	8.27	0.02	0.02	1.80	1.82	0.02	0.46	0.47	—	2,067	2,067	0.08	0.13	3.23	2,111

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	5.86	5.44	7.43	55.8	0.13	0.10	10.0	10.1	0.10	2.54	2.64	—	13,312	13,312	0.43	0.78	45.2	13,599
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	5.86	5.44	7.43	55.8	0.13	0.10	10.0	10.1	0.10	2.54	2.64	—	13,312	13,312	0.43	0.78	45.2	13,599
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	5.19	4.75	8.48	44.0	0.12	0.10	10.0	10.1	0.10	2.54	2.64	—	12,156	12,156	0.50	0.82	1.17	12,416
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	5.19	4.75	8.48	44.0	0.12	0.10	10.0	10.1	0.10	2.54	2.64	—	12,156	12,156	0.50	0.82	1.17	12,416
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.96	0.88	1.46	8.27	0.02	0.02	1.80	1.82	0.02	0.46	0.47	—	2,067	2,067	0.08	0.13	3.23	2,111
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.96	0.88	1.46	8.27	0.02	0.02	1.80	1.82	0.02	0.46	0.47	—	2,067	2,067	0.08	0.13	3.23	2,111

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	5,136	5,136	0.83	0.10	—	5,187
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	468	468	0.08	0.01	—	473
Total	—	—	—	—	—	—	—	—	—	—	—	—	5,605	5,605	0.91	0.11	—	5,660
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	5,136	5,136	0.83	0.10	—	5,187
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	468	468	0.08	0.01	—	473
Total	—	—	—	—	—	—	—	—	—	—	—	—	5,605	5,605	0.91	0.11	—	5,660
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	850	850	0.14	0.02	—	859
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	77.5	77.5	0.01	< 0.005	—	78.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	928	928	0.15	0.02	—	937

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	5,136	5,136	0.83	0.10	—	5,187
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	468	468	0.08	0.01	—	473
Total	—	—	—	—	—	—	—	—	—	—	—	—	5,605	5,605	0.91	0.11	—	5,660
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	5,136	5,136	0.83	0.10	—	5,187
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	468	468	0.08	0.01	—	473
Total	—	—	—	—	—	—	—	—	—	—	—	—	5,605	5,605	0.91	0.11	—	5,660
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	850	850	0.14	0.02	—	859
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	77.5	77.5	0.01	< 0.005	—	78.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	928	928	0.15	0.02	—	937

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Industrial	0.46	0.23	4.21	3.53	0.03	0.32	—	0.32	0.32	—	0.32	—	5,018	5,018	0.44	0.01	—	5,031
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.46	0.23	4.21	3.53	0.03	0.32	—	0.32	0.32	—	0.32	—	5,018	5,018	0.44	0.01	—	5,031
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.46	0.23	4.21	3.53	0.03	0.32	—	0.32	0.32	—	0.32	—	5,018	5,018	0.44	0.01	—	5,031
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.46	0.23	4.21	3.53	0.03	0.32	—	0.32	0.32	—	0.32	—	5,018	5,018	0.44	0.01	—	5,031
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.08	0.04	0.77	0.64	< 0.005	0.06	—	0.06	0.06	—	0.06	—	831	831	0.07	< 0.005	—	833
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.08	0.04	0.77	0.64	< 0.005	0.06	—	0.06	0.06	—	0.06	—	831	831	0.07	< 0.005	—	833

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.46	0.23	4.21	3.53	0.03	0.32	—	0.32	0.32	—	0.32	—	5,018	5,018	0.44	0.01	—	5,031
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	0.46	0.23	4.21	3.53	0.03	0.32	—	0.32	0.32	—	0.32	—	5,018	5,018	0.44	0.01	—	5,031
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.46	0.23	4.21	3.53	0.03	0.32	—	0.32	0.32	—	0.32	—	5,018	5,018	0.44	0.01	—	5,031
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.46	0.23	4.21	3.53	0.03	0.32	—	0.32	0.32	—	0.32	—	5,018	5,018	0.44	0.01	—	5,031
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.08	0.04	0.77	0.64	< 0.005	0.06	—	0.06	0.06	—	0.06	—	831	831	0.07	< 0.005	—	833
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.08	0.04	0.77	0.64	< 0.005	0.06	—	0.06	0.06	—	0.06	—	831	831	0.07	< 0.005	—	833

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	8.46	8.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.57	0.57	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landsca Equipment	3.03	2.80	0.14	17.0	< 0.005	0.03	—	0.03	0.02	—	0.02	—	70.1	70.1	< 0.005	< 0.005	—	70.4
Total	12.1	11.8	0.14	17.0	< 0.005	0.03	—	0.03	0.02	—	0.02	—	70.1	70.1	< 0.005	< 0.005	—	70.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	8.46	8.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.57	0.57	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	9.03	9.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.54	1.54	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.27	0.25	0.01	1.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.72	5.72	< 0.005	< 0.005	—	5.74
Total	1.92	1.90	0.01	1.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.72	5.72	< 0.005	< 0.005	—	5.74

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consum Products	8.46	8.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.57	0.57	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	3.03	2.80	0.14	17.0	< 0.005	0.03	—	0.03	0.02	—	0.02	—	70.1	70.1	< 0.005	< 0.005	—	70.4
Total	12.1	11.8	0.14	17.0	< 0.005	0.03	—	0.03	0.02	—	0.02	—	70.1	70.1	< 0.005	< 0.005	—	70.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	8.46	8.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.57	0.57	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	9.03	9.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.54	1.54	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.27	0.25	0.01	1.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.72	5.72	< 0.005	< 0.005	—	5.74
Total	1.92	1.90	0.01	1.53	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.72	5.72	< 0.005	< 0.005	—	5.74

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	174	200	373	17.8	0.43	—	947
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	2.66	2.66	< 0.005	< 0.005	—	2.69
Total	—	—	—	—	—	—	—	—	—	—	—	174	202	376	17.8	0.43	—	949
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	174	200	373	17.8	0.43	—	947
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	2.66	2.66	< 0.005	< 0.005	—	2.69
Total	—	—	—	—	—	—	—	—	—	—	—	174	202	376	17.8	0.43	—	949
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	28.8	33.0	61.8	2.95	0.07	—	157
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.44	0.44	< 0.005	< 0.005	—	0.45
Total	—	—	—	—	—	—	—	—	—	—	—	28.8	33.5	62.2	2.95	0.07	—	157

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	174	200	373	17.8	0.43	—	947
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	2.66	2.66	< 0.005	< 0.005	—	2.69
Total	—	—	—	—	—	—	—	—	—	—	—	174	202	376	17.8	0.43	—	949
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	174	200	373	17.8	0.43	—	947
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	2.66	2.66	< 0.005	< 0.005	—	2.69
Total	—	—	—	—	—	—	—	—	—	—	—	174	202	376	17.8	0.43	—	949
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	28.8	33.0	61.8	2.95	0.07	—	157
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.44	0.44	< 0.005	< 0.005	—	0.45
Total	—	—	—	—	—	—	—	—	—	—	—	28.8	33.5	62.2	2.95	0.07	—	157

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	262	0.00	262	26.2	0.00	—	917
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	262	0.00	262	26.2	0.00	—	917
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	262	0.00	262	26.2	0.00	—	917
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	262	0.00	262	26.2	0.00	—	917
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	43.4	0.00	43.4	4.33	0.00	—	152
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	43.4	0.00	43.4	4.33	0.00	—	152

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	262	0.00	262	26.2	0.00	—	917
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	262	0.00	262	26.2	0.00	—	917
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	262	0.00	262	26.2	0.00	—	917
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	262	0.00	262	26.2	0.00	—	917
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	43.4	0.00	43.4	4.33	0.00	—	152
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	43.4	0.00	43.4	4.33	0.00	—	152

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	102	102
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	102	102
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	102	102
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	102	102
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.9	16.9
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.9	16.9

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	102	102
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	102	102
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	102	102
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	102	102
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.9	16.9
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.9	16.9

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2025	1/14/2025	5.00	10.0	—
Grading	Grading	1/15/2025	3/4/2025	5.00	35.0	—
Building Construction	Building Construction	3/5/2025	8/4/2026	5.00	370	—
Paving	Paving	8/5/2026	9/1/2026	5.00	20.0	—
Architectural Coating	Architectural Coating	9/2/2026	9/29/2026	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41

Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

Building Construction	Tractors/Loaders/Back	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	0.00	4.00	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	7.70	LDA,LDT1,LDT2
Grading	Vendor	0.00	4.00	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	165	7.70	LDA,LDT1,LDT2
Building Construction	Vendor	64.2	4.00	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	0.00	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	7.70	LDA,LDT1,LDT2

Paving	Vendor	0.00	4.00	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	0.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	32.9	7.70	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	4.00	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	7.70	LDA,LDT1,LDT2
Site Preparation	Vendor	0.00	4.00	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	7.70	LDA,LDT1,LDT2
Grading	Vendor	0.00	4.00	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	165	7.70	LDA,LDT1,LDT2
Building Construction	Vendor	64.2	4.00	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	0.00	0.00	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	7.70	LDA,LDT1,LDT2

Paving	Vendor	0.00	4.00	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	0.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	32.9	7.70	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	4.00	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	588,000	196,000	57,395

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	15.0	0.00	—
Grading	—	—	105	0.00	—
Paving	0.00	0.00	0.00	0.00	22.0

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction

Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Industrial Park	0.00	0%
Parking Lot	22.0	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Industrial Park	1,524	1,524	1,524	556,295	14,179	14,179	14,179	5,175,426
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Industrial Park	1,524	1,524	1,524	556,295	14,179	14,179	14,179	5,175,426
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	588,000	196,000	57,395

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Industrial Park	9,190,981	204	0.0330	0.0040	15,656,123
Parking Lot	837,962	204	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Industrial Park	9,190,981	204	0.0330	0.0040	15,656,123
Parking Lot	837,962	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Industrial Park	90,650,000	0.00
Parking Lot	0.00	1,969,671

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Industrial Park	90,650,000	0.00
Parking Lot	0.00	1,969,671

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Industrial Park	486	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)

Industrial Park	486	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Industrial Park	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Industrial Park	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	No demolition required.
Construction: Trips and VMT	zero'd empty fields
Operations: Fleet Mix	Assumes approximately 6% of trips are heavy duty trucks (per traffic study). Remaining trips split amongst light duty vehicles.
Operations: Vehicle Data	Per Traffic Study

Appendix B: Cultural Resources Information

California
Historical
Resources
Information
System

Fresno
Kern
Kings
Madera
Tulare

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 72 DOB
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289
E-mail: ssjvic@csub.edu
Website: www.csub.edu/ssjvic

To: Jackie Lancaster
Provost & Pritchard Consulting Group
400 E. Main Street, Suite 300
Visalia, CA 93291

Record Search 24-414

Date: September 24, 2024

Re: City of Fowler Clayton Industrial Tentative Map Project. Project No. 2619-22-023 Phase TTM

County: Fresno

Map(s): Malaga 7.5’

CULTURAL RESOURCES RECORDS SEARCH

The California Office of Historic Preservation (OHP) contracts with the California Historical Resources Information System’s (CHRIS) regional Information Centers (ICs) to maintain information in the CHRIS inventory and make it available to local, state, and federal agencies, cultural resource professionals, Native American tribes, researchers, and the public. Recommendations made by IC coordinators or their staff regarding the interpretation and application of this information are advisory only. Such recommendations do not necessarily represent the evaluation or opinion of the State Historic Preservation Officer in carrying out the OHP’s regulatory authority under federal and state law.

The following are the results of a search of the cultural resource files at the Southern San Joaquin Valley Information Center. These files include known and recorded cultural resources sites, inventory and excavation reports filed with this office, and resources listed on the National Register of Historic Places, the OHP Built Environment Resources Directory, California State Historical Landmarks, California Register of Historical Resources, California Inventory of Historic Resources, and California Points of Historical Interest. Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the OHP are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area.

PRIOR CULTURAL RESOURCE STUDIES CONDUCTED WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

According to the information in our files, there have been no previous cultural resource studies completed within the project area. There have been four cultural resource studies conducted within the one-half mile radius: FR-00135, 02287, 02452, 02642.

KNOWN/RECORDED CULTURAL RESOURCES WITHIN THE PROJECT AREA AND THE ONE-HALF MILE RADIUS

According to the information in our files, there are no recorded cultural resources within the project area. There are three recorded cultural resource within the one-half mile radius: P-10-002962, 003930, 004423. These resources consist of historic era refuse scatter, a railroad, & park.

There are no recorded cultural resources within the project area or radius that are listed in the National Register of Historic Places, the California Register of Historical Resources, the California Points of Historical Interest, California Inventory of Historic Resources, for the California State Historic Landmarks.

COMMENTS AND RECOMMENDATIONS

We understand this project intends to annex approximately 83.04 acres of farmland into the City of Fowler. Additionally, we understand this project would prezone approx. 30.65 acres to light industrial zone district and the remaining to future residential development, with future improvements to intersections when warranted. Further, we understand the existing project area is agricultural land. Please note that agriculture does not constitute previous development, as it does not destroy cultural resources, but merely moves them around within the plow zone. As such, there are no further cultural resource investigations needed to annex and prezone properties. However, prior to any future stages of this project that require ground disturbance, we recommend a qualified, professional consultant conduct a field survey to determine if cultural resources are present. A list of qualified consultants can be found at www.chrisinfo.org.

We also recommend that you contact the Native American Heritage Commission in Sacramento. They will provide you with a current list of Native American individuals/organizations that can assist you with information regarding cultural resources that may not be included in the CHRIS Inventory and that may be of concern to the Native groups in the area. The Commission can consult their "Sacred Lands Inventory" file to determine what sacred resources, if any, exist within this project area and the way in which these resources might be managed. Finally, please consult with the lead agency on this project to determine if any other cultural resource investigation is required. If you need any additional information or have any questions or concerns, please contact our office at (661) 654-2289.

By:

Jeremy E David, Assistant Coordinator **Date**: September 24, 2024

Please note that invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

Appendix C: Traffic Impact Study

Clayton and Golden State Blvd. Property Prezone

Transportation Impact Study
September 2024

Prepared for:
City of Fowler

Prepared by:
VRPA Technologies, Inc.
4630 W. Jennifer, Suite 105
Fresno, CA 93722

In Association With:
Precision Engineering

Clayton and Golden State Blvd Property Prezone
Transportation Impact Study

Study Team

- ✓ Georgiena Vivian, President, VRPA Technologies, Inc., gvivian@vrpatechnologies.com, (559) 259-9257
- ✓ Erik Ruehr, Dir. of Traffic Engineering, VRPA Technologies, Inc., eruehr@vrpatechnologies.com, (858) 566-1766
- ✓ Jeff Stine, Senior Transportation Planner, VRPA Technologies, Inc. jstine@vrpatechnologies.com, (858) 566-1766
- ✓ Nisha Pathak, Transportation Engineer, VRPA Technologies, Inc., npathak@vrpatechnologies.com, (559) 271-1200

Table of Contents

Appendices

List of Tables

List of Figures

1.0 Introduction

1.1 Description of the Region/Project

This Transportation Impact Study (TIS) has been prepared for the purpose of analyzing traffic conditions related to the proposed Clayton and Golden State Boulevard Property Prezone (Project) in the County of Fresno. The Project site, currently outside of the City of Fowler limits but within the City of Fowler's sphere of influence, proposes land uses of Light Industrial and Medium Low Residential. The Annexation/Prezone proposes a prezone to M-1 and R-1-7. The Project also proposes a 44-lot industrial subdivision on the area with a land use designation of Light Industrial, which is consistent with the General Plan. The Annexation/Prezone of the subject property would affect traffic operations that may trigger the need for improvements and/or other measures within the study area to address traffic operations. The Project will be located on approximately 45.04 acres of land, south of Clayton Avenue between Golden State Boulevard and North Fowler Avenue at 5469 East Clayton Avenue, Fowler, CA (APNs 340-120-05-28, and 340-120-05-29). Figures 1-1 and 1-2 show the location of the Project along with major roadways in the Project area. The Project site plan is provided in Figure 1-3.

1.1.1 *Project Access*

Site access will be provided at two Project Driveways along Clayton Avenue between Golden State Boulevard and Fowler Avenue. At the south end of the Project, Lynn Avenue dead ends at the south property line.

1.1.2 *Study Area*

The following intersections and roadway segments included in this TIS were determined in consultation with County of Fresno and Caltrans staff that include:

Intersections

1. American Avenue and SR 99 SB Off Ramp
2. American Avenue and SR 99 NB On Ramp
3. Jefferson Avenue and Golden State Boulevard
4. Clovis Avenue and Jefferson Avenue
5. Clovis Avenue and Lincoln Avenue
6. Fowler Avenue and Lincoln Avenue
7. Clayton Avenue and Golden State Boulevard
8. Clayton Avenue and Fowler Avenue
9. Clovis Avenue and SR 99 NB Ramps
10. Clayton Avenue and SR 99 SB Off Ramp
11. Clovis Avenue and SR 99 SB Ramps
12. Adams Avenue and SR 99 SB Off Ramp
13. Adams Avenue and SR 99 NB On Ramp
14. Merced Street and Fowler Ave/SR 99 SB Off Ramp

15. Merced Street and SR 99 NB Ramps

Roadway Segments

- ✓ Fowler Avenue between:
    - Adam Avenue and Clayton Avenue
    - Clayton Avenue and Lincoln Avenue
    - Lincoln Avenue and Jefferson Avenue

- ✓ Clayton Avenue between:
    - Golden State Boulevard and Fowler Avenue

- ✓ Lincoln Avenue between:
    - Clovis Avenue and Fowler Avenue

- ✓ Jefferson Avenue between:
    - Clovis Avenue and Fowler Avenue

1.1.3 *Study Scenarios*

This TIS includes level of service (LOS) analysis for the following traffic scenarios (Study Scenarios):

- ✓ Existing Conditions
- ✓ Existing Plus Project Conditions
- ✓ Horizon Year 2044 Without Project Conditions
- ✓ Horizon Year 2044 Plus Project Conditions

1.2 Methodology

When preparing this TIS, guidelines set by the City of Fowler were followed. In analyzing street and intersection capacities, LOS methodologies from the latest edition of the Highway Capacity Manual (HCM) were applied. The City of Fowler LOS standards were applied to quantitatively assess the performance of study area intersections and roadway segments. In addition, safety concerns were considered when determining the need for appropriate mitigation resulting from increased traffic near sensitive uses.

1.2.1 *Intersection Analysis*

Intersection LOS analysis was conducted using the Synchro 12 software program. Synchro 12 supports HCM 6th Edition methodologies and is an acceptable program by City of Fowler staff for assessment of traffic impacts. Levels of Service can be determined for both signalized and unsignalized intersections. All the study intersections are currently unsignalized except for two intersections (American Avenue at SR 99 NB On Ramp and Adams Avenue and SR 99 NB On Ramp) which do not have any intersection controls.

Tables 1-1 and 1-2 indicate the ranges in the amounts of average delay for a vehicle at signalized and unsignalized intersections for the various levels of service ranging from LOS “A” to “F”.

When an unsignalized intersection does not meet acceptable LOS standards, the investigation of the need for a traffic signal shall be evaluated. The California Manual on Uniform Traffic Control Devices for Streets and Highways (California MUTCD) introduces standards for determining the need for traffic signals. The California MUTCD indicates that the satisfaction of one or more traffic signal warrants does not in itself require the installation of a traffic signal. In addition to the warrant analysis, an engineering study of the current or expected traffic conditions should be conducted to determine whether the installation of a traffic signal is justified. The California MUTCD Peak Hour Warrant (Warrant 3) was used to determine if a traffic signal is warranted at unsignalized intersections that fall below current LOS standards.

1.2.2 *Roadway Segment Analysis*

According to the HCM, LOS is categorized by two parameters of traffic: uninterrupted and interrupted flow. Uninterrupted flow facilities do not have fixed elements such as traffic signals that cause interruptions in traffic flow. Interrupted flow facilities do have fixed elements that cause an interruption in the flow of traffic, such as stop signs and signalized intersections along arterial roads. A roadway segment is defined as a stretch of roadway generally located between signalized or controlled intersections.

Segment LOS is important in order to understand whether the capacity of a roadway can accommodate future traffic volumes. Table 1-3 provides a definition of segment LOS. The performance criteria used for evaluating volumes and capacities on the road and highway system for this study were estimated using Table 5.14-2 (Roadway Functional Class and Peak Hour Level-of-Service Thresholds) from the City of Fresno General Plan and Development Code Update Master Environmental Impact Report. The tables consider the capacity of individual road and highway segments. Street segment capacity was determined using information shown in Table 1-4 based on the Level of Service Tables included in Appendix A.

1.2.3 *Queuing Analysis*

Queuing analysis was performed at study intersections utilizing the Synchro 12 software program. This software aligns with the methodologies outlined in the Highway Capacity Manual (HCM) 6th Edition. Synchro provides queuing results in feet for signalized intersections while the 95th percentile queue for unsignalized intersections are expressed in number of vehicles. A vehicle length of 25 feet was applied to estimate the queue length, in feet, for unsignalized intersections.

1.3 Policies to Maintain Level of Service

An important goal is to maintain an acceptable level of service along the highway, street, and road network. To accomplish this, the City of Fowler adopted minimum levels of service to control congestion that may result as new development occurs.

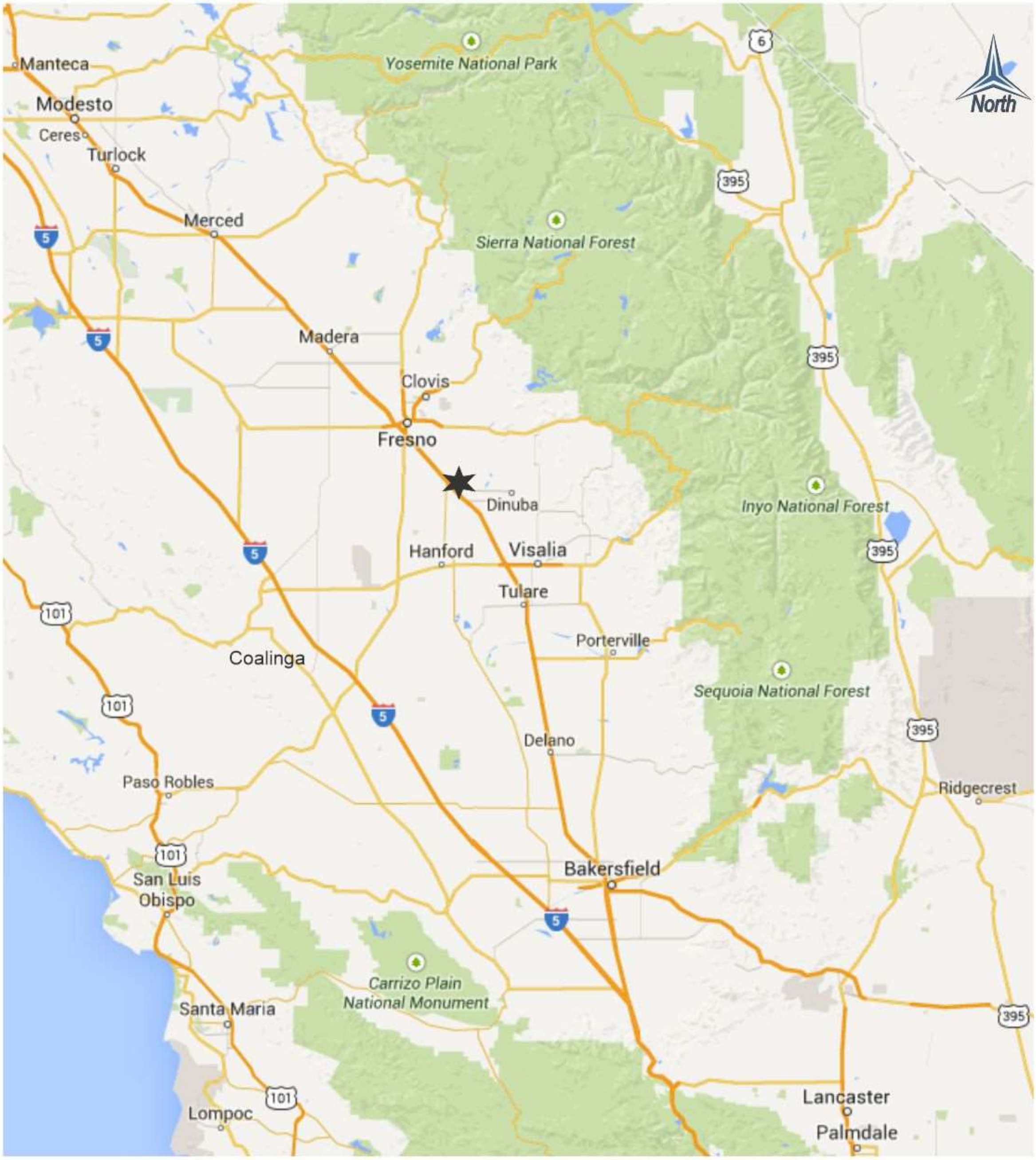
The City of Fowler's General Plan, adopted April 18, 2023, encourages a LOS 'C' throughout the local circulation network according to Policy MOB-5. In addition, Policy MOB-5 indicates that LOS 'D' may be allowed during peak hours at intersections of major streets, at SR 99 interchanges, and along street segments where additional improvements are not feasible. LOS 'D' may also be allowed along streets with the potential for a high level of pedestrian and bicyclist activity. LOS 'E' may be permitted during peak hour use of certain road intersections and segments where pedestrian and bicycle activity is prioritized. For purposes of this analysis, LOS 'D' was applied to intersections of major streets (American Avenue, Golden State Boulevard, Clovis Avenue, SR 99 Ramps) in the study area while LOS 'C' was applied to all other intersecting streets/roadways.

Fresno County's 2000 General Plan, policy number TR-A.2, identifies a minimum LOS standard of 'D' on urban roadways within the spheres of influence of the cities of Fresno and Clovis and identifies a minimum LOS standard of 'C' on all other roadways in the county.

Based on guidance from Caltrans, the LOS for operating State highway facilities is based on Measures of Effectiveness (MOE) identified in the Highway Capacity Manual (HCM). Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than this target LOS, the existing MOE should be maintained. In general, the region-wide goal for an acceptable LOS on all freeways, roadways segments, and intersections is "D". For undeveloped or not densely developed locations, the goal may be to achieve LOS "C".

Clayton and Golden State Blvd Property Prezone
Regional Location

Figure
1-1

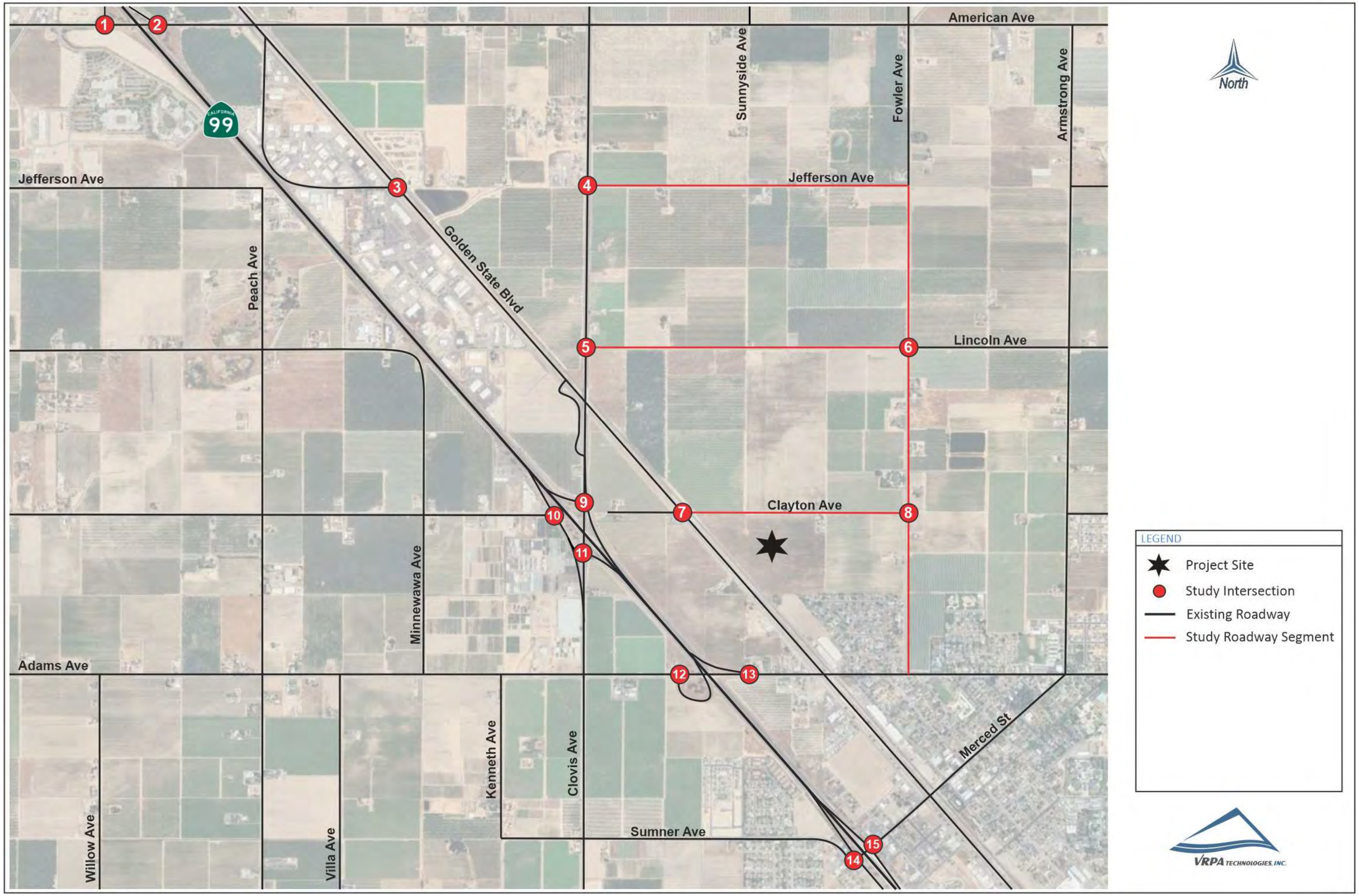


LEGEND

★ Project Location

Clayton and Golden State Blvd Property Prezone
Project Location

Figure
1-2



Clayton and Golden State Blvd Property Prezone
Project Site Plan

Figure
1-3

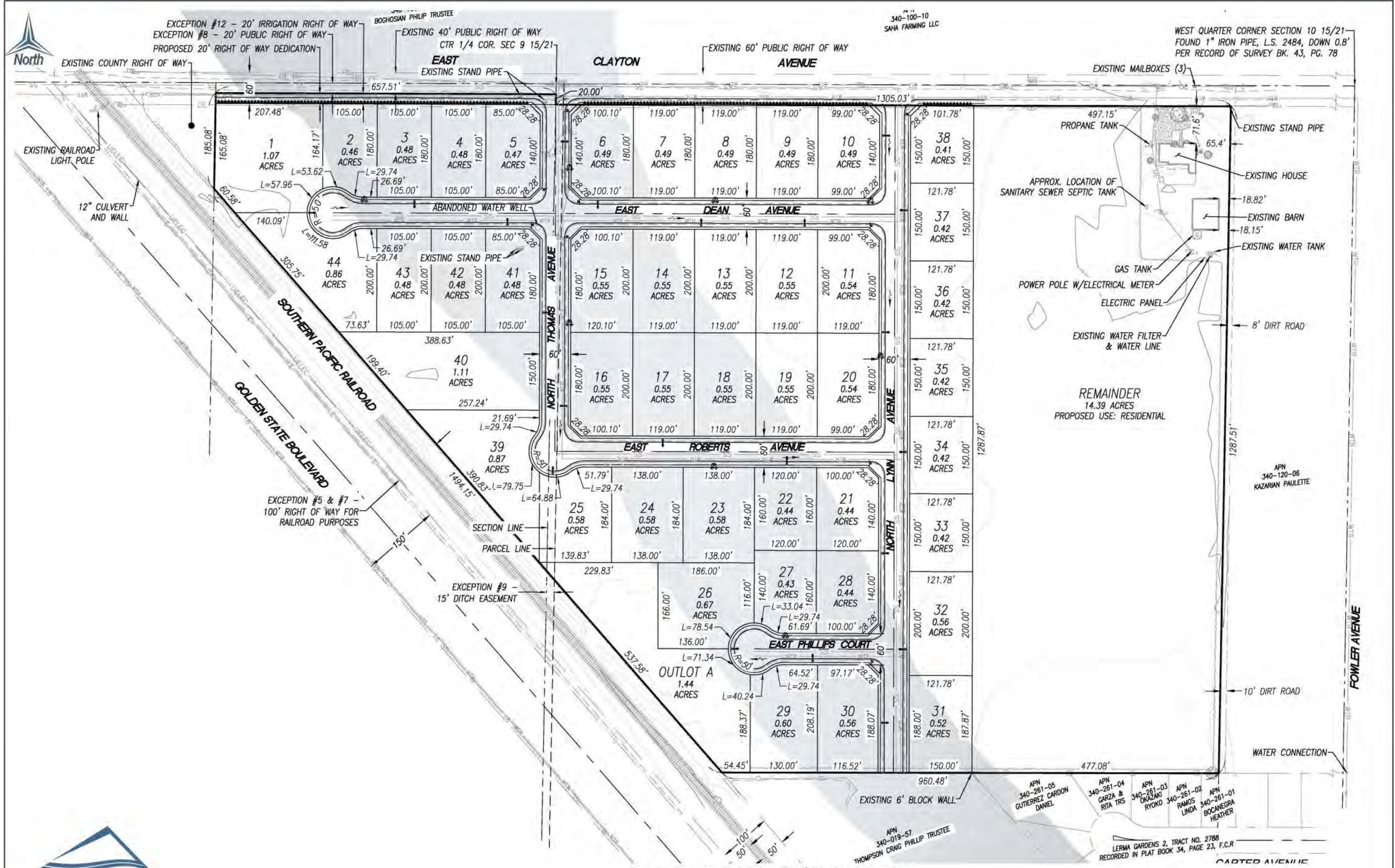


Image Source: Precision Civil Engineering, Inc.

Table 1-1
Signalized Intersections Level of Service Definitions (Highway Capacity Manual)

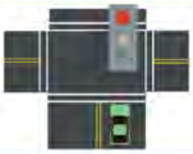
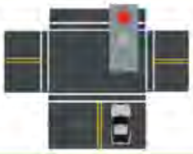
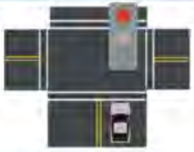
LEVEL OF SERVICE	DEFINITION	AVERAGE TOTAL DELAY (sec/veh)
A	Describes operations with very low delay. This level of service occurs when there is no conflicting traffic for a minor street. 	**≤10.0**
B	Describes operations with moderately low delay. This level generally occurs with a small amount of conflicting traffic causing higher levels of average delay. 	**> 10.0 - 20.0**
C	Describes operations with average delays. These higher delays may result from a moderate amount of minor street traffic. Queues begin to get longer. 	**> 20.0 - 35.0**
D	Describes a crowded operation, with below average delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from shorter gaps on the mainline and an increase of minor street traffic. The queues of vehicles are increasing. 	**> 35.0 - 55.0**
E	Describes operations at or near capacity. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor gaps for the minor street to cross and large queues. 	**> 55.0 - 80.0**
F	Describes operations that are at the failure point. This level, considered to be unacceptable to most drivers, often occurs with over- saturation, that is, when arrival flow rates exceed the capacity of the intersection. Insufficient gaps of suitable size exist to allow minor traffic to cross the intersection safely. 	**> 80.0**

Table 1-2

Unsignalized Intersections Level of Service Definitions
(Highway Capacity Manual)

LEVEL OF SERVICE	DEFINITION	AVERAGE TOTAL DELAY (sec/veh)
A	No delay for stop-controlled approaches. 	0 - 10.0
B	Describes operations with minor delay. 	> 10.0 - 15.0
C	Describes operations with moderate delays. 	> 15.0 - 25.0
D	Describes operations with some delays. 	> 25.0 - 35.0
E	Describes operations with high delays and long queues. 	> 35.0 - 50.0
F	Describes operations with extreme congestion, with very high delays and long queues unacceptable to most drivers. 	> 50.0

Table 1-3
Roadway Segment Level of Service Definitions (Highway Capacity Manual)

LEVEL OF SERVICE	DEFINITION
A	Represents free flow. Individual vehicles are virtually unaffected by the presence of others in the traffic stream. 
B	Is in the range of stable flow, but the presence of other vehicles in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver. 
C	Is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual vehicles becomes significantly affected by interactions with other vehicles in the traffic stream. 
D	Is a crowded segment of roadway with a large number of vehicles restricting mobility and a stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience. 
E	Represents operating conditions at or near the level capacity. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement. 
F	Is used to define forced or breakdown flow (stop-and-go gridlock). This condition exists when the amount of traffic approaches a point where the amount of traffic exceeds the amount that can travel to a destination. Operations within the queues are characterized by stop and go waves, and they are extremely unstable. 

Table 1-4

Peak Hour Two-Way Segment Volume Thresholds

Level of Service						
Lanes	Median	A	B	C	D	E
ARTERIAL						
2	Divided	N/A	N/A	440	1,640	1,860
4	Divided	N/A	N/A	1,000	3,470	3,730
2	TWTL	N/A	N/A	420	1,550	1,760
4	TWTL	N/A	N/A	940	3,290	3,550
2	Undivided	N/A	N/A	340	1,270	1,480
4	Undivided	N/A	N/A	770	2,740	2,980
COLLECTORS						
2	TWTL	N/A	N/A	420	1,550	1,760
4	TWTL	N/A	N/A	940	3,290	3,550
2	Undivided	N/A	N/A	340	1,270	1,480
4	Undivided	N/A	N/A	770	2,740	2,980
LOCAL						
2	Undivided	N/A	N/A	700	930	1,000
2	Divided	N/A	N/A	700	930	1,000

N/A - LOS is not achievable because of the type of facility

2.0 Existing Conditions

2.1 Existing Traffic Counts and Roadway Geometrics

The first step toward assessing Project traffic impacts is to assess existing traffic conditions. Existing AM and PM peak hour turning movements were collected at each study intersection by National Data and Surveying Services. Intersection turning movement counts were conducted for the peak hour periods of 7:00-9:00 AM and 4:00-6:00 PM for study intersections on either Tuesday, November 14, 2023, or Thursday, February 22, 2024. Traffic count data worksheets are provided in Appendix B. The day on which counts were taken is representative of typical traffic volumes within the study area. Schools were in session and the weather was mild.

2.2 Existing Functional Roadway Classification System

Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the type of service they are intended to provide. Fundamental to this process is the recognition that individual streets and highways do not serve travel independently in any major way. Rather, most travel involves movement through a network of roads.

The current hierarchical system of roadways consists of the following six (6) basic classifications:

- **Freeways** – Limited-access facilities designed for high-speed regional mobility. Freeways may include up to eight lanes (four lanes in each direction). SR 99, in the Project study area, is classified as a freeway.

- **Expressways** –High-speed, two- to six-lane divided roadways, primarily servicing through and cross-town traffic, with no direct access to abutting property and at-grade intersections located at approximately half-mile intervals. Golden State Boulevard is classified as an Expressway in the study area per the City of Fowler General Plan Circulation Diagram.

- **Arterial** – Typically four- to six-lane divided roadways, with somewhat limited access to abutting properties, and with the primary purpose of moving traffic within and between community plan areas and to and from freeways and expressways. The portions of American Avenue and Clovis Avenue within the City of Fowler Planning Area are classified as Arterials.

- **Collectors** – Two to four-lane undivided roadways, with the primary function of connecting local streets and arterials and neighborhood traffic generators and providing access to abutting properties. Lincoln Avenue, Fowler Avenue, Clayton Avenue, and Merced Street are classified as a Collector in the study area per the City of Fowler General Plan.

- **Local Streets** – Two- to three-lane public or private roadways designed to provide direct access to properties while discouraging traffic between major streets. They are intended to carry low volumes of traffic and support unrestricted on-street parking.

2.3 Affected Streets and Highways

Street and highway intersections and segments near and adjacent to the Project site were analyzed to determine levels of service utilizing HCM-based methodologies described previously. The study intersections and street and highway segments included in this TIS are listed below.

Intersections

1. American Avenue and SR 99 SB Off Ramp
2. American Avenue and SR 99 NB On Ramp
3. Jefferson Avenue and Golden State Boulevard
4. Clovis Avenue and Jefferson Avenue
5. Clovis Avenue and Lincoln Avenue
6. Fowler Avenue and Lincoln Avenue
7. Clayton Avenue and Golden State Boulevard
8. Clayton Avenue and Fowler Avenue
9. Clovis Avenue and SR 99 NB Ramps
10. Clayton Avenue and SR 99 SB Off Ramp
11. Clovis Avenue and SR 99 SB Ramps
12. Adams Avenue and SR 99 SB Off Ramp
13. Adams Avenue and SR 99 NB On Ramp
14. Merced Street and Fowler Ave/SR 99 SB Off Ramp
15. Merced Street and SR 99 NB Ramps

Roadway Segments

- ✓ Fowler Avenue between:
  - Adam Avenue and Clayton Avenue
  - Clayton Avenue and Lincoln Avenue
  - Lincoln Avenue and Jefferson Avenue

- ✓ Clayton Avenue between:
  - Golden State Boulevard and Fowler Avenue

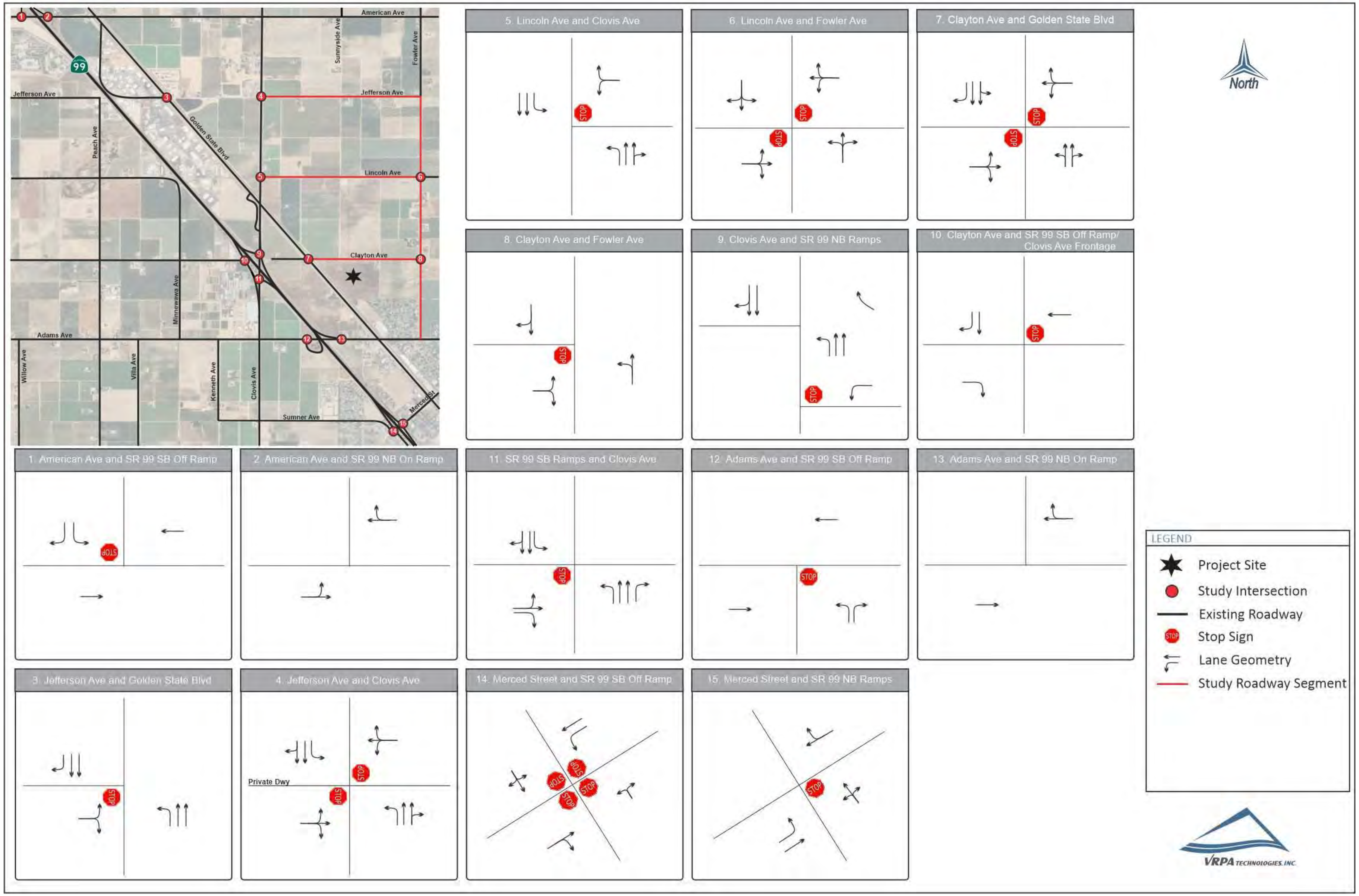
- ✓ Lincoln Avenue between:
  - Clovis Avenue and Fowler Avenue

- ✓ Jefferson Avenue between:
  - Clovis Avenue and Fowler Avenue

The existing lane geometry at study area intersections is shown in Figure 2-1. All the study intersections are currently unsignalized except for two intersections (American Avenue at SR 99 NB On Ramp and Adams Avenue and SR 99 NB On Ramp) which do not have any intersection controls. Figures 2-2 and 2-3 show existing traffic volumes for the AM and PM peak hours in the study area.

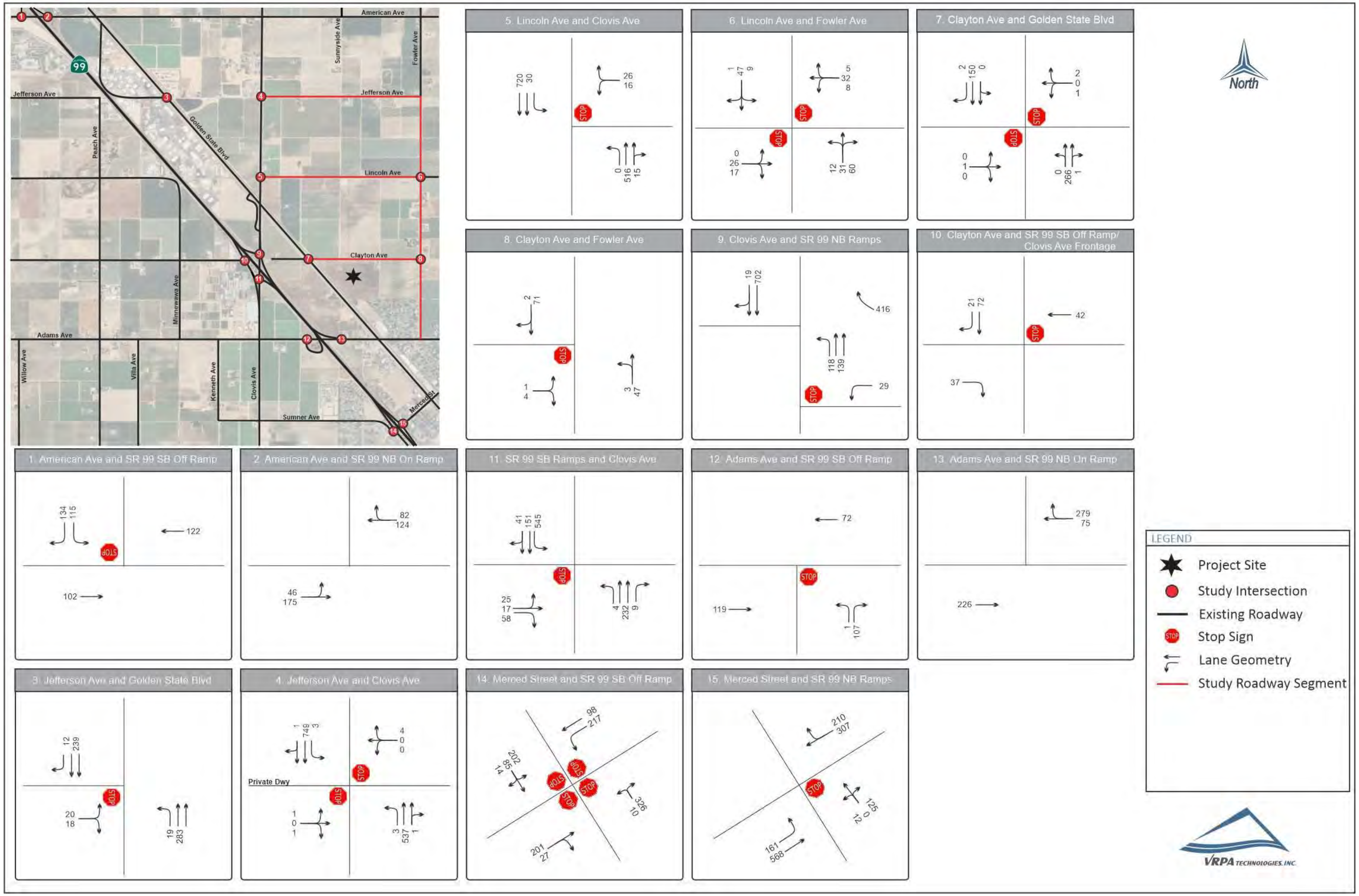
Clayton and Golden State Blvd Property Prezone
Existing Lane Geometry

Figure 2-1



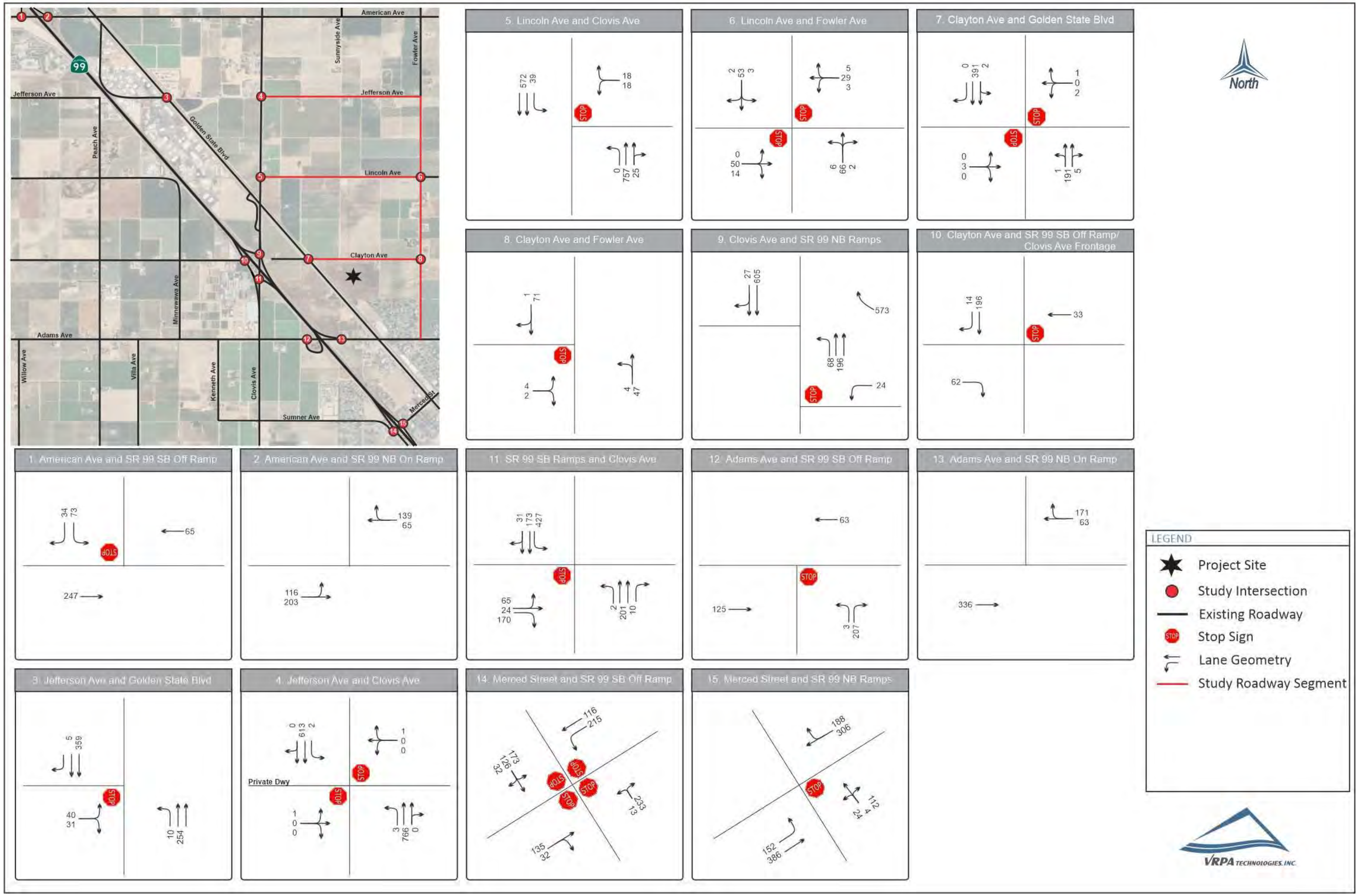
Clayton and Golden State Blvd Property Prezone
Existing AM Peak Hour Traffic

Figure 2-2



Clayton and Golden State Blvd Property Prezone
Existing PM Peak Hour Traffic

Figure
2-3



2.4 Level of Service

2.4.1 *Intersection Capacity Analysis*

All intersection LOS analyses were estimated using Synchro 12 Software. Various roadway geometrics, traffic volumes, and properties (peak hour factors, storage pocket length, etc) were input into the Synchro 12 Software program to accurately determine the travel delay and LOS for each study scenario. The intersection LOS and delays reported represent the HCM 6th Edition outputs. Synchro assumptions, listed below, show the various Synchro inputs and methodologies used in the analysis.

- ✓ **Lane Geometry**
    - Storage lengths for turn lanes for existing intersections were obtained from aerial photos and rounded to the nearest 25 feet
    - VRPA conducted a field study of the specified intersections and segments to verify lane geometry and intersection control as well as to obtain other pertinent data.

- ✓ **Traffic Conditions**
    - Peak hour factors (PHF) for each intersection approach were obtained from the traffic counts discussed in Section 2.1 and were utilized for Existing and Existing Plus Project conditions. For all future scenarios, a PHF of 0.92 was applied unless the existing PHF was greater than 0.92. The value of 0.92 was used because it is the default value recommended in the HCM.
    - Heavy vehicle percentages were based on the field traffic counts.
    - Roadway link speed limits were observed in the field and input into the Synchro network to determine roadway link speeds
    - Two of the study intersections function without a traffic control which prevents Synchro from generating a delay since synchro does not support intersections without a traffic control. As a result, a ‘dummy leg’ with a stop control and no volumes was input into the Synchro model at American Avenue at SR 99 NB On Ramp and Adams Avenue and SR 99 NB On Ramp.

Results of the analysis show that a majority of the study intersections currently operate at or better than the City of Fowler LOS criteria. Clovis Avenue at SR 99 SB On Ramp is currently operating at LOS F. Table 2-1 shows the intersection LOS for the existing conditions. Synchro 11 (HCM 6th Edition) Worksheets are provided in Appendix C.

2.4.2 *Queuing Analysis*

Table 2-2 provides a queue length summary for left and right turn lane approaches at study intersections. As shown in Table 2-2, existing traffic at the westbound left approach for the Merced Street and SR 99 SB Off Ramp-Fowler Avenue intersection exceeds the existing 50-foot storage pocket.

2.4.3 *Roadway Segment Capacity Analysis*

Results of the AM and PM peak hour LOS segment analysis along the existing street and highway system are reflected in Table 2-3. The performance criteria used for evaluating volumes and capacities on the road and highway system for this study were estimated using Table 5.14-2 from the City of Fresno General Plan and Development Code Update Master Environmental Impact Report included in Appendix A. Results of the analysis show that all of the study roadway segments meet the City of Fowler’s minimum acceptable level of service criteria during both the AM and PM peak hour.

2.5 Study Area Collision Analysis

The Transportation Injury Mapping System (TIMS) provided by University of California, Berkeley was used to evaluate traffic collisions in the study area. TIMS utilizes geocoded data provided by the Statewide Integrated Traffic Records System (SWITRS). SWITRS is a tool used by California Highway Patrol (CHP) and other Allied Agencies throughout California and includes various types of statistical reports and data. The database serves as a means to collect and process data gathered from a collision scene. Information from the TIMS database shows that approximately 176 injury accidents and 9 fatal accidents have occurred throughout the study area during the 5-year period between January 1st, 2018, and December 31st, 2022. A graphical representation of traffic collisions throughout the study area for the 5-year period reflected above is provided in Figure 2-4. More detailed collision data is provided in Appendix D. The Fresno County region had approximately 15,033 injury accidents and 737 fatal accidents over the same timeframe referenced above. Injury and fatal accidents in the study area represent 1.2% of incidents that occurred in the Fresno County Region. Rear-End collisions represent 45% of the accidents in the study area while broadside collisions represent 23%. Unsafe Speed ranked as the highest primary crash factor at 44% of accidents in the study area. Automobile right-of-way was the second highest primary crash factor at 16%.

Table 2-1
Existing Intersection Operations

INTERSECTION		CONTROL	TARGET LOS	PEAK HOUR	EXISTING	
					DELAY	LOS
1	American Ave and SR 99 SB Off Ramp	Two-way Stop	D	AM	11.7	B
				PM	12.0	B
2	American Ave and SR 99 NB On Ramp	No Control (1)	D	AM	7.8	A
				PM	7.7	A
3	Golden State Blvd and Jefferson Ave	One Way Stop	D	AM	12.4	B
				PM	13.7	B
4	Clovis Ave and Jefferson Ave	One Way Stop	D	AM	26.7	D
				PM	27.2	D
5	Clovis Ave and Lincoln Ave	One Way Stop	D	AM	16.3	C
				PM	24.1	C
6	Fowler Ave and Lincoln Ave	Two Way Stop	C	AM	10.2	B
				PM	10.1	B
7	Golden State Blvd and Clayton Ave	Two Way Stop	D	AM	12.1	B
				PM	15.3	C
8	Fowler Ave and Clayton Ave	One Way Stop	C	AM	9.0	A
				PM	9.2	A
9	Clovis Ave and SR 99 NB Ramps	One Way Stop	D	AM	19.0	C
				PM	16.6	C
10	Clayton Ave and SR 99 SB Off Ramp	One Way Stop	D	AM	9.1	A
				PM	10.7	B
11	Clovis Ave and SR 99 SB On Ramp	One Way Stop	D	AM	**>50.0**	**F**
				PM	**>50.0**	**F**
12	Adams Ave and SR 99 SB Off Ramp	One Way Stop	D	AM	9.6	A
				PM	10.3	B
13	Adams Ave SR 99 NB On Ramps	No Control (1)	D	AM	0.0	A
				PM	0.0	A
14	Merced St and SR 99 SB Off Ramp-Fowler Ave	All Way Stop	D	AM	20.9	C
				PM	15.2	C
15	Merced St and SR 99 NB Ramps	One Way Stop	D	AM	21.0	C
				PM	17.5	C

DELAY is measured in seconds

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

For all-way stop controlled intersections, delay results show the average for the entire intersection. For two-way and one-way stop controlled intersections, delay results show the delay for the worst movement.

(1) Synchro doesn't generate a delay for intersections without a traffic control. A 'dummy leg' with a stop control and no volumes was input into the Synchro model.

Table 2-2

Existing Queuing Operations

INTERSECTION		EXISTING QUEUE STORAGE LENGTH (ft)		EXISTING	
				AM Queue	PM Queue
1	American Ave and SR 99 SB Off Ramp	SB Right	225	18	3
3	Golden State Blvd and Jefferson Ave	NB Left	150	3	0
		SB Right	150	0	0
4	Clovis Ave and Jefferson Ave	NB Left	150	0	0
		SB Left	150	0	0
5	Clovis Ave and Lincoln Ave	NB Left	75	0	0
		SB Left	150	3	5
7	Golden State Blvd and Clayton Ave	SB Right	125	0	0
9	Clovis Ave and SR 99 NB Ramps	NB Left	150	13	5
		WB Left	50	10	5
10	Clayton Ave and SR 99 SB Off Ramp	SB Right	50	0	0
11	Clovis Ave and SR 99 SB On Ramp	NB Left	50	0	0
		SB Left	125	63	48
		EB Left	75	**83**	**203**
		EB Right	150	5	23
12	Adams Ave and SR 99 SB Off Ramp	NB Right	100	13	28
14	Merced St and SR 99 SB Off Ramp-Fowler Ave	WB Left	50	**80**	**60**
15	Merced St and SR 99 NB Ramps	EB Left	50	15	15

Queue is measured in feet / **BOLD** denotes exceedance

Table 2-3

Existing Segment Operations

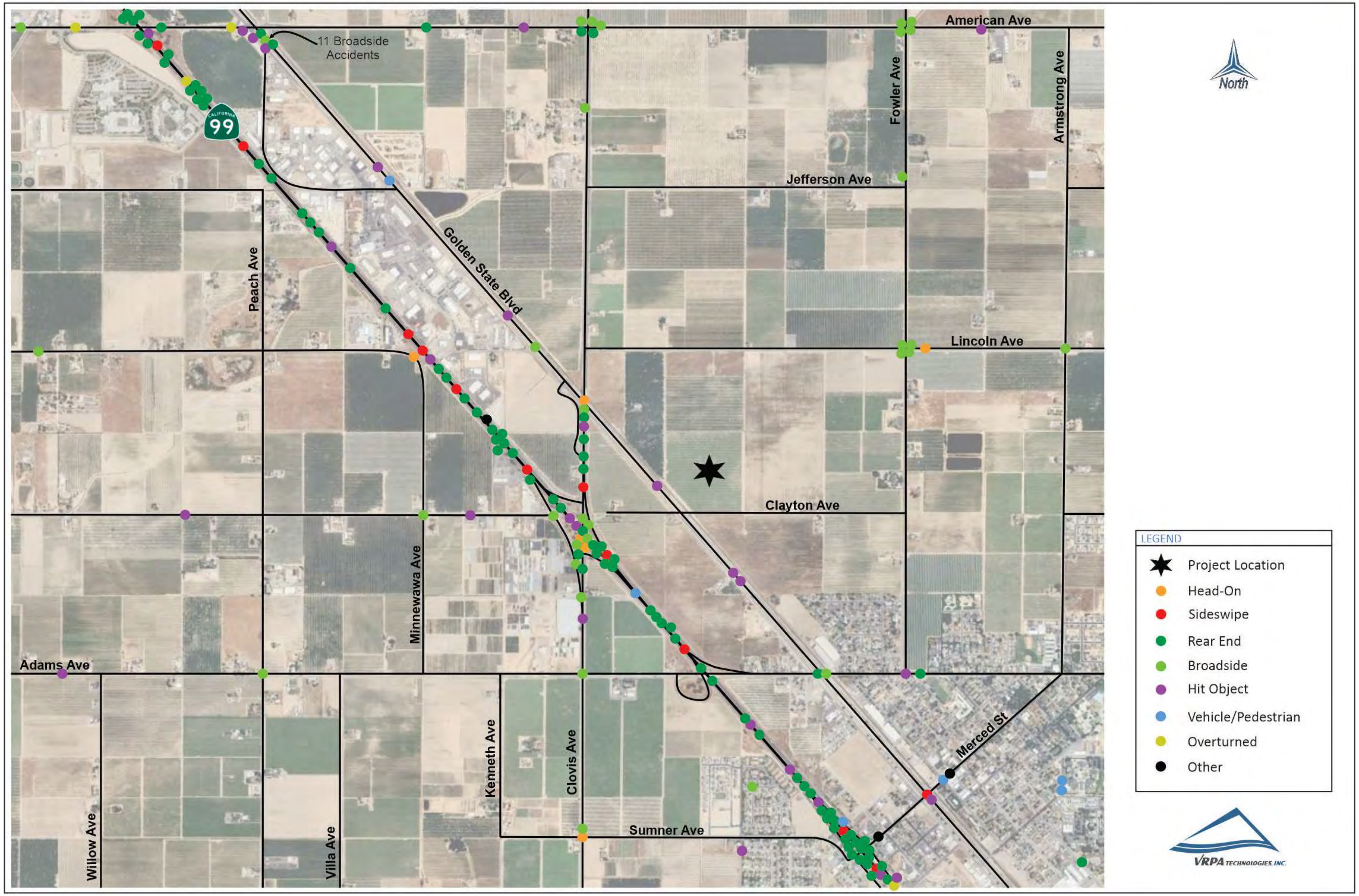
STREET SEGMENT	SEGMENT DESCRIPTION	ROADWAY FUNCTIONAL CLASSIFICATION	TARGET LOS	PEAK HOUR	EXISTING	
					VOLUME	LOS
Fowler Avenue						
Adams Avenue and Clayton Avenue	2 Lanes Divided	Collector	C	AM	125	C
				PM	124	C
Clayton Avenue and Lincoln Avenue	2 Lanes Divided	Collector	C	AM	175	C
				PM	144	C
Lincoln Avenue and Jefferson Avenue	2 Lanes Divided	Local	C	AM	93	C
				PM	129	C
Clayton Avenue						
Golden State Boulevard and Fowler Avenue	2 Lanes Undivided	Local	C	AM	10	C
				PM	11	C
Lincon Avenue						
Clovis Avenue and Fowler Avenue	2 Lanes Divided	Collector	C	AM	88	C
				PM	101	C
Jefferson Avenue						
Clovis Avenue and Fowler Avenue	2 Lanes Undivided	Local	C	AM	8	C
				PM	3	C

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

Clayton and Golden State Blvd Property Prezone

Study Area Collision Map (01/01/2018 - 12/31/2022)

Figure
2-4



3.0 Traffic Impacts

This chapter provides an assessment of traffic and the impact on the surrounding street system.

3.1 Trip Generation

The Annexation/Prezone proposes a prezone to M-1 and R-1-7. The Project also proposes a 44-lot industrial subdivision on 45.04 acres of land. The trip generation was based on the highest level of trip generation of all feasible uses at the Project site as determined in discussions with City of Fowler staff. The result of these discussions were the assumption of use of the General Light Industrial trip generation category with a floor area ration of 0.20, resulting in 392,000 sq. ft. of development. There is an area shown on the project site that indicates a proposal for residential use, but this is not considered to be part of the project for trip generation purposes. The considerations described above led to the recommended trip generation for weekday AM (7:00-9:00am) and PM (4:00-6:00pm) peak hours shown in Table 3-1. Any exceedance of the values shown in Table 3-1 would require consideration of a revised traffic study.

Table 3-1
Project Trip Generation

LAND USE	ITE Land Use Code	Size	DAILY TRIP ENDS (ADT)		WEEKDAY AM PEAK HOUR					WEEKDAY PM PEAK HOUR				
			RATE	VOLUME	RATE	IN:OUT SPLIT	VOLUME			RATE	IN:OUT SPLIT	VOLUME		
							IN	OUT	TOTAL			IN	OUT	TOTAL
General Light Industrial (Auto Trips)	110	392 ksf	3.638	1,426	0.730	88:12	253	33	286	0.640	14:86	34	217	251
General Light Industrial (Truck Trips)	110	392 ksf	0.250	98	0.010	50:50	2	2	4	0.010	50:50	2	2	4
TOTAL TRIP GENERATION				**1,524**			**255**	**35**	**290**			**36**	**219**	**255**
TOTAL TRIP GENERATION (PCE)				**1,720**			**259**	**39**	**298**			**40**	**223**	**263**

Source: Generation factors from ITE Trip Generation Manual, 11th Edition.
Trip ends are one-way traffic movements, entering or leaving.
PCE = Passenger Car Equivalent

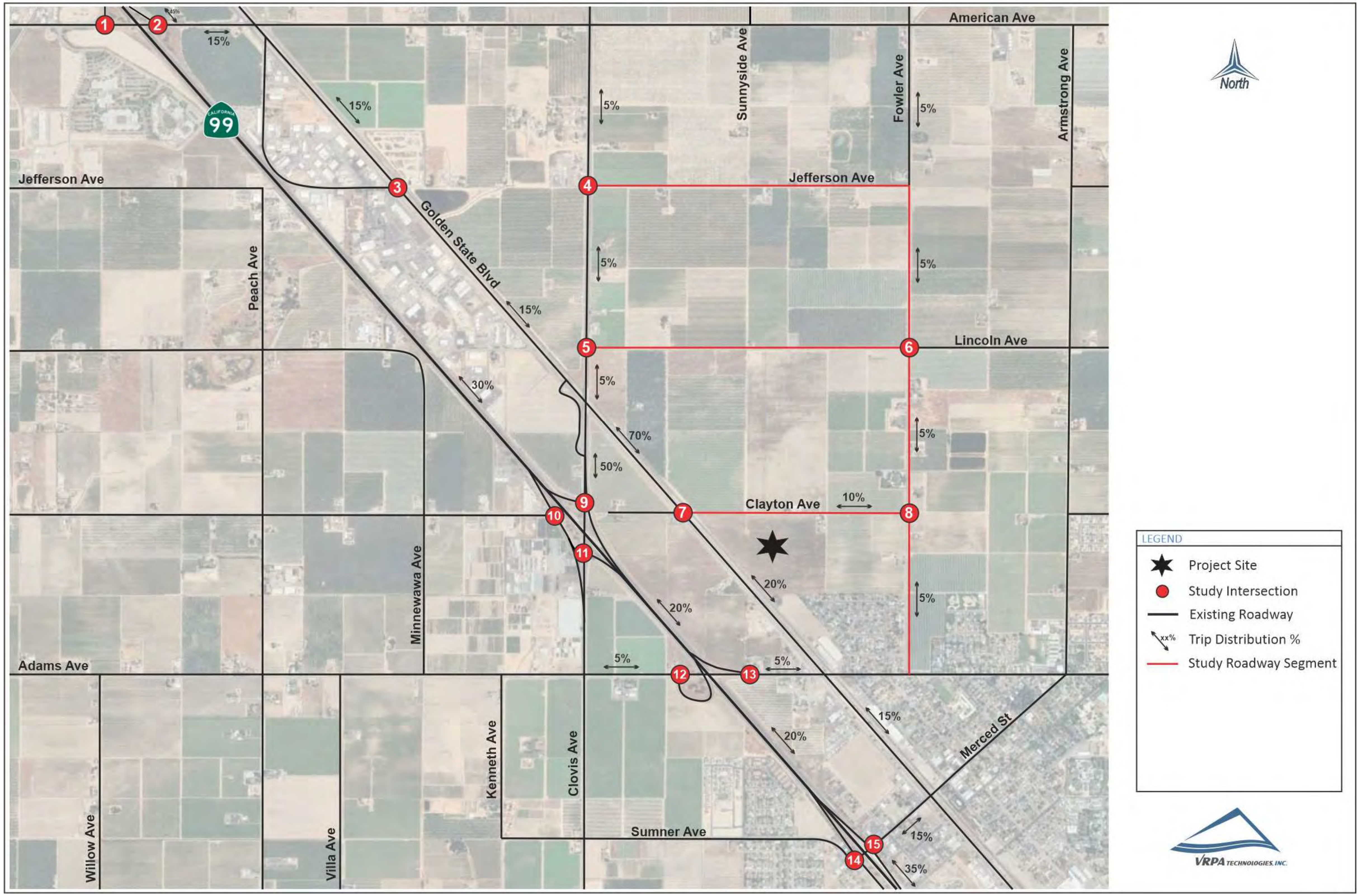
3.2 Trip Distribution

Project trip distribution percentages for the Existing Plus Project and Horizon Year scenarios is shown in Figure 3-1. These percentages are based upon knowledge of the study area, engineering judgement, prevailing traffic patterns in the study area, major routes, population centers, and other existing developments.

Site access will be provided at two Project Driveways along Clayton Avenue between Golden State Boulevard and Fowler Avenue. At the south end of the Project, Lynn Avenue dead ends at the south property line. Regional access to the site is provided via SR 99.

Clayton and Golden State Blvd Property Prezone
Trip Distribution

Figure 3-1



3.3 Project Traffic

Project traffic as shown in Table 3-1 was distributed to the roadway system using the trip distribution percentages shown in Figure 3-1. The graphical representation of the resulting AM and PM peak hour Project trips used is shown in Figures 3-2 and 3-3.

3.4 Existing Plus Project Conditions

An Existing Plus Project Scenario was analyzed to include existing traffic plus traffic generated by the Project. The peak hour trips for the Project were added to existing traffic volumes to analyze the impacts. The resulting traffic is shown in Figures 3-4 and 3-5.

3.5 Horizon Year Without Project Conditions

The impacts of the Project were analyzed considering future traffic conditions, approximately twenty (20) years in the future or the year 2044. The levels of traffic expected in the horizon year relate to the cumulative effect of traffic increases resulting from the implementation of the General Plans of local agencies, including the City of Fowler. Traffic conditions without the Project in the Horizon Year were estimated based upon the Fresno Council of Governments (Fresno COG) regional travel model. In cases where the model showed less than 2% growth per year, traffic conditions without the Project in the Horizon Year were estimated based upon a 2% per year growth factor. Traffic conditions resulting from this scenario are shown in Figures 3-6 and 3-7.

3.6 Horizon Year Plus Project Conditions

The addition of Project trips, which were distributed to the roadway system using the trip distribution percentages shown in Figure 3-1 (Section 3.3), were added to Horizon Year Without Project traffic volumes. Traffic conditions resulting from this scenario are shown in Figures 3-8 and 3-9.

3.7 Impacts

3.7.1 *Intersection Capacity Analysis*

Table 3-2 provides the intersection level of service analysis for the study intersections considering the study scenarios discussed above. Potential roadway improvement measures are discussed in Chapter 4 of this report. Results of the analysis show that the Project will contribute to an unacceptable LOS at eight (8) of the study intersections when comparing the Horizon Year scenarios.

3.7.2 *Queuing Analysis*

Table 3-3 provides a queue length summary for left and right turn lane approaches at study intersections. The queue lengths presented in Table 3-3 represent the 95 percentile queue lengths for the respective lane movements based on the Synchro traffic signal timing program.

Results of the queuing analysis shows that existing queue storage will be adequate to serve expected peak hour queue lengths at most of the intersections. However, storage will be insufficient at two (2) of the study intersection considering the Horizon Year scenario.

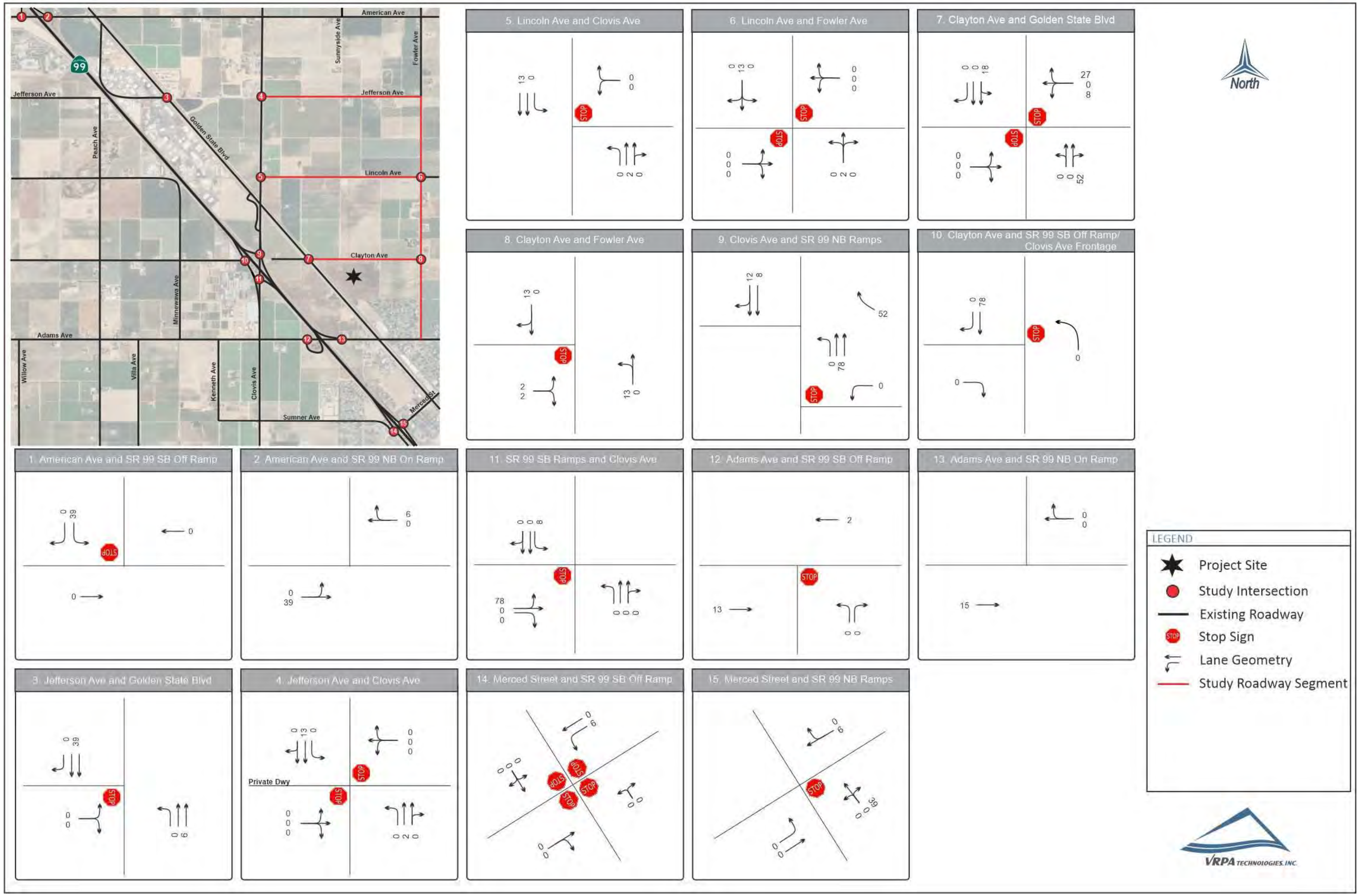
3.7.3 *Roadway Segment Capacity Analysis*

Results of the AM and PM peak hour LOS segment analysis along the existing street and highway system are reflected in Table 3-4. Results of the analysis show that all of the study roadway segments meet the City of Fowler’s minimum acceptable level of service criteria during both the AM and PM peak hour.

Clayton and Golden State Blvd Property Prezone

Project AM Peak Hour Traffic

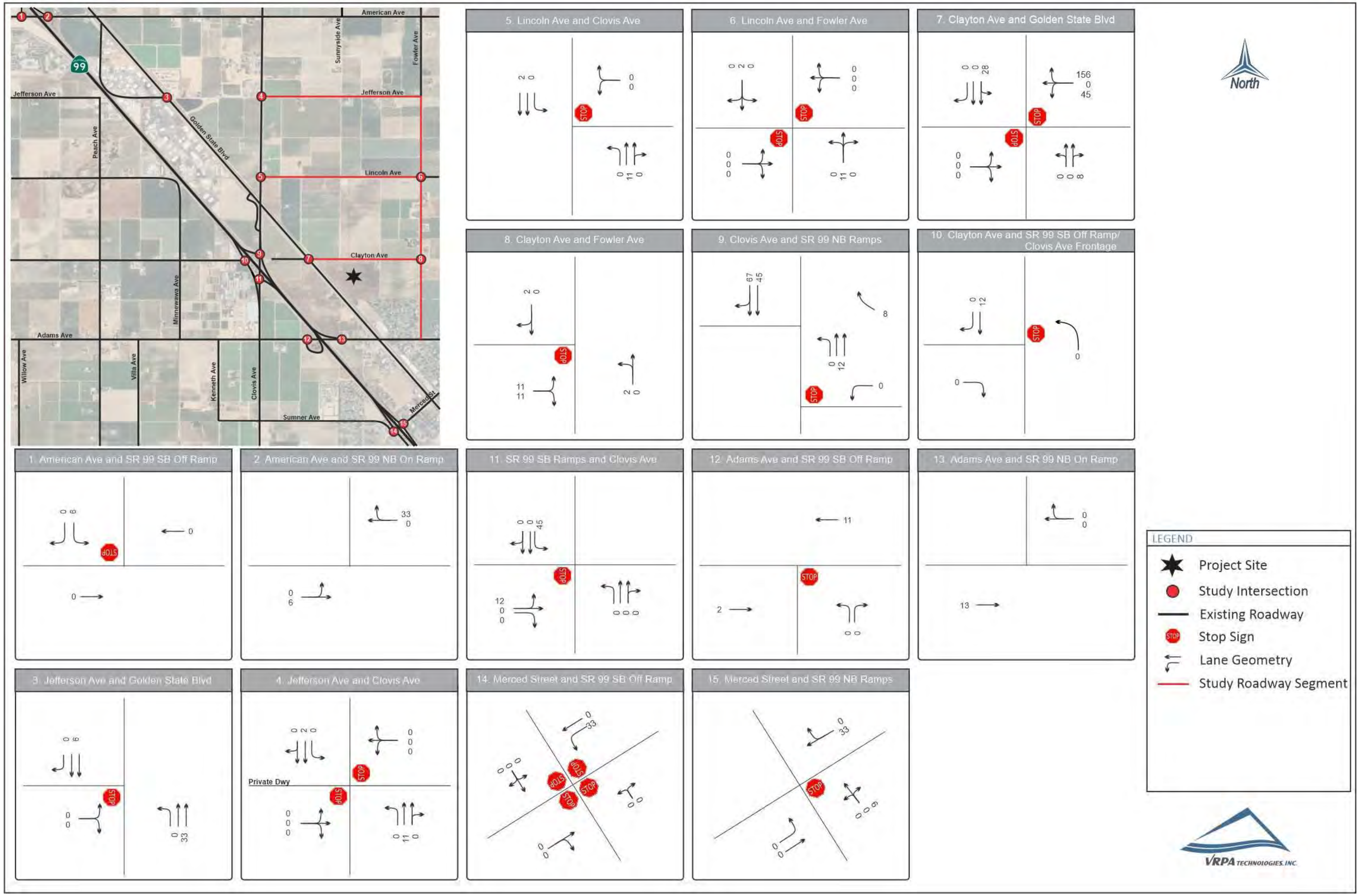
Figure 3-2



Clayton and Golden State Blvd Property Prezone

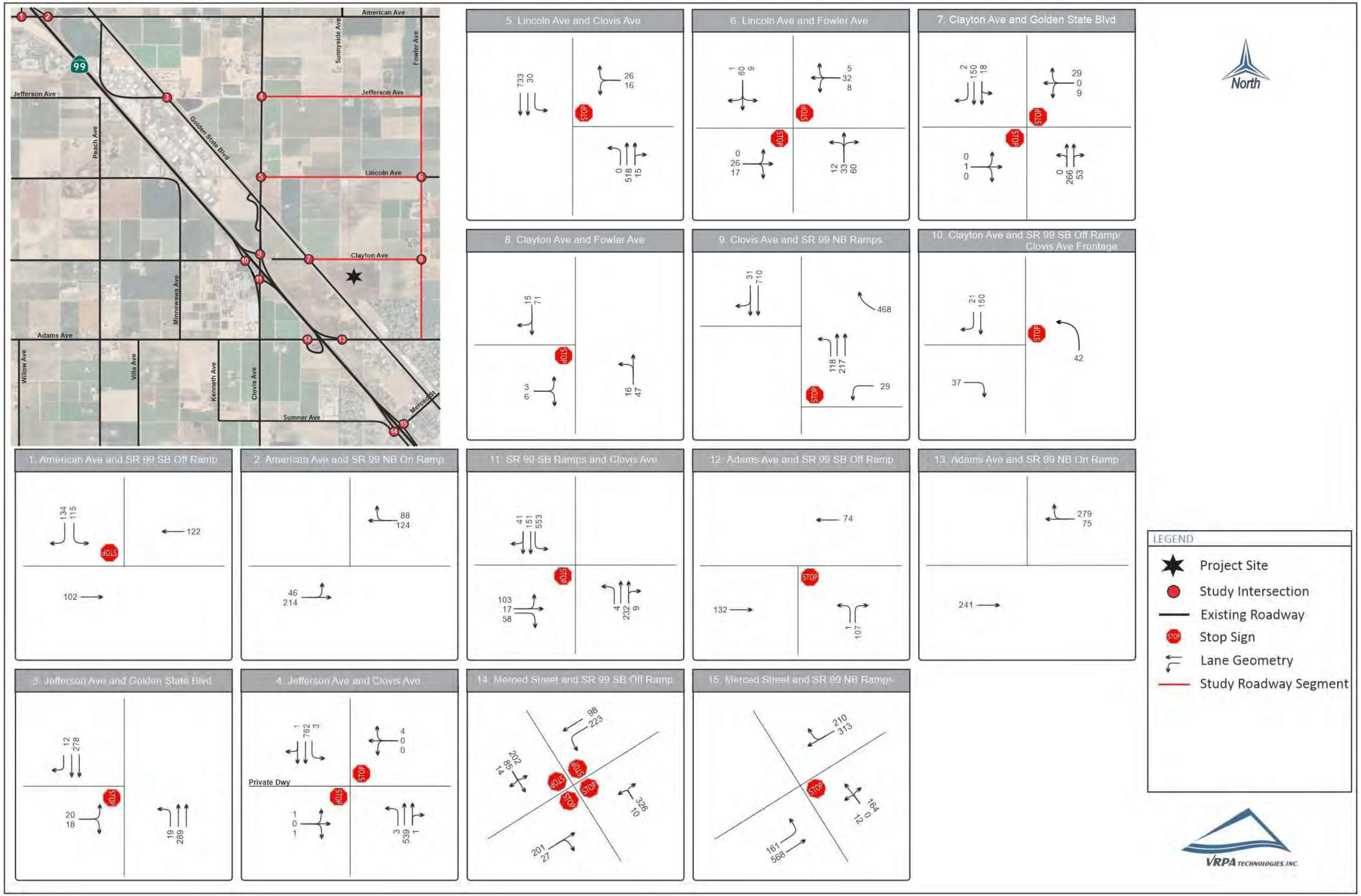
Project PM Peak Hour Traffic

Figure 3-3



Clayton and Golden State Blvd Property Prezone
Existing Plus Project AM Peak Hour Traffic

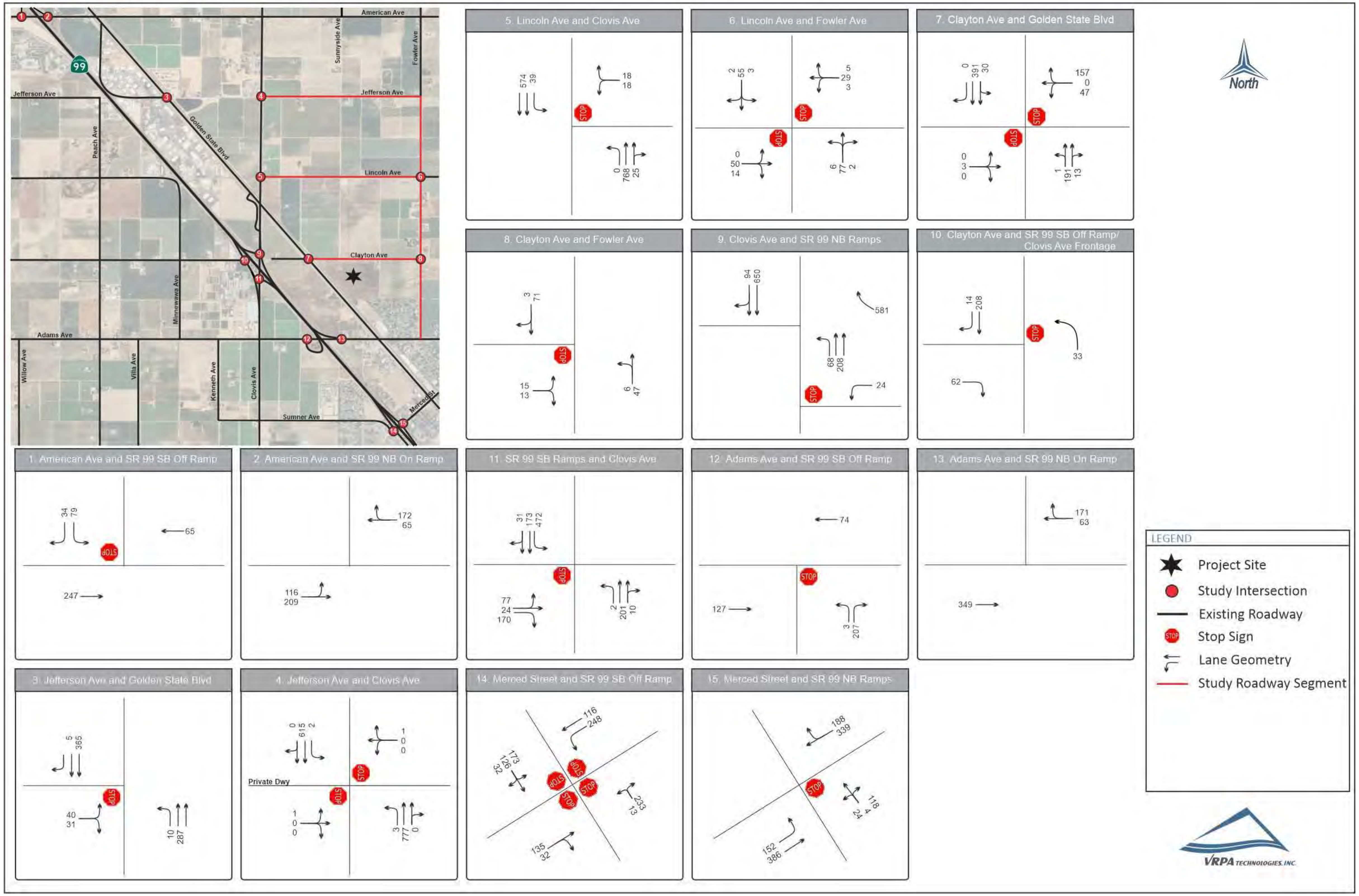
Figure
3-4



Clayton and Golden State Blvd Property Prezone

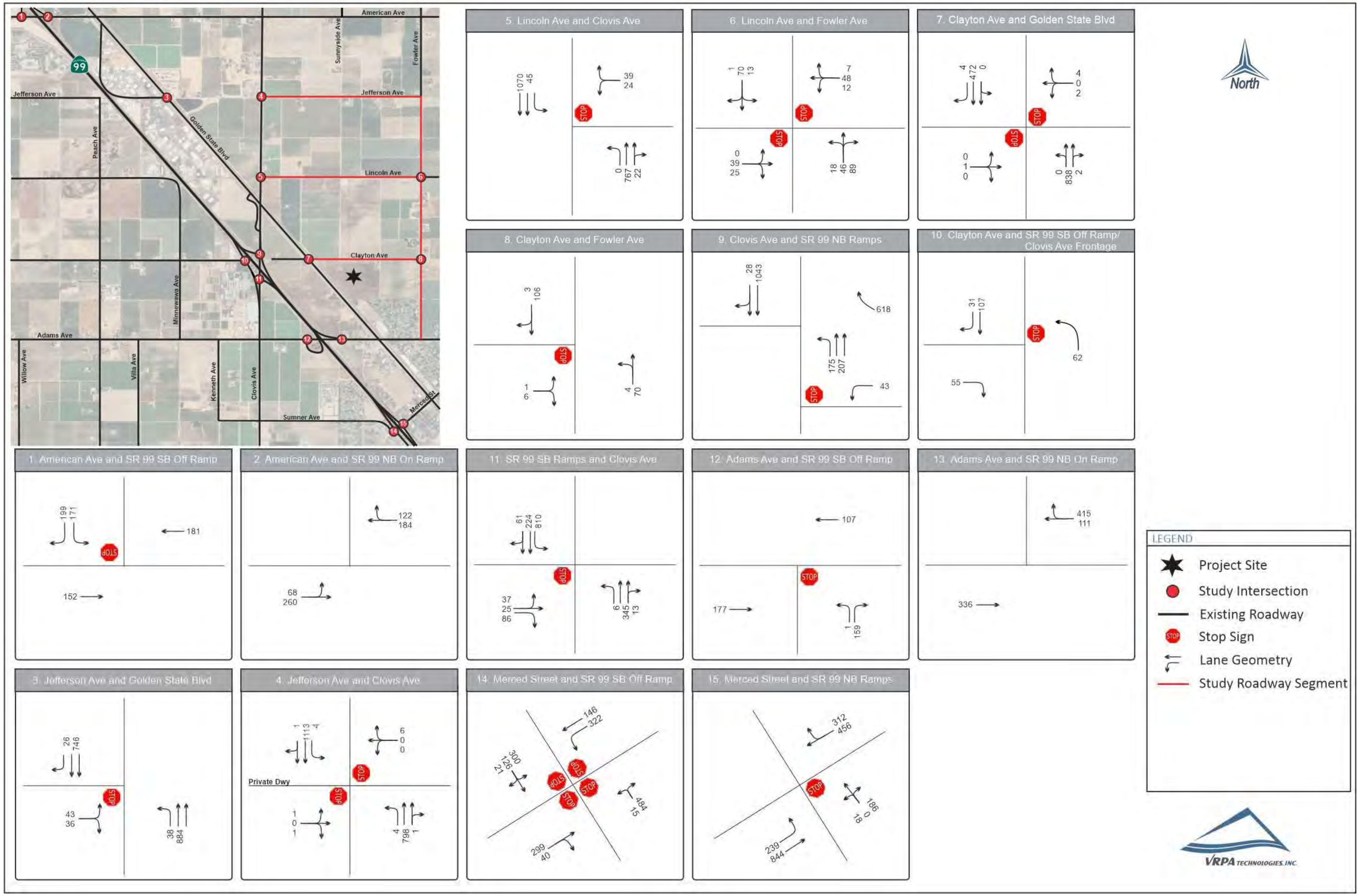
Existing Plus Project PM Peak Hour Traffic

Figure 3-5



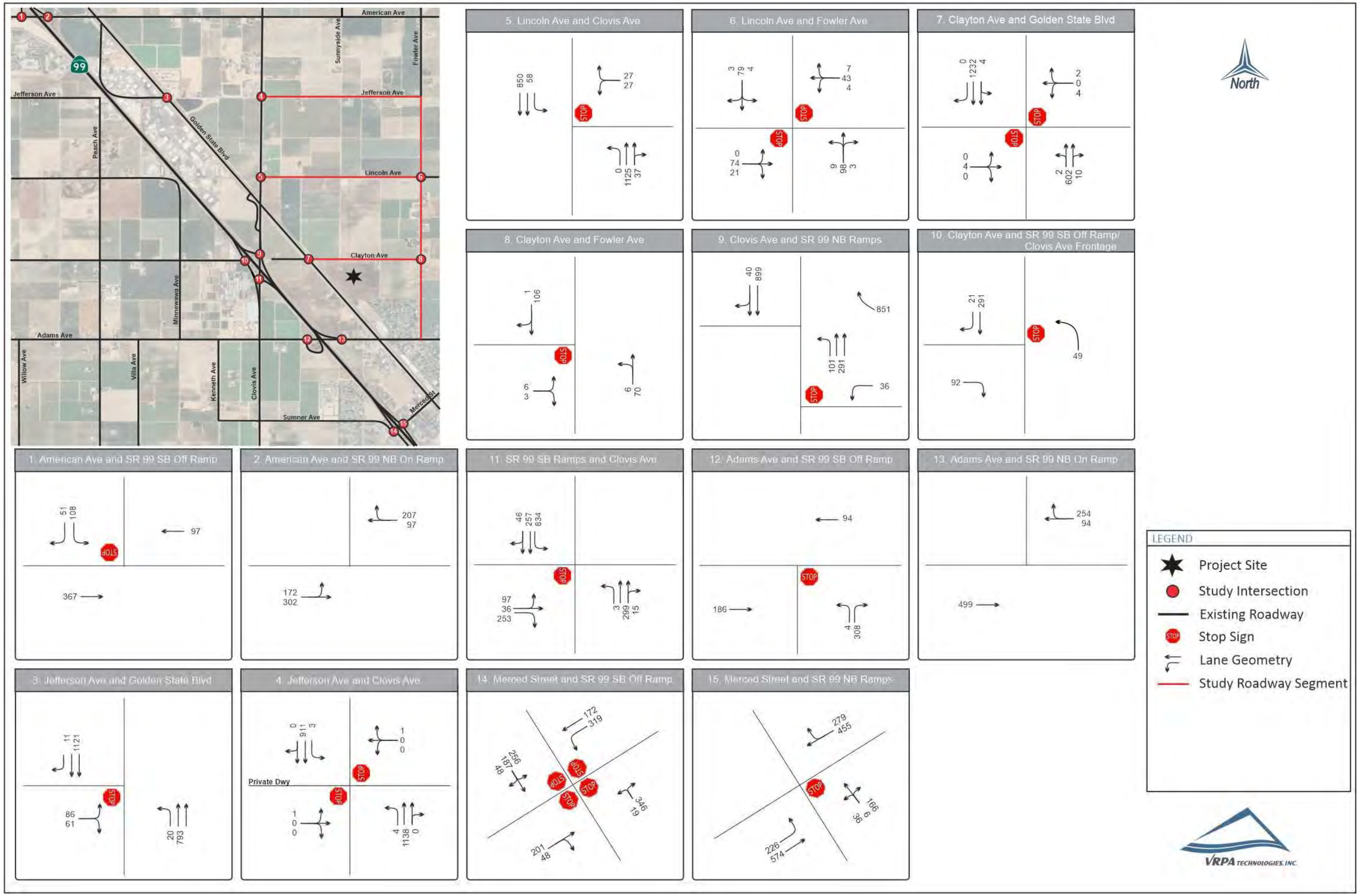
Clayton and Golden State Blvd Property Prezone
Horizon Year Without Project AM Peak Hour Traffic

Figure
3-6



Clayton and Golden State Blvd Property Prezone
Horizon Year Without Project PM Peak Hour Traffic

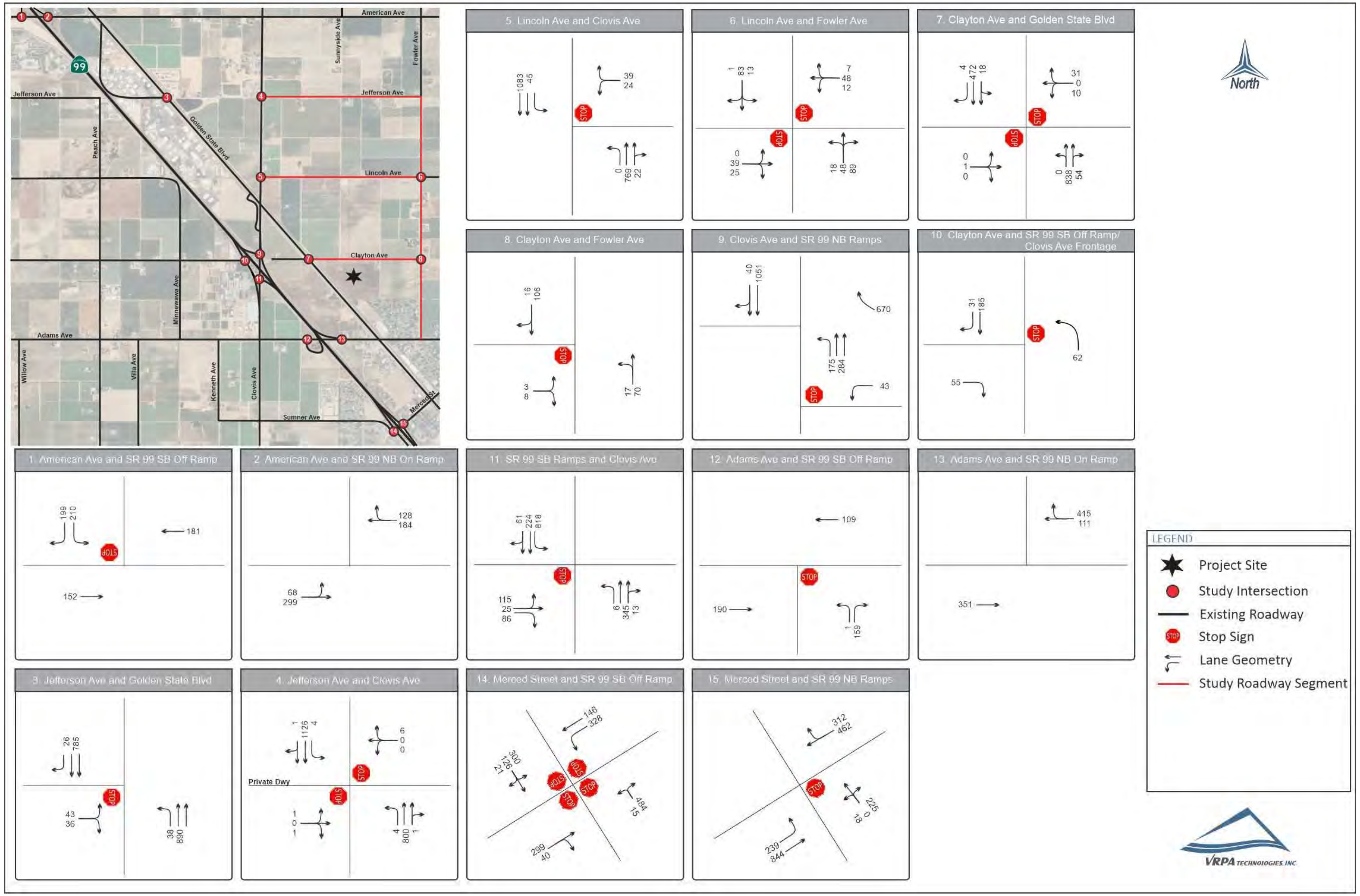
Figure 3-7



Clayton and Golden State Blvd Property Prezone

Horizon Year Plus Project AM Peak Hour Traffic

Figure
3-8



Clayton and Golden State Blvd Property Prezone
Horizon Year Plus Project PM Peak Hour Traffic

Figure 3-9

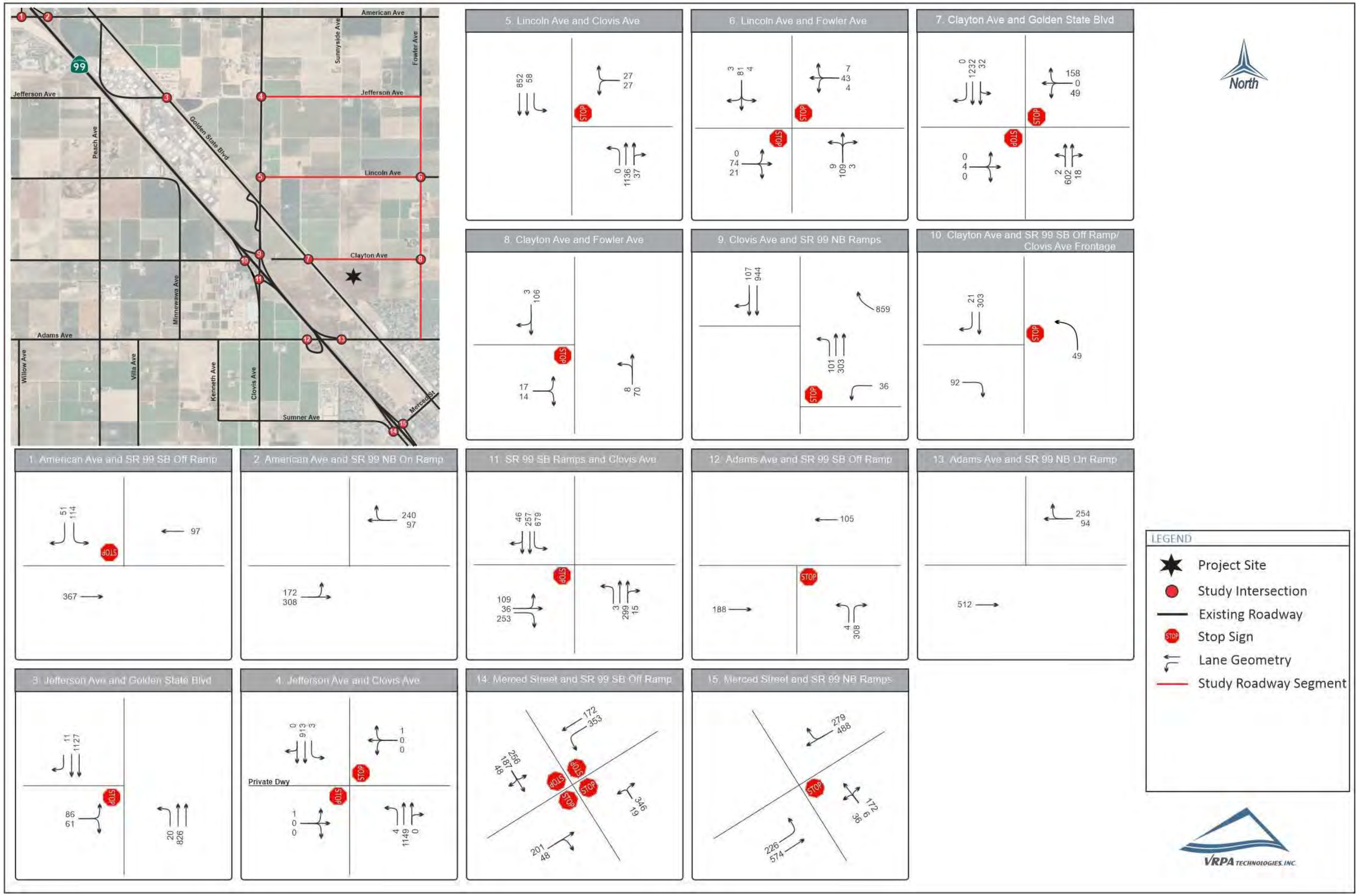


Table 3-2

Intersection Operations

INTERSECTION		CONTROL	TARGET LOS	PEAK HOUR	EXISTING PLUS PROJECT		HORIZON YEAR WITHOUT PROJECT		HORIZON YEAR PLUS PROJECT	
					DELAY	LOS	DELAY	LOS	DELAY	LOS
1	American Ave and SR 99 SB Off Ramp	Two-way Stop	D	AM	12.3	B	13.4	B	14.2	B
				PM	12.1	B	14.1	B	14.3	B
2	American Ave and SR 99 NB On Ramp	No Control (1)	D	AM	7.8	A	7.9	A	7.9	A
				PM	7.7	A	7.8	A	7.8	A
3	Golden State Blvd and Jefferson Ave	One Way Stop	D	AM	12.9	B	**>50.0**	**F ***	**>50.0**	**F ***
				PM	14.0	B	**>50.0**	**F ***	**>50.0**	**F ***
4	Clovis Ave and Jefferson Ave	One Way Stop	D	AM	27.1	D	**>50.0**	**F ***	**>50.0**	**F ***
				PM	27.5	D	**>50.0**	**F ***	**>50.0**	**F ***
5	Clovis Ave and Lincoln Ave	One Way Stop	D	AM	16.4	C	32.4	D	32.8	D
				PM	24.6	C	**>50.0**	**F ***	**>50.0**	**F ***
6	Fowler Ave and Lincoln Ave	Two Way Stop	C	AM	10.4	B	11.2	B	11.3	B
				PM	10.2	B	10.9	B	11.0	B
7	Golden State Blvd and Clayton Ave	Two Way Stop	D	AM	13.2	B	31.1	D	36.1	E
				PM	16.9	C	**>50.0**	**F ***	**>50.0**	**F**
8	Fowler Ave and Clayton Ave	One Way Stop	C	AM	9.3	A	9.0	A	9.3	A
				PM	9.3	A	9.5	A	9.5	A
9	Clovis Ave and SR 99 NB Ramps	One Way Stop	D	AM	21.2	C	**44.6**	**E ***	**>50.0**	**F ***
				PM	17.5	C	29.0	D	31.2	D
10	Clayton Ave and SR 99 SB Off Ramp	One Way Stop	D	AM	9.6	A	9.4	A	10.0	B
				PM	10.9	B	11.0	B	11.1	B
11	Clovis Ave and SR 99 SB Ramps	One Way Stop	D	AM	**>50.0**	**F ***	**>50.0**	**F ***	**>50.0**	**F**
				PM	**>50.0**	**F ***	**>50.0**	**F**	**>50.0**	**F**
12	Adams Ave and SR 99 SB Off Ramp	One Way Stop	D	AM	9.7	A	10.4	B	10.5	B
				PM	10.4	B	12.1	B	12.1	B
13	Adams Ave SR 99 NB On Ramps	No Control(1)	D	AM	0.0	A	0.0	A	0.0	A
				PM	0.0	A	0.0	A	0.0	A
14	Merced St and SR 99 SB Off Ramp-Fowler Ave	All Way Stop	D	AM	21.2	C	**>50.0**	**F**	**>50.0**	**F**
				PM	16.1	C	**>50.0**	**F**	**>50.0**	**F**
15	Merced St and SR 99 NB Ramps	One Way Stop	D	AM	22.8	C	**>50.0**	**F**	**>50.0**	**F**
				PM	17.9	C	**>50.0**	**F**	**>50.0**	**F**

DELAY is measured in seconds

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

For all-way stop controlled intersections, delay results show the average for the entire intersection. For two-way and one-way stop controlled intersections, delay results show the delay for the worst movement.

(1) Synchro doesn't generate a delay for intersections without a traffic control. A 'dummy leg' with a stop control and no volumes was input into the Synchro model.

* Does not meet peak hour signal warrants.

Table 3-3
Queuing Operations

INTERSECTION		EXISTING QUEUE STORAGE LENGTH (ft)		EXISTING PLUS PROJECT		HORIZON YEAR WITHOUT PROJECT		HORIZON YEAR PLUS PROJECT	
				AM Queue	PM Queue	AM Queue	PM Queue	AM Queue	PM Queue
1	American Ave and SR 99 SB Off Ramp	SB Right	225	18	3	25	5	25	5
3	Golden State Blvd and Jefferson Ave	NB Left	150	3	0	5	5	5	5
		SB Right	150	0	0	0	0	0	0
4	Clovis Ave and Jefferson Ave	NB Left	150	0	0	0	0	0	0
		SB Left	150	0	0	0	0	0	0
5	Clovis Ave and Lincoln Ave	NB Left	75	0	0	0	0	0	0
		SB Left	150	3	5	5	10	5	10
7	Golden State Blvd and Clayton Ave	SB Right	125	0	0	0	0	0	0
9	Clovis Ave and SR 99 NB Ramps	NB Left	150	13	8	33	13	33	15
		WB Left	50	10	8	35	18	40	20
10	Clayton Ave and SR 99 SB Off Ramp	SB Right	50	0	0	5	8	8	8
11	Clovis Ave and SR 99 SB On Ramp	NB Left	50	0	0	0	0	0	0
		SB Left	125	65	58	**200**	98	**208**	113
		EB Left	75	**315**	**280**	**245**	**448**	**510**	**503**
		EB Right	150	5	23	10	35	10	35
12	Adams Ave and SR 99 SB Off Ramp	NB Right	100	13	28	20	48	20	50
14	Merced St and SR 99 SB Off Ramp-Fowler Ave	WB Left	50	**85**	**80**	**263**	**210**	**275**	**270**
15	Merced St and SR 99 NB Ramps	EB Left	50	15	15	35	30	35	33

Queue is measured in feet / **BOLD** denotes exceedance

Table 3-4

Roadway Segment Operations

STREET SEGMENT	SEGMENT DESCRIPTION	ROADWAY FUNCTIONAL CLASSIFICATION	TARGET LOS	PEAK HOUR	EXISTING PLUS PROJECT		HORIZON YEAR WITHOUT PROJECT		HORIZON YEAR PLUS PROJECT	
					VOLUME	LOS	VOLUME	LOS	VOLUME	LOS
Fowler Avenue										
Adams Avenue and Clayton Avenue	2 Lanes Divided	Collector	C	AM	140	C	186	C	201	C
				PM	137	C	185	C	198	C
Clayton Avenue and Lincoln Avenue	2 Lanes Divided	Collector	C	AM	190	C	260	C	275	C
				PM	157	C	214	C	227	C
Lincoln Avenue and Jefferson Avenue	2 Lanes Divided	Local	C	AM	108	C	137	C	152	C
				PM	142	C	191	C	204	C
Clayton Avenue										
Golden State Boulevard and Fowler Avenue	2 Lanes Undivided	Local	C	AM	110	C	14	C	114	C
				PM	250	C	16	C	261	C
Lincon Avenue										
Clovis Avenue and Fowler Avenue	2 Lanes Divided	Collector	C	AM	88	C	131	C	131	C
				PM	101	C	150	C	150	C
Jefferson Avenue										
Clovis Avenue and Fowler Avenue	2 Lanes Undivided	Local	C	AM	8	C	11	C	11	C
				PM	3	C	4	C	4	C

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

4.0 Roadway Improvements

4.1 Roadway Improvements

As discussed in Section 3.0 (Impacts), roadway improvements may be desirable to support the development of the Project, as well as to accommodate traffic increases related to overall growth in the study area. The Project site, currently outside of the City of Fowler limits but within the City of Fowler’s sphere of influence, proposes land uses of Light Industrial and Medium Low Residential. The Project proposes a 44-lot industrial subdivision on the area with a land use designation of Light Industrial, which is consistent with the General Plan. The Annexation/ Prezone of the subject property would affect traffic operations that may trigger the need for improvements and/or other measures within the study area to address traffic operations. It is recommended that roadway improvements or traffic impact fees be evaluated at the time that additional developments are presented for implementation.

Considering the criteria provided in Section 1.3 (Policies To Maintain Level of Service) and the results presented in Section 3.0, the following improvements may be implemented to alleviate roadway deficiencies identified in this Transportation Impact Study.

INTERSECTIONS

3. **Golden State Boulevard and Jefferson Avenue**
   Recommended improvements:

   - Horizon Year Without Project and Horizon Year Plus Project Conditions
     - Widen the eastbound approach to the intersection to include a left turn lane and a right turn lane (adding one right turn lane)

   Recommended improvements are not sufficient to alleviate level of service deficiencies at the intersection. It should be noted that installation of a traffic signal would alleviate level of service deficiencies. However, this intersection does not meet the peak hour traffic signal warrant because the minor approach does not carry enough traffic to justify signalization.

4. **Clovis Avenue and Jefferson Avenue**
   No improvements are recommended.

   The intersection is forecasted to operate at unacceptable levels of service under the Horizon Year scenarios. However, this intersection does not meet the peak hour traffic signal warrant because the minor approach does not carry enough traffic to justify signalization. It should be noted that installation of a traffic signal would alleviate level of service deficiencies at the intersection.

5. Clovis Avenue and Lincoln Avenue

Recommended improvements:

- Horizon Year Without Project and Horizon Year Plus Project Conditions
    - Widen the westbound approach to the intersection to include a left turn lane and a right turn lane (adding one right turn lane)

Recommended improvements are not sufficient to alleviate level of service deficiencies at the intersection. It should be noted that installation of a traffic signal would alleviate level of service deficiencies. However, this intersection does not meet the peak hour traffic signal warrant because the minor approach does not carry enough traffic to justify signalization.

7. Clayton Avenue and Golden State Boulevard

Recommended improvements to achieve acceptable levels of service:

- Horizon Year Without Project Conditions

  The intersection is forecasted to operate at unacceptable levels of service under this scenario (PM Peak Hour only). However, this intersection does not meet the peak hour traffic signal warrant because the minor approach does not carry enough traffic to justify signalization. As a result, no improvements are recommended under this scenario.

- Horizon Year Plus Project Conditions
    - Install a traffic signal
    - Widen the westbound approach to the intersection to include a shared left-through lane and a right turn lane (adding one right turn lane)

9. SR 99 NB Ramps and Clovis Avenue

No improvements are recommended.

The intersection is forecasted to operate at unacceptable levels of service under the Horizon Year scenarios (AM Peak Hour only). However, this intersection does not meet the peak hour traffic signal warrant because the minor approach does not carry enough traffic to justify signalization. It should be noted that installation of a traffic signal would alleviate level of service deficiencies at the intersection.

11. SR 99 SB Ramps and Clovis Avenue

Recommended improvements to achieve acceptable levels of service:

- Existing Plus Project Conditions

The intersection is forecasted to operate at unacceptable levels of service under this scenario. However, this intersection does not meet the peak hour traffic signal warrant because the minor approach does not carry enough traffic to justify signalization. As a result, no improvements are recommended under this scenario.

- Horizon Year Without Project and Horizon Year Plus Project Conditions
  - Install a traffic signal when warranted
  - Widen the southbound approach to the intersection to include two left turn lanes, a through lane, and a shared through-right lane (adding one left turn lane)
  - Widen the eastbound approach to the intersection to include one left turn lane, one shared left-through lane, and one right turn lane (adding one left turn lane)

Alternatively, a roundabout could be installed at the intersection which would achieve acceptable levels of service (LOS A for AM and PM peak hour) considering the roadway configuration notated below.

- Northbound approach – 2 lane entry: 1 left-through lane and 1 through-right lane
- Southbound approach – 2 lane entry: 1 left-through lane and 1 through-right lane
- Eastbound approach – 2 lane entry: 1 left lane and 1 through-right lane

14. Merced Street and SR 99 SB Off Ramp-Fowler Avenue

Recommended improvements to achieve acceptable levels of service:

- Horizon Year Without Project and Horizon Year Plus Project Conditions
  - Install a traffic signal when warranted
  - Widen the northbound approach to the intersection to include a left turn lane and a right turn lane with right-turn overlap phasing (adding one right turn lane with right-turn overlap phasing)
  - Widen the southbound approach to the intersection to include a left turn lane and a shared through-right lane (adding one left turn lane)

15. Merced Street and SR 99 NB Ramps

Recommended improvements to achieve acceptable levels of service:

- Horizon Year Without Project and Horizon Year Plus Project Conditions
  - Install a traffic Signal when warranted
  - Widen the westbound approach to the intersection to include a through lane and a right turn lane (adding one right turn lane).

The level of service resulting from the potential improvements identified above is shown in Table

4-1 with recommended storage pocket lengths presented in Table 4-2. Figure 4-1 shows the recommended improvements at the respective intersections considering the Horizon Year Plus Project scenario.

It is recommended that the applicant's team work with the City of Fowler and Caltrans to determine whether any of the improvements described above would be appropriate for implementation as a condition of the Project or would be justification for the payment of fair share fees.

4.2 Equitable Share Responsibility

The Project may be required to contribute a fair-share towards the costs of improvements that are identified for the Horizon Year scenario. The intent of determining the equitable responsibility for the improvements identified above for the Horizon Year scenario, is to provide a starting point for early discussions between the applicant and the City of Fowler/Caltrans to address traffic improvement equitability and to calculate the equitable share for mitigating traffic impacts. The formula used to calculate the equitable share responsibility to City of Fowler/Caltrans facilities is as follows:

Equitable Share = (Project Trips)/(Horizon Year Plus Project Traffic – Existing Traffic)

Table 4-3 shows the Project's equitable fair share responsibility on a percentage basis for improvements to City of Fowler/Caltrans facilities as described above. The equitable fair share responsibility shown in Table 4-3 is the result of LOS enhancements related to capacity.

Clayton and Golden State Blvd Property Prezone
Proposed Lane Geometry

Figure 4-1

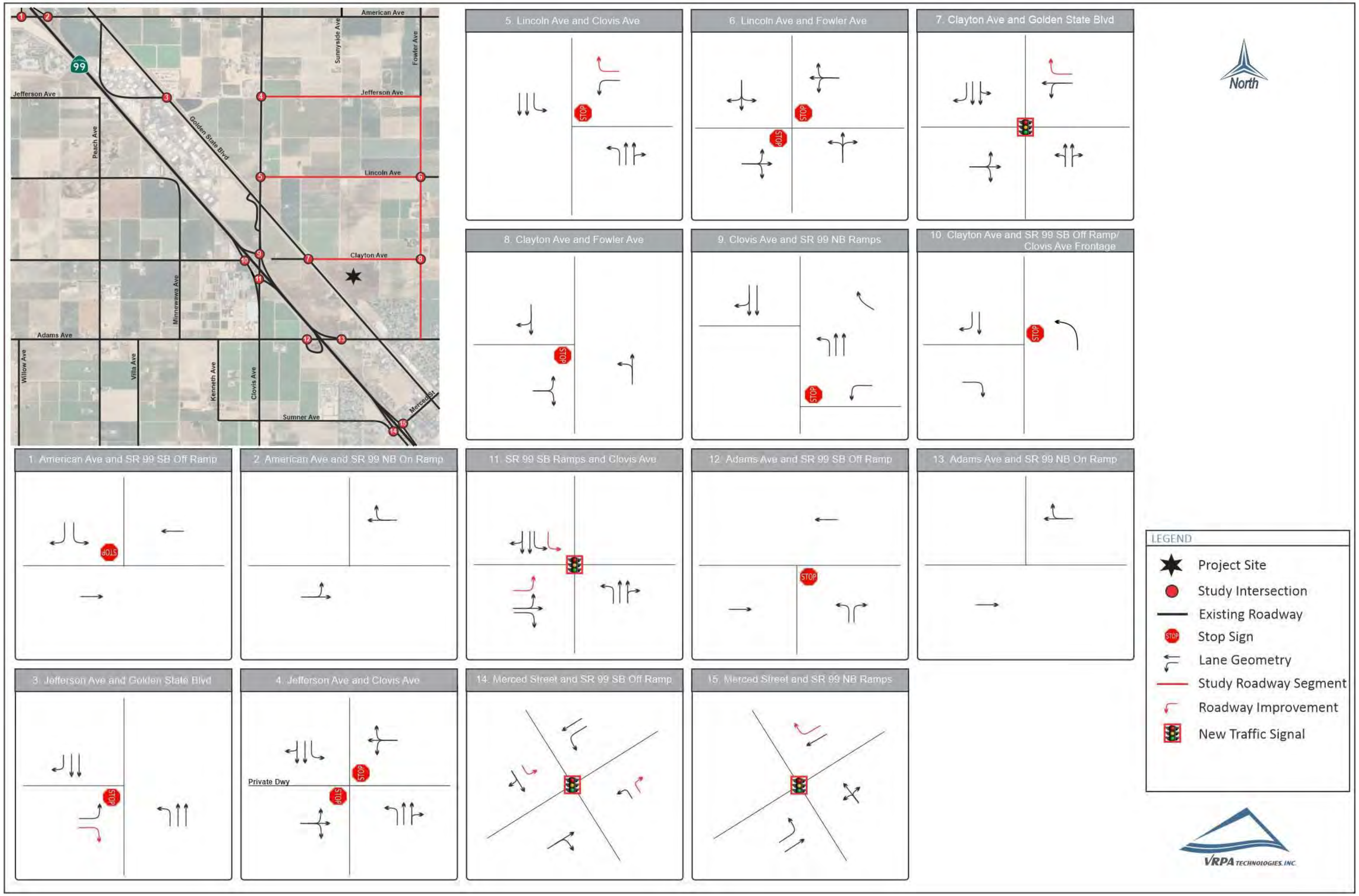


Table 4-1

Intersection Operations with Roadway Improvements

INTERSECTION		TARGET LOS	PEAK HOUR	EXISTING PLUS PROJECT		HORIZON YEAR WITHOUT PROJECT		HORIZON YEAR PLUS PROJECT	
				DELAY	LOS	DELAY	LOS	DELAY	LOS
3	Golden State Blvd and Jefferson Ave	D	AM			**>50.0**	**F**	**>50.0**	**F**
			PM			**>50.0**	**F**	**>50.0**	**F**
4	Clovis Ave and Jefferson Ave	D	AM			**>50.0**	**F ***	**>50.0**	**F ***
			PM			**>50.0**	**F ***	**>50.0**	**F ***
5	Clovis Ave and Lincoln Ave	D	AM			**>50.0**	**F**	**>50.0**	**F**
			PM			**>50.0**	**F**	**>50.0**	**F**
7	Golden State Blvd and Clayton Ave	D	AM			31.1	D	3.8	A
			PM			**>50.0**	**F ***	6.3	A
9	Clovis Ave and SR 99 NB Ramps	D	AM			**44.6**	**E ***	**>50.0**	**F ***
			PM			29.0	D	31.2	D
11	Clovis Ave and SR 99 SB Ramps	D	AM	**>50.0**	**F ***	10.8	B	11.9	B
			PM	**>50.0**	**F ***	10.8	B	11.1	B
14	Merced St and SR 99 SB Off Ramp-Fowler Ave	D	AM			49.1	D	49.7	D
			PM			28.4	C	30.6	C
15	Merced St and SR 99 NB Ramps	D	AM			14.2	B	15.7	B
			PM			14.4	B	15.1	B

DELAY is measured in seconds

LOS = Level of Service / **BOLD** denotes LOS standard has been exceeded

Recommended improvements are not sufficient to alleviate level of service deficiencies at the intersection. It should be noted that installation of a traffic signal would alleviate level of service deficiencies. However, this intersection does not meet the peak hour traffic signal warrant because the minor approach does not carry enough traffic to justify signalization.

* No improvements are recommended as this intersection does not meet the peak hour traffic signal warrant because the minor approach does not carry enough traffic to justify signalization.

Table 4-2

Left Turn and Right Turn Storage Requirements

INTERSECTION		EXISTING QUEUE STORAGE LENGTH (ft)		HORIZON YEAR RECOMMENDED QUEUE STORAGE LENGTH (ft)
1	American Ave and SR 99 SB Off Ramp	SB Right	225	225
3	Golden State Blvd and Jefferson Ave	NB Left	150	150
		SB Right	150	150
		EB Right	--	**50**
4	Clovis Ave and Jefferson Ave	NB Left	150	150
		SB Left	150	150
5	Clovis Ave and Lincoln Ave	NB Left	75	75
		SB Left	150	150
		WB Right	--	**50**
7	Golden State Blvd and Clayton Ave	SB Right	125	125
		WB Right	--	**125**
9	Clovis Ave and SR 99 NB Ramps	NB Left	150	150
		WB Left	50	50
10	Clayton Ave and SR 99 SB Off Ramp	SB Right	50	50
11	Clovis Ave and SR 99 SB On Ramp	NB Left	50	50
		SB Left	125	**2 @ 125**
		EB Left	75	**2 @ 75**
		EB Right	150	150
12	Adams Ave and SR 99 SB Off Ramp	NB Right	100	100
14	Merced St/Fowler Ave and SR 99 SB Off Ramps	NB Right	--	**375**
		SB Left	--	**350**
		WB Left	50	50
15	Merced St and SR 99 NB Ramps	EB Left	50	50
		WB Right	--	**50**

Queue is measured in feet / **BOLD** denotes new or increased storage length

Table 4-3
Horizon Year Equitable Share Responsibility

INTERSECTION	PEAK HOUR	EXISTING	PROJECT TRIPS	HORIZON YEAR PLUS PROJECT	FAIR SHARE PERCENTAGE
3. Golden State Blvd and Jefferson Ave	AM	591	45	1,818	3.7%
	PM	699	39	2,131	2.7%
5. Clovis Ave and Lincoln Ave	AM	1,323	15	1,982	2.3%
	PM	1,429	13	2,137	1.8%
7. Golden State Blvd and Clayton Ave	AM	423	105	1,428	10.4%
	PM	596	237	2,097	15.8%
11. Clovis Ave and SR 99 SB Ramps	AM	1,082	86	1,693	14.1%
	PM	1,103	57	1,697	9.6%
14. Merced St and SR 99 SB Off Ramp-Fowler Ave	AM	1,180	6	1,759	1.0%
	PM	1,075	33	1,630	5.9%
15. Merced St and SR 99 NB Ramps	AM	1,383	45	2,100	6.3%
	PM	1,172	39	1,781	6.4%

Clayton and Golden State Blvd. Property Prezone

Transportation Impact Study Appendices
September 2024

Prepared for:
City of Fowler

Prepared by:
VRPA Technologies, Inc.
4630 W. Jennifer, Suite 105
Fresno, CA 93722

In Association With:
Precision Engineering

Appendix A – Roadway Functional Class and Peak Hour Level-of-Service Thresholds

It should be noted that this traditional methodology used to analyze the roadway system does not consider the potential impact on walking, bicycling, and transit. Pedestrians, bicyclists, and transit riders are all users of the roadway system but may not be fully recognized in the traffic operations analysis and the calculation of LOS. The LOS thresholds in Table 5.14-2 are based on driver's comfort and convenience. Identifying the need for roadway improvements based on the resulting roadway LOS can have unintended impacts to other modes such as increasing the walking time for pedestrians. In evaluating the roadway system, a lower vehicle LOS may be desired when balanced against other community values related to resource protection, social equity, economic development, and consideration of pedestrians, bicyclists, and transit users.

Table 5.14-2: Roadway Functional Class and Peak Hour Level-of-Service Thresholds

Functional Class	Median	Lanes	Peak Hour Level of Service Capacity Threshold				
			A	B	C	D	E
Freeway	N/A[1]	4	2,720	4,460	6,630	7,720	8,630
		3+Aux[2]	2,360	3,860	5,640	6,730	7,530
		3	2,000	3,270	4,660	5,740	6,430
		2+Aux	1,650	2,700	3,850	4,760	5,340
		2	1,300	2,130	3,050	3,790	4,260
State Expressway	Divided	6	2,410	3,960	5,730	7,450	8,450
		4	1,610	2,650	3,810	4,960	5,630
		2	810	1,340	1,890	2,470	2,810
City Expressway	Raised Median	6			1,860	6,170	6,520
		5			1,520	5,110	5,430
		4			1,180	4,050	4,340
		2			520	1,910	2,160
Super Arterial	Raised Median	6				4,910	6,240
		5				4,040	5,195
		4				3,170	4,150
Arterial	Raised Median	8			2,120	7,070	7,490
		6			1,560	5,270	5,610
		5			1,280	4,370	4,670
		4			1,000	3,470	3,730
		3			720	2,555	2,795
		2			440	1,640	1,860
	TWLTL[3]	4			940	3,290	3,550
		2			420	1,550	1,760

Functional Class	Median	Lanes	Peak Hour Level of Service Capacity Threshold				
			A	B	C	D	E
	Undivided	4			770	2,740	2,980
		2			340	1,270	1,480
Collector	TWLTL	4			940	3,290	3,550
		2			420	1,550	1,760
	Undivided	4			770	2,740	2,980
		2			340	1,270	1,480
One-Way	Undivided	3		1,960	2,240	2,430	2,610
		2		1,250	1,490	1,620	1,740
		1		550	740	800	870
Rural State Highway	Undivided	2	310	570	1,020	1,730	2,470
Rural Arterial	Divided	4			1,950	3,580	3,780
	Undivided	2			570	1,230	1,310
Rural Collector/Local	Undivided	2			700	930	1,000

Notes:
[1] N/A - Not applicable for operational class
[2] Aux - Auxiliary Lane
[3] TWLTL – Two-way Left-turn Lane
- LOS is not achievable because of type of facility.
Source: Fehr & Peers 2012.

Exhibit 5.14-2 shows existing AM peak hour traffic volumes (two-way total) and LOS (See Appendix H-3 for detail) and Exhibit 5.14-3 shows existing PM peak hour traffic volumes (two-way total) and LOS (See Appendix H-4 for detail). Exhibit 5.14-4 illustrates the planned roadway number of lanes.

Most roadways operate at LOS D or better during the AM and PM peak hours, except for the following, which operate at LOS E and F:

City of Fresno

- Willow Avenue – Copper to Behymer Avenue (LOS E during the PM peak hour)
- Willow Avenue – Behymer Avenue to Shepherd Avenue (LOS F during the PM peak hour)
- Golden State Boulevard – Shaw Avenue to Swift Avenue (LOS F during the PM peak hour)
- Golden State Boulevard – Motel Drive to Ashlan Avenue (LOS E during the PM peak hour)
- Nees Avenue – Jordan Avenue to Paula Avenue (LOS E during the PM peak hour)
- Cornelia Avenue – Ashlan Avenue to Griffith Way (LOS E during the PM peak hour)
- Marks Avenue – Dakota Avenue to Weber Avenue (LOS E during the PM peak hour)
- Clinton Avenue – Valentine Avenue to Marks Avenue (LOS F during the PM peak hour)

Appendix B – Traffic Counts

Prepared by National Data & Surveying Services

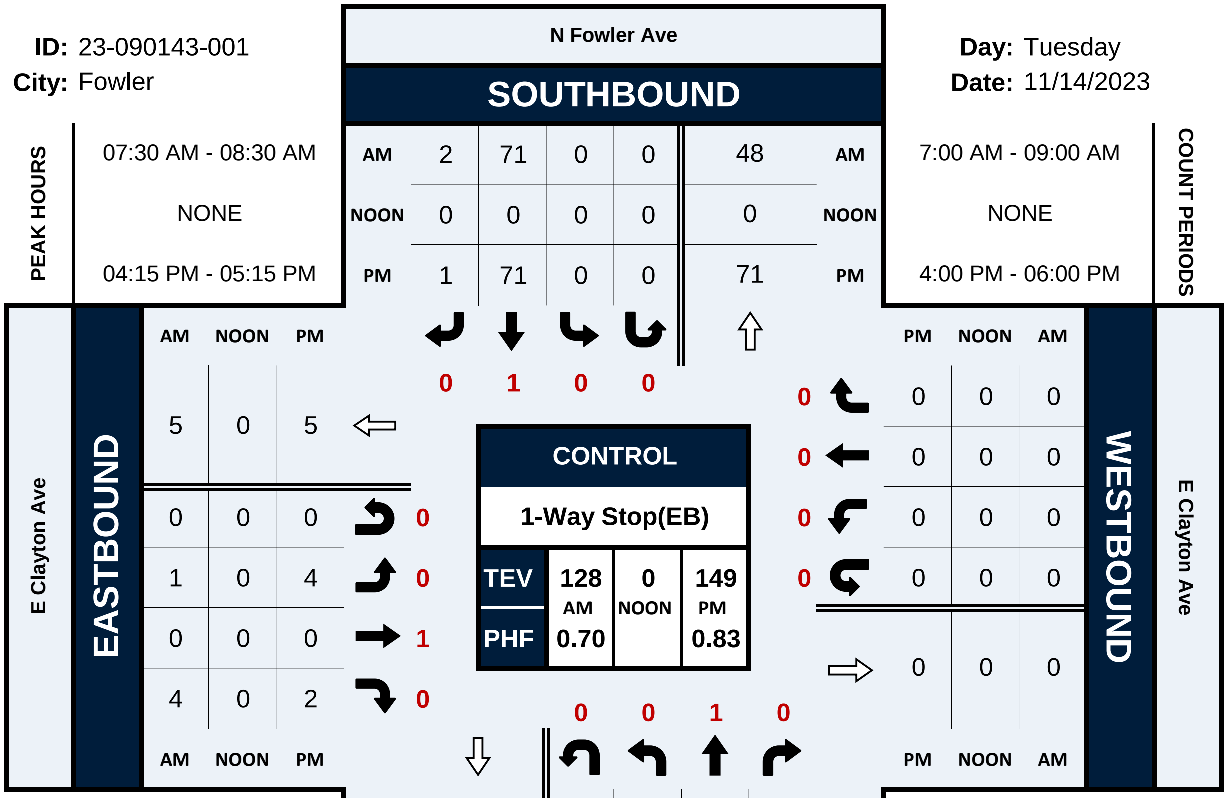
N Fowler Ave & E Clayton Ave

Peak Hour Turning Movement Count

ID: 23-090143-001
City: Fowler

Day: Tuesday
Date: 11/14/2023

PEAK HOURS		COUNT PERIODS
07:30 AM - 08:30 AM	AM	7:00 AM - 09:00 AM
NONE	NOON	NONE
04:15 PM - 05:15 PM	PM	4:00 PM - 06:00 PM



N Fowler Ave

SOUTHBOUND

AM	2	71	0	0	48	AM
NOON	0	0	0	0	0	NOON
PM	1	71	0	0	71	PM
	0	1	0	0		

E Clayton Ave

EASTBOUND

AM	NOON	PM	
5	0	5	
0	0	0	0
1	0	4	0
0	0	0	1
4	0	2	0
AM	NOON	PM	

CONTROL

1-Way Stop(EB)

	AM	NOON	PM
TEV	128	0	149
PHF	0.70		0.83

WESTBOUND

E Clayton Ave

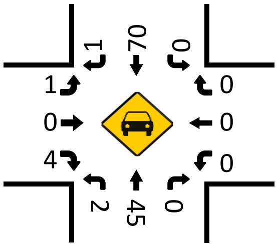
	PM	NOON	AM
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
	0	0	0
	PM	NOON	AM

		0	0	1	0	
PM	73	0	4	67	0	PM
NOON	0	0	0	0	0	NOON
AM	75	0	3	47	0	AM

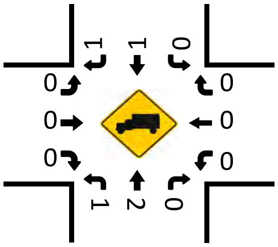
NORTHBOUND

N Fowler Ave

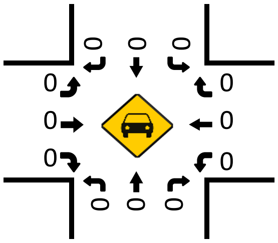
Cars (AM)



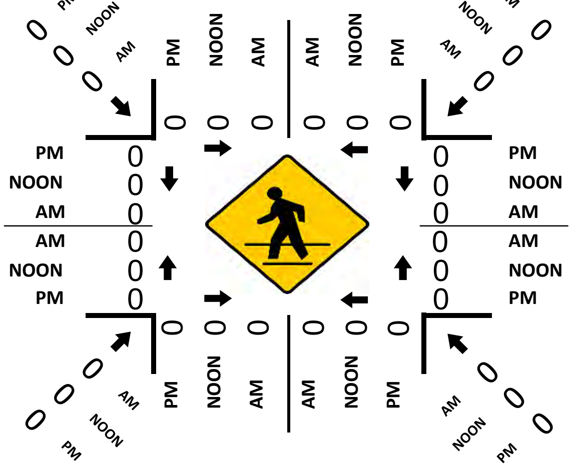
HT (AM)



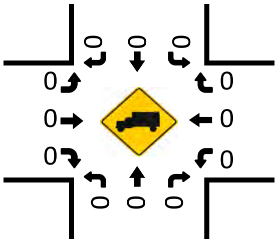
Cars (NOON)



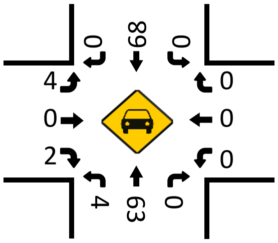
Pedestrians (Crosswalks)



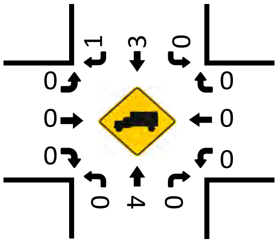
HT (NOON)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

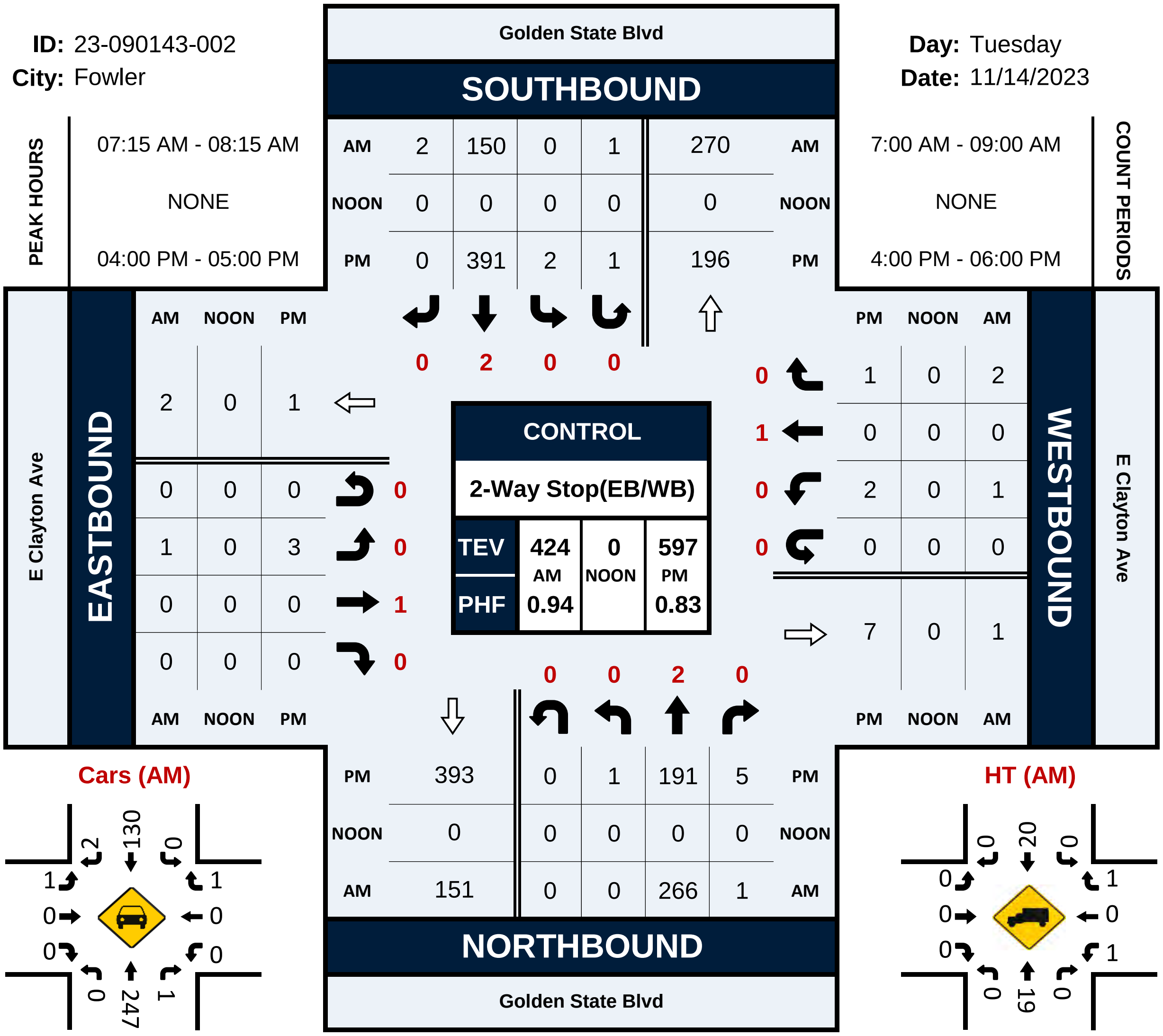
Golden State Blvd & E Clayton Ave

Peak Hour Turning Movement Count

ID: 23-090143-002
City: Fowler

Day: Tuesday
Date: 11/14/2023

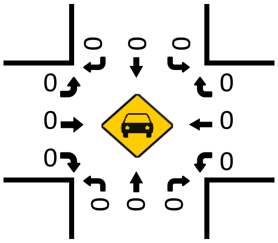
PEAK HOURS		COUNT PERIODS
AM	07:15 AM - 08:15 AM	7:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:00 PM - 05:00 PM	4:00 PM - 06:00 PM



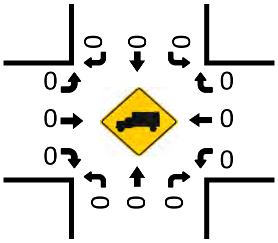
Cars (AM)

HT (AM)

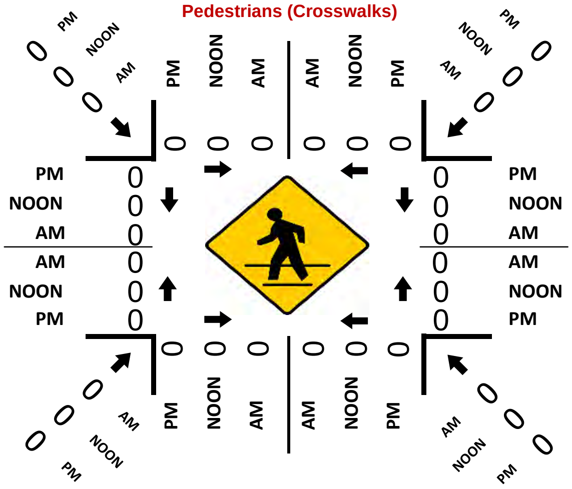
Cars (NOON)



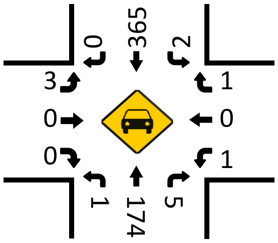
HT (NOON)



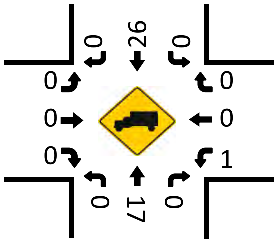
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

S Golden State Blvd & E Jefferson Ave

Peak Hour Turning Movement Count

ID: 23-090143-003
City: Fresno

Day: Tuesday
Date: 11/14/2023

PEAK HOURS
07:15 AM - 08:15 AM
NONE
04:15 PM - 05:15 PM

COUNT PERIODS
7:00 AM - 09:00 AM
NONE
4:00 PM - 06:00 PM

S Golden State Blvd

SOUTHBOUND

AM	12	239	0	1	304	AM
NOON	0	0	0	0	0	NOON
PM	5	359	0	0	294	PM
	↲	↓	↳	↶	⇧	
	0	2	0	0		

E Jefferson Ave

EASTBOUND

AM	NOON	PM		
31	0	15	⇦	
0	0	0	↶	0
20	0	40	↰	0
0	0	0	→	1
18	0	31	↴	0
AM	NOON	PM		

CONTROL

1-Way Stop(EB)

TEV	596 AM	0 NOON	700 PM
PHF	0.91		0.82

E Jefferson Ave

WESTBOUND

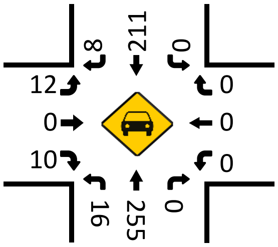
		PM	NOON	AM
0	↰	0	0	0
1	←	0	0	0
0	↙	0	0	0
0	↶	0	0	0
	⇨	0	0	0
		PM	NOON	AM

	⇩	0	0	2	0	
		↶	↰	↑	↱	
PM	391	1	10	254	0	PM
NOON	0	0	0	0	0	NOON
AM	261	4	19	283	0	AM

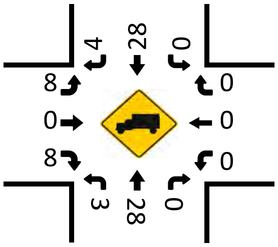
NORTHBOUND

S Golden State Blvd

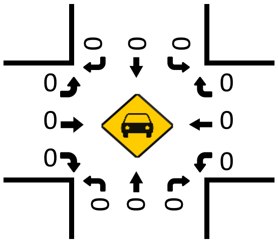
Cars (AM)



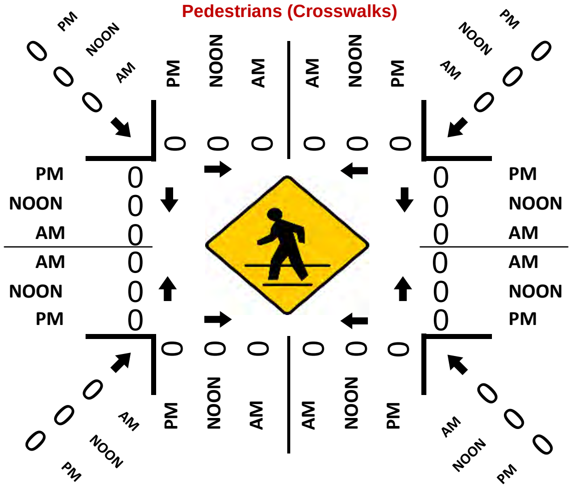
HT (AM)



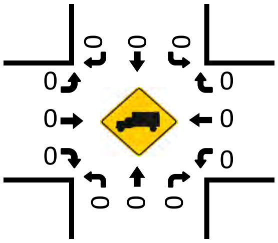
Cars (NOON)



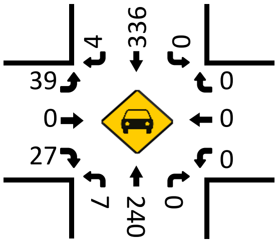
Pedestrians (Crosswalks)



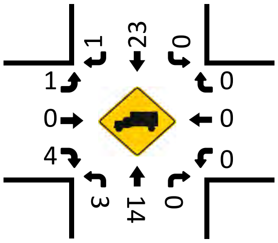
HT (NOON)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

S Clovis Ave & E Jefferson Ave

Peak Hour Turning Movement Count

ID: 23-090143-004
City: Fresno

Day: Tuesday
Date: 11/14/2023

PEAK HOURS	
AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS	
AM	7:00 AM - 09:00 AM
NOON	NONE
PM	4:00 PM - 06:00 PM

S Clovis Ave

SOUTHBOUND

	↲	↓	↳	↶	⇧
AM	1	749	3	5	547
NOON	0	0	0	0	0
PM	0	613	2	8	776
	0	2	1	0	

E Jefferson Ave

EASTBOUND

	AM	NOON	PM	
⇦	4	0	3	
↶	0	0	0	0
↱	1	0	1	0
→	0	0	0	1
↴	1	0	0	0

E Jefferson Ave

WESTBOUND

		PM	NOON	AM
0	↰	1	0	4
1	←	0	0	0
0	↲	0	0	0
0	↶	0	0	0
	⇨	2	0	4

CONTROL

1-Way Stop(WB)

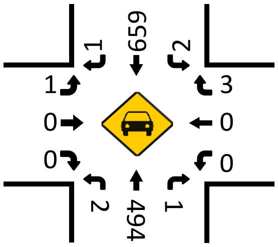
	AM	NOON	PM
TEV	1306	0	1394
PHF	0.97		0.96

	⇩	↶	↰	↑	↱
		0	1	2	0
PM	613	0	3	766	0
NOON	0	0	0	0	0
AM	751	1	3	537	1

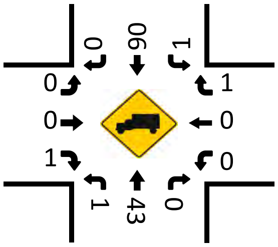
NORTHBOUND

S Clovis Ave

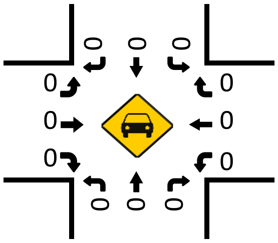
Cars (AM)



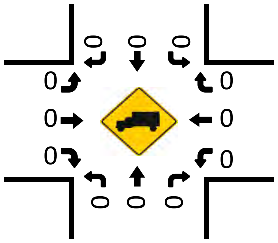
HT (AM)



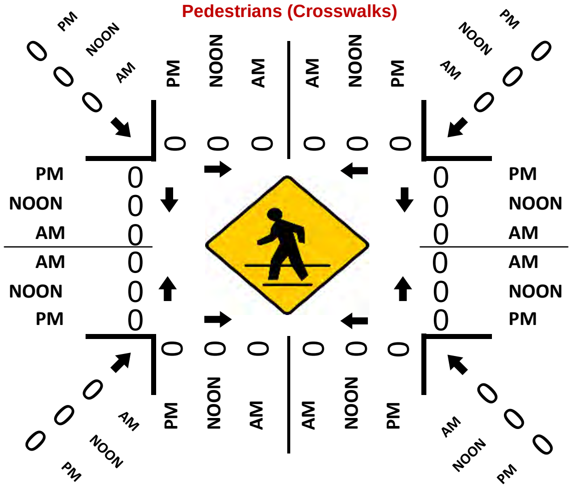
Cars (NOON)



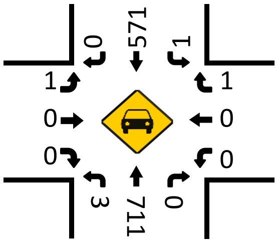
HT (NOON)



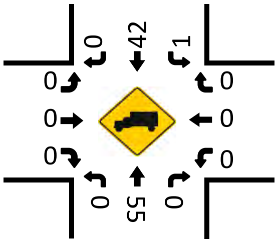
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

S Clovis Ave & E Lincoln Ave

Peak Hour Turning Movement Count

ID: 23-090143-005
City: Fowler

Day: Tuesday
Date: 11/14/2023

PEAK HOURS		COUNT PERIODS
07:15 AM - 08:15 AM	AM	7:00 AM - 09:00 AM
NONE	NOON	NONE
04:15 PM - 05:15 PM	PM	4:00 PM - 06:00 PM

S Clovis Ave

SOUTHBOUND

	↲	↓	↳	↶	⇧	
AM	0	720	30	2	544	AM
NOON	0	0	0	0	0	NOON
PM	0	572	39	0	775	PM
	0	2	1	0		

E Lincoln Ave

EASTBOUND

	AM	NOON	PM	
⇦	0	0	0	
↶	0	0	0	0
↱	0	0	0	0
→	0	0	0	0
↴	0	0	0	0

CONTROL

1-Way Stop(WB)

	AM	NOON	PM
TEV	1325	0	1429
PHF	0.97		0.94

E Lincoln Ave

WESTBOUND

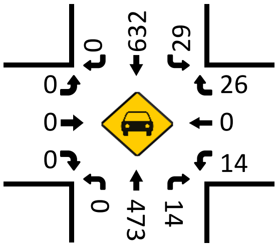
		PM	NOON	AM
0	↰	18	0	26
1	←	0	0	0
0	↲	18	0	16
0	↶	0	0	0
	⇨	64	0	45

	⇩	↶	↰	↑	↱	
		0	1	2	0	
PM	590	0	0	757	25	PM
NOON	0	0	0	0	0	NOON
AM	736	0	0	516	15	AM

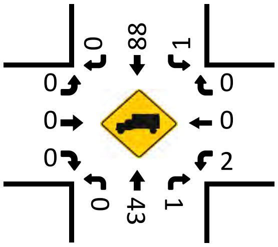
NORTHBOUND

S Clovis Ave

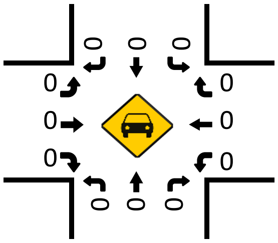
Cars (AM)



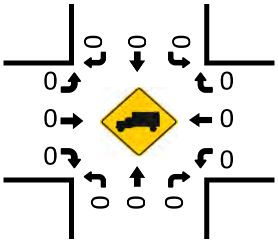
HT (AM)



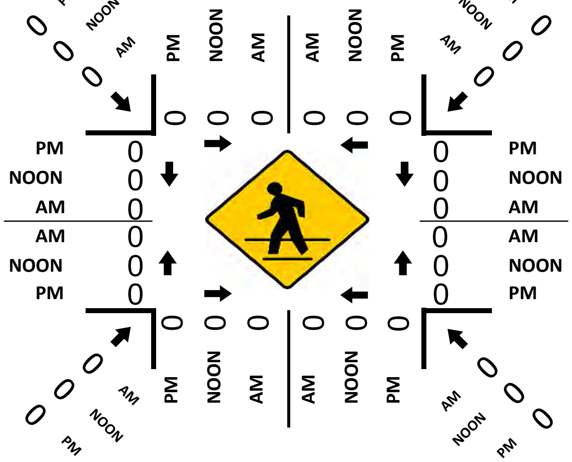
Cars (NOON)



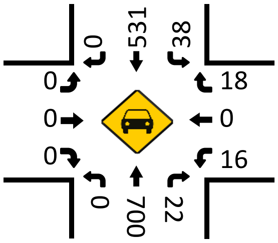
HT (NOON)



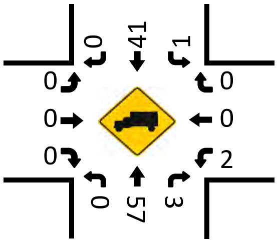
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

S Fowler Ave & E Lincoln Ave

Peak Hour Turning Movement Count

ID: 23-090143-006
City: Fowler

Day: Tuesday
Date: 11/14/2023

PEAK HOURS	
AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS	
AM	7:00 AM - 09:00 AM
NOON	NONE
PM	4:00 PM - 06:00 PM

S Fowler Ave — SOUTHBOUND

	↲	↓	↳	U	⇧
AM	1	47	9	0	36
NOON	0	0	0	0	0
PM	2	53	3	0	71
	0	1	0	0	

E Lincoln Ave — WESTBOUND

		PM	NOON	AM
0	↰	5	0	5
1	←	29	0	32
0	↙	3	0	8
0	U	0	0	0
	⇨	55	0	41

E Lincoln Ave — EASTBOUND

AM	NOON	PM		
45	0	37	⇦	
0	0	0	U	0
0	0	0	↗	0
26	0	50	→	1
17	0	14	↘	0

CONTROL

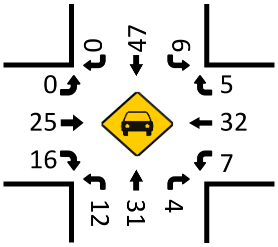
2-Way Stop(EB/WB)

	AM	NOON	PM
TEV	194	0	233
PHF	0.90		0.90

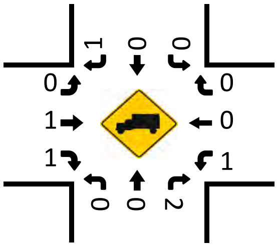
S Fowler Ave — NORTHBOUND

	⇩	U	↰	↑	↱
		0	0	1	0
PM	70	0	6	66	2
NOON	0	0	0	0	0
AM	72	0	12	31	6

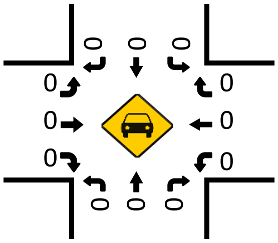
Cars (AM)



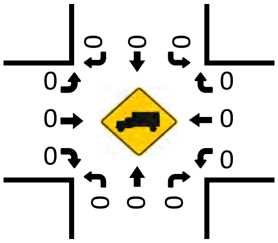
HT (AM)



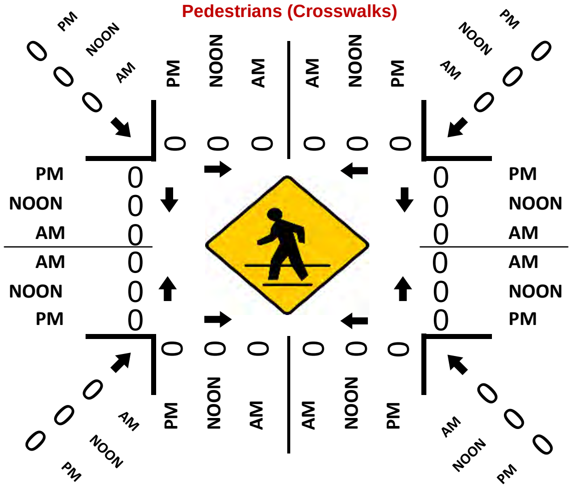
Cars (NOON)



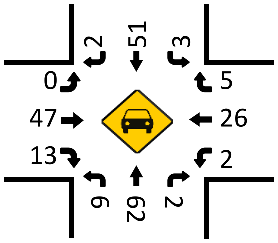
HT (NOON)



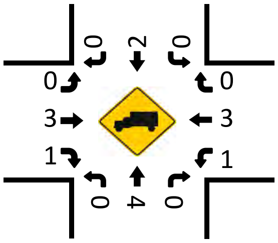
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

SR 99 SB Ramps & E Adams Ave

Peak Hour Turning Movement Count

ID: 23-090143-007
City: Fowler

Day: Tuesday
Date: 11/14/2023

PEAK HOURS		COUNT PERIODS
AM	07:30 AM - 08:30 AM	7:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:00 PM - 05:00 PM	4:00 PM - 06:00 PM

SR 99 SB Ramps

SOUTHBOUND

	↲	↓	↳	U	⇧
AM	0	0	0	0	0
NOON	0	0	0	0	0
PM	0	0	0	0	0
	0	0	0	0	

E Adams Ave

EASTBOUND

	AM	NOON	PM	
⇦	73	0	66	
U	0	0	0	0
↰	0	0	0	0
→	119	0	125	1
↱	0	0	0	0

CONTROL

1-Way Stop(NB)

	AM	NOON	PM
TEV	299	0	398
PHF	0.86		0.87

E Adams Ave

WESTBOUND

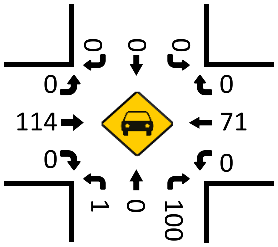
		PM	NOON	AM
0	↰	0	0	0
1	←	63	0	72
0	↲	0	0	0
0	U	0	0	0
	⇨	332	0	226

NORTHBOUND

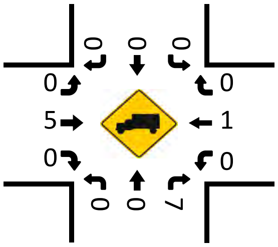
SR 99 SB Ramps

	⇩	U	↰	↑	↱
		0	0	1	1
PM	0	0	3	0	207
NOON	0	0	0	0	0
AM	0	0	1	0	107

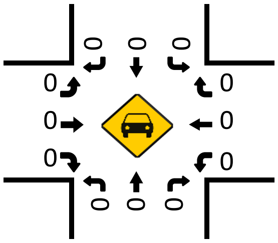
Cars (AM)



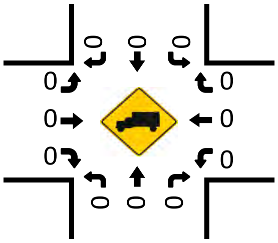
HT (AM)



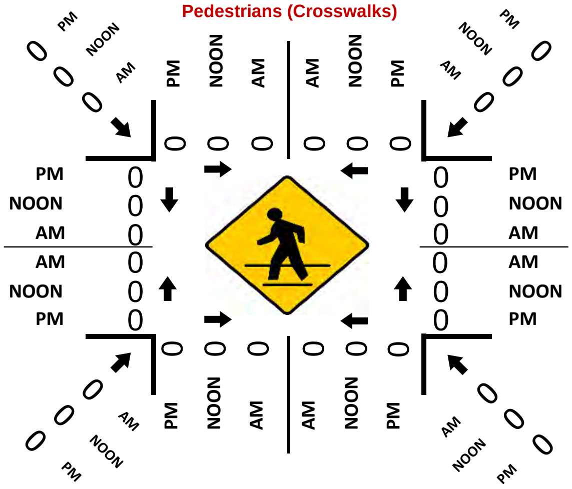
Cars (NOON)



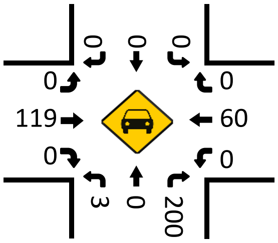
HT (NOON)



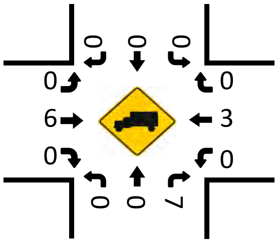
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



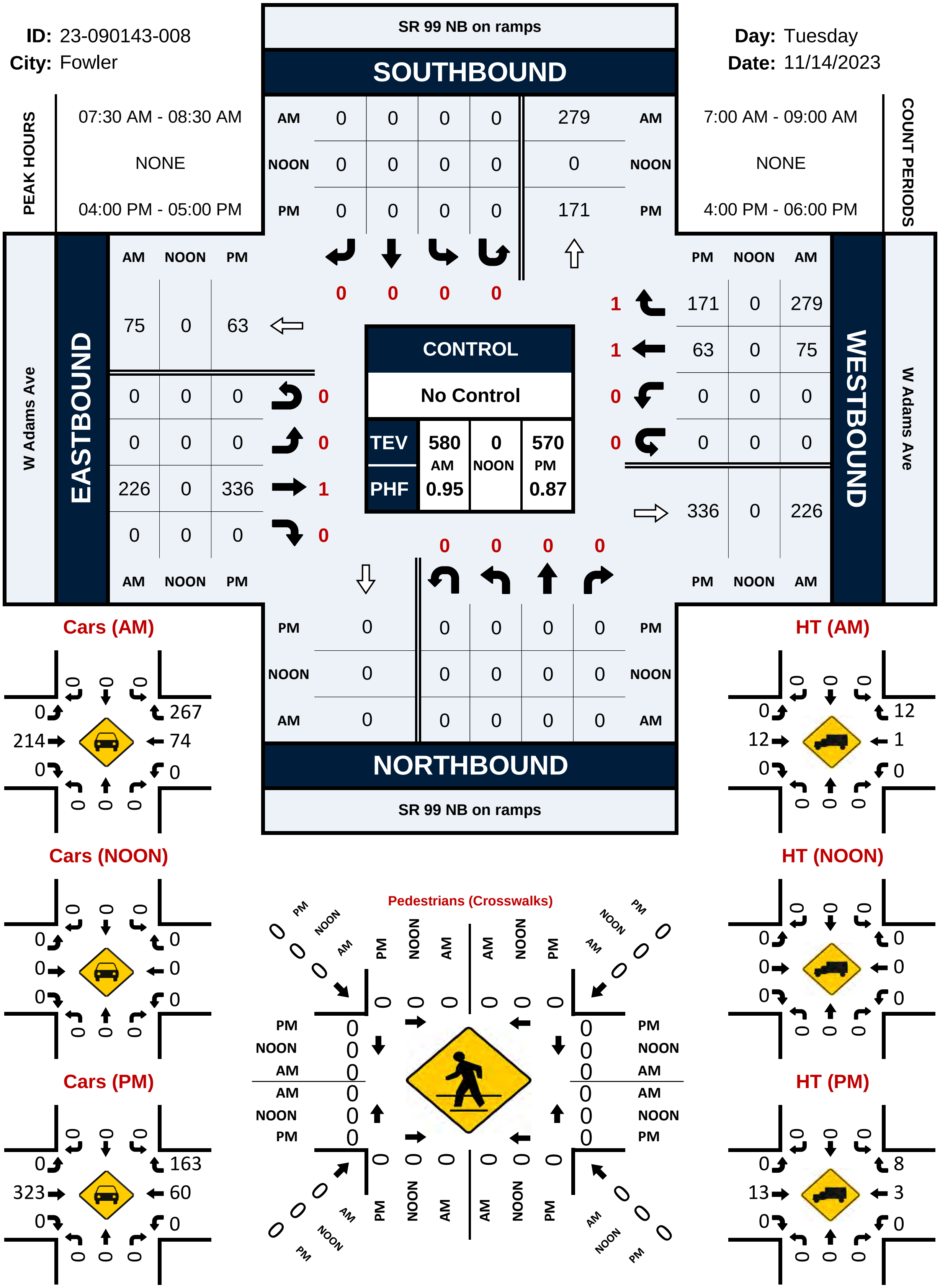
Prepared by National Data & Surveying Services

SR 99 NB on ramps & W Adams Ave

Peak Hour Turning Movement Count

ID: 23-090143-008
City: Fowler

Day: Tuesday
Date: 11/14/2023



PEAK HOURS		COUNT PERIODS
07:30 AM - 08:30 AM	AM	7:00 AM - 09:00 AM
NONE	NOON	NONE
04:00 PM - 05:00 PM	PM	4:00 PM - 06:00 PM

SR 99 NB on ramps
SOUTHBOUND

AM	0	0	0	0	279	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	171	PM
	0	0	0	0		

W Adams Ave
EASTBOUND

AM	NOON	PM	
75	0	63	
0	0	0	0
0	0	0	0
226	0	336	1
0	0	0	0

W Adams Ave
WESTBOUND

	PM	NOON	AM
1	171	0	279
1	63	0	75
0	0	0	0
0	0	0	0
	336	0	226

CONTROL
No Control

	AM	NOON	PM
TEV	580	0	570
PHF	0.95		0.87

NORTHBOUND
SR 99 NB on ramps

		0	0	0	0	
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

Cars (AM)

	Left	Through	Right
Southbound	0	0	0
Eastbound	0	214	0
Westbound	267	74	0
Northbound	0	0	0

HT (AM)

Southbound	0	0	0
Eastbound	0	12	0
Westbound	12	1	0
Northbound	0	0	0

Cars (NOON)

Southbound	0	0	0
Eastbound	0	0	0
Westbound	0	0	0
Northbound	0	0	0

HT (NOON)

Southbound	0	0	0
Eastbound	0	0	0
Westbound	0	0	0
Northbound	0	0	0

Cars (PM)

Southbound	0	0	0
Eastbound	0	323	0
Westbound	163	60	0
Northbound	0	0	0

HT (PM)

Southbound	0	0	0
Eastbound	0	13	0
Westbound	8	3	0
Northbound	0	0	0

Pedestrians (Crosswalks)

	AM	NOON	PM
North crosswalk	0 0	0 0	0 0
South crosswalk	0 0	0 0	0 0
West crosswalk	0	0	0
East crosswalk	0	0	0
NW diagonal	0	0	0
NE diagonal	0	0	0
SW diagonal	0	0	0
SE diagonal	0	0	0

Prepared by National Data & Surveying Services

S Clovis Ave & SR 99 SB Ramps

Peak Hour Turning Movement Count

ID: 23-090143-009
City: Fowler

Day: Tuesday
Date: 11/14/2023

PEAK HOURS	
AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS	
AM	7:00 AM - 09:00 AM
NOON	NONE
PM	4:00 PM - 06:00 PM

S Clovis Ave

SOUTHBOUND

	↲	↓	↳	U	⇧
AM	41	151	545	2	259
NOON	0	0	0	0	0
PM	31	173	427	2	268
	0	2	1	0	

SR 99 SB Ramps

EASTBOUND

	AM	NOON	PM	
⇦	45	0	33	
U	0	0	0	0
↰	25	0	65	0
→	17	0	24	1
↱	58	0	170	1

SR 99 SB Ramps

WESTBOUND

		PM	NOON	AM
0	↰	0	0	0
0	←	0	0	0
0	↲	0	0	0
0	U	0	0	0
	⇨	461	0	571

CONTROL

1-Way Stop(EB)

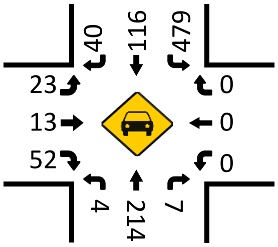
	AM	NOON	PM
TEV	1084	0	1105
PHF	0.94		0.84

NORTHBOUND

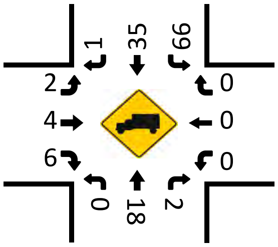
S Clovis Ave

	⇩	U	↰	↑	↱
		0	1	2	1
PM	343	0	2	201	10
NOON	0	0	0	0	0
AM	209	0	4	232	9

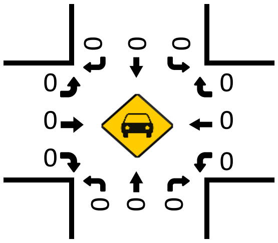
Cars (AM)



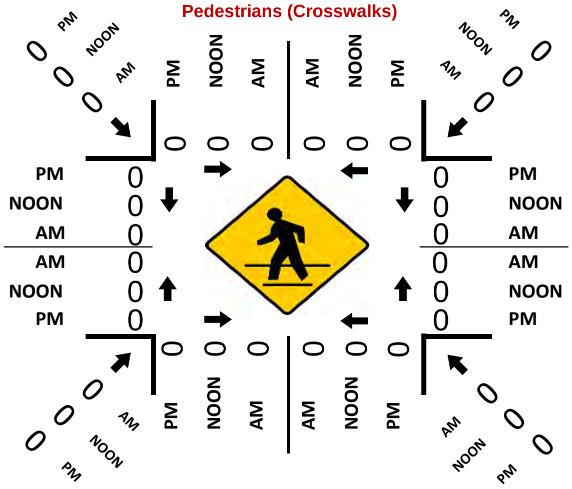
HT (AM)



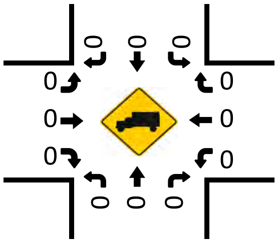
Cars (NOON)



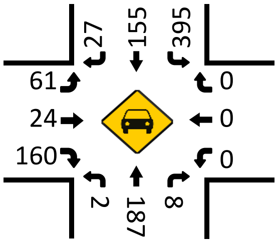
Pedestrians (Crosswalks)



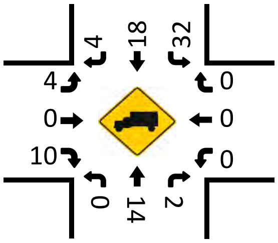
HT (NOON)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

SR 99 SB Off Ramp & E Clayton Ave

Peak Hour Turning Movement Count

ID: 23-090143-010
City: Fowler

Day: Tuesday
Date: 11/14/2023

PEAK HOURS		COUNT PERIODS
AM	07:30 AM - 08:30 AM	7:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:00 PM - 05:00 PM	4:00 PM - 06:00 PM

SR 99 SB Off Ramp

SOUTHBOUND

	↲	↓	↳	⤸	⇧
AM	21	72	0	0	0
NOON	0	0	0	0	0
PM	14	196	0	0	0
	1	1	0	0	

E Clayton Ave

EASTBOUND

	AM	NOON	PM	
⇦	63	0	47	
⤻	0	0	0	0
↱	0	0	0	0
→	0	0	0	0
↴	37	0	62	1

E Clayton Ave

WESTBOUND

		PM	NOON	AM
0	↰	0	0	0
1	←	33	0	42
0	↙	0	0	0
0	⤹	0	0	0
	⇨	0	0	0

CONTROL

1-Way Stop(WB)

	AM	NOON	PM
TEV	172	0	305
PHF	0.93		0.67

NORTHBOUND

SR 99 SB Off Ramp

	⇩	⤺	↰	↑	↱
		0	0	0	0
PM	258	0	0	0	0
NOON	0	0	0	0	0
AM	109	0	0	0	0

Cars (AM)

Southbound	20 ↲	63 ↓	0 ⤸
Eastbound	0 ↱	0 →	33 ↴
Westbound	0 ↰	42 ←	0 ↙
Northbound	0	0	0

HT (AM)

Southbound	1 ↲	9 ↓	0 ⤸
Eastbound	0 ↱	0 →	4 ↴
Westbound	0 ↰	0 ←	0 ↙
Northbound	0	0	0

Cars (NOON)

Southbound	0 ↲	0 ↓	0 ⤸
Eastbound	0 ↱	0 →	0 ↴
Westbound	0 ↰	0 ←	0 ↙
Northbound	0	0	0

HT (NOON)

Southbound	0 ↲	0 ↓	0 ⤸
Eastbound	0 ↱	0 →	0 ↴
Westbound	0 ↰	0 ←	0 ↙
Northbound	0	0	0

Cars (PM)

Southbound	11 ↲	188 ↓	0 ⤸
Eastbound	0 ↱	0 →	56 ↴
Westbound	0 ↰	29 ←	0 ↙
Northbound	0	0	0

HT (PM)

Southbound	3 ↲	8 ↓	0 ⤸
Eastbound	0 ↱	0 →	6 ↴
Westbound	0 ↰	4 ←	0 ↙
Northbound	0	0	0

Pedestrians (Crosswalks)

	PM	NOON	AM	AM	NOON	PM
North crosswalk	0	0	0	0	0	0
South crosswalk	0	0	0	0	0	0
West crosswalk	0	0	0	0	0	0
East crosswalk	0	0	0	0	0	0
Diagonals	0	0	0	0	0	0

Prepared by National Data & Surveying Services

SR 99 NB Ramps & S Clovis Ave

Peak Hour Turning Movement Count

ID: 23-090143-011
City: Fowler

Day: Tuesday
Date: 11/14/2023

PEAK HOURS

07:15 AM - 08:15 AM
NONE
04:00 PM - 05:00 PM

COUNT PERIODS

7:00 AM - 09:00 AM
NONE
4:00 PM - 06:00 PM

SR 99 NB Ramps

SOUTHBOUND

	↲	↓	↳	U	⇧
AM	19	702	0	0	555
NOON	0	0	0	0	0
PM	27	605	0	0	769
	0	2	0	0	

S Clovis Ave

EASTBOUND

	AM	NOON	PM	
⇦	137	0	95	
U	0	0	0	0
↰	0	0	0	0
→	0	0	0	0
↴	0	0	0	0

WESTBOUND

S Clovis Ave

		PM	NOON	AM
1	↰	573	0	416
0	←	0	0	0
1	↙	24	0	29
0	U	0	0	0
	⇨	0	0	0

		U	↰	↑	↱	
	⇩	0	1	2	0	
PM	630	1	68	196	0	PM
NOON	0	0	0	0	0	NOON
AM	731	0	118	139	0	AM

NORTHBOUND

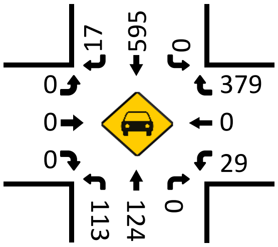
SR 99 NB Ramps

CONTROL

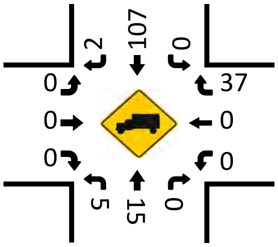
1-Way Stop (WB)

	AM	NOON	PM
TEV	1423	0	1494
PHF	0.95		0.97

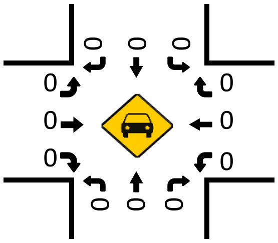
Cars (AM)



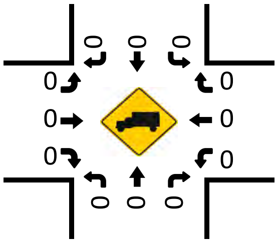
HT (AM)



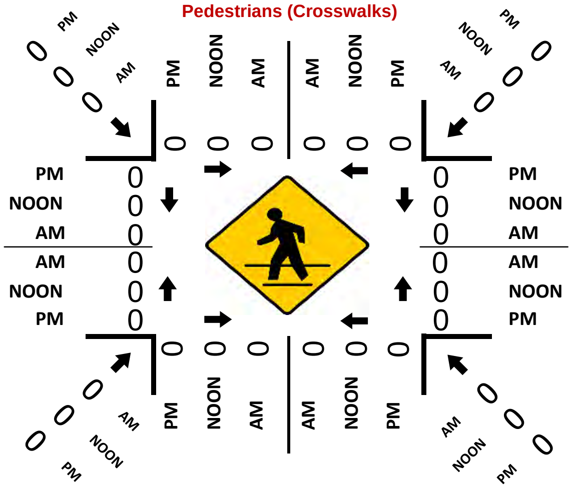
Cars (NOON)



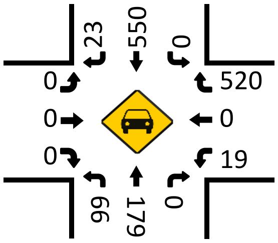
HT (NOON)



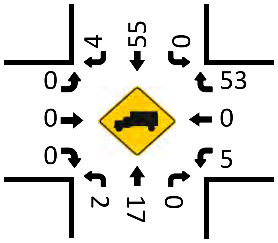
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



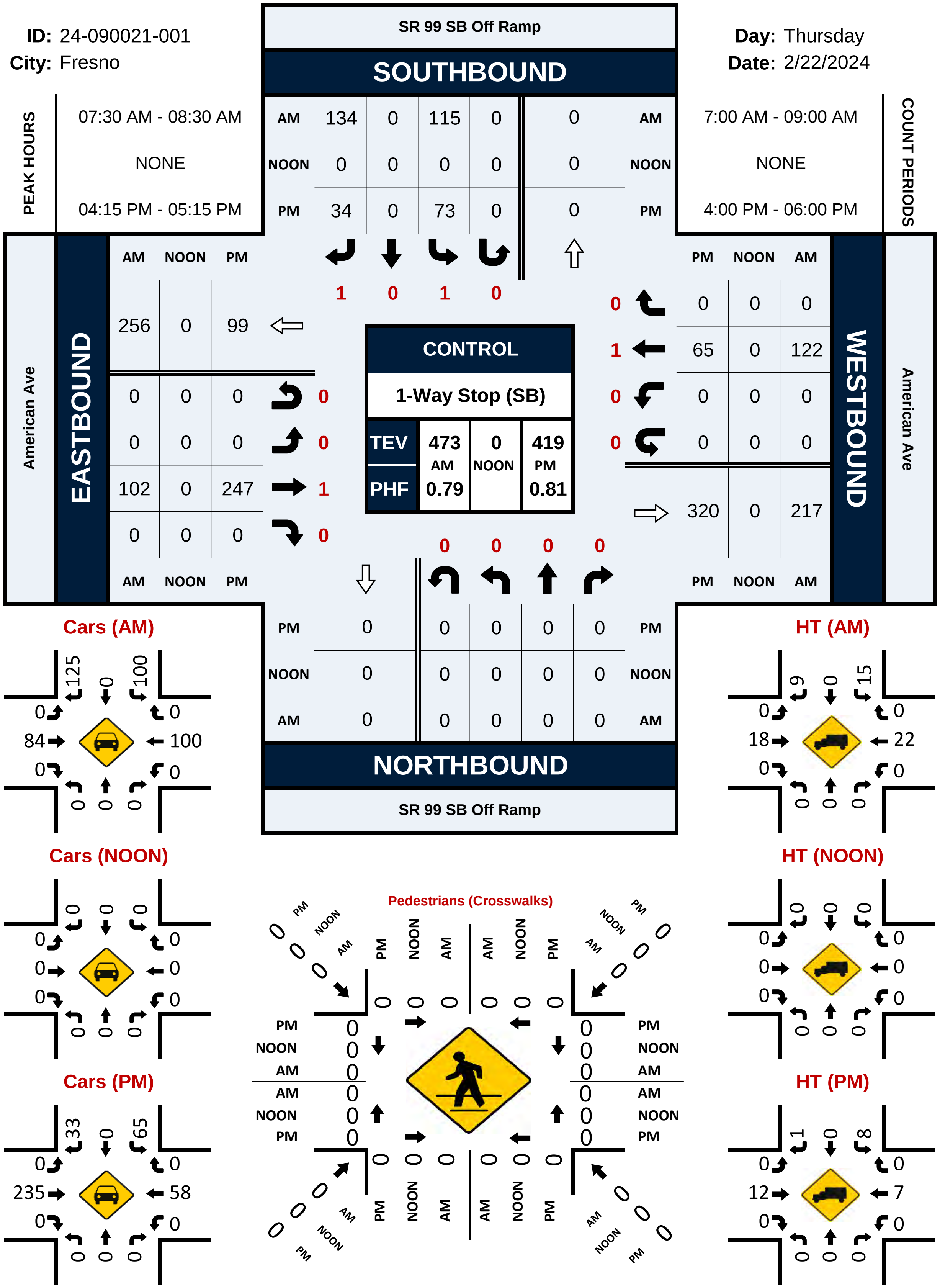
Prepared by National Data & Surveying Services

SR 99 SB Off Ramp & American Ave

Peak Hour Turning Movement Count

ID: 24-090021-001
City: Fresno

Day: Thursday
Date: 2/22/2024



PEAK HOURS			COUNT PERIODS
07:30 AM - 08:30 AM	AM	AM	7:00 AM - 09:00 AM
NONE	NOON	NOON	NONE
04:15 PM - 05:15 PM	PM	PM	4:00 PM - 06:00 PM

SR 99 SB Off Ramp

SOUTHBOUND

AM	134	0	115	0	0	AM
NOON	0	0	0	0	0	NOON
PM	34	0	73	0	0	PM
	1	0	1	0		

American Ave

EASTBOUND

AM	NOON	PM	
256	0	99	⇦
0	0	0	0
0	0	0	0
102	0	247	1
0	0	0	0
AM	NOON	PM	

WESTBOUND

American Ave

	PM	NOON	AM
0	0	0	0
1	65	0	122
0	0	0	0
0	0	0	0
⇨	320	0	217
	PM	NOON	AM

CONTROL

1-Way Stop (SB)

TEV	473 AM	0 NOON	419 PM
PHF	0.79		0.81

		0	0	0	0	
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

NORTHBOUND

SR 99 SB Off Ramp

Cars (AM)
125 0 100
0 84 0 | 0 100 0
0 0 0

HT (AM)
9 0 15
0 18 0 | 0 22 0
0 0 0

Cars (NOON)
0 0 0
0 0 0 | 0 0 0
0 0 0

HT (NOON)
0 0 0
0 0 0 | 0 0 0
0 0 0

Cars (PM)
33 0 65
0 235 0 | 0 58 0
0 0 0

HT (PM)
1 0 8
0 12 0 | 0 7 0
0 0 0

Pedestrians (Crosswalks)

PM	0	0	0	0	PM
NOON	0	0	0	0	NOON
AM	0	0	0	0	AM
AM	0	0	0	0	AM
NOON	0	0	0	0	NOON
PM	0	0	0	0	PM

Prepared by National Data & Surveying Services

SR 99 NB On Ramp & American Ave

Peak Hour Turning Movement Count

ID: 24-090021-002
City: Fresno

Day: Thursday
Date: 2/22/2024

PEAK HOURS		COUNT PERIODS
AM	07:15 AM - 08:15 AM	7:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:15 PM - 05:15 PM	4:00 PM - 06:00 PM

SR 99 NB On Ramp

SOUTHBOUND

AM	0	0	0	0	135	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	255	PM
	0	0	0	0		

American Ave

EASTBOUND

AM	NOON	PM	
124	0	65	
0	0	0	0
46	0	116	0
175	0	203	1
0	0	0	0

WESTBOUND

American Ave

	PM	NOON	AM
0.5	139	0	89
0.5	65	0	124
0	0	0	0
0	0	0	0
	203	0	175

CONTROL

No Control

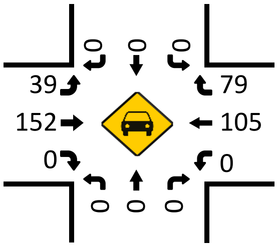
	AM	NOON	PM
TEV	434	0	523
PHF	0.73		0.80

NORTHBOUND

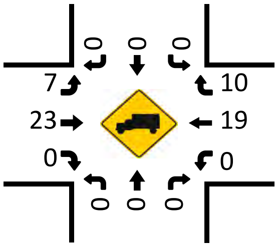
SR 99 NB On Ramp

		0	0	0	0	
PM	0	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	0	0	0	0	0	AM

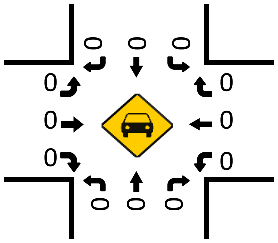
Cars (AM)



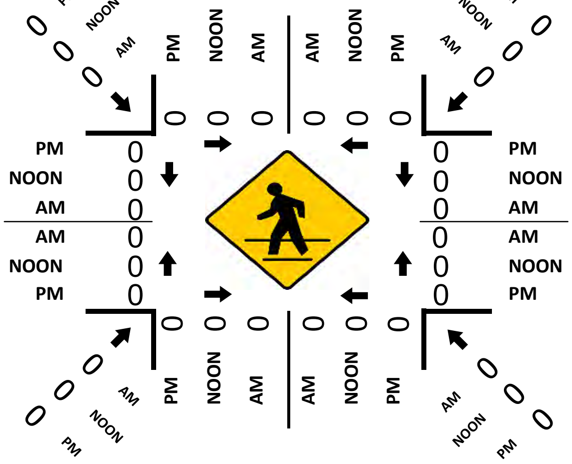
HT (AM)



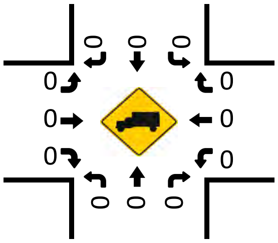
Cars (NOON)



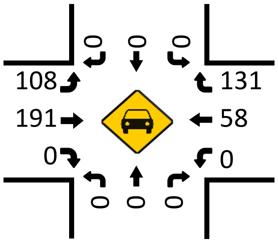
Pedestrians (Crosswalks)



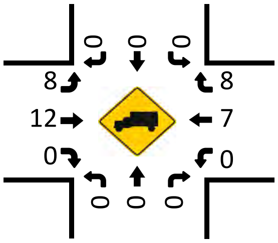
HT (NOON)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

Fowler Ave/SR 99 SB Off Ramp & Merced St

Peak Hour Turning Movement Count

ID: 24-090021-003
City: Fowler

Day: Thursday
Date: 2/22/2024

PEAK HOURS		COUNT PERIODS
07:30 AM - 08:30 AM	AM	7:00 AM - 09:00 AM
NONE	NOON	NONE
04:15 PM - 05:15 PM	PM	4:00 PM - 06:00 PM

Fowler Ave/SR 99 SB Off Ramp

SOUTHBOUND

AM	14	85	202	0	0	AM
NOON	0	0	0	0	0	NOON
PM	32	126	172	0	0	PM
	↲	↓	↳	⮍	⇧	
	0.5	0.5	0	0		

Merced St

EASTBOUND

AM	NOON	PM		
122	0	161	⇦	
0	0	0	⮌	0
0	0	0	⮥	0
201	0	135	→	2
27	0	32	⮧	0
AM	NOON	PM		

Merced St

WESTBOUND

		PM	NOON	AM
0	⮤	0	0	0
2	←	116	0	98
0	⮠	215	0	217
0	⮎	0	0	0
	⇨	540	0	729
		PM	NOON	AM

CONTROL

4-Way Stop

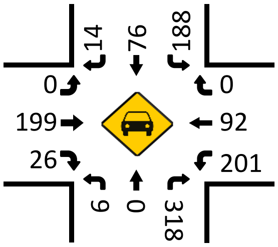
	AM	NOON	PM
TEV	1180	0	1074
PHF	0.91		0.94

		0	0	1	0	
	⇩	⮏	↰	↑	↱	
PM	373	0	13	0	233	PM
NOON	0	0	0	0	0	NOON
AM	329	0	10	0	326	AM

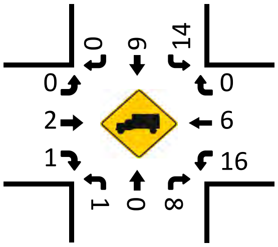
NORTHBOUND

Fowler Ave/SR 99 SB Off Ramp

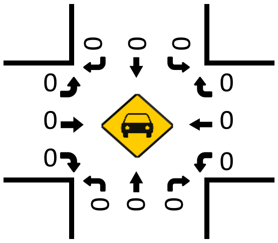
Cars (AM)



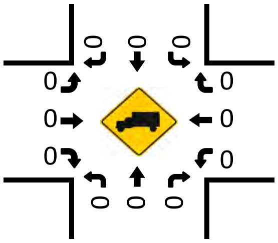
HT (AM)



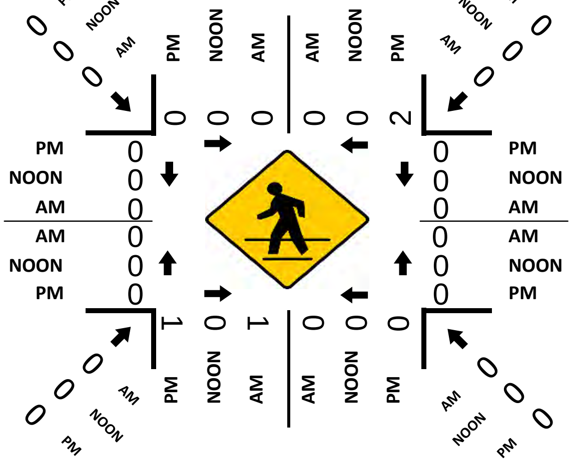
Cars (NOON)



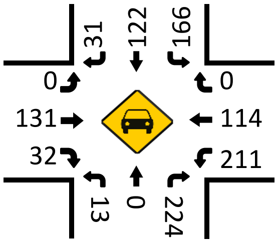
HT (NOON)



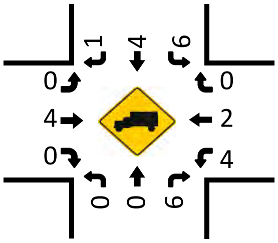
Pedestrians (Crosswalks)



Cars (PM)



HT (PM)



Prepared by National Data & Surveying Services

SR 99 NB Ramps & Merced St

Peak Hour Turning Movement Count

ID: 24-090021-004
City: Fowler

Day: Thursday
Date: 2/22/2024

PEAK HOURS	07:30 AM - 08:30 AM	7:00 AM - 09:00 AM	**COUNT PERIODS**
	NONE	NONE	
	04:15 PM - 05:15 PM	4:00 PM - 06:00 PM	

SR 99 NB Ramps

SOUTHBOUND

	↲	↓	↳	⮌	⇧
AM	0	0	0	0	371
NOON	0	0	0	0	0
PM	0	0	0	0	344
	0	0	0	0	

Merced St

EASTBOUND

		AM	NOON	PM
⇦		319	0	330
⮍	0	0	0	0
↱	0	161	0	152
→	1	568	0	386
↴	0	0	0	0

Merced St

WESTBOUND

		PM	NOON	AM
↰	0	188	0	210
←	1	306	0	307
↙	0	0	0	0
⮏	0	0	0	0
⇨		498	0	693

CONTROL

1-Way Stop (NB)

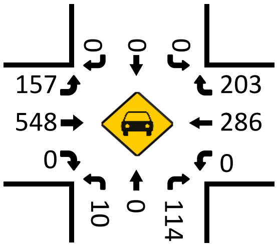
	AM	NOON	PM
TEV	1383	0	1172
PHF	0.92		0.94

NORTHBOUND

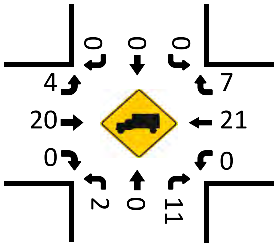
	⇩	⮎	↰	↑	↱
		0	0	1	0
PM	0	0	24	4	112
NOON	0	0	0	0	0
AM	0	0	12	0	125

SR 99 NB Ramps

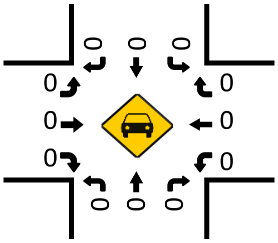
Cars (AM)



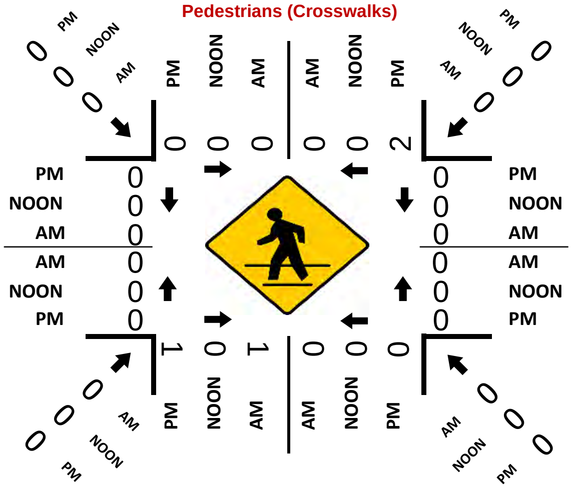
HT (AM)



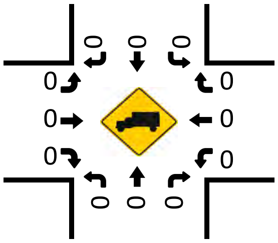
Cars (NOON)



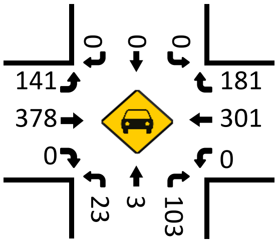
Pedestrians (Crosswalks)



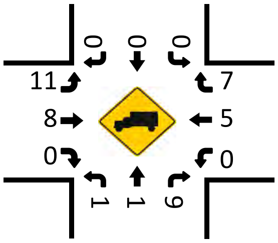
HT (NOON)



Cars (PM)



HT (PM)



Appendix C – Synchro Worksheets

EXISTING CONDITIONS

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	0	102	122	0	115	134
Future Vol, veh/h	0	102	122	0	115	134
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	225
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	3	17	18	3	13	7
Mvmt Flow	0	129	154	0	146	170

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	283	154
Stage 1	-	-	-	-	154	-
Stage 2	-	-	-	-	129	-
Critical Hdwy	-	-	-	-	6.53	6.27
Critical Hdwy Stg 1	-	-	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	5.53	-
Follow-up Hdwy	-	-	-	-	3.617	3.363
Pot Cap-1 Maneuver	0	-	-	0	684	879
Stage 1	0	-	-	0	848	-
Stage 2	0	-	-	0	870	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	684	879
Mov Cap-2 Maneuver	-	-	-	-	684	-
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	870	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	684	879
HCM Lane V/C Ratio	-	-	0.213	0.193
HCM Control Delay (s/veh)	-	-	11.7	10.1
HCM Lane LOS	-	-	B	B
HCM 95th %tile Q (veh)	-	-	0.8	0.7

HCM 6th TWSC
2: American Ave & SR 99 NB On Ramp

06/01/2024

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↰			↱			↗		
Traffic Vol, veh/h	46	175	0	0	124	82	0	0	0	0
Future Vol, veh/h	46	175	0	0	124	82	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	-	None	-	-	Free	-	None	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	15	13	3	3	15	12	3	3	3	3
Mvmt Flow	63	240	0	0	170	112	0	0	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	170	0	-	-	-	0	-	240
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	4.25	-	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.335	-	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	1332	-	0	0	-	0	0	796
Stage 1	-	-	0	0	-	0	0	-
Stage 2	-	-	0	0	-	0	0	-
Platoon blocked, %		-			-			
Mov Cap-1 Maneuver	1332	-	-	-	-	-	-	796
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	1.6	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT
Capacity (veh/h)	-	1332	-	-
HCM Lane V/C Ratio	-	0.047	-	-
HCM Control Delay (s/veh)	0	7.8	0	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q (veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations	Y		↑↑	↱	↰	↑↑
Traffic Vol, veh/h	20	18	239	12	19	283
Future Vol, veh/h	20	18	239	12	19	283
Conflicting Peds, #/hr	18	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	42	42	13	13	10	10
Mvmt Flow	22	20	263	13	21	311

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	479	132	0	0	276	0
Stage 1	263	-	-	-	-	-
Stage 2	216	-	-	-	-	-
Critical Hdwy	7.64	7.74	-	-	4.3	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.64	-	-	-	-	-
Follow-up Hdwy	3.92	3.72	-	-	2.3	-
Pot Cap-1 Maneuver	426	779	-	-	1228	-
Stage 1	650	-	-	-	-	-
Stage 2	692	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	412	779	-	-	1228	-
Mov Cap-2 Maneuver	412	-	-	-	-	-
Stage 1	650	-	-	-	-	-
Stage 2	668	-	-	-	-	-

Approach	EB	SE	NW
HCM Control Delay, s/v	12.4	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER
Capacity (veh/h)	1228	-	530	-	-
HCM Lane V/C Ratio	0.017	-	0.079	-	-
HCM Control Delay (s/veh)	8	-	12.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q (veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Traffic Vol, veh/h	1	0	1	4	0	0	3	537	1	3	749	1
Future Vol, veh/h	1	0	1	4	0	0	3	537	1	3	749	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	25	25	33	38	90	25	75	92	25
Heavy Vehicles, %	42	3	42	3	3	3	33	8	3	33	12	3
Mvmt Flow	4	0	4	16	0	0	8	597	4	4	814	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1139	1441	409	1030	1441	301	818	0	0	601	0	0
Stage 1	824	824	-	615	615	-	-	-	-	-	-	-
Stage 2	315	617	-	415	826	-	-	-	-	-	-	-
Critical Hdwy	8.34	6.56	7.74	7.56	6.56	6.96	4.76	-	-	4.76	-	-
Critical Hdwy Stg 1	7.34	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.34	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.92	4.03	3.72	3.53	4.03	3.33	2.53	-	-	2.53	-	-
Pot Cap-1 Maneuver	115	130	493	186	130	692	634	-	-	788	-	-
Stage 1	259	383	-	443	478	-	-	-	-	-	-	-
Stage 2	571	477	-	583	382	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	114	128	493	182	128	692	634	-	-	788	-	-
Mov Cap-2 Maneuver	114	128	-	182	128	-	-	-	-	-	-	-
Stage 1	256	381	-	437	472	-	-	-	-	-	-	-
Stage 2	564	471	-	575	380	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	25.3	26.7	0.1	0
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	634	-	-	185	182	788	-	-
HCM Lane V/C Ratio	0.012	-	-	0.043	0.088	0.005	-	-
HCM Control Delay (s/veh)	10.8	-	-	25.3	26.7	9.6	-	-
HCM Lane LOS	B	-	-	D	D	A	-	-
HCM 95th %tile Q (veh)	0	-	-	0.1	0.3	0	-	-

HCM 6th TWSC
5: Clovis Ave & Lincoln Ave

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	↰↱		↶	↑↑↱		↰	↑↑
Traffic Vol, veh/h	16	26	0	516	15	30	720
Future Vol, veh/h	16	26	0	516	15	30	720
Conflicting Peds, #/hr	26	0	0	0	15	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	75	-	-	150	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	97	97	92	97	97	97	97
Heavy Vehicles, %	12	3	3	8	6	3	12
Mvmt Flow	16	27	0	532	15	31	742

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	1014	289	742	0	0	562	0
Stage 1	555	-	-	-	-	-	-
Stage 2	459	-	-	-	-	-	-
Critical Hdwy	7.04	6.96	6.46	-	-	4.16	-
Critical Hdwy Stg 1	6.04	-	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-	-
Follow-up Hdwy	3.62	3.33	2.53	-	-	2.23	-
Pot Cap-1 Maneuver	218	705	482	-	-	999	-
Stage 1	511	-	-	-	-	-	-
Stage 2	575	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	203	695	482	-	-	985	-
Mov Cap-2 Maneuver	203	-	-	-	-	-	-
Stage 1	504	-	-	-	-	-	-
Stage 2	543	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	16.3	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	482	-	-	361	985	-
HCM Lane V/C Ratio	-	-	-	0.12	0.031	-
HCM Control Delay (s/veh)	0	-	-	16.3	8.8	-
HCM Lane LOS	A	-	-	C	A	-
HCM 95th %tile Q (veh)	0	-	-	0.4	0.1	-

6: Fowler Ave & Lincoln Ave

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	0	26	17	8	32	5	12	31	60	9	47	1
Future Vol, veh/h	0	26	17	8	32	5	12	31	60	9	47	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	29	19	9	36	6	13	34	67	10	52	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	188	200	53	191	167	68	53	0	0	101	0	0
Stage 1	73	73	-	94	94	-	-	-	-	-	-	-
Stage 2	115	127	-	97	73	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	770	694	1012	767	724	992	1546	-	-	1485	-	-
Stage 1	934	832	-	910	815	-	-	-	-	-	-	-
Stage 2	887	789	-	907	832	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	728	683	1012	719	712	992	1546	-	-	1485	-	-
Mov Cap-2 Maneuver	728	683	-	719	712	-	-	-	-	-	-	-
Stage 1	926	826	-	902	808	-	-	-	-	-	-	-
Stage 2	836	782	-	853	826	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.9	10.2	0.9	1.2
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1546	-	-	784	736	1485	-	-
HCM Lane V/C Ratio	0.009	-	-	0.061	0.068	0.007	-	-
HCM Control Delay (s/veh)	7.3	0	-	9.9	10.2	7.4	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0.2	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↰↑↱			↰↑↱			↰↑	↱		↰↑↱	
Traffic Vol, veh/h	0	1	0	1	0	2	0	150	2	0	266	1
Future Vol, veh/h	0	1	0	1	0	2	0	150	2	0	266	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	125	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	50	3	50	3	13	3	3	7	3
Mvmt Flow	0	1	0	1	0	2	0	160	2	0	283	1

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	302	444	80	365	446	142	284	0	0	162	0	0
Stage 1	160	160	-	284	284	-	-	-	-	-	-	-
Stage 2	142	284	-	81	162	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	8.5	6.56	7.9	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	7.5	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	7.5	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	4	4.03	3.8	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	625	505	961	462	503	747	1268	-	-	1407	-	-
Stage 1	823	762	-	581	673	-	-	-	-	-	-	-
Stage 2	843	673	-	795	761	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	623	505	961	461	503	747	1268	-	-	1407	-	-
Mov Cap-2 Maneuver	623	505	-	461	503	-	-	-	-	-	-	-
Stage 1	823	762	-	581	673	-	-	-	-	-	-	-
Stage 2	841	673	-	794	761	-	-	-	-	-	-	-

Approach	EB	WB	SE	NW
HCM Control Delay, s/v	12.1	10.8	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	1407	-	-	505	619	1268	-	-
HCM Lane V/C Ratio	-	-	-	0.002	0.005	-	-	-
HCM Control Delay (s/veh)	0	-	-	12.1	10.8	0	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q (veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	1	4	3	47	71	2
Future Vol, veh/h	1	4	3	47	71	2
Conflicting Peds, #/hr	4	0	0	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	3	3	33	4	3	50
Mvmt Flow	1	6	4	67	101	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	184	105	106	0	-	0
Stage 1	105	-	-	-	-	-
Stage 2	79	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.43	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.497	-	-	-
Pot Cap-1 Maneuver	803	947	1313	-	-	-
Stage 1	917	-	-	-	-	-
Stage 2	942	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	797	945	1310	-	-	-
Mov Cap-2 Maneuver	797	-	-	-	-	-
Stage 1	912	-	-	-	-	-
Stage 2	940	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1310	-	911	-	-
HCM Lane V/C Ratio	0.003	-	0.008	-	-
HCM Control Delay (s/veh)	7.8	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0	-	0	-	-

HCM 6th TWSC
9: Clovis Ave & SR 99 NB On Ramp/SR 99 NB Off Ramp

06/01/2024

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰		↱	↰	↑↑			↑↱	
Traffic Vol, veh/h	0	0	0	29	0	416	118	139	0	0	702	19
Future Vol, veh/h	0	0	0	29	0	416	118	139	0	0	702	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	225	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	9	4	10	3	3	15	10
Mvmt Flow	0	0	0	31	0	438	124	146	0	0	739	20

Major/Minor				Minor1			Major1			Major2		
Conflicting Flow All				764	-	-	759	0	-	-	-	0
Stage 1				394	-	-	-	-	-	-	-	-
Stage 2				370	-	-	-	-	-	-	-	-
Critical Hdwy				6.86	-	-	4.18	-	-	-	-	-
Critical Hdwy Stg 1				5.86	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2				5.86	-	-	-	-	-	-	-	-
Follow-up Hdwy				3.53	-	-	2.24	-	-	-	-	-
Pot Cap-1 Maneuver				338	0	0	835	-	0	0	-	-
Stage 1				647	0	0	-	-	0	0	-	-
Stage 2				666	0	0	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				288	0	-	835	-	-	-	-	-
Mov Cap-2 Maneuver				288	0	-	-	-	-	-	-	-
Stage 1				551	0	-	-	-	-	-	-	-
Stage 2				666	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	19	4.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	835	-	288	-	-	-
HCM Lane V/C Ratio	0.149	-	0.106	-	-	-
HCM Control Delay (s/veh)	10.1	-	19	0	-	-
HCM Lane LOS	B	-	C	A	-	-
HCM 95th %tile Q (veh)	0.5	-	0.4	-	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations		↱	↳		↰	
Traffic Vol, veh/h	0	37	72	21	42	0
Future Vol, veh/h	0	37	72	21	42	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	11	13	5	3	3
Mvmt Flow	0	40	77	23	45	0

Major/Minor			Major1		Minor2	
Conflicting Flow All			0	-	77	-
Stage 1			-	-	0	-
Stage 2			-	-	77	-
Critical Hdwy			-	-	6.43	-
Critical Hdwy Stg 1			-	-	-	-
Critical Hdwy Stg 2			-	-	5.43	-
Follow-up Hdwy			-	-	3.527	-
Pot Cap-1 Maneuver			-	0	924	0
Stage 1			-	0	-	0
Stage 2			-	0	943	0
Platoon blocked, %			-			
Mov Cap-1 Maneuver			-	-	924	0
Mov Cap-2 Maneuver			-	-	924	0
Stage 1			-	-	-	0
Stage 2			-	-	943	0

Approach	SE	NW
HCM Control Delay, s/v	0	9.1
HCM LOS		A

Minor Lane/Major Mvmt	NWLn1	SET
Capacity (veh/h)	924	-
HCM Lane V/C Ratio	0.049	-
HCM Control Delay (s/veh)	9.1	-
HCM Lane LOS	A	-
HCM 95th %tile Q (veh)	0.2	-

Intersection	
Int Delay, s/veh	12.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱				↖	↑↱		↖	↑↱	
Traffic Vol, veh/h	25	17	58	0	0	0	4	232	9	545	151	41
Future Vol, veh/h	25	17	58	0	0	0	4	232	9	545	151	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	8	24	10	3	3	3	3	8	22	12	23	3
Mvmt Flow	27	18	62	0	0	0	4	247	10	580	161	44

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	1475	1598	103				205	0	0	247	0	0
Stage 1	1343	1343	-				-	-	-	-	-	-
Stage 2	132	255	-				-	-	-	-	-	-
Critical Hdwy	6.96	6.98	7.1				4.16	-	-	4.34	-	-
Critical Hdwy Stg 1	5.96	5.98	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.96	5.98	-				-	-	-	-	-	-
Follow-up Hdwy	3.58	4.24	3.4				2.23	-	-	2.32	-	-
Pot Cap-1 Maneuver	111	85	907				1356	-	-	1246	-	-
Stage 1	197	182	-				-	-	-	-	-	-
Stage 2	862	644	-				-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	59	0	907				1356	-	-	1246	-	-
Mov Cap-2 Maneuver	59	0	-				-	-	-	-	-	-
Stage 1	196	0	-				-	-	-	-	-	-
Stage 2	461	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	74.9	0.1	7.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	SBL	SBT	SBR
Capacity (veh/h)	1356	-	-	59	907	1246	-	-
HCM Lane V/C Ratio	0.003	-	-	0.757	0.068	0.465	-	-
HCM Control Delay (s/veh)	7.7	-	-	165.6	9.3	10.4	-	-
HCM Lane LOS	A	-	-	F	A	B	-	-
HCM 95th %tile Q (veh)	0	-	-	3.3	0.2	2.5	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↰↱	
Traffic Vol, veh/h	119	0	0	72	1	107
Future Vol, veh/h	119	0	0	72	1	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	4	3	3	3	3	7
Mvmt Flow	138	0	0	84	1	124

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	222	138
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	84	-
Critical Hdwy	-	-	-	-	6.43	6.27
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	-	-	3.527	3.363
Pot Cap-1 Maneuver	-	0	0	-	764	897
Stage 1	-	0	0	-	886	-
Stage 2	-	0	0	-	937	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	764	897
Mov Cap-2 Maneuver	-	-	-	-	764	-
Stage 1	-	-	-	-	886	-
Stage 2	-	-	-	-	937	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	905	-	-
HCM Lane V/C Ratio	0.139	-	-
HCM Control Delay (s/veh)	9.6	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q (veh)	0.5	-	-

HCM 6th TWSC
13: Adams Ave & SR 99 NB On Ramp

06/01/2024

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑			↱			↱		
Traffic Vol, veh/h	0	226	0	0	75	279	0	0	0	0
Future Vol, veh/h	0	226	0	0	75	279	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	5	3	3	3	4	3	3	3	3
Mvmt Flow	0	238	0	0	79	294	0	0	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	-	0	-	-	-	0	-	238
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	0	-	0	0	-	-	0	798
Stage 1	0	-	0	0	-	-	0	-
Stage 2	0	-	0	0	-	-	0	-
Platoon blocked, %		-			-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	798
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	WBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q (veh)	-	-	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					✥		↰	↑			↱	
Traffic Vol, veh/h	0	0	0	12	0	125	161	568	0	0	307	210
Future Vol, veh/h	0	0	0	12	0	125	161	568	0	0	307	210
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	20	3	10	4	3	3	3	7	3
Mvmt Flow	0	0	0	13	0	136	175	617	0	0	334	228

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1415	1529	617	562	0	-	-	-	0
Stage 1	967	967	-	-	-	-	-	-	-
Stage 2	448	562	-	-	-	-	-	-	-
Critical Hdwy	6.6	6.53	6.3	4.14	-	-	-	-	-
Critical Hdwy Stg 1	5.6	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.6	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.027	3.39	2.236	-	-	-	-	-
Pot Cap-1 Maneuver	138	117	476	999	-	0	0	-	-
Stage 1	342	331	-	-	-	0	0	-	-
Stage 2	607	508	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	114	0	476	999	-	-	-	-	-
Mov Cap-2 Maneuver	114	0	-	-	-	-	-	-	-
Stage 1	282	0	-	-	-	-	-	-	-
Stage 2	607	0	-	-	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s/v	21	2.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NEL	NET	NWLn1	SWT	SWR
Capacity (veh/h)	999	-	372	-	-
HCM Lane V/C Ratio	0.175	-	0.4	-	-
HCM Control Delay (s/veh)	9.4	-	21	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q (veh)	0.6	-	1.9	-	-

Intersection	
Intersection Delay, s/veh	20.9
Intersection LOS	C

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		✥			✥			↱		↰	↑	
Traffic Vol, veh/h	202	85	14	10	0	326	0	201	27	217	98	0
Future Vol, veh/h	202	85	14	10	0	326	0	201	27	217	98	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	7	10	3	10	3	3	3	3	4	6	9	3
Mvmt Flow	222	93	15	11	0	358	0	221	30	238	108	0
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	23.8	22.5	18.4	18.1
HCM LOS	C	C	C	C

Lane	NELn1	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	0%	3%	67%	100%	0%
Vol Thru, %	88%	0%	28%	0%	100%
Vol Right, %	12%	97%	5%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	228	336	301	217	98
LT Vol	0	10	202	217	0
Through Vol	201	0	85	0	98
RT Vol	27	326	14	0	0
Lane Flow Rate	251	369	331	238	108
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.52	0.677	0.668	0.546	0.233
Departure Headway (Hd)	7.474	6.605	7.269	8.238	7.776
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	481	546	496	439	462
Service Time	5.533	4.657	5.322	5.99	5.528
HCM Lane V/C Ratio	0.522	0.676	0.667	0.542	0.234
HCM Control Delay, s/veh	18.4	22.5	23.8	20.5	12.9
HCM Lane LOS	C	C	C	C	B
HCM 95th-tile Q	2.9	5.1	4.9	3.2	0.9

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	0	247	65	0	73	34
Future Vol, veh/h	0	247	65	0	73	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	225
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	3	5	11	3	11	3
Mvmt Flow	0	305	80	0	90	42

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	385	80
Stage 1	-	-	-	-	80	-
Stage 2	-	-	-	-	305	-
Critical Hdwy	-	-	-	-	6.51	6.23
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	-	-	3.599	3.327
Pot Cap-1 Maneuver	0	-	-	0	601	977
Stage 1	0	-	-	0	921	-
Stage 2	0	-	-	0	728	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	601	977
Mov Cap-2 Maneuver	-	-	-	-	601	-
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	728	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	601	977
HCM Lane V/C Ratio	-	-	0.15	0.043
HCM Control Delay (s/veh)	-	-	12	8.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q (veh)	-	-	0.5	0.1

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↰			↱			↱		
Traffic Vol, veh/h	116	203	0	0	65	139	0	0	0	0
Future Vol, veh/h	116	203	0	0	65	139	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	-	None	-	-	Free	-	None	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	7	6	3	3	10	6	3	3	3	3
Mvmt Flow	145	254	0	0	81	174	0	0	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	81	0	-	-	-	0	-	254
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	4.17	-	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.263	-	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	1486	-	0	0	-	0	0	782
Stage 1	-	-	0	0	-	0	0	-
Stage 2	-	-	0	0	-	0	0	-
Platoon blocked, %		-			-			
Mov Cap-1 Maneuver	1486	-	-	-	-	-	-	782
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	2.8	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT
Capacity (veh/h)	-	1486	-	-
HCM Lane V/C Ratio	-	0.098	-	-
HCM Control Delay (s/veh)	0	7.7	0	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q (veh)	-	0.3	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations	Y		↑↑	↱	↰	↑↑
Traffic Vol, veh/h	40	31	359	5	10	254
Future Vol, veh/h	40	31	359	5	10	254
Conflicting Peds, #/hr	18	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	3	13	6	20	30	5
Mvmt Flow	49	38	438	6	12	310

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	635	219	0	0	444	0
Stage 1	438	-	-	-	-	-
Stage 2	197	-	-	-	-	-
Critical Hdwy	6.86	7.16	-	-	4.7	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.43	-	-	2.5	-
Pot Cap-1 Maneuver	409	752	-	-	937	-
Stage 1	615	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	397	752	-	-	937	-
Mov Cap-2 Maneuver	397	-	-	-	-	-
Stage 1	615	-	-	-	-	-
Stage 2	790	-	-	-	-	-

Approach	EB	SE	NW
HCM Control Delay, s/v	13.7	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER
Capacity (veh/h)	937	-	500	-	-
HCM Lane V/C Ratio	0.013	-	0.173	-	-
HCM Control Delay (s/veh)	8.9	-	13.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q (veh)	0	-	0.6	-	-

4: Clovis Ave & Jefferson Ave

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Traffic Vol, veh/h	1	0	0	0	0	1	3	766	0	2	613	0
Future Vol, veh/h	1	0	0	0	0	1	3	766	0	2	613	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	25	25	25	38	93	25	25	96	25
Heavy Vehicles, %	3	3	3	3	3	3	3	7	3	50	7	3
Mvmt Flow	4	0	0	0	0	4	8	824	0	8	639	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1083	1495	320	1176	1495	412	639	0	0	824	0	0
Stage 1	655	655	-	840	840	-	-	-	-	-	-	-
Stage 2	428	840	-	336	655	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	5.1	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.7	-	-
Pot Cap-1 Maneuver	170	121	673	145	121	586	934	-	-	556	-	-
Stage 1	419	458	-	324	377	-	-	-	-	-	-	-
Stage 2	572	377	-	649	458	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	166	118	673	143	118	586	934	-	-	556	-	-
Mov Cap-2 Maneuver	166	118	-	143	118	-	-	-	-	-	-	-
Stage 1	415	452	-	321	374	-	-	-	-	-	-	-
Stage 2	563	374	-	640	452	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	27.2	11.2	0.1	0.1
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	934	-	-	166	586	556	-	-
HCM Lane V/C Ratio	0.008	-	-	0.024	0.007	0.014	-	-
HCM Control Delay (s/veh)	8.9	-	-	27.2	11.2	11.6	-	-
HCM Lane LOS	A	-	-	D	B	B	-	-
HCM 95th %tile Q (veh)	0	-	-	0.1	0	0	-	-

HCM 6th TWSC
5: Clovis Ave & Lincoln Ave

06/01/2024

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	↰↱		⮌	↑↑↱		↰	↑↑
Traffic Vol, veh/h	18	18	0	757	25	39	572
Future Vol, veh/h	18	18	0	757	25	39	572
Conflicting Peds, #/hr	18	0	0	0	15	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	75	-	-	150	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	94	94	92	94	94	94	94
Heavy Vehicles, %	11	3	3	8	12	3	7
Mvmt Flow	19	19	0	805	27	41	609

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	1239	431	609	0	0	847	0
Stage 1	834	-	-	-	-	-	-
Stage 2	405	-	-	-	-	-	-
Critical Hdwy	7.02	6.96	6.46	-	-	4.16	-
Critical Hdwy Stg 1	6.02	-	-	-	-	-	-
Critical Hdwy Stg 2	6.02	-	-	-	-	-	-
Follow-up Hdwy	3.61	3.33	2.53	-	-	2.23	-
Pot Cap-1 Maneuver	155	570	586	-	-	780	-
Stage 1	365	-	-	-	-	-	-
Stage 2	616	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	142	562	586	-	-	769	-
Mov Cap-2 Maneuver	142	-	-	-	-	-	-
Stage 1	360	-	-	-	-	-	-
Stage 2	573	-	-	-	-	-	-

Approach	WB		NB			SB	
HCM Control Delay, s/v	24.1		0			0.6	
HCM LOS	C						

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	586	-	-	227	769	-
HCM Lane V/C Ratio	-	-	-	0.169	0.054	-
HCM Control Delay (s/veh)	0	-	-	24.1	9.9	-
HCM Lane LOS	A	-	-	C	A	-
HCM 95th %tile Q (veh)	0	-	-	0.6	0.2	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	0	50	14	3	29	5	6	66	2	3	53	2
Future Vol, veh/h	0	50	14	3	29	5	6	66	2	3	53	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	56	16	3	32	6	7	73	2	3	59	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	173	155	60	190	155	74	61	0	0	75	0	0
Stage 1	66	66	-	88	88	-	-	-	-	-	-	-
Stage 2	107	89	-	102	67	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	788	735	1003	768	735	985	1536	-	-	1518	-	-
Stage 1	942	838	-	917	820	-	-	-	-	-	-	-
Stage 2	896	819	-	902	837	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	753	730	1003	708	730	985	1536	-	-	1518	-	-
Mov Cap-2 Maneuver	753	730	-	708	730	-	-	-	-	-	-	-
Stage 1	937	836	-	912	816	-	-	-	-	-	-	-
Stage 2	851	815	-	827	835	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.1	10.1	0.6	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1536	-	-	776	754	1518	-	-
HCM Lane V/C Ratio	0.004	-	-	0.092	0.055	0.002	-	-
HCM Control Delay (s/veh)	7.4	0	-	10.1	10.1	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0.3	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		✣			✣			↰↑	↱		↰↱	
Traffic Vol, veh/h	0	3	0	2	0	1	2	391	0	1	191	5
Future Vol, veh/h	0	3	0	2	0	1	2	391	0	1	191	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	125	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	3	3	3	50	3	3	3	6	3	3	9	3
Mvmt Flow	0	4	0	2	0	1	2	471	0	1	230	6

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	592	713	236	477	710	118	236	0	0	471	0	0
Stage 1	475	475	-	235	235	-	-	-	-	-	-	-
Stage 2	117	238	-	242	475	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	8.5	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	7.5	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	7.5	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	4	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	388	354	763	376	355	908	1321	-	-	1080	-	-
Stage 1	537	553	-	627	707	-	-	-	-	-	-	-
Stage 2	872	705	-	620	553	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	386	353	763	372	354	908	1321	-	-	1080	-	-
Mov Cap-2 Maneuver	386	353	-	372	354	-	-	-	-	-	-	-
Stage 1	536	552	-	626	706	-	-	-	-	-	-	-
Stage 2	870	704	-	615	552	-	-	-	-	-	-	-

Approach	EB	WB	SE	NW
HCM Control Delay, s/v	15.3	12.8	0	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	1080	-	-	353	463	1321	-	-
HCM Lane V/C Ratio	0.001	-	-	0.01	0.008	0.002	-	-
HCM Control Delay (s/veh)	8.3	0	-	15.3	12.8	7.7	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0	0	0	-	-

HCM 6th TWSC
8: Fowler Ave & Clayton Ave

06/01/2024

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↱			↰	↱	
Traffic Vol, veh/h	4	2	4	47	71	1
Future Vol, veh/h	4	2	4	47	71	1
Conflicting Peds, #/hr	4	0	0	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	3	3	3	6	4	50
Mvmt Flow	5	2	5	57	86	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	160	89	89	0	-	0
Stage 1	89	-	-	-	-	-
Stage 2	71	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	829	966	1500	-	-	-
Stage 1	932	-	-	-	-	-
Stage 2	949	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	823	964	1497	-	-	-
Mov Cap-2 Maneuver	823	-	-	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	947	-	-	-	-	-

Approach	EB		NB		SB	
HCM Control Delay, s/v	9.2		0.6		0	
HCM LOS	A					

Minor Lane/Major Mvmt		NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1497	-	865	-	-
HCM Lane V/C Ratio		0.003	-	0.008	-	-
HCM Control Delay (s/veh)		7.4	0	9.2	-	-
HCM Lane LOS		A	A	A	-	-
HCM 95th %tile Q (veh)		0	-	0	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰		↱	↰	↑↑			↑↱	
Traffic Vol, veh/h	0	0	0	24	0	573	68	196	0	0	605	27
Future Vol, veh/h	0	0	0	24	0	573	68	196	0	0	605	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	225	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	20	3	9	3	9	3	3	9	15
Mvmt Flow	0	0	0	25	0	591	70	202	0	0	624	28

Major/Minor				Minor1			Major1			Major2		
Conflicting Flow All				654	-	-	652	0	-	-	-	0
Stage 1				342	-	-	-	-	-	-	-	-
Stage 2				312	-	-	-	-	-	-	-	-
Critical Hdwy				7.2	-	-	4.16	-	-	-	-	-
Critical Hdwy Stg 1				6.2	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2				6.2	-	-	-	-	-	-	-	-
Follow-up Hdwy				3.7	-	-	2.23	-	-	-	-	-
Pot Cap-1 Maneuver				361	0	0	924	-	0	0	-	-
Stage 1				640	0	0	-	-	0	0	-	-
Stage 2				665	0	0	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				334	0	-	924	-	-	-	-	-
Mov Cap-2 Maneuver				334	0	-	-	-	-	-	-	-
Stage 1				591	0	-	-	-	-	-	-	-
Stage 2				665	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	16.6	2.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	924	-	334	-	-	-
HCM Lane V/C Ratio	0.076	-	0.074	-	-	-
HCM Control Delay (s/veh)	9.2	-	16.6	0	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q (veh)	0.2	-	0.2	-	-	-

HCM 6th TWSC
10: Clayton Ave & SR 99 Sb Off Ramp

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations		↱	↳		↰	
Traffic Vol, veh/h	0	62	196	14	33	0
Future Vol, veh/h	0	62	196	14	33	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	67	67	67	67	67	67
Heavy Vehicles, %	3	10	4	21	12	3
Mvmt Flow	0	93	293	21	49	0

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	-	293	-
Stage 1	-	-	0	-
Stage 2	-	-	293	-
Critical Hdwy	-	-	6.52	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.52	-
Follow-up Hdwy	-	-	3.608	-
Pot Cap-1 Maneuver	-	0	677	0
Stage 1	-	0	-	0
Stage 2	-	0	735	0
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	-	677	0
Mov Cap-2 Maneuver	-	-	677	0
Stage 1	-	-	-	0
Stage 2	-	-	735	0

Approach	SE	NW
HCM Control Delay, s/v	0	10.7
HCM LOS		B

Minor Lane/Major Mvmt	NWLn1	SET
Capacity (veh/h)	677	-
HCM Lane V/C Ratio	0.073	-
HCM Control Delay (s/veh)	10.7	-
HCM Lane LOS	B	-
HCM 95th %tile Q (veh)	0.2	-

HCM 6th TWSC
11: Clovis Ave & Clayton Ave/SR 99 SB On Ramp

06/01/2024

Intersection	
Int Delay, s/veh	29.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱				↰	↑↱		↰	↑↱	
Traffic Vol, veh/h	65	24	170	0	0	0	2	201	10	427	173	31
Future Vol, veh/h	65	24	170	0	0	0	2	201	10	427	173	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	6	3	6	3	3	3	3	7	20	8	4	13
Mvmt Flow	77	29	202	0	0	0	2	239	12	508	206	37

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	1365	1484	122				243	0	0	239	0	0
Stage 1	1241	1241	-				-	-	-	-	-	-
Stage 2	124	243	-				-	-	-	-	-	-
Critical Hdwy	6.92	6.56	7.02				4.16	-	-	4.26	-	-
Critical Hdwy Stg 1	5.92	5.56	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.92	5.56	-				-	-	-	-	-	-
Follow-up Hdwy	3.56	4.03	3.36				2.23	-	-	2.28	-	-
Pot Cap-1 Maneuver	134	123	894				1313	-	-	1282	-	-
Stage 1	228	243	-				-	-	-	-	-	-
Stage 2	876	701	-				-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	81	0	894				1313	-	-	1282	-	-
Mov Cap-2 Maneuver	81	0	-				-	-	-	-	-	-
Stage 1	228	0	-				-	-	-	-	-	-
Stage 2	529	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	108	0.1	6.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	SBL	SBT	SBR
Capacity (veh/h)	1313	-	-	81	894	1282	-	-
HCM Lane V/C Ratio	0.002	-	-	1.308	0.226	0.397	-	-
HCM Control Delay (s/veh)	7.7	-	-	294.7	10.2	9.6	-	-
HCM Lane LOS	A	-	-	F	B	A	-	-
HCM 95th %tile Q (veh)	0	-	-	8.1	0.9	1.9	-	-

Intersection	
Int Delay, s/veh	5.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	Y	
Traffic Vol, veh/h	123	0	0	63	3	207
Future Vol, veh/h	123	0	0	63	3	207
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	5	3	3	7	3	3
Mvmt Flow	141	0	0	72	3	238

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	213	141
Stage 1	-	-	-	-	141	-
Stage 2	-	-	-	-	72	-
Critical Hdwy	-	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	-	0	0	-	773	904
Stage 1	-	0	0	-	883	-
Stage 2	-	0	0	-	948	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	773	904
Mov Cap-2 Maneuver	-	-	-	-	773	-
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	948	-

Approach	EB		WB		NB
HCM Control Delay, s/v	0		0		10.3
HCM LOS					B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	917	-	-
HCM Lane V/C Ratio	0.263	-	-
HCM Control Delay (s/veh)	10.3	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q (veh)	1.1	-	-

HCM 6th TWSC
13: Adams Ave & SR 99 NB On Ramp

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑			↱			↗		
Traffic Vol, veh/h	0	336	0	0	63	171	0	0	0	0
Future Vol, veh/h	0	336	0	0	63	171	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	3	4	3	3	5	5	3	3	3	3
Mvmt Flow	0	386	0	0	72	197	0	0	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	-	0	-	-	-	0	-	386
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	0	-	0	0	-	-	0	660
Stage 1	0	-	0	0	-	-	0	-
Stage 2	0	-	0	0	-	-	0	-
Platoon blocked, %		-			-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	660
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	WBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q (veh)	-	-	-	-

HCM 6th TWSC
15: Merced St. & SR 99 NB Ramps

Intersection	
Int Delay, s/veh	3.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					✥		↰	↑			↱	
Traffic Vol, veh/h	0	0	0	24	4	112	152	386	0	0	306	188
Future Vol, veh/h	0	0	0	24	4	112	152	386	0	0	306	188
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	4	20	8	7	3	3	3	3	4
Mvmt Flow	0	0	0	26	4	119	162	411	0	0	326	200

Major/Minor				Minor1			Major1			Major2		
Conflicting Flow All				1161	1261	411	526	0	-	-	-	0
Stage 1				735	735	-	-	-	-	-	-	-
Stage 2				426	526	-	-	-	-	-	-	-
Critical Hdwy				6.44	6.7	6.28	4.17	-	-	-	-	-
Critical Hdwy Stg 1				5.44	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2				5.44	5.7	-	-	-	-	-	-	-
Follow-up Hdwy				3.536	4.18	3.372	2.263	-	-	-	-	-
Pot Cap-1 Maneuver				214	157	628	1016	-	0	0	-	-
Stage 1				471	400	-	-	-	0	0	-	-
Stage 2				655	500	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				180	0	628	1016	-	-	-	-	-
Mov Cap-2 Maneuver				180	0	-	-	-	-	-	-	-
Stage 1				396	0	-	-	-	-	-	-	-
Stage 2				655	0	-	-	-	-	-	-	-

Approach				NW			NE			SW		
HCM Control Delay, s/v				17.5			2.6			0		
HCM LOS				C								

Minor Lane/Major Mvmt	NEL	NET	NWLn1	SWT	SWR
Capacity (veh/h)	1016	-	436	-	-
HCM Lane V/C Ratio	0.159	-	0.342	-	-
HCM Control Delay (s/veh)	9.2	-	17.5	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q (veh)	0.6	-	1.5	-	-

HCM 6th AWSC
14: Sumner Ave/ Merced St. & Fowler Ave/SR 99 SB Off Ramps

Intersection	
Intersection Delay, s/veh	15.2
Intersection LOS	C

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		✣			✣			↱		↰	↑	
Traffic Vol, veh/h	172	126	32	13	0	233	0	135	32	215	116	0
Future Vol, veh/h	172	126	32	13	0	233	0	135	32	215	116	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	3	3	3	3	3	4	3	3	3	3	3	3
Mvmt Flow	183	134	34	14	0	248	0	144	34	229	123	0
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	18.4	13.2	12.9	14.7
HCM LOS	C	B	B	B

Lane	NELn1	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	0%	5%	52%	100%	0%
Vol Thru, %	81%	0%	38%	0%	100%
Vol Right, %	19%	95%	10%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	167	246	330	215	116
LT Vol	0	13	172	215	0
Through Vol	135	0	126	0	116
RT Vol	32	233	32	0	0
Lane Flow Rate	178	262	351	229	123
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.328	0.426	0.606	0.465	0.233
Departure Headway (Hd)	6.644	5.856	6.219	7.312	6.801
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	540	615	579	492	528
Service Time	4.697	3.901	4.261	5.058	4.547
HCM Lane V/C Ratio	0.33	0.426	0.606	0.465	0.233
HCM Control Delay, s/veh	12.9	13.2	18.4	16.3	11.6
HCM Lane LOS	B	B	C	C	B
HCM 95th-tile Q	1.4	2.1	4	2.4	0.9

EXISTING PLUS PROJECT

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	0	102	122	0	154	134
Future Vol, veh/h	0	102	122	0	154	134
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	225
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	79	79	79	79	79	79
Heavy Vehicles, %	3	17	18	3	13	7
Mvmt Flow	0	129	154	0	195	170

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	283	154
Stage 1	-	-	-	-	154	-
Stage 2	-	-	-	-	129	-
Critical Hdwy	-	-	-	-	6.53	6.27
Critical Hdwy Stg 1	-	-	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	5.53	-
Follow-up Hdwy	-	-	-	-	3.617	3.363
Pot Cap-1 Maneuver	0	-	-	0	684	879
Stage 1	0	-	-	0	848	-
Stage 2	0	-	-	0	870	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	684	879
Mov Cap-2 Maneuver	-	-	-	-	684	-
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	870	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	684	879
HCM Lane V/C Ratio	-	-	0.285	0.193
HCM Control Delay (s/veh)	-	-	12.3	10.1
HCM Lane LOS	-	-	B	B
HCM 95th %tile Q (veh)	-	-	1.2	0.7

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↰			↱			↱		
Traffic Vol, veh/h	46	214	0	0	124	88	0	0	0	0
Future Vol, veh/h	46	214	0	0	124	88	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	-	None	-	-	Free	-	None	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	15	13	3	3	15	12	3	3	3	3
Mvmt Flow	63	293	0	0	170	121	0	0	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	170	0	-	-	-	0	-	293
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	4.25	-	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.335	-	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	1332	-	0	0	-	0	0	744
Stage 1	-	-	0	0	-	0	0	-
Stage 2	-	-	0	0	-	0	0	-
Platoon blocked, %		-			-			
Mov Cap-1 Maneuver	1332	-	-	-	-	-	-	744
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	1.4	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT
Capacity (veh/h)	-	1332	-	-
HCM Lane V/C Ratio	-	0.047	-	-
HCM Control Delay (s/veh)	0	7.8	0	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q (veh)	-	0.1	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations	Y		↑↑	↱	↰	↑↑
Traffic Vol, veh/h	20	18	278	12	19	289
Future Vol, veh/h	20	18	278	12	19	289
Conflicting Peds, #/hr	18	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	42	42	13	13	10	10
Mvmt Flow	22	20	305	13	21	318

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	524	153	0	0	318	0
Stage 1	305	-	-	-	-	-
Stage 2	219	-	-	-	-	-
Critical Hdwy	7.64	7.74	-	-	4.3	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.64	-	-	-	-	-
Follow-up Hdwy	3.92	3.72	-	-	2.3	-
Pot Cap-1 Maneuver	396	753	-	-	1183	-
Stage 1	615	-	-	-	-	-
Stage 2	689	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	382	753	-	-	1183	-
Mov Cap-2 Maneuver	382	-	-	-	-	-
Stage 1	615	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	EB		SE		NW	
HCM Control Delay, s/v	12.9		0		0.5	
HCM LOS	B					

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER
Capacity (veh/h)	1183	-	498	-	-
HCM Lane V/C Ratio	0.018	-	0.084	-	-
HCM Control Delay (s/veh)	8.1	-	12.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q (veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Traffic Vol, veh/h	1	0	1	4	0	0	3	539	1	3	762	1
Future Vol, veh/h	1	0	1	4	0	0	3	539	1	3	762	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	25	25	33	38	90	25	75	92	25
Heavy Vehicles, %	42	3	42	3	3	3	33	8	3	33	12	3
Mvmt Flow	4	0	4	16	0	0	8	599	4	4	828	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1154	1457	416	1039	1457	302	832	0	0	603	0	0
Stage 1	838	838	-	617	617	-	-	-	-	-	-	-
Stage 2	316	619	-	422	840	-	-	-	-	-	-	-
Critical Hdwy	8.34	6.56	7.74	7.56	6.56	6.96	4.76	-	-	4.76	-	-
Critical Hdwy Stg 1	7.34	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.34	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.92	4.03	3.72	3.53	4.03	3.33	2.53	-	-	2.53	-	-
Pot Cap-1 Maneuver	111	127	487	183	127	691	625	-	-	786	-	-
Stage 1	254	377	-	442	477	-	-	-	-	-	-	-
Stage 2	570	476	-	577	377	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	109	125	487	179	125	691	625	-	-	786	-	-
Mov Cap-2 Maneuver	109	125	-	179	125	-	-	-	-	-	-	-
Stage 1	251	375	-	436	471	-	-	-	-	-	-	-
Stage 2	563	470	-	569	375	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	26.2	27.1	0.1	0
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	625	-	-	178	179	786	-	-
HCM Lane V/C Ratio	0.013	-	-	0.045	0.089	0.005	-	-
HCM Control Delay (s/veh)	10.8	-	-	26.2	27.1	9.6	-	-
HCM Lane LOS	B	-	-	D	D	A	-	-
HCM 95th %tile Q (veh)	0	-	-	0.1	0.3	0	-	-

5: Clovis Ave & Lincoln Ave

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	Y		⤿	↑↑↱		↰	↑↑
Traffic Vol, veh/h	16	26	0	518	15	30	733
Future Vol, veh/h	16	26	0	518	15	30	733
Conflicting Peds, #/hr	26	0	0	0	15	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	75	-	-	150	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	97	97	92	97	97	97	97
Heavy Vehicles, %	12	3	3	8	6	3	12
Mvmt Flow	16	27	0	534	15	31	756

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	1023	290	756	0	0	564	0
Stage 1	557	-	-	-	-	-	-
Stage 2	466	-	-	-	-	-	-
Critical Hdwy	7.04	6.96	6.46	-	-	4.16	-
Critical Hdwy Stg 1	6.04	-	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-	-
Follow-up Hdwy	3.62	3.33	2.53	-	-	2.23	-
Pot Cap-1 Maneuver	215	704	472	-	-	997	-
Stage 1	510	-	-	-	-	-	-
Stage 2	570	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	200	694	472	-	-	983	-
Mov Cap-2 Maneuver	200	-	-	-	-	-	-
Stage 1	503	-	-	-	-	-	-
Stage 2	538	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	16.4	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	472	-	-	358	983	-
HCM Lane V/C Ratio	-	-	-	0.121	0.031	-
HCM Control Delay (s/veh)	0	-	-	16.4	8.8	-
HCM Lane LOS	A	-	-	C	A	-
HCM 95th %tile Q (veh)	0	-	-	0.4	0.1	-

HCM 6th TWSC
6: Fowler Ave & Lincoln Ave

06/01/2024

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	0	26	17	8	32	5	12	33	60	9	60	1
Future Vol, veh/h	0	26	17	8	32	5	12	33	60	9	60	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	29	19	9	36	6	13	37	67	10	67	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	206	218	68	209	185	71	68	0	0	104	0	0
Stage 1	88	88	-	97	97	-	-	-	-	-	-	-
Stage 2	118	130	-	112	88	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	750	678	992	746	708	989	1527	-	-	1481	-	-
Stage 1	917	820	-	907	813	-	-	-	-	-	-	-
Stage 2	884	787	-	891	820	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	708	667	992	699	697	989	1527	-	-	1481	-	-
Mov Cap-2 Maneuver	708	667	-	699	697	-	-	-	-	-	-	-
Stage 1	909	814	-	899	806	-	-	-	-	-	-	-
Stage 2	833	780	-	837	814	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB
HCM Control Delay, s/v	10			10.4			0.8			1
HCM LOS	B			B						

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1527	-	-	766	721	1481	-	-
HCM Lane V/C Ratio	0.009	-	-	0.062	0.069	0.007	-	-
HCM Control Delay (s/veh)	7.4	0	-	10	10.4	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0.2	0.2	0	-	-

HCM 6th TWSC
7: Golden St. Blvd. & Clayton Ave

06/01/2024

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		✥			✥			↰↑↑	↱		↰↑↱	
Traffic Vol, veh/h	0	1	0	9	0	29	18	150	2	0	266	53
Future Vol, veh/h	0	1	0	9	0	29	18	150	2	0	266	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	125	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	50	3	50	3	13	3	3	7	3
Mvmt Flow	0	1	0	10	0	31	19	160	2	0	283	56

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	340	537	80	430	511	170	339	0	0	162	0	0
Stage 1	198	198	-	311	311	-	-	-	-	-	-	-
Stage 2	142	339	-	119	200	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	8.5	6.56	7.9	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	7.5	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	7.5	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	4	4.03	3.8	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	587	447	961	410	462	713	1210	-	-	1407	-	-
Stage 1	782	734	-	557	654	-	-	-	-	-	-	-
Stage 2	843	636	-	750	732	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	554	439	961	404	454	713	1210	-	-	1407	-	-
Mov Cap-2 Maneuver	554	439	-	404	454	-	-	-	-	-	-	-
Stage 1	769	722	-	548	654	-	-	-	-	-	-	-
Stage 2	807	636	-	736	720	-	-	-	-	-	-	-

Approach	EB	WB	SE	NW
HCM Control Delay, s/v	13.2	11.4	0.9	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	1407	-	-	439	604	1210	-	-
HCM Lane V/C Ratio	-	-	-	0.002	0.067	0.016	-	-
HCM Control Delay (s/veh)	0	-	-	13.2	11.4	8	0.1	-
HCM Lane LOS	A	-	-	B	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0	0.2	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	3	6	16	47	71	15
Future Vol, veh/h	3	6	16	47	71	15
Conflicting Peds, #/hr	4	0	0	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	3	3	33	4	3	50
Mvmt Flow	4	9	23	67	101	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	231	114	124	0	-	0
Stage 1	114	-	-	-	-	-
Stage 2	117	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.43	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.497	-	-	-
Pot Cap-1 Maneuver	755	936	1292	-	-	-
Stage 1	908	-	-	-	-	-
Stage 2	906	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	738	934	1290	-	-	-
Mov Cap-2 Maneuver	738	-	-	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	904	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.3	2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1290	-	858	-	-
HCM Lane V/C Ratio	0.018	-	0.015	-	-
HCM Control Delay (s/veh)	7.8	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0.1	-	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰		↱	↰	↑↑			↑↱	
Traffic Vol, veh/h	0	0	0	29	0	468	118	217	0	0	710	31
Future Vol, veh/h	0	0	0	29	0	468	118	217	0	0	710	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	225	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	9	4	10	3	3	15	10
Mvmt Flow	0	0	0	31	0	493	124	228	0	0	747	33

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	850	-	-	780	0	-	-	-	0
Stage 1	476	-	-	-	-	-	-	-	-
Stage 2	374	-	-	-	-	-	-	-	-
Critical Hdwy	6.86	-	-	4.18	-	-	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	-	-	2.24	-	-	-	-	-
Pot Cap-1 Maneuver	298	0	0	820	-	0	0	-	-
Stage 1	588	0	0	-	-	0	0	-	-
Stage 2	663	0	0	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	253	0	-	820	-	-	-	-	-
Mov Cap-2 Maneuver	253	0	-	-	-	-	-	-	-
Stage 1	499	0	-	-	-	-	-	-	-
Stage 2	663	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	21.2	3.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	820	-	253	-	-	-
HCM Lane V/C Ratio	0.151	-	0.121	-	-	-
HCM Control Delay (s/veh)	10.2	-	21.2	0	-	-
HCM Lane LOS	B	-	C	A	-	-
HCM 95th %tile Q (veh)	0.5	-	0.4	-	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations		↱	↳		↰	
Traffic Vol, veh/h	0	37	150	21	42	0
Future Vol, veh/h	0	37	150	21	42	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	11	13	5	3	3
Mvmt Flow	0	40	161	23	45	0

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	-	161	-
Stage 1	-	-	0	-
Stage 2	-	-	161	-
Critical Hdwy	-	-	6.43	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.43	-
Follow-up Hdwy	-	-	3.527	-
Pot Cap-1 Maneuver	-	0	828	0
Stage 1	-	0	-	0
Stage 2	-	0	865	0
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	-	828	0
Mov Cap-2 Maneuver	-	-	828	0
Stage 1	-	-	-	0
Stage 2	-	-	865	0

Approach	SE	NW
HCM Control Delay, s/v	0	9.6
HCM LOS		A

Minor Lane/Major Mvmt	NWLn1	SET
Capacity (veh/h)	828	-
HCM Lane V/C Ratio	0.055	-
HCM Control Delay (s/veh)	9.6	-
HCM Lane LOS	A	-
HCM 95th %tile Q (veh)	0.2	-

HCM 6th TWSC
11: Clovis Ave & Clayton Ave/SR 99 SB On Ramp

06/01/2024

Intersection	
Int Delay, s/veh	79.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑	↱				↰	↑↑↱		↰	↑↑↱	
Traffic Vol, veh/h	103	17	58	0	0	0	4	232	9	553	151	41
Future Vol, veh/h	103	17	58	0	0	0	4	232	9	553	151	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	8	24	10	3	3	3	3	8	22	12	23	3
Mvmt Flow	110	18	62	0	0	0	4	247	10	588	161	44

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	1491	1614	103	205	0	0	247	0	0
Stage 1	1359	1359	-	-	-	-	-	-	-
Stage 2	132	255	-	-	-	-	-	-	-
Critical Hdwy	6.96	6.98	7.1	4.16	-	-	4.34	-	-
Critical Hdwy Stg 1	5.96	5.98	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.96	5.98	-	-	-	-	-	-	-
Follow-up Hdwy	3.58	4.24	3.4	2.23	-	-	2.32	-	-
Pot Cap-1 Maneuver	~ 108	83	907	1356	-	-	1246	-	-
Stage 1	193	178	-	-	-	-	-	-	-
Stage 2	862	644	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	~ 57	0	907	1356	-	-	1246	-	-
Mov Cap-2 Maneuver	~ 57	0	-	-	-	-	-	-	-
Stage 1	192	0	-	-	-	-	-	-	-
Stage 2	455	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	$ 490.6	0.1	7.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	SBL	SBT	SBR
Capacity (veh/h)	1356	-	-	57	907	1246	-	-
HCM Lane V/C Ratio	0.003	-	-	2.24	0.068	0.472	-	-
HCM Control Delay (s/veh)	7.7	-	-	$ 723.2	9.3	10.4	-	-
HCM Lane LOS	A	-	-	F	A	B	-	-
HCM 95th %tile Q (veh)	0	-	-	12.6	0.2	2.6	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s   +: Computation Not Defined   *: All major volume in platoon

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	Y	
Traffic Vol, veh/h	132	0	0	74	1	107
Future Vol, veh/h	132	0	0	74	1	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	4	3	3	3	3	7
Mvmt Flow	153	0	0	86	1	124

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	239	153
Stage 1	-	-	-	-	153	-
Stage 2	-	-	-	-	86	-
Critical Hdwy	-	-	-	-	6.43	6.27
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	-	-	3.527	3.363
Pot Cap-1 Maneuver	-	0	0	-	747	880
Stage 1	-	0	0	-	873	-
Stage 2	-	0	0	-	935	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	747	880
Mov Cap-2 Maneuver	-	-	-	-	747	-
Stage 1	-	-	-	-	873	-
Stage 2	-	-	-	-	935	-

Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0		9.7	
HCM LOS					A	

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	888	-	-
HCM Lane V/C Ratio	0.141	-	-
HCM Control Delay (s/veh)	9.7	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q (veh)	0.5	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑			↱			↱		
Traffic Vol, veh/h	0	241	0	0	75	279	0	0	0	0
Future Vol, veh/h	0	241	0	0	75	279	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	5	3	3	3	4	3	3	3	3
Mvmt Flow	0	254	0	0	79	294	0	0	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	-	0	-	-	-	0	-	254
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	0	-	0	0	-	-	0	782
Stage 1	0	-	0	0	-	-	0	-
Stage 2	0	-	0	0	-	-	0	-
Platoon blocked, %		-			-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	782
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	WBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q (veh)	-	-	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					✣		↰	↑			↱	
Traffic Vol, veh/h	0	0	0	12	0	164	161	568	0	0	313	210
Future Vol, veh/h	0	0	0	12	0	164	161	568	0	0	313	210
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	20	3	10	4	3	3	3	7	3
Mvmt Flow	0	0	0	13	0	178	175	617	0	0	340	228

Major/Minor				Minor1			Major1			Major2		
Conflicting Flow All				1421	1535	617	568	0	-	-	-	0
Stage 1				967	967	-	-	-	-	-	-	-
Stage 2				454	568	-	-	-	-	-	-	-
Critical Hdwy				6.6	6.53	6.3	4.14	-	-	-	-	-
Critical Hdwy Stg 1				5.6	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2				5.6	5.53	-	-	-	-	-	-	-
Follow-up Hdwy				3.68	4.027	3.39	2.236	-	-	-	-	-
Pot Cap-1 Maneuver				137	116	476	994	-	0	0	-	-
Stage 1				342	331	-	-	-	0	0	-	-
Stage 2				603	505	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver				113	0	476	994	-	-	-	-	-
Mov Cap-2 Maneuver				113	0	-	-	-	-	-	-	-
Stage 1				282	0	-	-	-	-	-	-	-
Stage 2				603	0	-	-	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s/v	22.8	2.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NEL	NET	NWLn1	SWT	SWR
Capacity (veh/h)	994	-	390	-	-
HCM Lane V/C Ratio	0.176	-	0.491	-	-
HCM Control Delay (s/veh)	9.4	-	22.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q (veh)	0.6	-	2.6	-	-

Intersection	
Intersection Delay, s/veh	21.2
Intersection LOS	C

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		✥			✥			↱		↰	↑	
Traffic Vol, veh/h	202	85	14	10	0	326	0	201	27	223	98	0
Future Vol, veh/h	202	85	14	10	0	326	0	201	27	223	98	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	7	10	3	10	3	3	3	3	4	6	9	3
Mvmt Flow	222	93	15	11	0	358	0	221	30	245	108	0
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	24.1	22.8	18.6	18.6
HCM LOS	C	C	C	C

Lane	NELn1	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	0%	3%	67%	100%	0%
Vol Thru, %	88%	0%	28%	0%	100%
Vol Right, %	12%	97%	5%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	228	336	301	223	98
LT Vol	0	10	202	223	0
Through Vol	201	0	85	0	98
RT Vol	27	326	14	0	0
Lane Flow Rate	251	369	331	245	108
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.523	0.681	0.671	0.562	0.233
Departure Headway (Hd)	7.511	6.643	7.307	8.253	7.791
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	479	543	493	436	461
Service Time	5.572	4.696	5.363	6.009	5.546
HCM Lane V/C Ratio	0.524	0.68	0.671	0.562	0.234
HCM Control Delay, s/veh	18.6	22.8	24.1	21.1	12.9
HCM Lane LOS	C	C	C	C	B
HCM 95th-tile Q	3	5.2	4.9	3.4	0.9

HCM 6th TWSC
1: American Ave & SR 99 SB Off Ramp

06/01/2024

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	0	247	65	0	79	34
Future Vol, veh/h	0	247	65	0	79	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	225
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	3	5	11	3	11	3
Mvmt Flow	0	305	80	0	98	42

Major/Minor	Major1			Major2	Minor2	
Conflicting Flow All	-	0	-	0	385	80
Stage 1	-	-	-	-	80	-
Stage 2	-	-	-	-	305	-
Critical Hdwy	-	-	-	-	6.51	6.23
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	-	-	3.599	3.327
Pot Cap-1 Maneuver	0	-	-	0	601	977
Stage 1	0	-	-	0	921	-
Stage 2	0	-	-	0	728	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	601	977
Mov Cap-2 Maneuver	-	-	-	-	601	-
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	728	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	601	977
HCM Lane V/C Ratio	-	-	0.162	0.043
HCM Control Delay (s/veh)	-	-	12.1	8.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q (veh)	-	-	0.6	0.1

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↰			↱			↱		
Traffic Vol, veh/h	116	209	0	0	65	172	0	0	0	0
Future Vol, veh/h	116	209	0	0	65	172	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	-	None	-	-	Free	-	None	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	7	6	3	3	10	6	3	3	3	3
Mvmt Flow	145	261	0	0	81	215	0	0	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	81	0	-	-	-	0	-	261
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	4.17	-	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.263	-	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	1486	-	0	0	-	0	0	775
Stage 1	-	-	0	0	-	0	0	-
Stage 2	-	-	0	0	-	0	0	-
Platoon blocked, %		-			-			
Mov Cap-1 Maneuver	1486	-	-	-	-	-	-	775
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	2.7	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT
Capacity (veh/h)	-	1486	-	-
HCM Lane V/C Ratio	-	0.098	-	-
HCM Control Delay (s/veh)	0	7.7	0	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q (veh)	-	0.3	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations	Y		↑↑	↱	↰	↑↑
Traffic Vol, veh/h	40	31	365	5	10	287
Future Vol, veh/h	40	31	365	5	10	287
Conflicting Peds, #/hr	18	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	3	13	6	20	30	5
Mvmt Flow	49	38	445	6	12	350

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	662	223	0	0	451	0
Stage 1	445	-	-	-	-	-
Stage 2	217	-	-	-	-	-
Critical Hdwy	6.86	7.16	-	-	4.7	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.43	-	-	2.5	-
Pot Cap-1 Maneuver	393	748	-	-	931	-
Stage 1	610	-	-	-	-	-
Stage 2	795	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	381	748	-	-	931	-
Mov Cap-2 Maneuver	381	-	-	-	-	-
Stage 1	610	-	-	-	-	-
Stage 2	771	-	-	-	-	-

Approach	EB	SE	NW
HCM Control Delay, s/v	14	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER
Capacity (veh/h)	931	-	485	-	-
HCM Lane V/C Ratio	0.013	-	0.179	-	-
HCM Control Delay (s/veh)	8.9	-	14	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q (veh)	0	-	0.6	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↑↱		↰	↑↑↱	
Traffic Vol, veh/h	1	0	0	0	0	1	3	777	0	2	615	0
Future Vol, veh/h	1	0	0	0	0	1	3	777	0	2	615	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	25	25	25	38	93	25	25	96	25
Heavy Vehicles, %	3	3	3	3	3	3	3	7	3	50	7	3
Mvmt Flow	4	0	0	0	0	4	8	835	0	8	641	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1091	1508	321	1188	1508	418	641	0	0	835	0	0
Stage 1	657	657	-	851	851	-	-	-	-	-	-	-
Stage 2	434	851	-	337	657	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	5.1	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.7	-	-
Pot Cap-1 Maneuver	168	119	672	142	119	581	933	-	-	550	-	-
Stage 1	418	457	-	319	372	-	-	-	-	-	-	-
Stage 2	568	372	-	648	457	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	164	116	672	139	116	581	933	-	-	550	-	-
Mov Cap-2 Maneuver	164	116	-	139	116	-	-	-	-	-	-	-
Stage 1	414	450	-	316	369	-	-	-	-	-	-	-
Stage 2	559	369	-	639	450	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	27.5	11.2	0.1	0.1
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	933	-	-	164	581	550	-	-
HCM Lane V/C Ratio	0.008	-	-	0.024	0.007	0.015	-	-
HCM Control Delay (s/veh)	8.9	-	-	27.5	11.2	11.6	-	-
HCM Lane LOS	A	-	-	D	B	B	-	-
HCM 95th %tile Q (veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	↰↱		↶	↑↑↱		↰	↑↑
Traffic Vol, veh/h	18	18	0	768	25	39	574
Future Vol, veh/h	18	18	0	768	25	39	574
Conflicting Peds, #/hr	18	0	0	0	15	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	75	-	-	150	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	94	94	92	94	94	94	94
Heavy Vehicles, %	11	3	3	8	12	3	7
Mvmt Flow	19	19	0	817	27	41	611

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	1252	437	611	0	0	859	0
Stage 1	846	-	-	-	-	-	-
Stage 2	406	-	-	-	-	-	-
Critical Hdwy	7.02	6.96	6.46	-	-	4.16	-
Critical Hdwy Stg 1	6.02	-	-	-	-	-	-
Critical Hdwy Stg 2	6.02	-	-	-	-	-	-
Follow-up Hdwy	3.61	3.33	2.53	-	-	2.23	-
Pot Cap-1 Maneuver	152	565	585	-	-	772	-
Stage 1	359	-	-	-	-	-	-
Stage 2	616	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	139	557	585	-	-	761	-
Mov Cap-2 Maneuver	139	-	-	-	-	-	-
Stage 1	354	-	-	-	-	-	-
Stage 2	573	-	-	-	-	-	-

Approach	WB		NB			SB	
HCM Control Delay, s/v	24.6		0			0.6	
HCM LOS	C						

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	585	-	-	222	761	-
HCM Lane V/C Ratio	-	-	-	0.173	0.055	-
HCM Control Delay (s/veh)	0	-	-	24.6	10	-
HCM Lane LOS	A	-	-	C	B	-
HCM 95th %tile Q (veh)	0	-	-	0.6	0.2	-

HCM 6th TWSC

6: Fowler Ave & Lincoln Ave

06/01/2024

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	0	50	14	3	29	5	6	77	2	3	55	2
Future Vol, veh/h	0	50	14	3	29	5	6	77	2	3	55	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	56	16	3	32	6	7	86	2	3	61	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	188	170	62	205	170	87	63	0	0	88	0	0
Stage 1	68	68	-	101	101	-	-	-	-	-	-	-
Stage 2	120	102	-	104	69	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	770	721	1000	751	721	969	1533	-	-	1501	-	-
Stage 1	940	836	-	903	810	-	-	-	-	-	-	-
Stage 2	882	809	-	899	835	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	735	716	1000	692	716	969	1533	-	-	1501	-	-
Mov Cap-2 Maneuver	735	716	-	692	716	-	-	-	-	-	-	-
Stage 1	935	834	-	898	806	-	-	-	-	-	-	-
Stage 2	838	805	-	824	833	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.2	10.2	0.5	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1533	-	-	763	740	1501	-	-
HCM Lane V/C Ratio	0.004	-	-	0.093	0.056	0.002	-	-
HCM Control Delay (s/veh)	7.4	0	-	10.2	10.2	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0.3	0.2	0	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		✥			✥			↰↑	↱		↰↑↱	
Traffic Vol, veh/h	0	3	0	47	0	157	30	391	0	1	191	13
Future Vol, veh/h	0	3	0	47	0	157	30	391	0	1	191	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	125	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	3	3	3	50	3	3	3	6	3	3	9	3
Mvmt Flow	0	4	0	57	0	189	36	471	0	1	230	16

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	660	791	236	550	783	123	246	0	0	471	0	0
Stage 1	543	543	-	240	240	-	-	-	-	-	-	-
Stage 2	117	248	-	310	543	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	8.5	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	7.5	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	7.5	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	4	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	346	319	763	328	322	902	1310	-	-	1080	-	-
Stage 1	489	515	-	622	703	-	-	-	-	-	-	-
Stage 2	872	697	-	558	515	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	265	307	763	316	310	902	1310	-	-	1080	-	-
Mov Cap-2 Maneuver	265	307	-	316	310	-	-	-	-	-	-	-
Stage 1	471	496	-	599	702	-	-	-	-	-	-	-
Stage 2	688	696	-	533	496	-	-	-	-	-	-	-

Approach	EB	WB	SE	NW
HCM Control Delay, s/v	16.9	14.3	0.7	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	1080	-	-	307	632	1310	-	-
HCM Lane V/C Ratio	0.001	-	-	0.012	0.389	0.028	-	-
HCM Control Delay (s/veh)	8.3	0	-	16.9	14.3	7.8	0.1	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0	1.8	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	15	13	6	47	71	3
Future Vol, veh/h	15	13	6	47	71	3
Conflicting Peds, #/hr	4	0	0	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	3	3	3	6	4	50
Mvmt Flow	18	16	7	57	86	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	165	90	92	0	-	0
Stage 1	90	-	-	-	-	-
Stage 2	75	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	823	965	1496	-	-	-
Stage 1	931	-	-	-	-	-
Stage 2	945	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	816	963	1493	-	-	-
Mov Cap-2 Maneuver	816	-	-	-	-	-
Stage 1	924	-	-	-	-	-
Stage 2	943	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.3	0.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1493	-	878	-	-
HCM Lane V/C Ratio	0.005	-	0.038	-	-
HCM Control Delay (s/veh)	7.4	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

HCM 6th TWSC
9: Clovis Ave & SR 99 NB On Ramp/SR 99 NB Off Ramp

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰		↱	↰	↑↑			↑↱	
Traffic Vol, veh/h	0	0	0	24	0	581	68	208	0	0	650	94
Future Vol, veh/h	0	0	0	24	0	581	68	208	0	0	650	94
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	225	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	20	3	9	3	9	3	3	9	15
Mvmt Flow	0	0	0	25	0	599	70	214	0	0	670	97

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	689	-	-	767	0	-	-	-	0
Stage 1	354	-	-	-	-	-	-	-	-
Stage 2	335	-	-	-	-	-	-	-	-
Critical Hdwy	7.2	-	-	4.16	-	-	-	-	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.7	-	-	2.23	-	-	-	-	-
Pot Cap-1 Maneuver	342	0	0	836	-	0	0	-	-
Stage 1	631	0	0	-	-	0	0	-	-
Stage 2	646	0	0	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	313	0	-	836	-	-	-	-	-
Mov Cap-2 Maneuver	313	0	-	-	-	-	-	-	-
Stage 1	578	0	-	-	-	-	-	-	-
Stage 2	646	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	17.5	2.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	836	-	313	-	-	-
HCM Lane V/C Ratio	0.084	-	0.079	-	-	-
HCM Control Delay (s/veh)	9.7	-	17.5	0	-	-
HCM Lane LOS	A	-	C	A	-	-
HCM 95th %tile Q (veh)	0.3	-	0.3	-	-	-

HCM 6th TWSC

10: Clayton Ave & SR 99 Sb Off Ramp

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations		↱	↳		↰	
Traffic Vol, veh/h	0	62	208	14	33	0
Future Vol, veh/h	0	62	208	14	33	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	67	67	67	67	67	67
Heavy Vehicles, %	3	10	4	21	12	3
Mvmt Flow	0	93	310	21	49	0

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	-	310	-
Stage 1	-	-	0	-
Stage 2	-	-	310	-
Critical Hdwy	-	-	6.52	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.52	-
Follow-up Hdwy	-	-	3.608	-
Pot Cap-1 Maneuver	-	0	662	0
Stage 1	-	0	-	0
Stage 2	-	0	722	0
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	-	662	0
Mov Cap-2 Maneuver	-	-	662	0
Stage 1	-	-	-	0
Stage 2	-	-	722	0

Approach	SE	NW
HCM Control Delay, s/v	0	10.9
HCM LOS		B

Minor Lane/Major Mvmt	NWLn1	SET
Capacity (veh/h)	662	-
HCM Lane V/C Ratio	0.074	-
HCM Control Delay (s/veh)	10.9	-
HCM Lane LOS	B	-
HCM 95th %tile Q (veh)	0.2	-

Intersection	
Int Delay, s/veh	55.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱				↰	↑↱		↰	↑↱	
Traffic Vol, veh/h	77	24	170	0	0	0	2	201	10	472	173	31
Future Vol, veh/h	77	24	170	0	0	0	2	201	10	472	173	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	6	3	6	3	3	3	3	7	20	8	4	13
Mvmt Flow	92	29	202	0	0	0	2	239	12	562	206	37

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	1473	1592	122				243	0	0	239	0	0
Stage 1	1349	1349	-				-	-	-	-	-	-
Stage 2	124	243	-				-	-	-	-	-	-
Critical Hdwy	6.92	6.56	7.02				4.16	-	-	4.26	-	-
Critical Hdwy Stg 1	5.92	5.56	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.92	5.56	-				-	-	-	-	-	-
Follow-up Hdwy	3.56	4.03	3.36				2.23	-	-	2.28	-	-
Pot Cap-1 Maneuver	113	105	894				1313	-	-	1282	-	-
Stage 1	199	216	-				-	-	-	-	-	-
Stage 2	876	701	-				-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 63	0	894				1313	-	-	1282	-	-
Mov Cap-2 Maneuver	~ 63	0	-				-	-	-	-	-	-
Stage 1	199	0	-				-	-	-	-	-	-
Stage 2	492	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	218.1	0.1	7
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	SBL	SBT	SBR
Capacity (veh/h)	1313	-	-	63	894	1282	-	-
HCM Lane V/C Ratio	0.002	-	-	1.909	0.226	0.438	-	-
HCM Control Delay (s/veh)	7.7	-	-	$ 568	10.2	10	-	-
HCM Lane LOS	A	-	-	F	B	A	-	-
HCM 95th %tile Q (veh)	0	-	-	11.2	0.9	2.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 6th TWSC
12: SR 99 SB Off Ramp & Adams Ave

06/01/2024

Intersection	
Int Delay, s/veh	5.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	Y	
Traffic Vol, veh/h	127	0	0	74	3	207
Future Vol, veh/h	127	0	0	74	3	207
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	5	3	3	7	3	3
Mvmt Flow	146	0	0	85	3	238

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	231	146
Stage 1	-	-	-	-	146	-
Stage 2	-	-	-	-	85	-
Critical Hdwy	-	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	-	0	0	-	755	898
Stage 1	-	0	0	-	879	-
Stage 2	-	0	0	-	936	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	755	898
Mov Cap-2 Maneuver	-	-	-	-	755	-
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	936	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	911	-	-
HCM Lane V/C Ratio	0.265	-	-
HCM Control Delay (s/veh)	10.4	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q (veh)	1.1	-	-

HCM 6th TWSC
13: Adams Ave & SR 99 NB On Ramp

06/01/2024

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑			↱			↗		
Traffic Vol, veh/h	0	349	0	0	63	171	0	0	0	0
Future Vol, veh/h	0	349	0	0	63	171	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	3	4	3	3	5	5	3	3	3	3
Mvmt Flow	0	401	0	0	72	197	0	0	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	-	0	-	-	-	0	-	401
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	0	-	0	0	-	-	0	647
Stage 1	0	-	0	0	-	-	0	-
Stage 2	0	-	0	0	-	-	0	-
Platoon blocked, %		-			-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	647
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	WBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q (veh)	-	-	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					✥		↰	↑			↱	
Traffic Vol, veh/h	0	0	0	24	4	118	152	386	0	0	339	188
Future Vol, veh/h	0	0	0	24	4	118	152	386	0	0	339	188
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	4	20	8	7	3	3	3	3	4
Mvmt Flow	0	0	0	26	4	126	162	411	0	0	361	200

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1196	1296	411	561	0	-	-	-	0
Stage 1	735	735	-	-	-	-	-	-	-
Stage 2	461	561	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.7	6.28	4.17	-	-	-	-	-
Critical Hdwy Stg 1	5.44	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.44	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.18	3.372	2.263	-	-	-	-	-
Pot Cap-1 Maneuver	204	149	628	986	-	0	0	-	-
Stage 1	471	400	-	-	-	0	0	-	-
Stage 2	631	482	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	171	0	628	986	-	-	-	-	-
Mov Cap-2 Maneuver	171	0	-	-	-	-	-	-	-
Stage 1	394	0	-	-	-	-	-	-	-
Stage 2	631	0	-	-	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s/v	17.9	2.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NEL	NET	NWLn1	SWT	SWR
Capacity (veh/h)	986	-	433	-	-
HCM Lane V/C Ratio	0.164	-	0.359	-	-
HCM Control Delay (s/veh)	9.4	-	17.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q (veh)	0.6	-	1.6	-	-

HCM 6th AWSC
14: Sumner Ave/ Merced St. & Fowler Ave/SR 99 SB Off Ramps

06/01/2024

Intersection	
Intersection Delay, s/veh	16.1
Intersection LOS	C

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		✣			✣			↱		↰	↑	
Traffic Vol, veh/h	172	126	32	13	0	233	0	135	32	248	116	0
Future Vol, veh/h	172	126	32	13	0	233	0	135	32	248	116	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	3	3	3	3	3	4	3	3	3	3	3	3
Mvmt Flow	183	134	34	14	0	248	0	144	34	264	123	0
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	19.3	13.7	13.2	16.3
HCM LOS	C	B	B	C

Lane	NELn1	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	0%	5%	52%	100%	0%
Vol Thru, %	81%	0%	38%	0%	100%
Vol Right, %	19%	95%	10%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	167	246	330	248	116
LT Vol	0	13	172	248	0
Through Vol	135	0	126	0	116
RT Vol	32	233	32	0	0
Lane Flow Rate	178	262	351	264	123
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.335	0.437	0.62	0.54	0.235
Departure Headway (Hd)	6.782	6.012	6.362	7.364	6.853
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	529	597	565	491	523
Service Time	4.842	4.064	4.411	5.115	4.603
HCM Lane V/C Ratio	0.336	0.439	0.621	0.538	0.235
HCM Control Delay, s/veh	13.2	13.7	19.3	18.5	11.7
HCM Lane LOS	B	B	C	C	B
HCM 95th-tile Q	1.5	2.2	4.2	3.2	0.9

HORIZON YEAR WITHOUT PROJECT

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	0	152	181	0	171	199
Future Vol, veh/h	0	152	181	0	171	199
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	225
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	17	18	3	13	7
Mvmt Flow	0	165	197	0	186	216

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	362	197
Stage 1	-	-	-	-	197	-
Stage 2	-	-	-	-	165	-
Critical Hdwy	-	-	-	-	6.53	6.27
Critical Hdwy Stg 1	-	-	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	5.53	-
Follow-up Hdwy	-	-	-	-	3.617	3.363
Pot Cap-1 Maneuver	0	-	-	0	616	832
Stage 1	0	-	-	0	811	-
Stage 2	0	-	-	0	838	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	616	832
Mov Cap-2 Maneuver	-	-	-	-	616	-
Stage 1	-	-	-	-	811	-
Stage 2	-	-	-	-	838	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	616	832
HCM Lane V/C Ratio	-	-	0.302	0.26
HCM Control Delay (s/veh)	-	-	13.4	10.8
HCM Lane LOS	-	-	B	B
HCM 95th %tile Q (veh)	-	-	1.3	1

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↰			↱			↱		
Traffic Vol, veh/h	68	260	0	0	184	122	0	0	0	0
Future Vol, veh/h	68	260	0	0	184	122	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	-	None	-	-	Free	-	None	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	15	13	3	3	15	12	3	3	3	3
Mvmt Flow	74	283	0	0	200	133	0	0	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	200	0	-	-	-	0	-	283
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	4.25	-	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.335	-	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	1298	-	0	0	-	0	0	754
Stage 1	-	-	0	0	-	0	0	-
Stage 2	-	-	0	0	-	0	0	-
Platoon blocked, %		-			-			
Mov Cap-1 Maneuver	1298	-	-	-	-	-	-	754
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	1.6	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT
Capacity (veh/h)	-	1298	-	-
HCM Lane V/C Ratio	-	0.057	-	-
HCM Control Delay (s/veh)	0	7.9	0	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q (veh)	-	0.2	-	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations	Y		↑↑	↱	↰	↑↑
Traffic Vol, veh/h	43	36	746	26	38	884
Future Vol, veh/h	43	36	746	26	38	884
Conflicting Peds, #/hr	18	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	42	42	13	13	10	10
Mvmt Flow	47	39	811	28	41	961

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1392	406	0	0	839	0
Stage 1	811	-	-	-	-	-
Stage 2	581	-	-	-	-	-
Critical Hdwy	7.64	7.74	-	-	4.3	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.64	-	-	-	-	-
Follow-up Hdwy	3.92	3.72	-	-	2.3	-
Pot Cap-1 Maneuver	93	495	-	-	742	-
Stage 1	310	-	-	-	-	-
Stage 2	424	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	86	495	-	-	742	-
Mov Cap-2 Maneuver	86	-	-	-	-	-
Stage 1	310	-	-	-	-	-
Stage 2	394	-	-	-	-	-

Approach	EB	SE	NW
HCM Control Delay, s/v	66.6	0	0.4
HCM LOS	F		

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER
Capacity (veh/h)	742	-	138	-	-
HCM Lane V/C Ratio	0.056	-	0.622	-	-
HCM Control Delay (s/veh)	10.1	-	66.6	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q (veh)	0.2	-	3.3	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Traffic Vol, veh/h	1	0	1	6	0	0	4	798	1	4	1113	1
Future Vol, veh/h	1	0	1	6	0	0	4	798	1	4	1113	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	42	3	42	3	3	3	33	8	3	33	12	3
Mvmt Flow	1	0	1	7	0	0	4	867	1	4	1210	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1661	2095	606	1489	2095	434	1211	0	0	868	0	0
Stage 1	1219	1219	-	876	876	-	-	-	-	-	-	-
Stage 2	442	876	-	613	1219	-	-	-	-	-	-	-
Critical Hdwy	8.34	6.56	7.74	7.56	6.56	6.96	4.76	-	-	4.76	-	-
Critical Hdwy Stg 1	7.34	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.34	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.92	4.03	3.72	3.53	4.03	3.33	2.53	-	-	2.53	-	-
Pot Cap-1 Maneuver	42	51	354	85	51	567	426	-	-	603	-	-
Stage 1	138	249	-	308	362	-	-	-	-	-	-	-
Stage 2	470	362	-	444	249	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	41	50	354	84	50	567	426	-	-	603	-	-
Mov Cap-2 Maneuver	41	50	-	84	50	-	-	-	-	-	-	-
Stage 1	137	247	-	305	359	-	-	-	-	-	-	-
Stage 2	466	359	-	440	247	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	55.8	51.4	0.1	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	426	-	-	73	84	603	-	-
HCM Lane V/C Ratio	0.01	-	-	0.03	0.078	0.007	-	-
HCM Control Delay (s/veh)	13.5	-	-	55.8	51.4	11	-	-
HCM Lane LOS	B	-	-	F	F	B	-	-
HCM 95th %tile Q (veh)	0	-	-	0.1	0.2	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	↰↱		↶	↑↑↱		↰	↑↑
Traffic Vol, veh/h	24	39	0	767	22	45	1070
Future Vol, veh/h	24	39	0	767	22	45	1070
Conflicting Peds, #/hr	26	0	0	0	15	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	75	-	-	150	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97	97
Heavy Vehicles, %	12	3	3	8	6	3	12
Mvmt Flow	25	40	0	791	23	46	1103

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	1488	422	1103	0	0	829	0
Stage 1	818	-	-	-	-	-	-
Stage 2	670	-	-	-	-	-	-
Critical Hdwy	7.04	6.96	6.46	-	-	4.16	-
Critical Hdwy Stg 1	6.04	-	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-	-
Follow-up Hdwy	3.62	3.33	2.53	-	-	2.23	-
Pot Cap-1 Maneuver	104	577	283	-	-	792	-
Stage 1	370	-	-	-	-	-	-
Stage 2	444	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	94	569	283	-	-	781	-
Mov Cap-2 Maneuver	94	-	-	-	-	-	-
Stage 1	365	-	-	-	-	-	-
Stage 2	408	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	32.4	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	283	-	-	195	781	-
HCM Lane V/C Ratio	-	-	-	0.333	0.059	-
HCM Control Delay (s/veh)	0	-	-	32.4	9.9	-
HCM Lane LOS	A	-	-	D	A	-
HCM 95th %tile Q (veh)	0	-	-	1.4	0.2	-

HCM 6th TWSC
6: Fowler Ave & Lincoln Ave

06/01/2024

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Vol, veh/h	0	39	25	12	48	7	18	46	89	13	70	1
Future Vol, veh/h	0	39	25	12	48	7	18	46	89	13	70	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	42	27	13	52	8	20	50	97	14	76	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	274	292	77	278	244	99	77	0	0	147	0	0
Stage 1	105	105	-	139	139	-	-	-	-	-	-	-
Stage 2	169	187	-	139	105	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	676	617	981	672	656	954	1515	-	-	1429	-	-
Stage 1	898	806	-	862	780	-	-	-	-	-	-	-
Stage 2	831	743	-	862	806	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	617	602	981	607	640	954	1515	-	-	1429	-	-
Mov Cap-2 Maneuver	617	602	-	607	640	-	-	-	-	-	-	-
Stage 1	885	798	-	849	768	-	-	-	-	-	-	-
Stage 2	757	732	-	786	798	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.6	11.2	0.9	1.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1515	-	-	709	656	1429	-	-
HCM Lane V/C Ratio	0.013	-	-	0.098	0.111	0.01	-	-
HCM Control Delay (s/veh)	7.4	0	-	10.6	11.2	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0.3	0.4	0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		✣			✣			↰↑	↱		↰↑↱	
Traffic Vol, veh/h	0	1	0	2	0	4	0	472	4	0	838	2
Future Vol, veh/h	0	1	0	2	0	4	0	472	4	0	838	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	125	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	50	3	50	3	13	3	3	7	3
Mvmt Flow	0	1	0	2	0	4	0	502	4	0	891	2

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	948	1395	251	1144	1398	447	893	0	0	506	0	0
Stage 1	502	502	-	892	892	-	-	-	-	-	-	-
Stage 2	446	893	-	252	506	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	8.5	6.56	7.9	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	7.5	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	7.5	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	4	4.03	3.8	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	214	139	746	107	138	446	749	-	-	1048	-	-
Stage 1	517	538	-	221	356	-	-	-	-	-	-	-
Stage 2	559	356	-	610	536	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	212	139	746	106	138	446	749	-	-	1048	-	-
Mov Cap-2 Maneuver	212	139	-	106	138	-	-	-	-	-	-	-
Stage 1	517	538	-	221	356	-	-	-	-	-	-	-
Stage 2	554	356	-	609	536	-	-	-	-	-	-	-

Approach	EB	WB	SE	NW
HCM Control Delay, s/v	31.1	22.2	0	0
HCM LOS	D	C		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	1048	-	-	139	216	749	-	-
HCM Lane V/C Ratio	-	-	-	0.008	0.03	-	-	-
HCM Control Delay (s/veh)	0	-	-	31.1	22.2	0	-	-
HCM Lane LOS	A	-	-	D	C	A	-	-
HCM 95th %tile Q (veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↱			↰↑	↑↱	
Traffic Vol, veh/h	1	6	4	70	106	3
Future Vol, veh/h	1	6	4	70	106	3
Conflicting Peds, #/hr	4	0	0	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	33	4	3	50
Mvmt Flow	1	7	4	76	115	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	207	119	120	0	-	0
Stage 1	119	-	-	-	-	-
Stage 2	88	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.43	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.497	-	-	-
Pot Cap-1 Maneuver	779	930	1296	-	-	-
Stage 1	904	-	-	-	-	-
Stage 2	933	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	774	928	1294	-	-	-
Mov Cap-2 Maneuver	774	-	-	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	931	-	-	-	-	-

Approach	EB		NB		SB	
HCM Control Delay, s/v	9		0.4		0	
HCM LOS	A					

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1294	-	902	-	-
HCM Lane V/C Ratio	0.003	-	0.008	-	-
HCM Control Delay (s/veh)	7.8	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰		↱	↰	↑↑			↑↱	
Traffic Vol, veh/h	0	0	0	43	0	618	175	207	0	0	1043	28
Future Vol, veh/h	0	0	0	43	0	618	175	207	0	0	1043	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	225	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	9	4	10	3	3	15	10
Mvmt Flow	0	0	0	45	0	651	184	218	0	0	1098	29

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1135	-	-	1127	0	-	-	-	0
Stage 1	586	-	-	-	-	-	-	-	-
Stage 2	549	-	-	-	-	-	-	-	-
Critical Hdwy	6.86	-	-	4.18	-	-	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	-	-	2.24	-	-	-	-	-
Pot Cap-1 Maneuver	194	0	0	604	-	0	0	-	-
Stage 1	517	0	0	-	-	0	0	-	-
Stage 2	540	0	0	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	135	0	-	604	-	-	-	-	-
Mov Cap-2 Maneuver	135	0	-	-	-	-	-	-	-
Stage 1	359	0	-	-	-	-	-	-	-
Stage 2	540	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	44.6	6.2	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	604	-	135	-	-	-
HCM Lane V/C Ratio	0.305	-	0.335	-	-	-
HCM Control Delay (s/veh)	13.6	-	44.6	0	-	-
HCM Lane LOS	B	-	E	A	-	-
HCM 95th %tile Q (veh)	1.3	-	1.4	-	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations		↱	↳		↰	
Traffic Vol, veh/h	0	55	107	31	62	0
Future Vol, veh/h	0	55	107	31	62	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	11	13	5	3	3
Mvmt Flow	0	59	115	33	67	0

Major/Minor			Major1		Minor2	
Conflicting Flow All			0	-	115	-
Stage 1			-	-	0	-
Stage 2			-	-	115	-
Critical Hdwy			-	-	6.43	-
Critical Hdwy Stg 1			-	-	-	-
Critical Hdwy Stg 2			-	-	5.43	-
Follow-up Hdwy			-	-	3.527	-
Pot Cap-1 Maneuver			-	0	879	0
Stage 1			-	0	-	0
Stage 2			-	0	907	0
Platoon blocked, %			-			
Mov Cap-1 Maneuver			-	-	879	0
Mov Cap-2 Maneuver			-	-	879	0
Stage 1			-	-	-	0
Stage 2			-	-	907	0

Approach	SE	NW
HCM Control Delay, s/v	0	9.4
HCM LOS		A

Minor Lane/Major Mvmt	NWLn1	SET
Capacity (veh/h)	879	-
HCM Lane V/C Ratio	0.076	-
HCM Control Delay (s/veh)	9.4	-
HCM Lane LOS	A	-
HCM 95th %tile Q (veh)	0.2	-

HCM 6th TWSC
11: Clovis Ave & Clayton Ave/SR 99 SB On Ramp

Intersection	
Int Delay, s/veh	170.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱				↰	↑↑↱		↰	↑↑↱	
Traffic Vol, veh/h	37	25	86	0	0	0	6	345	13	810	224	61
Future Vol, veh/h	37	25	86	0	0	0	6	345	13	810	224	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	8	24	10	3	3	3	3	8	22	12	23	3
Mvmt Flow	39	27	91	0	0	0	6	367	14	862	238	65

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	2191	2374	152				303	0	0	367	0	0
Stage 1	1995	1995	-				-	-	-	-	-	-
Stage 2	196	379	-				-	-	-	-	-	-
Critical Hdwy	6.96	6.98	7.1				4.16	-	-	4.34	-	-
Critical Hdwy Stg 1	5.96	5.98	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.96	5.98	-				-	-	-	-	-	-
Follow-up Hdwy	3.58	4.24	3.4				2.23	-	-	2.32	-	-
Pot Cap-1 Maneuver	~ 36	~ 25	842				1248	-	-	1119	-	-
Stage 1	85	80	-				-	-	-	-	-	-
Stage 2	800	561	-				-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 8	0	842				1248	-	-	1119	-	-
Mov Cap-2 Maneuver	~ 8	0	-				-	-	-	-	-	-
Stage 1	85	0	-				-	-	-	-	-	-
Stage 2	184	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	$ 1750.5	0.1	13.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	SBL	SBT	SBR
Capacity (veh/h)	1248	-	-	8	842	1119	-	-
HCM Lane V/C Ratio	0.005	-	-	8.245	0.109	0.77	-	-
HCM Control Delay (s/veh)	7.9	-	-	$ 4165.1	9.8	18.1	-	-
HCM Lane LOS	A	-	-	F	A	C	-	-
HCM 95th %tile Q (veh)	0	-	-	9.8	0.4	8	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↖↗	
Traffic Vol, veh/h	177	0	0	107	1	159
Future Vol, veh/h	177	0	0	107	1	159
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	3	3	3	3	7
Mvmt Flow	192	0	0	116	1	173

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	308	192
Stage 1	-	-	-	-	192	-
Stage 2	-	-	-	-	116	-
Critical Hdwy	-	-	-	-	6.43	6.27
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	-	-	3.527	3.363
Pot Cap-1 Maneuver	-	0	0	-	682	837
Stage 1	-	0	0	-	838	-
Stage 2	-	0	0	-	906	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	682	837
Mov Cap-2 Maneuver	-	-	-	-	682	-
Stage 1	-	-	-	-	838	-
Stage 2	-	-	-	-	906	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	842	-	-
HCM Lane V/C Ratio	0.207	-	-
HCM Control Delay (s/veh)	10.4	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q (veh)	0.8	-	-

HCM 6th TWSC
13: Adams Ave & SR 99 NB On Ramp

06/01/2024

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑			↱			↗		
Traffic Vol, veh/h	0	336	0	0	111	415	0	0	0	0
Future Vol, veh/h	0	336	0	0	111	415	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	5	3	3	3	4	3	3	3	3
Mvmt Flow	0	354	0	0	117	437	0	0	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	-	0	-	-	-	0	-	354
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	0	-	0	0	-	-	0	688
Stage 1	0	-	0	0	-	-	0	-
Stage 2	0	-	0	0	-	-	0	-
Platoon blocked, %		-			-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	688
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	WBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q (veh)	-	-	-	-

HCM 6th TWSC
15: Merced St. & SR 99 NB Ramps

06/01/2024

Intersection	
Int Delay, s/veh	19.9

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					✥		↰	↑			↱	
Traffic Vol, veh/h	0	0	0	18	0	186	239	844	0	0	456	312
Future Vol, veh/h	0	0	0	18	0	186	239	844	0	0	456	312
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	20	3	10	4	3	3	3	7	3
Mvmt Flow	0	0	0	20	0	202	260	917	0	0	496	339

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	2103	2272	917	835	0	-	-	-	0
Stage 1	1437	1437	-	-	-	-	-	-	-
Stage 2	666	835	-	-	-	-	-	-	-
Critical Hdwy	6.6	6.53	6.3	4.14	-	-	-	-	-
Critical Hdwy Stg 1	5.6	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.6	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.027	3.39	2.236	-	-	-	-	-
Pot Cap-1 Maneuver	50	40	319	790	-	0	0	-	-
Stage 1	200	198	-	-	-	0	0	-	-
Stage 2	479	381	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	34	0	319	790	-	-	-	-	-
Mov Cap-2 Maneuver	34	0	-	-	-	-	-	-	-
Stage 1	134	0	-	-	-	-	-	-	-
Stage 2	479	0	-	-	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s/v	186.3	2.6	0
HCM LOS	F		

Minor Lane/Major Mvmt	NEL	NET	NWLn1	SWT	SWR
Capacity (veh/h)	790	-	183	-	-
HCM Lane V/C Ratio	0.329	-	1.212	-	-
HCM Control Delay (s/veh)	11.8	-	186.3	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q (veh)	1.4	-	11.9	-	-

Intersection	
Intersection Delay, s/veh	142.7
Intersection LOS	F

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		✥			✥			↱		↰	↑	
Traffic Vol, veh/h	300	126	21	15	0	484	0	299	40	322	146	0
Future Vol, veh/h	300	126	21	15	0	484	0	299	40	322	146	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	7	10	3	10	3	3	3	3	4	6	9	3
Mvmt Flow	326	137	23	16	0	526	0	325	43	350	159	0
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	191	210.9	83.9	66.6
HCM LOS	F	F	F	F

Lane	NELn1	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	0%	3%	67%	100%	0%
Vol Thru, %	88%	0%	28%	0%	100%
Vol Right, %	12%	97%	5%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	339	499	447	322	146
LT Vol	0	15	300	322	0
Through Vol	299	0	126	0	146
RT Vol	40	484	21	0	0
Lane Flow Rate	368	542	486	350	159
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.986	1.369	1.312	0.995	0.431
Departure Headway (Hd)	11.759	10.159	10.976	11.929	11.456
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	313	363	335	308	317
Service Time	9.759	8.159	8.976	9.629	9.156
HCM Lane V/C Ratio	1.176	1.493	1.451	1.136	0.502
HCM Control Delay, s/veh	83.9	210.9	191	86.6	22.6
HCM Lane LOS	F	F	F	F	C
HCM 95th-tile Q	10.4	23.9	20.6	10.5	2.1

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	0	367	97	0	108	51
Future Vol, veh/h	0	367	97	0	108	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	225
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	5	11	3	11	3
Mvmt Flow	0	399	105	0	117	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	504	105
Stage 1	-	-	-	-	105	-
Stage 2	-	-	-	-	399	-
Critical Hdwy	-	-	-	-	6.51	6.23
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	-	-	3.599	3.327
Pot Cap-1 Maneuver	0	-	-	0	512	947
Stage 1	0	-	-	0	897	-
Stage 2	0	-	-	0	659	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	512	947
Mov Cap-2 Maneuver	-	-	-	-	512	-
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	659	-

Approach	EB		WB		SB
HCM Control Delay, s/v	0		0		12.5
HCM LOS					B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	512	947
HCM Lane V/C Ratio	-	-	0.229	0.059
HCM Control Delay (s/veh)	-	-	14.1	9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q (veh)	-	-	0.9	0.2

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↰			↱			↱		
Traffic Vol, veh/h	172	302	0	0	97	207	0	0	0	0
Future Vol, veh/h	172	302	0	0	97	207	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	-	None	-	-	Free	-	None	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	7	6	3	3	10	6	3	3	3	3
Mvmt Flow	187	328	0	0	105	225	0	0	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	105	0	-	-	-	0	-	328
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	4.17	-	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.263	-	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	1456	-	0	0	-	0	0	711
Stage 1	-	-	0	0	-	0	0	-
Stage 2	-	-	0	0	-	0	0	-
Platoon blocked, %		-			-			
Mov Cap-1 Maneuver	1456	-	-	-	-	-	-	711
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	2.8	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT
Capacity (veh/h)	-	1456	-	-
HCM Lane V/C Ratio	-	0.128	-	-
HCM Control Delay (s/veh)	0	7.8	0	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q (veh)	-	0.4	-	-

Intersection	
Int Delay, s/veh	20.4

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations	Y		↑↑	↱	↰	↑↑
Traffic Vol, veh/h	86	61	1121	11	20	793
Future Vol, veh/h	86	61	1121	11	20	793
Conflicting Peds, #/hr	18	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	13	6	20	30	5
Mvmt Flow	93	66	1218	12	22	862

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1711	609	0	0	1230	0
Stage 1	1218	-	-	-	-	-
Stage 2	493	-	-	-	-	-
Critical Hdwy	6.86	7.16	-	-	4.7	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.43	-	-	2.5	-
Pot Cap-1 Maneuver	~ 81	412	-	-	430	-
Stage 1	241	-	-	-	-	-
Stage 2	576	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 76	412	-	-	430	-
Mov Cap-2 Maneuver	~ 76	-	-	-	-	-
Stage 1	241	-	-	-	-	-
Stage 2	537	-	-	-	-	-

Approach	EB		SE		NW	
HCM Control Delay, s/v	289		0		0.3	
HCM LOS	F					

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER
Capacity (veh/h)	430	-	115	-	-
HCM Lane V/C Ratio	0.051	-	1.389	-	-
HCM Control Delay (s/veh)	13.8	-	289	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q (veh)	0.2	-	11	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
4: Clovis Ave & Jefferson Ave

06/01/2024

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Traffic Vol, veh/h	1	0	0	0	0	1	4	1138	0	3	911	0
Future Vol, veh/h	1	0	0	0	0	1	4	1138	0	3	911	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	93	92	92	96	92
Heavy Vehicles, %	3	3	3	3	3	3	3	7	3	50	7	3
Mvmt Flow	1	0	0	0	0	1	4	1224	0	3	949	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1575	2187	475	1713	2187	612	949	0	0	1224	0	0
Stage 1	955	955	-	1232	1232	-	-	-	-	-	-	-
Stage 2	620	1232	-	481	955	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	5.1	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.7	-	-
Pot Cap-1 Maneuver	73	45	533	58	45	434	713	-	-	360	-	-
Stage 1	276	333	-	186	246	-	-	-	-	-	-	-
Stage 2	440	246	-	532	333	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	72	44	533	57	44	434	713	-	-	360	-	-
Mov Cap-2 Maneuver	72	44	-	57	44	-	-	-	-	-	-	-
Stage 1	274	330	-	185	245	-	-	-	-	-	-	-
Stage 2	436	245	-	528	330	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	55.8	13.3	0	0.1
HCM LOS	F	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	713	-	-	72	434	360	-	-
HCM Lane V/C Ratio	0.006	-	-	0.015	0.003	0.009	-	-
HCM Control Delay (s/veh)	10.1	-	-	55.8	13.3	15.1	-	-
HCM Lane LOS	B	-	-	F	B	C	-	-
HCM 95th %tile Q (veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	Y		↶	↑↱		↰	↑↑
Traffic Vol, veh/h	27	27	0	1125	37	58	850
Future Vol, veh/h	27	27	0	1125	37	58	850
Conflicting Peds, #/hr	18	0	0	0	15	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	75	-	-	150	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	94	94	92	94	94	94	94
Heavy Vehicles, %	11	3	3	8	12	3	7
Mvmt Flow	29	29	0	1197	39	62	904

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	1826	633	904	0	0	1251	0
Stage 1	1232	-	-	-	-	-	-
Stage 2	594	-	-	-	-	-	-
Critical Hdwy	7.02	6.96	6.46	-	-	4.16	-
Critical Hdwy Stg 1	6.02	-	-	-	-	-	-
Critical Hdwy Stg 2	6.02	-	-	-	-	-	-
Follow-up Hdwy	3.61	3.33	2.53	-	-	2.23	-
Pot Cap-1 Maneuver	62	420	380	-	-	547	-
Stage 1	221	-	-	-	-	-	-
Stage 2	490	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	53	414	380	-	-	539	-
Mov Cap-2 Maneuver	53	-	-	-	-	-	-
Stage 1	218	-	-	-	-	-	-
Stage 2	426	-	-	-	-	-	-

Approach	WB		NB			SB	
HCM Control Delay, s/v	90.7		0			0.8	
HCM LOS	F						

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	380	-	-	94	539	-
HCM Lane V/C Ratio	-	-	-	0.611	0.114	-
HCM Control Delay (s/veh)	0	-	-	90.7	12.5	-
HCM Lane LOS	A	-	-	F	B	-
HCM 95th %tile Q (veh)	0	-	-	2.9	0.4	-

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	0	74	21	4	43	7	9	98	3	4	79	3
Future Vol, veh/h	0	74	21	4	43	7	9	98	3	4	79	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	80	23	4	47	8	10	107	3	4	86	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	252	226	88	276	226	109	89	0	0	110	0	0
Stage 1	96	96	-	129	129	-	-	-	-	-	-	-
Stage 2	156	130	-	147	97	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	699	671	968	674	671	942	1500	-	-	1474	-	-
Stage 1	908	814	-	872	787	-	-	-	-	-	-	-
Stage 2	844	787	-	853	813	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	651	664	968	592	664	942	1500	-	-	1474	-	-
Mov Cap-2 Maneuver	651	664	-	592	664	-	-	-	-	-	-	-
Stage 1	902	812	-	866	781	-	-	-	-	-	-	-
Stage 2	782	781	-	748	811	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.9	10.8	0.6	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1500	-	-	714	684	1474	-	-
HCM Lane V/C Ratio	0.007	-	-	0.145	0.086	0.003	-	-
HCM Control Delay (s/veh)	7.4	0	-	10.9	10.8	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0.5	0.3	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		✣			✣			↰↑↑	↱		↰↑↑↱	
Traffic Vol, veh/h	0	4	0	4	0	2	4	1232	0	2	602	10
Future Vol, veh/h	0	4	0	4	0	2	4	1232	0	2	602	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	125	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	50	3	3	3	6	3	3	9	3
Mvmt Flow	0	4	0	4	0	2	4	1339	0	2	654	11

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	1678	2016	670	1344	2011	333	665	0	0	1339	0	0
Stage 1	1347	1347	-	664	664	-	-	-	-	-	-	-
Stage 2	331	669	-	680	1347	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	8.5	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	7.5	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	7.5	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	4	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	61	57	397	73	58	660	913	-	-	506	-	-
Stage 1	158	216	-	319	454	-	-	-	-	-	-	-
Stage 2	653	452	-	311	216	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	60	56	397	67	57	660	913	-	-	506	-	-
Mov Cap-2 Maneuver	60	56	-	67	57	-	-	-	-	-	-	-
Stage 1	155	212	-	314	451	-	-	-	-	-	-	-
Stage 2	647	449	-	299	212	-	-	-	-	-	-	-

Approach	EB	WB	SE	NW
HCM Control Delay, s/v	74.6	45.2	0.1	0
HCM LOS	F	E		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	506	-	-	56	96	913	-	-
HCM Lane V/C Ratio	0.004	-	-	0.078	0.068	0.005	-	-
HCM Control Delay (s/veh)	12.1	0	-	74.6	45.2	9	0.1	-
HCM Lane LOS	B	A	-	F	E	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0.2	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	6	3	6	70	106	1
Future Vol, veh/h	6	3	6	70	106	1
Conflicting Peds, #/hr	4	0	0	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	6	4	50
Mvmt Flow	7	3	7	76	115	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	212	118	118	0	-	0
Stage 1	118	-	-	-	-	-
Stage 2	94	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	774	931	1464	-	-	-
Stage 1	905	-	-	-	-	-
Stage 2	927	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	767	929	1461	-	-	-
Mov Cap-2 Maneuver	767	-	-	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	925	-	-	-	-	-

Approach	EB		NB		SB	
HCM Control Delay, s/v	9.5		0.6		0	
HCM LOS	A					

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1461	-	814	-	-
HCM Lane V/C Ratio	0.004	-	0.012	-	-
HCM Control Delay (s/veh)	7.5	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0	-	0	-	-

HCM 6th TWSC
9: Clovis Ave & SR 99 NB On Ramp/SR 99 NB Off Ramp

06/01/2024

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰		↱	↰	↑↑			↑↱	
Traffic Vol, veh/h	0	0	0	36	0	851	101	291	0	0	899	40
Future Vol, veh/h	0	0	0	36	0	851	101	291	0	0	899	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	225	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	20	3	9	3	9	3	3	9	15
Mvmt Flow	0	0	0	37	0	877	104	300	0	0	927	41

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	972	-	-	968	0	-	-	-	0
Stage 1	508	-	-	-	-	-	-	-	-
Stage 2	464	-	-	-	-	-	-	-	-
Critical Hdwy	7.2	-	-	4.16	-	-	-	-	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.7	-	-	2.23	-	-	-	-	-
Pot Cap-1 Maneuver	220	0	0	701	-	0	0	-	-
Stage 1	521	0	0	-	-	0	0	-	-
Stage 2	550	0	0	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	187	0	-	701	-	-	-	-	-
Mov Cap-2 Maneuver	187	0	-	-	-	-	-	-	-
Stage 1	444	0	-	-	-	-	-	-	-
Stage 2	550	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	29	2.8	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	701	-	187	-	-	-
HCM Lane V/C Ratio	0.149	-	0.198	-	-	-
HCM Control Delay (s/veh)	11	-	29	0	-	-
HCM Lane LOS	B	-	D	A	-	-
HCM 95th %tile Q (veh)	0.5	-	0.7	-	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations		↱	↳		↰	
Traffic Vol, veh/h	0	62	291	21	49	0
Future Vol, veh/h	0	62	291	21	49	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	10	4	21	12	3
Mvmt Flow	0	67	316	23	53	0

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	-	316	-
Stage 1	-	-	0	-
Stage 2	-	-	316	-
Critical Hdwy	-	-	6.52	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.52	-
Follow-up Hdwy	-	-	3.608	-
Pot Cap-1 Maneuver	-	0	657	0
Stage 1	-	0	-	0
Stage 2	-	0	717	0
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	-	657	0
Mov Cap-2 Maneuver	-	-	657	0
Stage 1	-	-	-	0
Stage 2	-	-	717	0

Approach	SE	NW
HCM Control Delay, s/v	0	11
HCM LOS		B

Minor Lane/Major Mvmt	NWLn1	SET
Capacity (veh/h)	657	-
HCM Lane V/C Ratio	0.081	-
HCM Control Delay (s/veh)	11	-
HCM Lane LOS	B	-
HCM 95th %tile Q (veh)	0.3	-

Intersection	
Int Delay, s/veh	197.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱				↰	↑↱		↰	↑↱	
Traffic Vol, veh/h	97	36	253	0	0	0	3	299	15	634	257	46
Future Vol, veh/h	97	36	253	0	0	0	3	299	15	634	257	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	3	6	3	3	3	3	7	20	8	4	13
Mvmt Flow	105	39	275	0	0	0	3	325	16	689	279	50

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	1851	2013	165				329	0	0	325	0	0
Stage 1	1682	1682	-				-	-	-	-	-	-
Stage 2	169	331	-				-	-	-	-	-	-
Critical Hdwy	6.92	6.56	7.02				4.16	-	-	4.26	-	-
Critical Hdwy Stg 1	5.92	5.56	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.92	5.56	-				-	-	-	-	-	-
Follow-up Hdwy	3.56	4.03	3.36				2.23	-	-	2.28	-	-
Pot Cap-1 Maneuver	~ 63	57	838				1220	-	-	1189	-	-
Stage 1	131	148	-				-	-	-	-	-	-
Stage 2	832	641	-				-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 26	0	838				1220	-	-	1189	-	-
Mov Cap-2 Maneuver	~ 26	0	-				-	-	-	-	-	-
Stage 1	131	0	-				-	-	-	-	-	-
Stage 2	350	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	$ 818	0.1	8.2
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	SBL	SBT	SBR
Capacity (veh/h)	1220	-	-	26	838	1189	-	-
HCM Lane V/C Ratio	0.003	-	-	5.56	0.328	0.58	-	-
HCM Control Delay (s/veh)	8	-	$	2352.4	11.4	12.1	-	-
HCM Lane LOS	A	-	-	F	B	B	-	-
HCM 95th %tile Q (veh)	0	-	-	17.9	1.4	3.9	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 6th TWSC
12: SR 99 SB Off Ramp & Adams Ave

06/01/2024

Intersection	
Int Delay, s/veh	6.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	Y	
Traffic Vol, veh/h	186	0	0	94	4	308
Future Vol, veh/h	186	0	0	94	4	308
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	3	3	7	3	3
Mvmt Flow	202	0	0	102	4	335

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	304	202
Stage 1	-	-	-	-	202	-
Stage 2	-	-	-	-	102	-
Critical Hdwy	-	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	-	0	0	-	686	836
Stage 1	-	0	0	-	830	-
Stage 2	-	0	0	-	920	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	686	836
Mov Cap-2 Maneuver	-	-	-	-	686	-
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	920	-

Approach	EB		WB		NB
HCM Control Delay, s/v	0		0		12.1
HCM LOS					B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	847	-	-
HCM Lane V/C Ratio	0.4	-	-
HCM Control Delay (s/veh)	12.1	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q (veh)	1.9	-	-

HCM 6th TWSC
13: Adams Ave & SR 99 NB On Ramp

06/01/2024

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑			↱			↗		
Traffic Vol, veh/h	0	499	0	0	94	254	0	0	0	0
Future Vol, veh/h	0	499	0	0	94	254	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	4	3	3	5	5	3	3	3	3
Mvmt Flow	0	542	0	0	102	276	0	0	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	-	0	-	-	-	0	-	542
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	0	-	0	0	-	-	0	538
Stage 1	0	-	0	0	-	-	0	-
Stage 2	0	-	0	0	-	-	0	-
Platoon blocked, %		-			-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	538
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	WBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q (veh)	-	-	-	-

Intersection	
Int Delay, s/veh	12.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					✥		↰	↑			↱	
Traffic Vol, veh/h	0	0	0	36	6	166	226	574	0	0	455	279
Future Vol, veh/h	0	0	0	36	6	166	226	574	0	0	455	279
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	4	20	8	7	3	3	3	3	4
Mvmt Flow	0	0	0	38	6	177	240	611	0	0	484	297

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1724	1872	611	781	0	-	-	-	0
Stage 1	1091	1091	-	-	-	-	-	-	-
Stage 2	633	781	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.7	6.28	4.17	-	-	-	-	-
Critical Hdwy Stg 1	5.44	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.44	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.18	3.372	2.263	-	-	-	-	-
Pot Cap-1 Maneuver	97	65	483	815	-	0	0	-	-
Stage 1	319	270	-	-	-	0	0	-	-
Stage 2	525	380	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	68	0	483	815	-	-	-	-	-
Mov Cap-2 Maneuver	68	0	-	-	-	-	-	-	-
Stage 1	225	0	-	-	-	-	-	-	-
Stage 2	525	0	-	-	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s/v	93.6	3.2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NEL	NET	NWLn1	SWT	SWR
Capacity (veh/h)	815	-	231	-	-
HCM Lane V/C Ratio	0.295	-	0.958	-	-
HCM Control Delay (s/veh)	11.3	-	93.6	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q (veh)	1.2	-	8.5	-	-

HCM 6th AWSC
14: Sumner Ave/ Merced St. & Fowler Ave/SR 99 SB Off Ramps

06/01/2024

Intersection	
Intersection Delay, s/veh	74.5
Intersection LOS	F

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		✥			✥			↱		↰	↑	
Traffic Vol, veh/h	256	187	48	19	0	346	0	201	48	319	172	0
Future Vol, veh/h	256	187	48	19	0	346	0	201	48	319	172	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	3	3	3	3	3	4	3	3	3	3	3	3
Mvmt Flow	272	199	51	20	0	368	0	214	51	339	183	0
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	150.1	47.1	30.8	41.4
HCM LOS	F	E	D	E

Lane	NELn1	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	0%	5%	52%	100%	0%
Vol Thru, %	81%	0%	38%	0%	100%
Vol Right, %	19%	95%	10%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	249	365	491	319	172
LT Vol	0	19	256	319	0
Through Vol	201	0	187	0	172
RT Vol	48	346	48	0	0
Lane Flow Rate	265	388	522	339	183
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.668	0.866	1.232	0.875	0.446
Departure Headway (Hd)	9.927	8.702	8.489	9.976	9.453
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	366	419	428	367	384
Service Time	7.927	6.702	6.55	7.676	7.153
HCM Lane V/C Ratio	0.724	0.926	1.22	0.924	0.477
HCM Control Delay, s/veh	30.8	47.1	150.1	53.2	19.5
HCM Lane LOS	D	E	F	F	C
HCM 95th-tile Q	4.6	8.6	21.3	8.4	2.2

HORIZON YEAR PLUS PROJECT

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	0	152	181	0	210	199
Future Vol, veh/h	0	152	181	0	210	199
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	225
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	17	18	3	13	7
Mvmt Flow	0	165	197	0	228	216

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	362	197
Stage 1	-	-	-	-	197	-
Stage 2	-	-	-	-	165	-
Critical Hdwy	-	-	-	-	6.53	6.27
Critical Hdwy Stg 1	-	-	-	-	5.53	-
Critical Hdwy Stg 2	-	-	-	-	5.53	-
Follow-up Hdwy	-	-	-	-	3.617	3.363
Pot Cap-1 Maneuver	0	-	-	0	616	832
Stage 1	0	-	-	0	811	-
Stage 2	0	-	-	0	838	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	616	832
Mov Cap-2 Maneuver	-	-	-	-	616	-
Stage 1	-	-	-	-	811	-
Stage 2	-	-	-	-	838	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	616	832
HCM Lane V/C Ratio	-	-	0.371	0.26
HCM Control Delay (s/veh)	-	-	14.2	10.8
HCM Lane LOS	-	-	B	B
HCM 95th %tile Q (veh)	-	-	1.7	1

HCM 6th TWSC
2: American Ave & SR 99 NB On Ramp

06/01/2024

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↰			↱			↱		
Traffic Vol, veh/h	68	299	0	0	184	128	0	0	0	0
Future Vol, veh/h	68	299	0	0	184	128	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	-	None	-	-	Free	-	None	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	15	13	3	3	15	12	3	3	3	3
Mvmt Flow	74	325	0	0	200	139	0	0	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	200	0	-	-	-	0	-	325
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	4.25	-	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.335	-	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	1298	-	0	0	-	0	0	714
Stage 1	-	-	0	0	-	0	0	-
Stage 2	-	-	0	0	-	0	0	-
Platoon blocked, %		-			-			
Mov Cap-1 Maneuver	1298	-	-	-	-	-	-	714
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	1.5	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT
Capacity (veh/h)	-	1298	-	-
HCM Lane V/C Ratio	-	0.057	-	-
HCM Control Delay (s/veh)	0	7.9	0	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q (veh)	-	0.2	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations	↖↗		↑↑	↱	↰	↑↑
Traffic Vol, veh/h	43	36	785	26	38	890
Future Vol, veh/h	43	36	785	26	38	890
Conflicting Peds, #/hr	18	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	42	42	13	13	10	10
Mvmt Flow	47	39	853	28	41	967

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1437	427	0	0	881	0
Stage 1	853	-	-	-	-	-
Stage 2	584	-	-	-	-	-
Critical Hdwy	7.64	7.74	-	-	4.3	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.64	-	-	-	-	-
Follow-up Hdwy	3.92	3.72	-	-	2.3	-
Pot Cap-1 Maneuver	86	478	-	-	715	-
Stage 1	292	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	80	478	-	-	715	-
Mov Cap-2 Maneuver	80	-	-	-	-	-
Stage 1	292	-	-	-	-	-
Stage 2	392	-	-	-	-	-

Approach	EB	SE	NW
HCM Control Delay, s/v	76.1	0	0.4
HCM LOS	F		

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER
Capacity (veh/h)	715	-	129	-	-
HCM Lane V/C Ratio	0.058	-	0.666	-	-
HCM Control Delay (s/veh)	10.3	-	76.1	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q (veh)	0.2	-	3.6	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Traffic Vol, veh/h	1	0	1	6	0	0	4	800	1	4	1126	1
Future Vol, veh/h	1	0	1	6	0	0	4	800	1	4	1126	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	42	3	42	3	3	3	33	8	3	33	12	3
Mvmt Flow	1	0	1	7	0	0	4	870	1	4	1224	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1676	2112	613	1499	2112	436	1225	0	0	871	0	0
Stage 1	1233	1233	-	879	879	-	-	-	-	-	-	-
Stage 2	443	879	-	620	1233	-	-	-	-	-	-	-
Critical Hdwy	8.34	6.56	7.74	7.56	6.56	6.96	4.76	-	-	4.76	-	-
Critical Hdwy Stg 1	7.34	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.34	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.92	4.03	3.72	3.53	4.03	3.33	2.53	-	-	2.53	-	-
Pot Cap-1 Maneuver	41	50	350	84	50	565	420	-	-	601	-	-
Stage 1	135	245	-	307	361	-	-	-	-	-	-	-
Stage 2	469	361	-	440	245	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	41	49	350	83	49	565	420	-	-	601	-	-
Mov Cap-2 Maneuver	41	49	-	83	49	-	-	-	-	-	-	-
Stage 1	134	243	-	304	357	-	-	-	-	-	-	-
Stage 2	465	357	-	436	243	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	55.8	52	0.1	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	420	-	-	73	83	601	-	-
HCM Lane V/C Ratio	0.01	-	-	0.03	0.079	0.007	-	-
HCM Control Delay (s/veh)	13.7	-	-	55.8	52	11	-	-
HCM Lane LOS	B	-	-	F	F	B	-	-
HCM 95th %tile Q (veh)	0	-	-	0.1	0.2	0	-	-

HCM 6th TWSC
5: Clovis Ave & Lincoln Ave

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	Y		↶	↑↱		↰	↑↑
Traffic Vol, veh/h	24	39	0	769	22	45	1083
Future Vol, veh/h	24	39	0	769	22	45	1083
Conflicting Peds, #/hr	26	0	0	0	15	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	75	-	-	150	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97	97
Heavy Vehicles, %	12	3	3	8	6	3	12
Mvmt Flow	25	40	0	793	23	46	1116

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	1496	423	1116	0	0	831	0
Stage 1	820	-	-	-	-	-	-
Stage 2	676	-	-	-	-	-	-
Critical Hdwy	7.04	6.96	6.46	-	-	4.16	-
Critical Hdwy Stg 1	6.04	-	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-	-
Follow-up Hdwy	3.62	3.33	2.53	-	-	2.23	-
Pot Cap-1 Maneuver	103	577	277	-	-	791	-
Stage 1	369	-	-	-	-	-	-
Stage 2	441	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	93	569	277	-	-	780	-
Mov Cap-2 Maneuver	93	-	-	-	-	-	-
Stage 1	364	-	-	-	-	-	-
Stage 2	405	-	-	-	-	-	-

Approach	WB		NB			SB
HCM Control Delay, s/v	32.8		0			0.4
HCM LOS	D					

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	277	-	-	193	780	-
HCM Lane V/C Ratio	-	-	-	0.337	0.059	-
HCM Control Delay (s/veh)	0	-	-	32.8	9.9	-
HCM Lane LOS	A	-	-	D	A	-
HCM 95th %tile Q (veh)	0	-	-	1.4	0.2	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	0	39	25	12	48	7	18	48	89	13	83	1
Future Vol, veh/h	0	39	25	12	48	7	18	48	89	13	83	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	42	27	13	52	8	20	52	97	14	90	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	290	308	91	294	260	101	91	0	0	149	0	0
Stage 1	119	119	-	141	141	-	-	-	-	-	-	-
Stage 2	171	189	-	153	119	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	660	604	964	656	643	952	1498	-	-	1426	-	-
Stage 1	883	795	-	860	778	-	-	-	-	-	-	-
Stage 2	829	742	-	847	795	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	601	589	964	591	627	952	1498	-	-	1426	-	-
Mov Cap-2 Maneuver	601	589	-	591	627	-	-	-	-	-	-	-
Stage 1	870	787	-	847	766	-	-	-	-	-	-	-
Stage 2	755	731	-	771	787	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.8	11.3	0.9	1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1498	-	-	695	643	1426	-	-
HCM Lane V/C Ratio	0.013	-	-	0.1	0.113	0.01	-	-
HCM Control Delay (s/veh)	7.4	0	-	10.8	11.3	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0.3	0.4	0	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		✥			✥			↰↑	↱		↰↑↱	
Traffic Vol, veh/h	0	1	0	10	0	31	18	472	4	0	838	54
Future Vol, veh/h	0	1	0	10	0	31	18	472	4	0	838	54
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	125	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	50	3	50	3	13	3	3	7	3
Mvmt Flow	0	1	0	11	0	33	19	502	4	0	891	57

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	986	1488	251	1210	1464	474	948	0	0	506	0	0
Stage 1	540	540	-	920	920	-	-	-	-	-	-	-
Stage 2	446	948	-	290	544	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	8.5	6.56	7.9	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	7.5	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	7.5	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	4	4.03	3.8	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	201	122	746	94	126	426	714	-	-	1048	-	-
Stage 1	491	517	-	211	346	-	-	-	-	-	-	-
Stage 2	559	335	-	575	515	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	180	117	746	91	121	426	714	-	-	1048	-	-
Mov Cap-2 Maneuver	180	117	-	91	121	-	-	-	-	-	-	-
Stage 1	473	498	-	203	346	-	-	-	-	-	-	-
Stage 2	516	335	-	553	496	-	-	-	-	-	-	-

Approach	EB	WB	SE	NW
HCM Control Delay, s/v	36.1	24.9	0.6	0
HCM LOS	E	C		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	1048	-	-	117	224	714	-	-
HCM Lane V/C Ratio	-	-	-	0.009	0.195	0.027	-	-
HCM Control Delay (s/veh)	0	-	-	36.1	24.9	10.2	0.2	-
HCM Lane LOS	A	-	-	E	C	B	A	-
HCM 95th %tile Q (veh)	0	-	-	0	0.7	0.1	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	3	8	17	70	106	16
Future Vol, veh/h	3	8	17	70	106	16
Conflicting Peds, #/hr	4	0	0	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	33	4	3	50
Mvmt Flow	3	9	18	76	115	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	242	126	134	0	-	0
Stage 1	126	-	-	-	-	-
Stage 2	116	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.43	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.497	-	-	-
Pot Cap-1 Maneuver	744	922	1280	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	906	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	730	920	1278	-	-	-
Mov Cap-2 Maneuver	730	-	-	-	-	-
Stage 1	882	-	-	-	-	-
Stage 2	904	-	-	-	-	-

Approach	EB		NB		SB
HCM Control Delay, s/v	9.3		1.5		0
HCM LOS	A				

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1278	-	859	-	-
HCM Lane V/C Ratio	0.014	-	0.014	-	-
HCM Control Delay (s/veh)	7.9	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰		↱	↰	↑↑			↑↱	
Traffic Vol, veh/h	0	0	0	43	0	670	175	284	0	0	1051	40
Future Vol, veh/h	0	0	0	43	0	670	175	284	0	0	1051	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	225	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	9	4	10	3	3	15	10
Mvmt Flow	0	0	0	45	0	705	184	299	0	0	1106	42

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1220	-	-	1148	0	-	-	-	0
Stage 1	667	-	-	-	-	-	-	-	-
Stage 2	553	-	-	-	-	-	-	-	-
Critical Hdwy	6.86	-	-	4.18	-	-	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	-	-	2.24	-	-	-	-	-
Pot Cap-1 Maneuver	171	0	0	593	-	0	0	-	-
Stage 1	469	0	0	-	-	0	0	-	-
Stage 2	537	0	0	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	118	0	-	593	-	-	-	-	-
Mov Cap-2 Maneuver	118	0	-	-	-	-	-	-	-
Stage 1	324	0	-	-	-	-	-	-	-
Stage 2	537	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	53.3	5.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	593	-	118	-	-	-
HCM Lane V/C Ratio	0.311	-	0.384	-	-	-
HCM Control Delay (s/veh)	13.8	-	53.3	0	-	-
HCM Lane LOS	B	-	F	A	-	-
HCM 95th %tile Q (veh)	1.3	-	1.6	-	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations		↱	↳		↰	
Traffic Vol, veh/h	0	55	185	31	62	0
Future Vol, veh/h	0	55	185	31	62	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	11	13	5	3	3
Mvmt Flow	0	59	199	33	67	0

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	-	199	-
Stage 1	-	-	0	-
Stage 2	-	-	199	-
Critical Hdwy	-	-	6.43	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.43	-
Follow-up Hdwy	-	-	3.527	-
Pot Cap-1 Maneuver	-	0	787	0
Stage 1	-	0	-	0
Stage 2	-	0	832	0
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	-	787	0
Mov Cap-2 Maneuver	-	-	787	0
Stage 1	-	-	-	0
Stage 2	-	-	832	0

Approach	SE	NW
HCM Control Delay, s/v	0	10
HCM LOS		B

Minor Lane/Major Mvmt	NWLn1	SET
Capacity (veh/h)	787	-
HCM Lane V/C Ratio	0.085	-
HCM Control Delay (s/veh)	10	-
HCM Lane LOS	B	-
HCM 95th %tile Q (veh)	0.3	-

HCM 6th TWSC
11: Clovis Ave & Clayton Ave/SR 99 SB On Ramp

06/01/2024

Intersection	
Int Delay, s/veh	739.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑	↱				↰	↑↑↱		↰	↑↑↱	
Traffic Vol, veh/h	115	25	86	0	0	0	6	345	13	818	224	61
Future Vol, veh/h	115	25	86	0	0	0	6	345	13	818	224	61
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	8	24	10	3	3	3	3	8	22	12	23	3
Mvmt Flow	122	27	91	0	0	0	6	367	14	870	238	65

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	2207	2390	152				303	0	0	367	0	0
Stage 1	2011	2011	-				-	-	-	-	-	-
Stage 2	196	379	-				-	-	-	-	-	-
Critical Hdwy	6.96	6.98	7.1				4.16	-	-	4.34	-	-
Critical Hdwy Stg 1	5.96	5.98	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.96	5.98	-				-	-	-	-	-	-
Follow-up Hdwy	3.58	4.24	3.4				2.23	-	-	2.32	-	-
Pot Cap-1 Maneuver	~ 35	~ 25	842				1248	-	-	1119	-	-
Stage 1	~ 83	79	-				-	-	-	-	-	-
Stage 2	800	561	-				-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 8	0	842				1248	-	-	1119	-	-
Mov Cap-2 Maneuver	~ 8	0	-				-	-	-	-	-	-
Stage 1	~ 83	0	-				-	-	-	-	-	-
Stage 2	178	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	$ 5475.3	0.1	13.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	SBL	SBT	SBR
Capacity (veh/h)	1248	-	-	8	842	1119	-	-
HCM Lane V/C Ratio	0.005	-	-	18.617	0.109	0.778	-	-
HCM Control Delay (s/veh)	7.9	-	-	$ 8832.7	9.8	18.4	-	-
HCM Lane LOS	A	-	-	F	A	C	-	-
HCM 95th %tile Q (veh)	0	-	-	20.4	0.4	8.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	Y	
Traffic Vol, veh/h	190	0	0	109	1	159
Future Vol, veh/h	190	0	0	109	1	159
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	4	3	3	3	3	7
Mvmt Flow	207	0	0	118	1	173

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	325	207
Stage 1	-	-	-	-	207	-
Stage 2	-	-	-	-	118	-
Critical Hdwy	-	-	-	-	6.43	6.27
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	-	-	3.527	3.363
Pot Cap-1 Maneuver	-	0	0	-	667	821
Stage 1	-	0	0	-	825	-
Stage 2	-	0	0	-	905	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	667	821
Mov Cap-2 Maneuver	-	-	-	-	667	-
Stage 1	-	-	-	-	825	-
Stage 2	-	-	-	-	905	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	826	-	-
HCM Lane V/C Ratio	0.211	-	-
HCM Control Delay (s/veh)	10.5	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q (veh)	0.8	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑			↱			↗		
Traffic Vol, veh/h	0	351	0	0	111	415	0	0	0	0
Future Vol, veh/h	0	351	0	0	111	415	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	5	3	3	3	4	3	3	3	3
Mvmt Flow	0	369	0	0	117	437	0	0	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	-	0	-	-	-	0	-	369
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	0	-	0	0	-	-	0	674
Stage 1	0	-	0	0	-	-	0	-
Stage 2	0	-	0	0	-	-	0	-
Platoon blocked, %		-			-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	674
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	WBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q (veh)	-	-	-	-

Intersection	
Int Delay, s/veh	29

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					✥		↰	↑			↱	
Traffic Vol, veh/h	0	0	0	18	0	225	239	844	0	0	462	312
Future Vol, veh/h	0	0	0	18	0	225	239	844	0	0	462	312
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	20	3	10	4	3	3	3	7	3
Mvmt Flow	0	0	0	20	0	245	260	917	0	0	502	339

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	2109	2278	917	841	0	-	-	-	0
Stage 1	1437	1437	-	-	-	-	-	-	-
Stage 2	672	841	-	-	-	-	-	-	-
Critical Hdwy	6.6	6.53	6.3	4.14	-	-	-	-	-
Critical Hdwy Stg 1	5.6	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.6	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.68	4.027	3.39	2.236	-	-	-	-	-
Pot Cap-1 Maneuver	50	40	319	786	-	0	0	-	-
Stage 1	200	198	-	-	-	0	0	-	-
Stage 2	475	379	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	33	0	319	786	-	-	-	-	-
Mov Cap-2 Maneuver	33	0	-	-	-	-	-	-	-
Stage 1	134	0	-	-	-	-	-	-	-
Stage 2	475	0	-	-	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s/v	239	2.6	0
HCM LOS	F		

Minor Lane/Major Mvmt	NEL	NET	NWLn1	SWT	SWR
Capacity (veh/h)	786	-	194	-	-
HCM Lane V/C Ratio	0.331	-	1.361	-	-
HCM Control Delay (s/veh)	11.8	-	239	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q (veh)	1.4	-	15.3	-	-

HCM 6th AWSC
14: Sumner Ave/ Merced St. & Fowler Ave/SR 99 SB Off Ramps

06/01/2024

Intersection	
Intersection Delay, s/veh	145
Intersection LOS	F

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		✥			✥			↱		↰	↑	
Traffic Vol, veh/h	300	126	21	15	0	484	0	299	40	328	146	0
Future Vol, veh/h	300	126	21	15	0	484	0	299	40	328	146	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	7	10	3	10	3	3	3	3	4	6	9	3
Mvmt Flow	326	137	23	16	0	526	0	325	43	357	159	0
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	193.2	213.5	85	70.5
HCM LOS	F	F	F	F

Lane	NELn1	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	0%	3%	67%	100%	0%
Vol Thru, %	88%	0%	28%	0%	100%
Vol Right, %	12%	97%	5%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	339	499	447	328	146
LT Vol	0	15	300	328	0
Through Vol	299	0	126	0	146
RT Vol	40	484	21	0	0
Lane Flow Rate	368	542	486	357	159
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.989	1.375	1.317	1.014	0.432
Departure Headway (Hd)	11.83	10.215	11.036	11.96	11.486
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	310	358	335	307	316
Service Time	9.83	8.215	9.036	9.66	9.186
HCM Lane V/C Ratio	1.187	1.514	1.451	1.163	0.503
HCM Control Delay, s/veh	85	213.5	193.2	91.8	22.6
HCM Lane LOS	F	F	F	F	C
HCM 95th-tile Q	10.4	24.1	20.7	11	2.1

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↰	↱
Traffic Vol, veh/h	0	367	97	0	114	51
Future Vol, veh/h	0	367	97	0	114	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	225
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	5	11	3	11	3
Mvmt Flow	0	399	105	0	124	55

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	504	105
Stage 1	-	-	-	-	105	-
Stage 2	-	-	-	-	399	-
Critical Hdwy	-	-	-	-	6.51	6.23
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	-	-	3.599	3.327
Pot Cap-1 Maneuver	0	-	-	0	512	947
Stage 1	0	-	-	0	897	-
Stage 2	0	-	-	0	659	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	512	947
Mov Cap-2 Maneuver	-	-	-	-	512	-
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	659	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	12.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1	SBLn2
Capacity (veh/h)	-	-	512	947
HCM Lane V/C Ratio	-	-	0.242	0.059
HCM Control Delay (s/veh)	-	-	14.3	9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q (veh)	-	-	0.9	0.2

HCM 6th TWSC
2: American Ave & SR 99 NB On Ramp

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↰			↱			↱		
Traffic Vol, veh/h	172	308	0	0	97	240	0	0	0	0
Future Vol, veh/h	172	308	0	0	97	240	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	-	None	-	-	Free	-	None	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	7	6	3	3	10	6	3	3	3	3
Mvmt Flow	187	335	0	0	105	261	0	0	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	105	0	-	-	-	0	-	335
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	4.17	-	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.263	-	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	1456	-	0	0	-	0	0	705
Stage 1	-	-	0	0	-	0	0	-
Stage 2	-	-	0	0	-	0	0	-
Platoon blocked, %		-			-			
Mov Cap-1 Maneuver	1456	-	-	-	-	-	-	705
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	2.8	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT
Capacity (veh/h)	-	1456	-	-
HCM Lane V/C Ratio	-	0.128	-	-
HCM Control Delay (s/veh)	0	7.8	0	-
HCM Lane LOS	A	A	A	-
HCM 95th %tile Q (veh)	-	0.4	-	-

3: Golden St. Blvd. & Jefferson Ave

Intersection	
Int Delay, s/veh	21.6

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations	↰↱		↑↑	↱	↰	↑↑
Traffic Vol, veh/h	86	61	1127	11	20	826
Future Vol, veh/h	86	61	1127	11	20	826
Conflicting Peds, #/hr	18	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	13	6	20	30	5
Mvmt Flow	93	66	1225	12	22	898

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1736	613	0	0	1237	0
Stage 1	1225	-	-	-	-	-
Stage 2	511	-	-	-	-	-
Critical Hdwy	6.86	7.16	-	-	4.7	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.43	-	-	2.5	-
Pot Cap-1 Maneuver	~ 78	409	-	-	427	-
Stage 1	239	-	-	-	-	-
Stage 2	564	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 73	409	-	-	427	-
Mov Cap-2 Maneuver	~ 73	-	-	-	-	-
Stage 1	239	-	-	-	-	-
Stage 2	526	-	-	-	-	-

Approach	EB	SE	NW
HCM Control Delay, s/v	$ 311.8	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	SET	SER
Capacity (veh/h)	427	-	111	-	-
HCM Lane V/C Ratio	0.051	-	1.439	-	-
HCM Control Delay (s/veh)	13.9	-	$ 311.8	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q (veh)	0.2	-	11.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥		↰	↑↱		↰	↑↱	
Traffic Vol, veh/h	1	0	0	0	0	1	4	1149	0	3	913	0
Future Vol, veh/h	1	0	0	0	0	1	4	1149	0	3	913	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	93	92	92	96	92
Heavy Vehicles, %	3	3	3	3	3	3	3	7	3	50	7	3
Mvmt Flow	1	0	0	0	0	1	4	1235	0	3	951	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1583	2200	476	1725	2200	618	951	0	0	1235	0	0
Stage 1	957	957	-	1243	1243	-	-	-	-	-	-	-
Stage 2	626	1243	-	482	957	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	5.1	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.7	-	-
Pot Cap-1 Maneuver	72	44	532	56	44	430	712	-	-	355	-	-
Stage 1	275	332	-	183	243	-	-	-	-	-	-	-
Stage 2	436	243	-	532	332	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	71	43	532	55	43	430	712	-	-	355	-	-
Mov Cap-2 Maneuver	71	43	-	55	43	-	-	-	-	-	-	-
Stage 1	273	329	-	182	242	-	-	-	-	-	-	-
Stage 2	432	242	-	528	329	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	56.5	13.4	0	0.1
HCM LOS	F	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	712	-	-	71	430	355	-	-
HCM Lane V/C Ratio	0.006	-	-	0.015	0.003	0.009	-	-
HCM Control Delay (s/veh)	10.1	-	-	56.5	13.4	15.2	-	-
HCM Lane LOS	B	-	-	F	B	C	-	-
HCM 95th %tile Q (veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	Y		↶	↑↑↱		↰	↑↑
Traffic Vol, veh/h	27	27	0	1136	37	58	852
Future Vol, veh/h	27	27	0	1136	37	58	852
Conflicting Peds, #/hr	18	0	0	0	15	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	-	75	-	-	150	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	94	94	92	94	94	94	94
Heavy Vehicles, %	11	3	3	8	12	3	7
Mvmt Flow	29	29	0	1209	39	62	906

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	1839	639	906	0	0	1263	0
Stage 1	1244	-	-	-	-	-	-
Stage 2	595	-	-	-	-	-	-
Critical Hdwy	7.02	6.96	6.46	-	-	4.16	-
Critical Hdwy Stg 1	6.02	-	-	-	-	-	-
Critical Hdwy Stg 2	6.02	-	-	-	-	-	-
Follow-up Hdwy	3.61	3.33	2.53	-	-	2.23	-
Pot Cap-1 Maneuver	61	416	379	-	-	541	-
Stage 1	218	-	-	-	-	-	-
Stage 2	490	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	52	410	379	-	-	533	-
Mov Cap-2 Maneuver	52	-	-	-	-	-	-
Stage 1	215	-	-	-	-	-	-
Stage 2	426	-	-	-	-	-	-

Approach	WB		NB			SB
HCM Control Delay, s/v	94.3		0			0.8
HCM LOS	F					

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	379	-	-	92	533	-
HCM Lane V/C Ratio	-	-	-	0.624	0.116	-
HCM Control Delay (s/veh)	0	-	-	94.3	12.6	-
HCM Lane LOS	A	-	-	F	B	-
HCM 95th %tile Q (veh)	0	-	-	3	0.4	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✥			✥			✥			✥	
Traffic Vol, veh/h	0	74	21	4	43	7	9	109	3	4	81	3
Future Vol, veh/h	0	74	21	4	43	7	9	109	3	4	81	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	80	23	4	47	8	10	118	3	4	88	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	265	239	90	289	239	120	91	0	0	121	0	0
Stage 1	98	98	-	140	140	-	-	-	-	-	-	-
Stage 2	167	141	-	149	99	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.13	6.53	6.23	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.527	4.027	3.327	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	686	660	965	661	660	929	1498	-	-	1460	-	-
Stage 1	906	812	-	861	779	-	-	-	-	-	-	-
Stage 2	833	778	-	851	811	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	638	653	965	580	653	929	1498	-	-	1460	-	-
Mov Cap-2 Maneuver	638	653	-	580	653	-	-	-	-	-	-	-
Stage 1	900	810	-	855	774	-	-	-	-	-	-	-
Stage 2	771	773	-	746	809	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	11	10.9	0.6	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1498	-	-	703	673	1460	-	-
HCM Lane V/C Ratio	0.007	-	-	0.147	0.087	0.003	-	-
HCM Control Delay (s/veh)	7.4	0	-	11	10.9	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0.5	0.3	0	-	-

Intersection	
Int Delay, s/veh	22.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		↰↑↱			↰↑↱			↰↑↑	↱		↰↑↱	
Traffic Vol, veh/h	0	4	0	49	0	158	32	1232	0	2	602	18
Future Vol, veh/h	0	4	0	49	0	158	32	1232	0	2	602	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	125	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	50	3	3	3	6	3	3	9	3
Mvmt Flow	0	4	0	53	0	172	35	1339	0	2	654	20

Major/Minor	Minor1			Minor2			Major1			Major2		
Conflicting Flow All	1740	2087	670	1410	2077	337	674	0	0	1339	0	0
Stage 1	1409	1409	-	668	668	-	-	-	-	-	-	-
Stage 2	331	678	-	742	1409	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	8.5	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	7.5	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	7.5	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	4	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	55	52	397	64	52	656	906	-	-	506	-	-
Stage 1	144	202	-	317	452	-	-	-	-	-	-	-
Stage 2	653	447	-	282	202	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	36	44	397	~ 52	44	656	906	-	-	506	-	-
Mov Cap-2 Maneuver	36	44	-	~ 52	44	-	-	-	-	-	-	-
Stage 1	122	171	-	269	449	-	-	-	-	-	-	-
Stage 2	479	444	-	233	171	-	-	-	-	-	-	-

Approach	EB	WB	SE	NW
HCM Control Delay, s/v	95.6	216.5	0.9	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NWL	NWT	NWR	EBLn1	WBLn1	SEL	SET	SER
Capacity (veh/h)	506	-	-	44	175	906	-	-
HCM Lane V/C Ratio	0.004	-	-	0.099	1.286	0.038	-	-
HCM Control Delay (s/veh)	12.1	0	-	95.6	216.5	9.1	0.7	-
HCM Lane LOS	B	A	-	F	F	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0.3	12.8	0.1	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↰	↱	
Traffic Vol, veh/h	17	14	8	70	106	3
Future Vol, veh/h	17	14	8	70	106	3
Conflicting Peds, #/hr	4	0	0	0	0	2
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	6	4	50
Mvmt Flow	18	15	9	76	115	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	217	119	120	0	-	0
Stage 1	119	-	-	-	-	-
Stage 2	98	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	769	930	1462	-	-	-
Stage 1	904	-	-	-	-	-
Stage 2	923	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	761	928	1459	-	-	-
Mov Cap-2 Maneuver	761	-	-	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	921	-	-	-	-	-

Approach	EB		NB		SB	
HCM Control Delay, s/v	9.5		0.8		0	
HCM LOS	A					

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1459	-	828	-	-
HCM Lane V/C Ratio	0.006	-	0.041	-	-
HCM Control Delay (s/veh)	7.5	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰		↱	↰	↑↑			↑↱	
Traffic Vol, veh/h	0	0	0	36	0	851	101	303	0	0	944	107
Future Vol, veh/h	0	0	0	36	0	851	101	303	0	0	944	107
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	225	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	3	3	3	20	3	9	3	9	3	3	9	15
Mvmt Flow	0	0	0	37	0	877	104	312	0	0	973	110

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1007	-	-	1083	0	-	-	-	0
Stage 1	520	-	-	-	-	-	-	-	-
Stage 2	487	-	-	-	-	-	-	-	-
Critical Hdwy	7.2	-	-	4.16	-	-	-	-	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.7	-	-	2.23	-	-	-	-	-
Pot Cap-1 Maneuver	208	0	0	634	-	0	0	-	-
Stage 1	513	0	0	-	-	0	0	-	-
Stage 2	535	0	0	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	174	0	-	634	-	-	-	-	-
Mov Cap-2 Maneuver	174	0	-	-	-	-	-	-	-
Stage 1	429	0	-	-	-	-	-	-	-
Stage 2	535	0	-	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	31.2	2.9	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	WBLn1	WBLn2	SBT	SBR
Capacity (veh/h)	634	-	174	-	-	-
HCM Lane V/C Ratio	0.164	-	0.213	-	-	-
HCM Control Delay (s/veh)	11.8	-	31.2	0	-	-
HCM Lane LOS	B	-	D	A	-	-
HCM 95th %tile Q (veh)	0.6	-	0.8	-	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations		↱	↳		↰	
Traffic Vol, veh/h	0	92	303	21	49	0
Future Vol, veh/h	0	92	303	21	49	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Yield	-	Free	-	None
Storage Length	-	0	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	10	4	21	12	3
Mvmt Flow	0	100	329	23	53	0

Major/Minor	Major1		Minor2	
Conflicting Flow All	0	-	329	-
Stage 1	-	-	0	-
Stage 2	-	-	329	-
Critical Hdwy	-	-	6.52	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.52	-
Follow-up Hdwy	-	-	3.608	-
Pot Cap-1 Maneuver	-	0	645	0
Stage 1	-	0	-	0
Stage 2	-	0	707	0
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	-	645	0
Mov Cap-2 Maneuver	-	-	645	0
Stage 1	-	-	-	0
Stage 2	-	-	707	0

Approach	SE	NW
HCM Control Delay, s/v	0	11.1
HCM LOS		B

Minor Lane/Major Mvmt	NWLn1	SET
Capacity (veh/h)	645	-
HCM Lane V/C Ratio	0.083	-
HCM Control Delay (s/veh)	11.1	-
HCM Lane LOS	B	-
HCM 95th %tile Q (veh)	0.3	-

Intersection	
Int Delay, s/veh	303.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱				↰	↑↱		↰	↑↱	
Traffic Vol, veh/h	109	36	253	0	0	0	3	299	15	679	257	46
Future Vol, veh/h	109	36	253	0	0	0	3	299	15	679	257	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	75	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	3	6	3	3	3	3	7	20	8	4	13
Mvmt Flow	118	39	275	0	0	0	3	325	16	738	279	50

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	1949	2111	165	329	0	0	325	0	0
Stage 1	1780	1780	-	-	-	-	-	-	-
Stage 2	169	331	-	-	-	-	-	-	-
Critical Hdwy	6.92	6.56	7.02	4.16	-	-	4.26	-	-
Critical Hdwy Stg 1	5.92	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.92	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.56	4.03	3.36	2.23	-	-	2.28	-	-
Pot Cap-1 Maneuver	~ 54	50	838	1220	-	-	1189	-	-
Stage 1	~ 115	132	-	-	-	-	-	-	-
Stage 2	832	641	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	~ 20	0	838	1220	-	-	1189	-	-
Mov Cap-2 Maneuver	~ 20	0	-	-	-	-	-	-	-
Stage 1	~ 115	0	-	-	-	-	-	-	-
Stage 2	315	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	$ 1273.3	0.1	8.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	SBL	SBT	SBR
Capacity (veh/h)	1220	-	-	20	838	1189	-	-
HCM Lane V/C Ratio	0.003	-	-	7.88	0.328	0.621	-	-
HCM Control Delay (s/veh)	8	-	-	$ 3475.2	11.4	12.8	-	-
HCM Lane LOS	A	-	-	F	B	B	-	-
HCM 95th %tile Q (veh)	0	-	-	20.1	1.4	4.5	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
12: SR 99 SB Off Ramp & Adams Ave

Intersection	
Int Delay, s/veh	6.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	Y	
Traffic Vol, veh/h	188	0	0	105	4	308
Future Vol, veh/h	188	0	0	105	4	308
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	3	3	7	3	3
Mvmt Flow	204	0	0	114	4	335

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	318	204
Stage 1	-	-	-	-	204	-
Stage 2	-	-	-	-	114	-
Critical Hdwy	-	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	-	0	0	-	673	834
Stage 1	-	0	0	-	828	-
Stage 2	-	0	0	-	908	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	673	834
Mov Cap-2 Maneuver	-	-	-	-	673	-
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	908	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	845	-	-
HCM Lane V/C Ratio	0.401	-	-
HCM Control Delay (s/veh)	12.1	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q (veh)	2	-	-

HCM 6th TWSC
13: Adams Ave & SR 99 NB On Ramp

06/01/2024

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑			↑↱			↗		
Traffic Vol, veh/h	0	512	0	0	94	254	0	0	0	0
Future Vol, veh/h	0	512	0	0	94	254	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Free	Free
RT Channelized	-	-	None	-	-	None	-	None	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	0	-	0	-
Grade, %	-	0	-	-	0	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	4	3	3	5	5	3	3	3	3
Mvmt Flow	0	557	0	0	102	276	0	0	0	0

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	-	0	-	-	-	0	-	557
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	3.327
Pot Cap-1 Maneuver	0	-	0	0	-	-	0	528
Stage 1	0	-	0	0	-	-	0	-
Stage 2	0	-	0	0	-	-	0	-
Platoon blocked, %		-			-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	528
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT	WBR
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s/veh)	0	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q (veh)	-	-	-	-

HCM 6th TWSC
15: Merced St. & SR 99 NB Ramps

06/01/2024

Intersection	
Int Delay, s/veh	14.4

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					✥		↰	↑			↱	
Traffic Vol, veh/h	0	0	0	36	6	172	226	574	0	0	488	279
Future Vol, veh/h	0	0	0	36	6	172	226	574	0	0	488	279
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	3	3	3	4	20	8	7	3	3	3	3	4
Mvmt Flow	0	0	0	38	6	183	240	611	0	0	519	297

Major/Minor	Minor1			Major1			Major2		
Conflicting Flow All	1759	1907	611	816	0	-	-	-	0
Stage 1	1091	1091	-	-	-	-	-	-	-
Stage 2	668	816	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.7	6.28	4.17	-	-	-	-	-
Critical Hdwy Stg 1	5.44	5.7	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.44	5.7	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.18	3.372	2.263	-	-	-	-	-
Pot Cap-1 Maneuver	92	62	483	790	-	0	0	-	-
Stage 1	319	270	-	-	-	0	0	-	-
Stage 2	506	366	-	-	-	0	0	-	-
Platoon blocked, %					-			-	-
Mov Cap-1 Maneuver	64	0	483	790	-	-	-	-	-
Mov Cap-2 Maneuver	64	0	-	-	-	-	-	-	-
Stage 1	222	0	-	-	-	-	-	-	-
Stage 2	506	0	-	-	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s/v	107.6	3.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NEL	NET	NWLn1	SWT	SWR
Capacity (veh/h)	790	-	226	-	-
HCM Lane V/C Ratio	0.304	-	1.007	-	-
HCM Control Delay (s/veh)	11.5	-	107.6	-	-
HCM Lane LOS	B	-	F	-	-
HCM 95th %tile Q (veh)	1.3	-	9.3	-	-

HCM 6th AWSC
14: Sumner Ave/ Merced St. & Fowler Ave/SR 99 SB Off Ramps

06/01/2024

Intersection	
Intersection Delay, s/veh	83.3
Intersection LOS	F

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		✥			✥			↱		↰	↑	
Traffic Vol, veh/h	256	187	48	19	0	346	0	201	48	353	172	0
Future Vol, veh/h	256	187	48	19	0	346	0	201	48	353	172	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	3	3	3	3	3	4	3	3	3	3	3	3
Mvmt Flow	272	199	51	20	0	368	0	214	51	376	183	0
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	162.2	51	32.4	56
HCM LOS	F	F	D	F

Lane	NELn1	NWLn1	SELn1	SWLn1	SWLn2
Vol Left, %	0%	5%	52%	100%	0%
Vol Thru, %	81%	0%	38%	0%	100%
Vol Right, %	19%	95%	10%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	249	365	491	353	172
LT Vol	0	19	256	353	0
Through Vol	201	0	187	0	172
RT Vol	48	346	48	0	0
Lane Flow Rate	265	388	522	376	183
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.681	0.884	1.261	0.974	0.449
Departure Headway (Hd)	10.206	8.96	8.69	10.093	9.571
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	358	408	418	361	379
Service Time	8.206	6.96	6.756	7.793	7.271
HCM Lane V/C Ratio	0.74	0.951	1.249	1.042	0.483
HCM Control Delay, s/veh	32.4	51	162.2	73.7	19.8
HCM Lane LOS	D	F	F	F	C
HCM 95th-tile Q	4.8	9	22.2	10.8	2.2

INTERSECTION IMPROVEMENT RESULTS

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations	↰	↱	↑↑	↱	↰	↑↑
Traffic Vol, veh/h	43	36	746	26	38	884
Future Vol, veh/h	43	36	746	26	38	884
Conflicting Peds, #/hr	18	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	42	42	13	13	10	10
Mvmt Flow	47	39	811	28	41	961

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1392	406	0	0	839	0
Stage 1	811	-	-	-	-	-
Stage 2	581	-	-	-	-	-
Critical Hdwy	7.64	7.74	-	-	4.3	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.64	-	-	-	-	-
Follow-up Hdwy	3.92	3.72	-	-	2.3	-
Pot Cap-1 Maneuver	93	495	-	-	742	-
Stage 1	310	-	-	-	-	-
Stage 2	424	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	86	495	-	-	742	-
Mov Cap-2 Maneuver	86	-	-	-	-	-
Stage 1	310	-	-	-	-	-
Stage 2	394	-	-	-	-	-

Approach	EB		SE		NW	
HCM Control Delay, s/v	53.9		0		0.4	
HCM LOS	F					

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	EBLn2	SET	SER
Capacity (veh/h)	742	-	86	495	-	-
HCM Lane V/C Ratio	0.056	-	0.543	0.079	-	-
HCM Control Delay (s/veh)	10.1	-	88.3	12.9	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q (veh)	0.2	-	2.4	0.3	-	-

HCM 6th TWSC
3: Golden St. Blvd. & Jefferson Ave

07/27/2024

Intersection	
Int Delay, s/veh	11.8

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations	↰	↱	↑↑	↱	↰	↑↑
Traffic Vol, veh/h	86	61	1121	11	20	793
Future Vol, veh/h	86	61	1121	11	20	793
Conflicting Peds, #/hr	18	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	13	6	20	30	5
Mvmt Flow	93	66	1218	12	22	862

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1711	609	0	0	1230	0
Stage 1	1218	-	-	-	-	-
Stage 2	493	-	-	-	-	-
Critical Hdwy	6.86	7.16	-	-	4.7	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.43	-	-	2.5	-
Pot Cap-1 Maneuver	~ 81	412	-	-	430	-
Stage 1	241	-	-	-	-	-
Stage 2	576	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 76	412	-	-	430	-
Mov Cap-2 Maneuver	~ 76	-	-	-	-	-
Stage 1	241	-	-	-	-	-
Stage 2	537	-	-	-	-	-

Approach	EB	SE	NW
HCM Control Delay, s/v	166.7	0	0.3
HCM LOS	F		

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	EBLn2	SET	SER
Capacity (veh/h)	430	-	76	412	-	-
HCM Lane V/C Ratio	0.051	-	1.23	0.161	-	-
HCM Control Delay (s/veh)	13.8	-	274.1	15.4	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q (veh)	0.2	-	7.1	0.6	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations	↰	↱	↑↑	↱	↰	↑↑
Traffic Vol, veh/h	43	36	785	26	38	890
Future Vol, veh/h	43	36	785	26	38	890
Conflicting Peds, #/hr	18	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	42	42	13	13	10	10
Mvmt Flow	47	39	853	28	41	967

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1437	427	0	0	881	0
Stage 1	853	-	-	-	-	-
Stage 2	584	-	-	-	-	-
Critical Hdwy	7.64	7.74	-	-	4.3	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.64	-	-	-	-	-
Follow-up Hdwy	3.92	3.72	-	-	2.3	-
Pot Cap-1 Maneuver	86	478	-	-	715	-
Stage 1	292	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	80	478	-	-	715	-
Mov Cap-2 Maneuver	80	-	-	-	-	-
Stage 1	292	-	-	-	-	-
Stage 2	392	-	-	-	-	-

Approach	EB	SE	NW
HCM Control Delay, s/v	60.4	0	0.4
HCM LOS	F		

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	EBLn2	SET	SER
Capacity (veh/h)	715	-	80	478	-	-
HCM Lane V/C Ratio	0.058	-	0.584	0.082	-	-
HCM Control Delay (s/veh)	10.3	-	99.9	13.2	-	-
HCM Lane LOS	B	-	F	B	-	-
HCM 95th %tile Q (veh)	0.2	-	2.6	0.3	-	-

Intersection	
Int Delay, s/veh	12.6

Movement	EBL	EBR	SET	SER	NWL	NWT
Lane Configurations	↰	↱	↑↑	↱	↰	↑↑
Traffic Vol, veh/h	86	61	1127	11	20	826
Future Vol, veh/h	86	61	1127	11	20	826
Conflicting Peds, #/hr	18	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	-	150	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	13	6	20	30	5
Mvmt Flow	93	66	1225	12	22	898

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1736	613	0	0	1237	0
Stage 1	1225	-	-	-	-	-
Stage 2	511	-	-	-	-	-
Critical Hdwy	6.86	7.16	-	-	4.7	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.43	-	-	2.5	-
Pot Cap-1 Maneuver	~ 78	409	-	-	427	-
Stage 1	239	-	-	-	-	-
Stage 2	564	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 73	409	-	-	427	-
Mov Cap-2 Maneuver	~ 73	-	-	-	-	-
Stage 1	239	-	-	-	-	-
Stage 2	526	-	-	-	-	-

Approach	EB		SE		NW	
HCM Control Delay, s/v	180.4		0		0.3	
HCM LOS	F					

Minor Lane/Major Mvmt	NWL	NWT	EBLn1	EBLn2	SET	SER
Capacity (veh/h)	427	-	73	409	-	-
HCM Lane V/C Ratio	0.051	-	1.281	0.162	-	-
HCM Control Delay (s/veh)	13.9	-	297.4	15.5	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q (veh)	0.2	-	7.3	0.6	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

HCM 6th TWSC
5: Clovis Ave & Lincoln Ave

07/27/2024

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↶	↑↱		↰	↑↑
Traffic Vol, veh/h	24	39	0	767	22	45	1070
Future Vol, veh/h	24	39	0	767	22	45	1070
Conflicting Peds, #/hr	26	0	0	0	15	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	100	75	-	-	150	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97	97
Heavy Vehicles, %	12	3	3	8	6	3	12
Mvmt Flow	25	40	0	791	23	46	1103

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	1488	422	1103	0	0	829	0
Stage 1	818	-	-	-	-	-	-
Stage 2	670	-	-	-	-	-	-
Critical Hdwy	7.04	6.96	6.46	-	-	4.16	-
Critical Hdwy Stg 1	6.04	-	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-	-
Follow-up Hdwy	3.62	3.33	2.53	-	-	2.23	-
Pot Cap-1 Maneuver	104	577	283	-	-	792	-
Stage 1	370	-	-	-	-	-	-
Stage 2	444	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	94	569	283	-	-	781	-
Mov Cap-2 Maneuver	94	-	-	-	-	-	-
Stage 1	365	-	-	-	-	-	-
Stage 2	408	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	28.8	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	283	-	-	94	569	781	-
HCM Lane V/C Ratio	-	-	-	0.263	0.071	0.059	-
HCM Control Delay (s/veh)	0	-	-	56.5	11.8	9.9	-
HCM Lane LOS	A	-	-	F	B	A	-
HCM 95th %tile Q (veh)	0	-	-	1	0.2	0.2	-

HCM 6th TWSC
5: Clovis Ave & Lincoln Ave

07/27/2024

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	⮌	↑↑↱		↰	↑↑
Traffic Vol, veh/h	27	27	0	1125	37	58	850
Future Vol, veh/h	27	27	0	1125	37	58	850
Conflicting Peds, #/hr	18	0	0	0	15	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	100	75	-	-	150	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	94	94	92	94	94	94	94
Heavy Vehicles, %	11	3	3	8	12	3	7
Mvmt Flow	29	29	0	1197	39	62	904

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	1826	633	904	0	0	1251	0
Stage 1	1232	-	-	-	-	-	-
Stage 2	594	-	-	-	-	-	-
Critical Hdwy	7.02	6.96	6.46	-	-	4.16	-
Critical Hdwy Stg 1	6.02	-	-	-	-	-	-
Critical Hdwy Stg 2	6.02	-	-	-	-	-	-
Follow-up Hdwy	3.61	3.33	2.53	-	-	2.23	-
Pot Cap-1 Maneuver	62	420	380	-	-	547	-
Stage 1	221	-	-	-	-	-	-
Stage 2	490	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	53	414	380	-	-	539	-
Mov Cap-2 Maneuver	53	-	-	-	-	-	-
Stage 1	218	-	-	-	-	-	-
Stage 2	426	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	74.5	0	0.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	380	-	-	53	414	539	-
HCM Lane V/C Ratio	-	-	-	0.542	0.069	0.114	-
HCM Control Delay (s/veh)	0	-	-	134.7	14.3	12.5	-
HCM Lane LOS	A	-	-	F	B	B	-
HCM 95th %tile Q (veh)	0	-	-	2.1	0.2	0.4	-

HCM 6th TWSC
5: Clovis Ave & Lincoln Ave

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	↶	↑↱		↰	↑↑
Traffic Vol, veh/h	24	39	0	769	22	45	1083
Future Vol, veh/h	24	39	0	769	22	45	1083
Conflicting Peds, #/hr	26	0	0	0	15	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	100	75	-	-	150	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97	97
Heavy Vehicles, %	12	3	3	8	6	3	12
Mvmt Flow	25	40	0	793	23	46	1116

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	1496	423	1116	0	0	831	0
Stage 1	820	-	-	-	-	-	-
Stage 2	676	-	-	-	-	-	-
Critical Hdwy	7.04	6.96	6.46	-	-	4.16	-
Critical Hdwy Stg 1	6.04	-	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-	-
Follow-up Hdwy	3.62	3.33	2.53	-	-	2.23	-
Pot Cap-1 Maneuver	103	577	277	-	-	791	-
Stage 1	369	-	-	-	-	-	-
Stage 2	441	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	93	569	277	-	-	780	-
Mov Cap-2 Maneuver	93	-	-	-	-	-	-
Stage 1	364	-	-	-	-	-	-
Stage 2	405	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	29.1	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	277	-	-	93	569	780	-
HCM Lane V/C Ratio	-	-	-	0.266	0.071	0.059	-
HCM Control Delay (s/veh)	0	-	-	57.2	11.8	9.9	-
HCM Lane LOS	A	-	-	F	B	A	-
HCM 95th %tile Q (veh)	0	-	-	1	0.2	0.2	-

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations	↰	↱	⮌	↑↱		↰	↑↑
Traffic Vol, veh/h	27	27	0	1136	37	58	852
Future Vol, veh/h	27	27	0	1136	37	58	852
Conflicting Peds, #/hr	18	0	0	0	15	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	-	100	75	-	-	150	-
Veh in Median Storage, #	0	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	94	94	92	94	94	94	94
Heavy Vehicles, %	11	3	3	8	12	3	7
Mvmt Flow	29	29	0	1209	39	62	906

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	1839	639	906	0	0	1263	0
Stage 1	1244	-	-	-	-	-	-
Stage 2	595	-	-	-	-	-	-
Critical Hdwy	7.02	6.96	6.46	-	-	4.16	-
Critical Hdwy Stg 1	6.02	-	-	-	-	-	-
Critical Hdwy Stg 2	6.02	-	-	-	-	-	-
Follow-up Hdwy	3.61	3.33	2.53	-	-	2.23	-
Pot Cap-1 Maneuver	61	416	379	-	-	541	-
Stage 1	218	-	-	-	-	-	-
Stage 2	490	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	52	410	379	-	-	533	-
Mov Cap-2 Maneuver	52	-	-	-	-	-	-
Stage 1	215	-	-	-	-	-	-
Stage 2	426	-	-	-	-	-	-

Approach	WB		NB			SB
HCM Control Delay, s/v	76.7		0			0.8
HCM LOS	F					

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	379	-	-	52	410	533	-
HCM Lane V/C Ratio	-	-	-	0.552	0.07	0.116	-
HCM Control Delay (s/veh)	0	-	-	138.9	14.4	12.6	-
HCM Lane LOS	A	-	-	F	B	B	-
HCM 95th %tile Q (veh)	0	-	-	2.1	0.2	0.4	-

HCM 6th Signalized Intersection Summary
7: Golden St. Blvd. & Clayton Ave

06/03/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		✥			↰	↱		↰↑	↱		↰↱	
Traffic Volume (veh/h)	0	1	0	10	0	31	18	472	4	0	838	54
Future Volume (veh/h)	0	1	0	10	0	31	18	472	4	0	838	54
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1159	1856	1159	1856	1707	1856	1856	1796	1856
Adj Flow Rate, veh/h	0	1	0	11	0	33	19	502	4	0	891	57
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	50	3	50	3	13	3	3	7	3
Cap, veh/h	0	101	0	398	0	54	191	1667	853	0	1766	113
Arrive On Green	0.00	0.05	0.00	0.05	0.00	0.05	0.54	0.54	0.54	0.00	0.54	0.54
Sat Flow, veh/h	0	1856	0	1392	0	982	35	3074	1572	0	3347	208
Grp Volume(v), veh/h	0	1	0	11	0	33	276	245	4	0	467	481
Grp Sat Flow(s),veh/h/ln	0	1856	0	1392	0	982	1633	1476	1572	0	1706	1759
Q Serve(g_s), s	0.0	0.0	0.0	0.2	0.0	0.7	0.0	2.0	0.0	0.0	3.8	3.8
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.2	0.0	0.7	2.0	2.0	0.0	0.0	3.8	3.8
Prop In Lane	0.00		0.00	1.00		1.00	0.07		1.00	0.00		0.12
Lane Grp Cap(c), veh/h	0	101	0	398	0	54	1058	800	853	0	925	954
V/C Ratio(X)	0.00	0.01	0.00	0.03	0.00	0.62	0.26	0.31	0.00	0.00	0.50	0.50
Avail Cap(c_a), veh/h	0	1870	0	1738	0	990	4147	3868	4121	0	4472	4609
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	10.0	0.0	10.1	0.0	10.3	2.8	2.8	2.3	0.0	3.2	3.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	11.0	0.1	0.2	0.0	0.0	0.4	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	10.0	0.0	10.1	0.0	21.3	2.9	3.0	2.3	0.0	3.6	3.6
LnGrp LOS		B		B		C	A	A	A		A	A
Approach Vol, veh/h		1			44			525			948	
Approach Delay, s/veh		10.0			18.5			3.0			3.6	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		16.6		5.7		16.6		5.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		58.5		22.5		58.5		22.5				
Max Q Clear Time (g_c+I1), s		5.8		2.0		4.0		2.7				
Green Ext Time (p_c), s		6.3		0.0		3.1		0.1				

Intersection Summary			
HCM 6th Ctrl Delay, s/veh			3.8
HCM 6th LOS			A

HCM 6th Signalized Intersection Summary
7: Golden St. Blvd. & Clayton Ave

06/03/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations		✥			↰	↱		↰↑	↱		↰↑↱	
Traffic Volume (veh/h)	0	4	0	49	0	158	32	1232	0	2	602	18
Future Volume (veh/h)	0	4	0	49	0	158	32	1232	0	2	602	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1159	1856	1856	1856	1811	1856	1856	1767	1856
Adj Flow Rate, veh/h	0	4	0	53	0	172	35	1339	0	2	654	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	50	3	3	3	6	3	3	9	3
Cap, veh/h	0	290	0	399	0	246	118	2022	967	93	1999	61
Arrive On Green	0.00	0.16	0.00	0.16	0.00	0.16	0.61	0.61	0.00	0.61	0.61	0.61
Sat Flow, veh/h	0	1856	0	1385	0	1572	36	3289	1572	1	3251	99
Grp Volume(v), veh/h	0	4	0	53	0	172	730	644	0	355	0	321
Grp Sat Flow(s),veh/h/ln	0	1856	0	1385	0	1572	1759	1566	1572	1762	0	1590
Q Serve(g_s), s	0.0	0.1	0.0	1.3	0.0	4.1	0.0	10.6	0.0	0.0	0.0	3.8
Cycle Q Clear(g_c), s	0.0	0.1	0.0	1.4	0.0	4.1	10.2	10.6	0.0	3.8	0.0	3.8
Prop In Lane	0.00		0.00	1.00		1.00	0.05		1.00	0.01		0.06
Lane Grp Cap(c), veh/h	0	290	0	399	0	246	1178	963	967	1175	0	977
V/C Ratio(X)	0.00	0.01	0.00	0.13	0.00	0.70	0.62	0.67	0.00	0.30	0.00	0.33
Avail Cap(c_a), veh/h	0	921	0	876	0	780	2786	2450	2460	2820	0	2488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.0	0.0	14.6	0.0	15.7	4.9	5.0	0.0	3.6	0.0	3.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	3.6	0.5	0.8	0.0	0.1	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.3	0.0	1.3	0.7	0.7	0.0	0.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	14.0	0.0	14.8	0.0	19.3	5.4	5.8	0.0	3.8	0.0	3.8
LnGrp LOS		B		B		B	A	A		A		A
Approach Vol, veh/h		4			225			1374			676	
Approach Delay, s/veh		14.0			18.2			5.6			3.8	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.7		10.6		28.7		10.6				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		61.5		19.5		61.5		19.5				
Max Q Clear Time (g_c+I1), s		5.8		2.1		12.6		6.1				
Green Ext Time (p_c), s		4.0		0.0		11.6		0.6				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			6.3									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary
11: Clovis Ave & Clayton Ave/SR 99 SB On Ramp

09/10/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↑	↱				↰	↑↱		↰↰	↑↱	
Traffic Volume (veh/h)	37	25	86	0	0	0	6	345	13	810	224	61
Future Volume (veh/h)	37	25	86	0	0	0	6	345	13	810	224	61
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1544	1752				1856	1781	1574	1722	1559	1856
Adj Flow Rate, veh/h	33	35	0				6	367	0	862	238	65
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	8	24	10				3	8	22	12	23	3
Cap, veh/h	115	104					14	670		1192	1305	349
Arrive On Green	0.07	0.07	0.00				0.01	0.20	0.00	0.37	0.56	0.56
Sat Flow, veh/h	1697	1544	1485				1767	3474	0	3182	2312	618
Grp Volume(v), veh/h	33	35	0				6	367	0	862	151	152
Grp Sat Flow(s),veh/h/ln	1697	1544	1485				1767	1692	0	1591	1481	1448
Q Serve(g_s), s	0.7	0.8	0.0				0.1	3.7	0.0	8.7	1.8	1.9
Cycle Q Clear(g_c), s	0.7	0.8	0.0				0.1	3.7	0.0	8.7	1.8	1.9
Prop In Lane	1.00		1.00				1.00		0.00	1.00		0.43
Lane Grp Cap(c), veh/h	115	104					14	670		1192	836	817
V/C Ratio(X)	0.29	0.33					0.42	0.55		0.72	0.18	0.19
Avail Cap(c_a), veh/h	837	762					259	1850		3181	2073	2026
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00				1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	16.7	0.0				18.5	13.5	0.0	10.1	4.0	4.0
Incr Delay (d2), s/veh	1.4	1.9	0.0				18.4	0.7	0.0	0.8	0.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.3	0.0				0.1	1.0	0.0	1.7	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.0	18.5	0.0				37.0	14.2	0.0	10.9	4.1	4.1
LnGrp LOS	B	B					D	B		B	A	A
Approach Vol, veh/h		68						373			1165	
Approach Delay, s/veh		18.3						14.6			9.1	
Approach LOS		B						B			A	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	18.6	11.9		7.0	4.8	25.7
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s	37.5	20.5		18.5	5.5	52.5
Max Q Clear Time (g_c+I1), s	10.7	5.7		2.8	2.1	3.9
Green Ext Time (p_c), s	3.3	1.8		0.2	0.0	1.7

Intersection Summary			
HCM 6th Ctrl Delay, s/veh			10.8
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
11: Clovis Ave & Clayton Ave/SR 99 SB On Ramp

09/10/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↑	↱				↰	↑↑↱		↰↰	↑↑↱	
Traffic Volume (veh/h)	97	36	253	0	0	0	3	299	15	634	257	46
Future Volume (veh/h)	97	36	253	0	0	0	3	299	15	634	257	46
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1811	1856	1811				1856	1796	1604	1781	1841	1707
Adj Flow Rate, veh/h	72	85	0				3	325	0	689	279	50
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	3	6				3	7	20	8	4	13
Cap, veh/h	193	208					7	647		1024	1474	261
Arrive On Green	0.11	0.11	0.00				0.00	0.19	0.00	0.31	0.50	0.50
Sat Flow, veh/h	1725	1856	1535				1767	3503	0	3291	2970	525
Grp Volume(v), veh/h	72	85	0				3	325	0	689	163	166
Grp Sat Flow(s),veh/h/ln	1725	1856	1535				1767	1706	0	1646	1749	1746
Q Serve(g_s), s	1.3	1.5	0.0				0.1	3.0	0.0	6.4	1.8	1.8
Cycle Q Clear(g_c), s	1.3	1.5	0.0				0.1	3.0	0.0	6.4	1.8	1.8
Prop In Lane	1.00		1.00				1.00		0.00	1.00		0.30
Lane Grp Cap(c), veh/h	193	208					7	647		1024	868	867
V/C Ratio(X)	0.37	0.41					0.41	0.50		0.67	0.19	0.19
Avail Cap(c_a), veh/h	1064	1145					279	2203		3069	2484	2480
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00				1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.3	14.4	0.0				17.3	12.6	0.0	10.5	4.9	4.9
Incr Delay (d2), s/veh	1.2	1.3	0.0				33.5	0.6	0.0	0.8	0.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.6	0.0				0.1	0.8	0.0	1.4	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	15.5	15.7	0.0				50.8	13.3	0.0	11.2	5.0	5.0
LnGrp LOS	B	B					D	B		B	A	A
Approach Vol, veh/h		157						328			1018	
Approach Delay, s/veh		15.6						13.6			9.2	
Approach LOS		B						B			A	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	15.3	11.1		8.4	4.6	21.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s	32.5	22.5		21.5	5.5	49.5
Max Q Clear Time (g_c+I1), s	8.4	5.0		3.5	2.1	3.8
Green Ext Time (p_c), s	2.5	1.6		0.5	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	10.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
11: Clovis Ave & Clayton Ave/SR 99 SB On Ramp

09/10/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↱				↰	↑↱		↰↰	↑↱	
Traffic Volume (veh/h)	115	25	86	0	0	0	6	345	13	818	224	61
Future Volume (veh/h)	115	25	86	0	0	0	6	345	13	818	224	61
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1544	1752				1856	1781	1574	1722	1559	1856
Adj Flow Rate, veh/h	141	0	0				6	367	0	870	238	65
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	8	24	10				3	8	22	12	23	3
Cap, veh/h	336	0					14	654		1179	1284	343
Arrive On Green	0.10	0.00	0.00				0.01	0.19	0.00	0.37	0.56	0.56
Sat Flow, veh/h	3393	0	1485				1767	3474	0	3182	2312	618
Grp Volume(v), veh/h	141	0	0				6	367	0	870	151	152
Grp Sat Flow(s),veh/h/ln	1697	0	1485				1767	1692	0	1591	1481	1448
Q Serve(g_s), s	1.6	0.0	0.0				0.1	3.9	0.0	9.5	2.0	2.1
Cycle Q Clear(g_c), s	1.6	0.0	0.0				0.1	3.9	0.0	9.5	2.0	2.1
Prop In Lane	1.00		1.00				1.00		0.00	1.00		0.43
Lane Grp Cap(c), veh/h	336	0					14	654		1179	823	804
V/C Ratio(X)	0.42	0.00					0.42	0.56		0.74	0.18	0.19
Avail Cap(c_a), veh/h	1569	0					243	1819		2903	1944	1900
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	0.0	0.0				19.7	14.6	0.0	10.9	4.4	4.4
Incr Delay (d2), s/veh	0.8	0.0	0.0				18.5	0.8	0.0	0.9	0.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0				0.1	1.1	0.0	2.1	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.8	0.0	0.0				38.3	15.4	0.0	11.8	4.5	4.5
LnGrp LOS	B						D	B		B	A	A
Approach Vol, veh/h		141						373			1173	
Approach Delay, s/veh		17.8						15.7			9.9	
Approach LOS		B						B			A	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	19.3	12.2		8.5	4.8	26.7
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s	36.5	21.5		18.5	5.5	52.5
Max Q Clear Time (g_c+I1), s	11.5	5.9		3.6	2.1	4.1
Green Ext Time (p_c), s	3.4	1.8		0.4	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	11.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
11: Clovis Ave & Clayton Ave/SR 99 SB On Ramp

09/10/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↑	↱				↰	↑↑↱		↰↰	↑↑↱	
Traffic Volume (veh/h)	109	36	253	0	0	0	3	299	15	679	257	46
Future Volume (veh/h)	109	36	253	0	0	0	3	299	15	679	257	46
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1811	1856	1811				1856	1796	1604	1781	1841	1707
Adj Flow Rate, veh/h	79	94	0				3	325	0	738	279	50
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	3	6				3	7	20	8	4	13
Cap, veh/h	197	212					7	633		1072	1505	266
Arrive On Green	0.11	0.11	0.00				0.00	0.19	0.00	0.33	0.51	0.51
Sat Flow, veh/h	1725	1856	1535				1767	3503	0	3291	2970	525
Grp Volume(v), veh/h	79	94	0				3	325	0	738	163	166
Grp Sat Flow(s),veh/h/ln	1725	1856	1535				1767	1706	0	1646	1749	1746
Q Serve(g_s), s	1.5	1.7	0.0				0.1	3.1	0.0	7.0	1.8	1.9
Cycle Q Clear(g_c), s	1.5	1.7	0.0				0.1	3.1	0.0	7.0	1.8	1.9
Prop In Lane	1.00		1.00				1.00		0.00	1.00		0.30
Lane Grp Cap(c), veh/h	197	212					7	633		1072	886	885
V/C Ratio(X)	0.40	0.44					0.41	0.51		0.69	0.18	0.19
Avail Cap(c_a), veh/h	1029	1107					270	2037		3061	2403	2399
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00				1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	14.9	0.0				17.9	13.2	0.0	10.6	4.8	4.8
Incr Delay (d2), s/veh	1.3	1.5	0.0				33.5	0.6	0.0	0.8	0.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.7	0.0				0.1	0.8	0.0	1.5	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	16.1	16.3	0.0				51.4	13.9	0.0	11.4	4.9	4.9
LnGrp LOS	B	B					D	B		B	A	A
Approach Vol, veh/h		173						328			1067	
Approach Delay, s/veh		16.2						14.2			9.4	
Approach LOS		B						B			A	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	16.2	11.2		8.6	4.6	22.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s	33.5	21.5		21.5	5.5	49.5
Max Q Clear Time (g_c+I1), s	9.0	5.1		3.7	2.1	3.9
Green Ext Time (p_c), s	2.7	1.6		0.6	0.0	1.8

Intersection Summary			
HCM 6th Ctrl Delay, s/veh			11.1
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
14: Sumner Ave/ Merced St. & Fowler Ave/SR 99 SB Off Ramps

06/03/2024

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↰	↑↱			↰↑	↱		↑↱		↰	↑	
Traffic Volume (veh/h)	300	126	21	15	0	484	0	299	40	322	146	0
Future Volume (veh/h)	300	126	21	15	0	484	0	299	40	322	146	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1752	1856	1752	1856	1856	0	1856	1841	1811	1767	0
Adj Flow Rate, veh/h	326	137	23	16	0	526	0	325	43	350	159	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	10	3	10	3	3	0	3	4	6	9	0
Cap, veh/h	356	637	107	292	0	640	0	355	47	381	853	0
Arrive On Green	0.21	0.44	0.44	0.19	0.00	0.19	0.00	0.22	0.22	0.22	0.48	0.00
Sat Flow, veh/h	1711	1462	245	1217	0	1572	0	1605	212	1725	1767	0
Grp Volume(v), veh/h	326	0	160	16	0	526	0	0	368	350	159	0
Grp Sat Flow(s),veh/h/ln	1711	0	1708	1217	0	1572	0	0	1817	1725	1767	0
Q Serve(g_s), s	20.5	0.0	6.4	1.2	0.0	20.5	0.0	0.0	21.8	21.8	5.6	0.0
Cycle Q Clear(g_c), s	20.5	0.0	6.4	1.2	0.0	20.5	0.0	0.0	21.8	21.8	5.6	0.0
Prop In Lane	1.00		0.14	1.00		1.00	0.00		0.12	1.00		0.00
Lane Grp Cap(c), veh/h	356	0	743	292	0	640	0	0	402	381	853	0
V/C Ratio(X)	0.92	0.00	0.22	0.05	0.00	0.82	0.00	0.00	0.92	0.92	0.19	0.00
Avail Cap(c_a), veh/h	412	0	799	292	0	640	0	0	438	447	955	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.6	0.0	19.4	36.9	0.0	29.0	0.0	0.0	41.9	41.9	16.2	0.0
Incr Delay (d2), s/veh	22.9	0.0	0.1	0.1	0.0	8.4	0.0	0.0	22.9	21.9	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	0.0	2.6	0.4	0.0	13.5	0.0	0.0	12.0	11.5	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	65.6	0.0	19.5	37.0	0.0	37.5	0.0	0.0	64.8	63.8	16.3	0.0
LnGrp LOS	E		B	D		D			E	E	B	
Approach Vol, veh/h		486			542			368			509	
Approach Delay, s/veh		50.4			37.4			64.8			49.0	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4		6		8				
Phs Duration (G+Y+Rc), s	27.4	25.0	28.8	28.8		52.4		57.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s	26.5	20.5	28.5	26.5		51.5		59.5				
Max Q Clear Time (g_c+I1), s	22.5	22.5	23.8	23.8		8.4		7.6				
Green Ext Time (p_c), s	0.4	0.0	0.5	0.5		1.0		1.0				

Intersection Summary			
HCM 6th Ctrl Delay, s/veh			49.1
HCM 6th LOS			D

HCM 6th Signalized Intersection Summary
14: Sumner Ave/ Merced St. & Fowler Ave/SR 99 SB Off Ramps

06/03/2024

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↰	↱			↰	↱		↱		↰	↑	
Traffic Volume (veh/h)	256	187	48	19	0	346	0	201	48	319	172	0
Future Volume (veh/h)	256	187	48	19	0	346	0	201	48	319	172	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1841	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	272	199	51	20	0	368	0	214	51	339	183	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	4	0	3	3	3	3	0
Cap, veh/h	319	629	161	318	0	666	0	257	61	388	837	0
Arrive On Green	0.18	0.44	0.44	0.21	0.00	0.21	0.00	0.18	0.18	0.22	0.45	0.00
Sat Flow, veh/h	1767	1425	365	1121	0	1560	0	1448	345	1767	1856	0
Grp Volume(v), veh/h	272	0	250	20	0	368	0	0	265	339	183	0
Grp Sat Flow(s),veh/h/ln	1767	0	1790	1121	0	1560	0	0	1793	1767	1856	0
Q Serve(g_s), s	12.5	0.0	7.6	1.2	0.0	14.8	0.0	0.0	11.9	15.5	5.0	0.0
Cycle Q Clear(g_c), s	12.5	0.0	7.6	1.2	0.0	14.8	0.0	0.0	11.9	15.5	5.0	0.0
Prop In Lane	1.00		0.20	1.00		1.00	0.00		0.19	1.00		0.00
Lane Grp Cap(c), veh/h	319	0	790	318	0	666	0	0	319	388	837	0
V/C Ratio(X)	0.85	0.00	0.32	0.06	0.00	0.55	0.00	0.00	0.83	0.87	0.22	0.00
Avail Cap(c_a), veh/h	560	0	1102	361	0	725	0	0	504	665	1319	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.2	0.0	15.2	26.8	0.0	18.0	0.0	0.0	33.2	31.5	14.0	0.0
Incr Delay (d2), s/veh	6.5	0.0	0.2	0.1	0.0	0.8	0.0	0.0	6.6	6.6	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	0.0	3.0	0.3	0.0	5.2	0.0	0.0	5.5	7.1	2.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.7	0.0	15.4	26.8	0.0	18.7	0.0	0.0	39.8	38.1	14.1	0.0
LnGrp LOS	D		B	C		B			D	D	B	
Approach Vol, veh/h		522			388			265			522	
Approach Delay, s/veh		28.1			19.2			39.8			29.7	
Approach LOS		C			B			D			C	

Timer - Assigned Phs	1	2	3	4		6		8
Phs Duration (G+Y+Rc), s	19.6	21.8	22.9	19.4		41.4		42.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	26.5	20.5	31.5	23.5		51.5		59.5
Max Q Clear Time (g_c+I1), s	14.5	16.8	17.5	13.9		9.6		7.0
Green Ext Time (p_c), s	0.6	0.5	0.9	0.9		1.6		1.1

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	28.4
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
14: Sumner Ave/ Merced St. & Fowler Ave/SR 99 SB Off Ramps

06/03/2024

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↰	↱			↰	↱		↱		↰	↑	
Traffic Volume (veh/h)	300	126	21	15	0	484	0	299	40	328	146	0
Future Volume (veh/h)	300	126	21	15	0	484	0	299	40	328	146	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1796	1752	1856	1752	1856	1856	0	1856	1841	1811	1767	0
Adj Flow Rate, veh/h	326	137	23	16	0	526	0	325	43	357	159	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	10	3	10	3	3	0	3	4	6	9	0
Cap, veh/h	356	633	106	290	0	644	0	354	47	387	858	0
Arrive On Green	0.21	0.43	0.43	0.18	0.00	0.18	0.00	0.22	0.22	0.22	0.49	0.00
Sat Flow, veh/h	1711	1462	245	1217	0	1572	0	1605	212	1725	1767	0
Grp Volume(v), veh/h	326	0	160	16	0	526	0	0	368	357	159	0
Grp Sat Flow(s),veh/h/ln	1711	0	1708	1217	0	1572	0	0	1817	1725	1767	0
Q Serve(g_s), s	20.7	0.0	6.5	1.2	0.0	20.5	0.0	0.0	22.0	22.5	5.6	0.0
Cycle Q Clear(g_c), s	20.7	0.0	6.5	1.2	0.0	20.5	0.0	0.0	22.0	22.5	5.6	0.0
Prop In Lane	1.00		0.14	1.00		1.00	0.00		0.12	1.00		0.00
Lane Grp Cap(c), veh/h	356	0	740	290	0	644	0	0	401	387	858	0
V/C Ratio(X)	0.92	0.00	0.22	0.06	0.00	0.82	0.00	0.00	0.92	0.92	0.19	0.00
Avail Cap(c_a), veh/h	409	0	793	290	0	644	0	0	434	443	947	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	43.0	0.0	19.7	37.4	0.0	29.1	0.0	0.0	42.3	42.1	16.1	0.0
Incr Delay (d2), s/veh	23.4	0.0	0.1	0.1	0.0	8.1	0.0	0.0	23.4	23.0	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	0.0	2.6	0.4	0.0	13.6	0.0	0.0	12.2	11.9	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	66.4	0.0	19.8	37.4	0.0	37.2	0.0	0.0	65.7	65.1	16.2	0.0
LnGrp LOS	E		B	D		D			E	E	B	
Approach Vol, veh/h		486			542			368			516	
Approach Delay, s/veh		51.0			37.2			65.7			50.1	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4		6		8				
Phs Duration (G+Y+Rc), s	27.6	25.0	29.4	29.0		52.6		58.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s	26.5	20.5	28.5	26.5		51.5		59.5				
Max Q Clear Time (g_c+I1), s	22.7	22.5	24.5	24.0		8.5		7.6				
Green Ext Time (p_c), s	0.4	0.0	0.5	0.5		1.0		1.0				

Intersection Summary			
HCM 6th Ctrl Delay, s/veh			49.7
HCM 6th LOS			D

HCM 6th Signalized Intersection Summary
14: Sumner Ave/ Merced St. & Fowler Ave/SR 99 SB Off Ramps

06/03/2024

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↰	↱			↰	↱		↱		↰	↑	
Traffic Volume (veh/h)	256	187	48	19	0	346	0	201	48	353	172	0
Future Volume (veh/h)	256	187	48	19	0	346	0	201	48	353	172	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1841	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	272	199	51	20	0	368	0	214	51	376	183	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	4	0	3	3	3	3	0
Cap, veh/h	316	614	157	308	0	688	0	254	60	423	865	0
Arrive On Green	0.18	0.43	0.43	0.20	0.00	0.20	0.00	0.18	0.18	0.24	0.47	0.00
Sat Flow, veh/h	1767	1425	365	1121	0	1560	0	1448	345	1767	1856	0
Grp Volume(v), veh/h	272	0	250	20	0	368	0	0	265	376	183	0
Grp Sat Flow(s),veh/h/ln	1767	0	1790	1121	0	1560	0	0	1793	1767	1856	0
Q Serve(g_s), s	13.1	0.0	8.1	1.3	0.0	15.1	0.0	0.0	12.5	18.0	5.1	0.0
Cycle Q Clear(g_c), s	13.1	0.0	8.1	1.3	0.0	15.1	0.0	0.0	12.5	18.0	5.1	0.0
Prop In Lane	1.00		0.20	1.00		1.00	0.00		0.19	1.00		0.00
Lane Grp Cap(c), veh/h	316	0	772	308	0	688	0	0	314	423	865	0
V/C Ratio(X)	0.86	0.00	0.32	0.07	0.00	0.54	0.00	0.00	0.84	0.89	0.21	0.00
Avail Cap(c_a), veh/h	514	0	1031	344	0	738	0	0	460	675	1280	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.0	0.0	16.5	28.5	0.0	17.9	0.0	0.0	35.0	32.2	13.9	0.0
Incr Delay (d2), s/veh	8.2	0.0	0.2	0.1	0.0	0.6	0.0	0.0	9.1	8.8	0.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	0.0	3.2	0.3	0.0	5.3	0.0	0.0	6.0	8.5	2.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.2	0.0	16.7	28.6	0.0	18.6	0.0	0.0	44.1	41.0	14.0	0.0
LnGrp LOS	D		B	C		B			D	D	B	
Approach Vol, veh/h		522			388			265			559	
Approach Delay, s/veh		30.5			19.1			44.1			32.1	
Approach LOS		C			B			D			C	

Timer - Assigned Phs	1	2	3	4		6		8
Phs Duration (G+Y+Rc), s	20.2	22.1	25.5	19.9		42.3		45.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	25.5	20.5	33.5	22.5		50.5		60.5
Max Q Clear Time (g_c+I1), s	15.1	17.1	20.0	14.5		10.1		7.1
Green Ext Time (p_c), s	0.6	0.5	1.0	0.8		1.6		1.1

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	30.6
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
15: Merced St. & SR 99 NB Ramps

06/03/2024

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					✥		↰	↑			↑	↱
Traffic Volume (veh/h)	0	0	0	18	0	186	239	844	0	0	456	312
Future Volume (veh/h)	0	0	0	18	0	186	239	844	0	0	456	312
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1604	1856	1752	1841	1856	0	0	1796	1856
Adj Flow Rate, veh/h				20	0	202	260	917	0	0	496	339
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				20	3	10	4	3	0	0	7	3
Cap, veh/h				27	0	273	328	1181	0	0	651	570
Arrive On Green				0.19	0.00	0.19	0.19	0.64	0.00	0.00	0.36	0.36
Sat Flow, veh/h				143	0	1445	1753	1856	0	0	1796	1572
Grp Volume(v), veh/h				222	0	0	260	917	0	0	496	339
Grp Sat Flow(s),veh/h/ln				1588	0	0	1753	1856	0	0	1796	1572
Q Serve(g_s), s				6.8	0.0	0.0	7.3	18.3	0.0	0.0	12.5	9.0
Cycle Q Clear(g_c), s				6.8	0.0	0.0	7.3	18.3	0.0	0.0	12.5	9.0
Prop In Lane				0.09		0.91	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				300	0	0	328	1181	0	0	651	570
V/C Ratio(X)				0.74	0.00	0.00	0.79	0.78	0.00	0.00	0.76	0.59
Avail Cap(c_a), veh/h				600	0	0	730	2211	0	0	1236	1082
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				19.7	0.0	0.0	20.0	6.7	0.0	0.0	14.5	13.4
Incr Delay (d2), s/veh				3.6	0.0	0.0	4.4	1.1	0.0	0.0	1.9	1.0
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.6	0.0	0.0	2.9	3.8	0.0	0.0	4.3	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				23.3	0.0	0.0	24.4	7.9	0.0	0.0	16.4	14.4
LnGrp LOS				C			C	A			B	B
Approach Vol, veh/h					222			1177			835	
Approach Delay, s/veh					23.3			11.5			15.5	
Approach LOS					C			B			B	

Timer - Assigned Phs		2		4			7	8
Phs Duration (G+Y+Rc), s		14.2		37.4			14.1	23.2
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5
Max Green Setting (Gmax), s		19.5		61.5			21.5	35.5
Max Q Clear Time (g_c+I1), s		8.8		20.3			9.3	14.5
Green Ext Time (p_c), s		0.9		8.3			0.6	4.2

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	14.2
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
15: Merced St. & SR 99 NB Ramps

06/03/2024

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					✥		↰	↑			↑	↱
Traffic Volume (veh/h)	0	0	0	36	6	166	226	574	0	0	455	279
Future Volume (veh/h)	0	0	0	36	6	166	226	574	0	0	455	279
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1841	1604	1781	1796	1856	0	0	1856	1841
Adj Flow Rate, veh/h				38	6	177	240	611	0	0	484	297
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				4	20	8	7	3	0	0	3	4
Cap, veh/h				49	8	230	305	1141	0	0	645	542
Arrive On Green				0.21	0.21	0.21	0.18	0.61	0.00	0.00	0.35	0.35
Sat Flow, veh/h				239	38	1114	1711	1856	0	0	1856	1560
Grp Volume(v), veh/h				221	0	0	240	611	0	0	484	297
Grp Sat Flow(s),veh/h/ln				1391	0	0	1711	1856	0	0	1856	1560
Q Serve(g_s), s				7.6	0.0	0.0	6.8	9.5	0.0	0.0	11.6	7.7
Cycle Q Clear(g_c), s				7.6	0.0	0.0	6.8	9.5	0.0	0.0	11.6	7.7
Prop In Lane				0.17		0.80	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				288	0	0	305	1141	0	0	645	542
V/C Ratio(X)				0.77	0.00	0.00	0.79	0.54	0.00	0.00	0.75	0.55
Avail Cap(c_a), veh/h				524	0	0	746	2279	0	0	1305	1097
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				18.9	0.0	0.0	19.8	5.6	0.0	0.0	14.5	13.3
Incr Delay (d2), s/veh				4.3	0.0	0.0	4.5	0.4	0.0	0.0	1.8	0.9
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.5	0.0	0.0	2.7	2.0	0.0	0.0	4.1	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				23.2	0.0	0.0	24.4	6.0	0.0	0.0	16.3	14.1
LnGrp LOS				C			C	A			B	B
Approach Vol, veh/h					221			851			781	
Approach Delay, s/veh					23.2			11.2			15.5	
Approach LOS					C			B			B	
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		14.9		35.5			13.5	22.1				
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5				
Max Green Setting (Gmax), s		19.0		62.0			22.0	35.5				
Max Q Clear Time (g_c+I1), s		9.6		11.5			8.8	13.6				
Green Ext Time (p_c), s		0.9		4.4			0.5	3.9				
Intersection Summary												
HCM 6th Ctrl Delay, s/veh			14.4									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary
15: Merced St. & SR 99 NB Ramps

06/03/2024

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					✥		↰	↑			↑	↱
Traffic Volume (veh/h)	0	0	0	18	0	225	239	844	0	0	462	312
Future Volume (veh/h)	0	0	0	18	0	225	239	844	0	0	462	312
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1604	1856	1752	1841	1856	0	0	1796	1856
Adj Flow Rate, veh/h				20	0	245	260	917	0	0	502	339
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				20	3	10	4	3	0	0	7	3
Cap, veh/h				26	0	314	323	1158	0	0	645	565
Arrive On Green				0.21	0.00	0.21	0.18	0.62	0.00	0.00	0.36	0.36
Sat Flow, veh/h				120	0	1466	1753	1856	0	0	1796	1572
Grp Volume(v), veh/h				265	0	0	260	917	0	0	502	339
Grp Sat Flow(s),veh/h/ln				1586	0	0	1753	1856	0	0	1796	1572
Q Serve(g_s), s				8.8	0.0	0.0	7.9	20.4	0.0	0.0	13.8	9.8
Cycle Q Clear(g_c), s				8.8	0.0	0.0	7.9	20.4	0.0	0.0	13.8	9.8
Prop In Lane				0.08		0.92	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				339	0	0	323	1158	0	0	645	565
V/C Ratio(X)				0.78	0.00	0.00	0.80	0.79	0.00	0.00	0.78	0.60
Avail Cap(c_a), veh/h				585	0	0	646	2019	0	0	1147	1004
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.6	0.0	0.0	21.7	7.8	0.0	0.0	15.9	14.6
Incr Delay (d2), s/veh				3.9	0.0	0.0	4.7	1.3	0.0	0.0	2.1	1.0
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.3	0.0	0.0	3.2	4.8	0.0	0.0	4.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				24.6	0.0	0.0	26.4	9.0	0.0	0.0	17.9	15.6
LnGrp LOS				C			C	A			B	B
Approach Vol, veh/h					265			1177			841	
Approach Delay, s/veh					24.6			12.9			17.0	
Approach LOS					C			B			B	

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		16.4		39.2			14.7	24.5				
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5				
Max Green Setting (Gmax), s		20.5		60.5			20.5	35.5				
Max Q Clear Time (g_c+I1), s		10.8		22.4			9.9	15.8				
Green Ext Time (p_c), s		1.1		8.2			0.5	4.1				

Intersection Summary	
HCM 6th Ctrl Delay, s/veh	15.7
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
15: Merced St. & SR 99 NB Ramps

06/03/2024

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					✥		↰	↑			↑	↱
Traffic Volume (veh/h)	0	0	0	36	6	172	226	574	0	0	488	279
Future Volume (veh/h)	0	0	0	36	6	172	226	574	0	0	488	279
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1841	1604	1781	1796	1856	0	0	1856	1841
Adj Flow Rate, veh/h				38	6	183	240	611	0	0	519	297
Peak Hour Factor				0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %				4	20	8	7	3	0	0	3	4
Cap, veh/h				49	8	234	301	1156	0	0	673	566
Arrive On Green				0.21	0.21	0.21	0.18	0.62	0.00	0.00	0.36	0.36
Sat Flow, veh/h				233	37	1121	1711	1856	0	0	1856	1560
Grp Volume(v), veh/h				227	0	0	240	611	0	0	519	297
Grp Sat Flow(s),veh/h/ln				1390	0	0	1711	1856	0	0	1856	1560
Q Serve(g_s), s				8.3	0.0	0.0	7.2	9.9	0.0	0.0	13.2	8.0
Cycle Q Clear(g_c), s				8.3	0.0	0.0	7.2	9.9	0.0	0.0	13.2	8.0
Prop In Lane				0.17		0.81	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				290	0	0	301	1156	0	0	673	566
V/C Ratio(X)				0.78	0.00	0.00	0.80	0.53	0.00	0.00	0.77	0.52
Avail Cap(c_a), veh/h				507	0	0	656	2134	0	0	1266	1065
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.0	0.0	0.0	21.1	5.7	0.0	0.0	15.1	13.4
Incr Delay (d2), s/veh				4.6	0.0	0.0	4.8	0.4	0.0	0.0	1.9	0.8
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.8	0.0	0.0	2.9	2.2	0.0	0.0	4.8	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				24.6	0.0	0.0	25.9	6.0	0.0	0.0	17.0	14.2
LnGrp LOS				C			C	A			B	B
Approach Vol, veh/h					227			851			816	
Approach Delay, s/veh					24.6			11.6			16.0	
Approach LOS					C			B			B	

Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		15.7		37.8			13.9	23.9				
Change Period (Y+Rc), s		4.5		4.5			4.5	4.5				
Max Green Setting (Gmax), s		19.5		61.5			20.5	36.5				
Max Q Clear Time (g_c+I1), s		10.3		11.9			9.2	15.2				
Green Ext Time (p_c), s		0.9		4.3			0.5	4.2				

Intersection Summary			
HCM 6th Ctrl Delay, s/veh			15.1
HCM 6th LOS			B

INTERSECTION SUMMARY

Site: 101 [HY Plus Project AM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Clovis Ave-SR 99 SB Ramps
Site Category: (None)
Roundabout

Intersection Performance - Hourly Values

Performance Measure	Vehicles:	All MCs	Persons
Travel Speed (Average)	km/h	49.7	49.7 km/h
Travel Distance (Total)	veh-km/h	1950.2	2340.2 pers-km/h
Travel Time (Total)	veh-h/h	39.2	47.1 pers-h/h
Desired Speed	km/h	65.0	
Speed Efficiency		0.76	
Travel Time Index		7.39	
Congestion Coefficient		1.31	
Demand Flows (Total)	veh/h	1840	2208 pers/h
Arrival Flows (Total)	veh/h	1840	
Percent Heavy Vehicles (Demand)	%	3.0	
Percent Heavy Vehicles (Arrivals)	%	3.0	
Degree of Saturation		0.648	
Practical Spare Capacity	%	31.1	
Effective Intersection Capacity	veh/h	2839	
Control Delay (Total)	veh-h/h	4.41	5.30 pers-h/h
Control Delay (Average)	sec	8.6	8.6 sec
Control Delay (Worst Lane by MC)	sec	14.7	
Control Delay (Worst Movement by MC)	sec	37.9	37.9 sec
Geometric Delay (Average)	sec	0.0	
Stop-Line Delay (Average)	sec	8.6	
Idling Time (Average)	sec	6.5	
Intersection Level of Service (LOS)		LOS A	
95% Back of Queue - Veh (Worst Lane)	veh	6.4	
95% Back of Queue - Dist (Worst Lane)	m	49.7	
Ave. Que Storage Ratio (Worst Lane)		0.04	
Effective Stops (Total)	veh/h	514	617 pers/h
Effective Stop Rate		0.28	0.28
Proportion Queued		0.31	0.31
Performance Index		50.5	50.5
Cost (Total)	$/h	986.42	986.42 $/h
Fuel Consumption (Total)	L/h	192.4	
Carbon Dioxide (Total)	kg/h	455.4	
Hydrocarbons (Total)	kg/h	0.040	
Carbon Monoxide (Total)	kg/h	0.56	
NOx (Total)	kg/h	0.699	

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand effects.
In Network analysis, Arrival Flows will be reduced if Upstream Capacity Constraint exists.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

Site Model Variability Index (Average value of largest changes in Lane Degrees of Saturation from the third to the last Main (Timing-Capacity) Iterations): 0.0 %

Number of Iterations: 3 (Maximum: 10)

Largest change in Lane Degrees of Saturation for the last three Flow-Capacity Iterations: 100.0%   0.0%   0.0%

Intersection Performance - Annual Values

Performance Measure	Vehicles:	All MCs	Persons
Demand Flows (Total)	veh/y	883,304	1,059,965 pers/y
Delay (Total)	veh-h/y	2,119	2,543 pers-h/y

Effective Stops (Total)	veh/y	246,616	295,940	pers/y
Travel Distance (Total)	veh-km/y	936,087	1,123,304	pers-km/y
Travel Time (Total)	veh-h/y	18,833	22,599	pers-h/y
Cost (Total)	$/y	473,480	473,480	$/y
Fuel Consumption (Total)	L/y	92,336		
Carbon Dioxide (Total)	kg/y	218,604		
Hydrocarbons (Total)	kg/y	19		
Carbon Monoxide (Total)	kg/y	269		
NOx (Total)	kg/y	335		

1 Hours per Year: 480 (Site)

INTERSECTION SUMMARY

Site: 101 [HY Plus Project PM (Site Folder: General)]

Output produced by SIDRA INTERSECTION Version: 9.1.4.221

Clovis Ave-SR 99 SB Ramps
Site Category: (None)
Roundabout

Intersection Performance - Hourly Values			
Performance Measure	**Vehicles:**	**All MCs**	**Persons**
Travel Speed (Average)	km/h	49.9	49.9 km/h
Travel Distance (Total)	veh-km/h	1945.7	2334.8 pers-km/h
Travel Time (Total)	veh-h/h	39.0	46.8 pers-h/h
Desired Speed	km/h	65.0	
Speed Efficiency		0.77	
Travel Time Index		7.42	
Congestion Coefficient		1.30	
Demand Flows (Total)	veh/h	1845	2213 pers/h
Arrival Flows (Total)	veh/h	1845	
Percent Heavy Vehicles (Demand)	%	3.0	
Percent Heavy Vehicles (Arrivals)	%	3.0	
Degree of Saturation		0.588	
Practical Spare Capacity	%	44.6	
Effective Intersection Capacity	veh/h	3138	
Control Delay (Total)	veh-h/h	4.53	5.43 pers-h/h
Control Delay (Average)	sec	8.8	8.8 sec
Control Delay (Worst Lane by MC)	sec	18.6	
Control Delay (Worst Movement by MC)	sec	44.6	44.6 sec
Geometric Delay (Average)	sec	0.0	
Stop-Line Delay (Average)	sec	8.8	
Idling Time (Average)	sec	6.4	
Intersection Level of Service (LOS)		LOS A	
95% Back of Queue - Veh (Worst Lane)	veh	4.0	
95% Back of Queue - Dist (Worst Lane)	m	31.4	
Ave. Que Storage Ratio (Worst Lane)		0.03	
Effective Stops (Total)	veh/h	614	736 pers/h
Effective Stop Rate		0.33	0.33
Proportion Queued		0.33	0.33
Performance Index		51.7	51.7
Cost (Total)	$/h	979.77	979.77 $/h
Fuel Consumption (Total)	L/h	190.9	
Carbon Dioxide (Total)	kg/h	451.9	
Hydrocarbons (Total)	kg/h	0.040	
Carbon Monoxide (Total)	kg/h	0.56	
NOx (Total)	kg/h	0.695	

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Options tab).

Roundabout LOS Method: Same as Sign Control.

Intersection LOS value for Vehicles is based on average delay for all vehicle movements.

Roundabout Capacity Model: US HCM 6.

Delay Model: HCM Delay Formula (Stopline Delay: Geometric Delay is not included).

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand effects.
In Network analysis, Arrival Flows will be reduced if Upstream Capacity Constraint exists.

Gap-Acceptance Capacity Formula: Siegloch M1 implied by US HCM 6 Roundabout Capacity Model.

Site Model Variability Index (Average value of largest changes in Lane Degrees of Saturation from the third to the last Main (Timing-Capacity) Iterations): 0.0 %

Number of Iterations: 3 (Maximum: 10)

Largest change in Lane Degrees of Saturation for the last three Flow-Capacity Iterations: 100.0% 0.0% 0.0%

Intersection Performance - Annual Values			
Performance Measure	**Vehicles:**	**All MCs**	**Persons**
Demand Flows (Total)	veh/y	885,391	1,062,470 pers/y
Delay (Total)	veh-h/y	2,173	2,608 pers-h/y

Effective Stops (Total)	veh/y	294,596	353,515	pers/y
Travel Distance (Total)	veh-km/y	933,921	1,120,705	pers-km/y
Travel Time (Total)	veh-h/y	18,718	22,461	pers-h/y
Cost (Total)	$/y	470,292	470,292	$/y
Fuel Consumption (Total)	L/y	91,624		
Carbon Dioxide (Total)	kg/y	216,927		
Hydrocarbons (Total)	kg/y	19		
Carbon Monoxide (Total)	kg/y	268		
NOx (Total)	kg/y	334		

1 Hours per Year: 480 (Site)

Queues

11: Clovis Ave & Clayton Ave/SR 99 SB On Ramp

09/10/2024

Lane Group	EBL	EBT	EBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	32	34	91	6	381	862	303
v/c Ratio	0.14	0.16	0.28	0.02	0.48	0.68	0.13
Control Delay (s/veh)	26.5	26.9	5.5	28.5	21.5	16.9	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	26.5	26.9	5.5	28.5	21.5	16.9	3.1
Queue Length 50th (ft)	9	10	0	2	54	112	9
Queue Length 95th (ft)	37	40	22	13	116	206	37
Internal Link Dist (ft)		733			1193		700
Turn Bay Length (ft)				75		150	
Base Capacity (vph)	625	583	655	205	1446	2273	2707
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.06	0.14	0.03	0.26	0.38	0.11

Intersection Summary

Queues

14: Sumner Ave/ Merced St. & Fowler Ave/SR 99 SB Off Ramps

	↪	↘	↖	↱	↗	↲	↙
Lane Group	SEL	SET	NWT	NWR	NET	SWL	SWT
Lane Group Flow (vph)	326	160	16	526	368	350	159
v/c Ratio	0.80	0.25	0.19	0.76	0.81	0.80	0.16
Control Delay (s/veh)	53.1	23.5	52.5	27.9	51.8	50.8	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	10.0	0.5
Total Delay (s/veh)	53.1	23.5	52.5	27.9	51.8	60.8	12.6
Queue Length 50th (ft)	208	72	11	224	233	220	50
Queue Length 95th (ft)	#354	123	33	364	#396	#367	89
Internal Link Dist (ft)		506	439		364		240
Turn Bay Length (ft)	250			400		50	
Base Capacity (vph)	456	901	237	733	494	495	1059
Starvation Cap Reductn	0	0	0	0	0	116	592
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.18	0.07	0.72	0.74	0.92	0.34

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
15: Merced St. & SR 99 NB Ramps

06/03/2024

	↖	↰	↗	↙	↵
Lane Group	NWT	NEL	NET	SWT	SWR
Lane Group Flow (vph)	222	260	917	496	339
v/c Ratio	0.60	0.61	0.70	0.73	0.41
Control Delay (s/veh)	15.3	30.3	9.0	24.3	3.7
Queue Delay	0.0	0.0	0.6	0.0	0.0
Total Delay (s/veh)	15.3	30.3	9.6	24.3	3.7
Queue Length 50th (ft)	11	81	128	141	0
Queue Length 95th (ft)	80	203	360	323	48
Internal Link Dist (ft)	684		240	772	
Turn Bay Length (ft)		50			250
Base Capacity (vph)	636	655	1678	1106	1104
Starvation Cap Reductn	0	14	380	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.35	0.41	0.71	0.45	0.31

Intersection Summary

Queues

11: Clovis Ave & Clayton Ave/SR 99 SB On Ramp

09/10/2024

	↗	→	↘	↖	↑	↘	↓
Lane Group	EBL	EBT	EBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	71	73	275	3	341	689	329
v/c Ratio	0.25	0.25	0.56	0.01	0.46	0.64	0.15
Control Delay (s/veh)	22.8	22.7	8.5	27.0	20.7	18.2	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	22.8	22.7	8.5	27.0	20.7	18.2	4.9
Queue Length 50th (ft)	17	18	0	1	42	81	12
Queue Length 95th (ft)	61	62	56	9	103	171	53
Internal Link Dist (ft)		733			1193		700
Turn Bay Length (ft)				75		150	
Base Capacity (vph)	717	748	828	198	1547	2171	3077
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.10	0.33	0.02	0.22	0.32	0.11

Intersection Summary

Queues

14: Sumner Ave/ Merced St. & Fowler Ave/SR 99 SB Off Ramps

Lane Group	SEL	SET	NWT	NWR	NET	SWL	SWT
Lane Group Flow (vph)	272	250	20	368	265	339	183
v/c Ratio	0.70	0.38	0.20	0.47	0.69	0.73	0.18
Control Delay (s/veh)	43.9	22.9	49.0	9.6	43.2	41.4	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.5	0.1
Total Delay (s/veh)	43.9	22.9	49.0	9.6	43.2	42.0	12.0
Queue Length 50th (ft)	137	94	10	46	129	169	49
Queue Length 95th (ft)	264	187	38	135	258	314	101
Internal Link Dist (ft)		506	439		388		240
Turn Bay Length (ft)	250			400		50	
Base Capacity (vph)	565	1126	278	929	521	672	1333
Starvation Cap Reductn	0	0	0	0	0	101	568
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.22	0.07	0.40	0.51	0.59	0.24

Intersection Summary

Queues

15: Merced St. & SR 99 NB Ramps

	↖	↰	↗	↙	↲
Lane Group	NWT	NEL	NET	SWT	SWR
Lane Group Flow (vph)	221	240	611	484	297
v/c Ratio	0.59	0.59	0.47	0.70	0.38
Control Delay (s/veh)	15.6	29.4	5.6	23.1	3.8
Queue Delay	0.0	0.0	0.2	0.0	0.0
Total Delay (s/veh)	15.6	29.4	5.9	23.1	3.8
Queue Length 50th (ft)	14	72	66	132	0
Queue Length 95th (ft)	85	188	176	310	46
Internal Link Dist (ft)	684		240	772	
Turn Bay Length (ft)		50			250
Base Capacity (vph)	651	670	1696	1184	1103
Starvation Cap Reductn	0	14	507	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.34	0.37	0.51	0.41	0.27

Intersection Summary

	→	←	↖	↘	↲	↖
Lane Group	EBT	WBT	WBR	SET	SER	NWT
Lane Group Flow (vph)	1	11	33	521	4	948
v/c Ratio	0.00	0.05	0.15	0.20	0.00	0.32
Control Delay (s/veh)	16.0	16.9	9.7	2.2	0.5	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	16.0	16.9	9.7	2.2	0.5	2.5
Queue Length 50th (ft)	0	2	0	0	0	0
Queue Length 95th (ft)	3	13	17	41	1	78
Internal Link Dist (ft)	1099	3588		1938		3391
Turn Bay Length (ft)			150		125	
Base Capacity (vph)	1168	802	694	2945	1568	3351
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.01	0.05	0.18	0.00	0.28

Intersection Summary

Queues

11: Clovis Ave & Clayton Ave/SR 99 SB On Ramp

09/10/2024

	↗	→	↘	↖	↑	↘	↓
Lane Group	EBL	EBT	EBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	74	75	91	6	381	870	303
v/c Ratio	0.28	0.29	0.26	0.03	0.49	0.69	0.13
Control Delay (s/veh)	28.2	28.6	4.9	30.8	23.2	18.3	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	28.2	28.6	4.9	30.8	23.2	18.3	3.6
Queue Length 50th (ft)	23	24	0	2	58	122	11
Queue Length 95th (ft)	73	74	21	14	126	227	41
Internal Link Dist (ft)		733			1193		700
Turn Bay Length (ft)				75		150	
Base Capacity (vph)	602	582	635	197	1459	2141	2613
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.13	0.14	0.03	0.26	0.41	0.12

Intersection Summary

Queues

14: Sumner Ave/ Merced St. & Fowler Ave/SR 99 SB Off Ramps

06/03/2024

Lane Group	SEL	SET	NWT	NWR	NET	SWL	SWT
Lane Group Flow (vph)	326	160	16	526	368	357	159
v/c Ratio	0.80	0.26	0.20	0.76	0.81	0.80	0.16
Control Delay (s/veh)	53.5	23.6	52.6	27.7	52.2	51.3	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	12.3	0.5
Total Delay (s/veh)	53.5	23.6	52.6	27.7	52.2	63.6	12.6
Queue Length 50th (ft)	208	72	11	224	233	226	50
Queue Length 95th (ft)	#354	123	33	364	#396	#379	89
Internal Link Dist (ft)		506	439		364		240
Turn Bay Length (ft)	250			400		50	
Base Capacity (vph)	454	896	236	731	492	493	1054
Starvation Cap Reductn	0	0	0	0	0	115	592
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.18	0.07	0.72	0.75	0.94	0.34

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

15: Merced St. & SR 99 NB Ramps

06/03/2024

Lane Group	NWT	NEL	NET	SWT	SWR
Lane Group Flow (vph)	265	260	917	502	339
v/c Ratio	0.66	0.64	0.72	0.75	0.42
Control Delay (s/veh)	19.5	33.4	10.9	26.8	3.9
Queue Delay	0.0	0.0	0.7	0.0	0.0
Total Delay (s/veh)	19.5	33.4	11.6	26.8	3.9
Queue Length 50th (ft)	29	90	163	159	0
Queue Length 95th (ft)	115	215	437	348	51
Internal Link Dist (ft)	684		240	772	
Turn Bay Length (ft)		50			250
Base Capacity (vph)	634	598	1620	1060	1073
Starvation Cap Reductn	0	9	373	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.44	0.74	0.47	0.32

Intersection Summary

Queues

7: Golden St. Blvd. & Clayton Ave

	→	←	↖	↘	↖
Lane Group	EBT	WBT	WBR	SET	NWT
Lane Group Flow (vph)	4	53	172	1374	676
v/c Ratio	0.01	0.32	0.42	0.66	0.32
Control Delay (s/veh)	20.0	26.3	7.9	7.7	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	20.0	26.3	7.9	7.7	4.6
Queue Length 50th (ft)	1	12	0	99	34
Queue Length 95th (ft)	9	49	45	206	74
Internal Link Dist (ft)	1099	3588		1938	1656
Turn Bay Length (ft)			150		
Base Capacity (vph)	712	369	710	3098	3082
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.01	0.14	0.24	0.44	0.22

Intersection Summary

Queues
11: Clovis Ave & Clayton Ave/SR 99 SB On Ramp

	↗	→	↘	↖	↑	↘	↓
Lane Group	EBL	EBT	EBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	78	79	275	3	341	738	329
v/c Ratio	0.28	0.27	0.56	0.01	0.47	0.66	0.15
Control Delay (s/veh)	24.0	23.7	8.6	28.0	21.6	18.6	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.0	23.7	8.6	28.0	21.6	18.6	4.8
Queue Length 50th (ft)	21	21	0	1	44	90	13
Queue Length 95th (ft)	67	68	57	9	106	186	53
Internal Link Dist (ft)		733			1193		700
Turn Bay Length (ft)				75		150	
Base Capacity (vph)	697	725	813	193	1439	2178	3042
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.11	0.34	0.02	0.24	0.34	0.11

Intersection Summary

Queues

14: Sumner Ave/ Merced St. & Fowler Ave/SR 99 SB Off Ramps

	⤴	↘	↖	↱	↗	↲	↙
Lane Group	SEL	SET	NWT	NWR	NET	SWL	SWT
Lane Group Flow (vph)	272	250	20	368	265	376	183
v/c Ratio	0.71	0.38	0.21	0.47	0.70	0.76	0.18
Control Delay (s/veh)	45.7	24.1	50.3	9.9	45.8	41.7	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.2	0.2
Total Delay (s/veh)	45.7	24.1	50.3	9.9	45.8	42.9	11.8
Queue Length 50th (ft)	148	104	11	54	140	200	50
Queue Length 95th (ft)	267	190	38	140	#262	345	99
Internal Link Dist (ft)		506	439		388		240
Turn Bay Length (ft)	250			400		50	
Base Capacity (vph)	523	1063	267	927	480	687	1308
Starvation Cap Reductn	0	0	0	0	0	141	608
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.24	0.07	0.40	0.55	0.69	0.26

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

15: Merced St. & SR 99 NB Ramps

	↖	↰	↗	↙	↲
Lane Group	NWT	NEL	NET	SWT	SWR
Lane Group Flow (vph)	227	240	611	519	297
v/c Ratio	0.60	0.60	0.47	0.72	0.37
Control Delay (s/veh)	15.8	30.9	5.5	23.5	3.6
Queue Delay	0.0	0.0	0.3	0.0	0.0
Total Delay (s/veh)	15.8	30.9	5.8	23.5	3.6
Queue Length 50th (ft)	14	75	67	147	0
Queue Length 95th (ft)	85	193	177	329	45
Internal Link Dist (ft)	684		240	772	
Turn Bay Length (ft)		50			250
Base Capacity (vph)	655	609	1679	1186	1104
Starvation Cap Reductn	0	6	521	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.35	0.40	0.53	0.44	0.27

Intersection Summary

Appendix D – Detailed Collision Data

Selected Factors:

Date 01/01/2018 - 12/31/2022
County Fresno
City All

Result Summary:

15,470 of 15,770 (98.1%) crashes mapped.

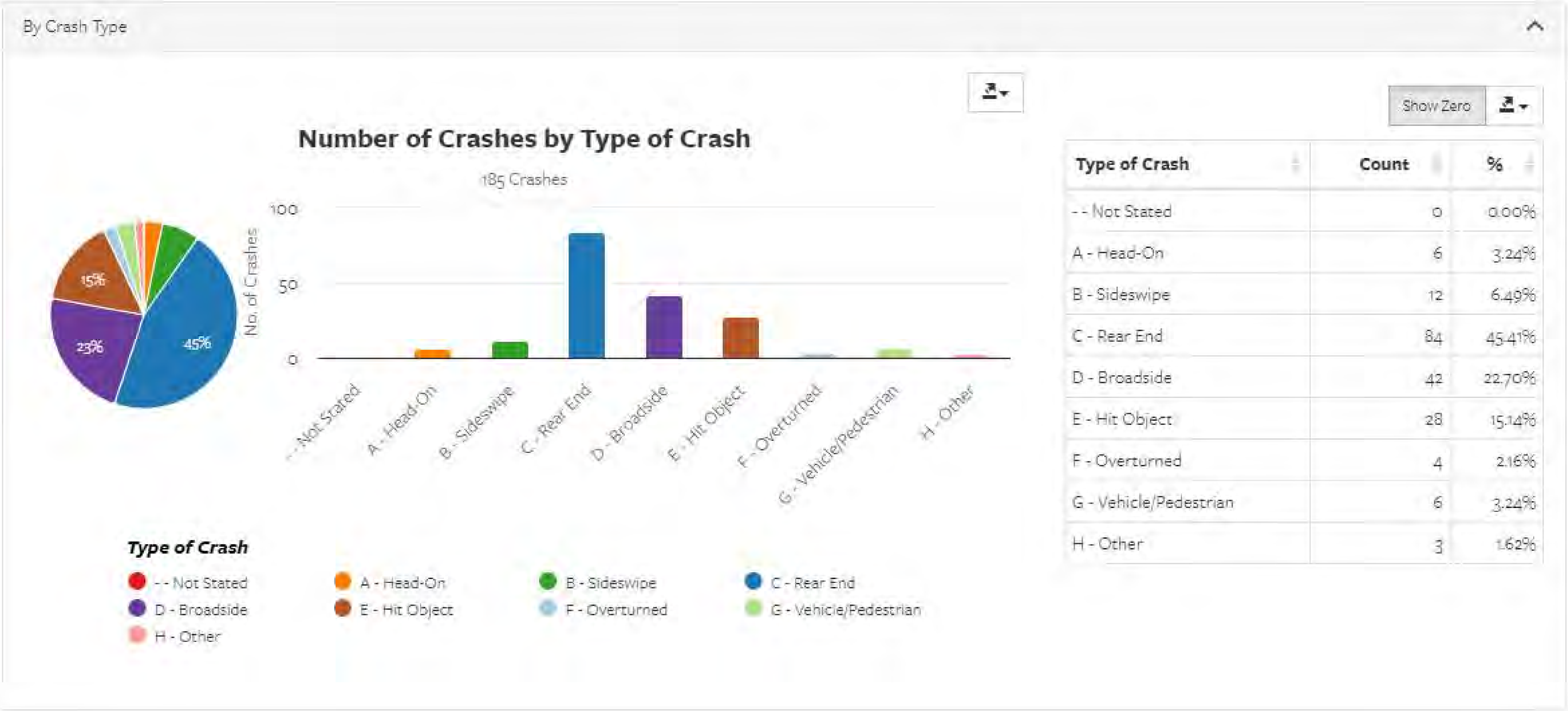
185 crashes selected.

By Crash Severity

Number of Crashes by Crash Severity

185 Crashes

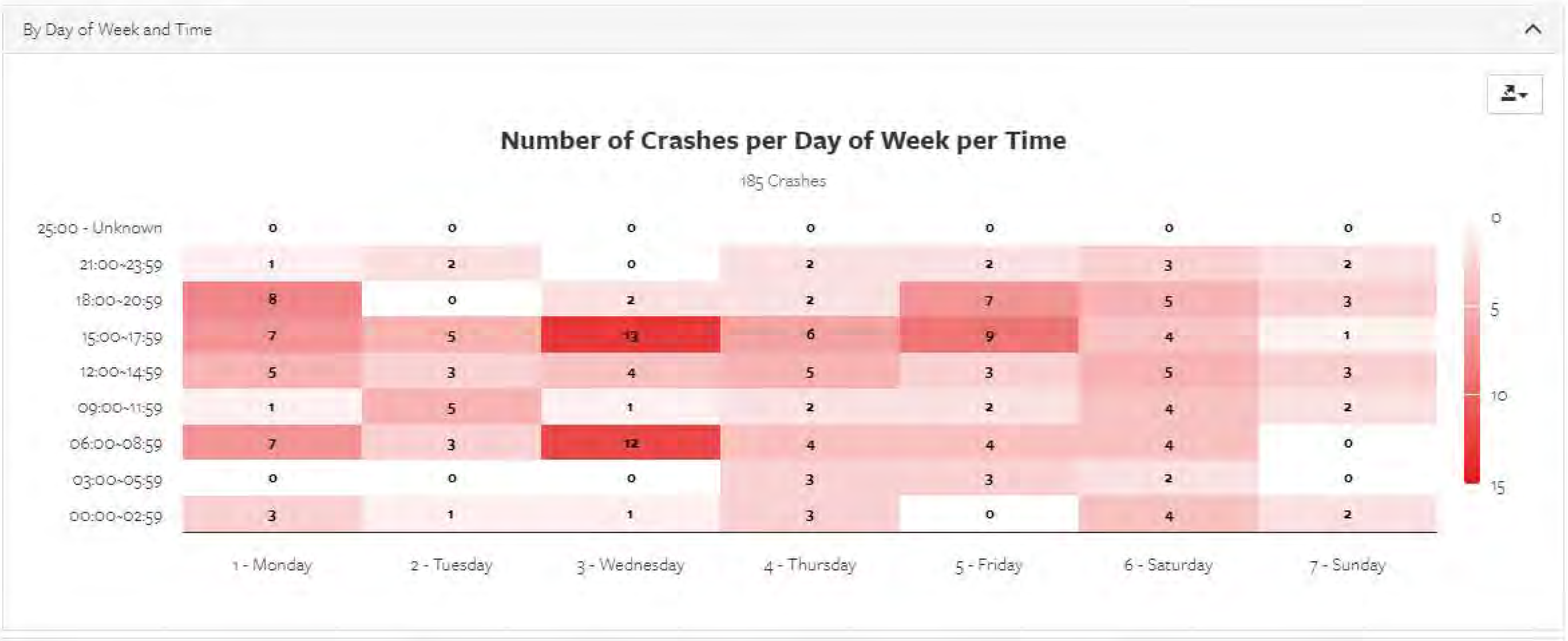
Crash Severity	Count	%
1 - Fatal	9	4.86%
2 - Injury (Severe)	16	8.65%
3 - Injury (Other Visible)	53	28.65%
4 - Injury (Complaint of Pain)	107	57.84%



Number of Crashes by Type of Crash

185 Crashes

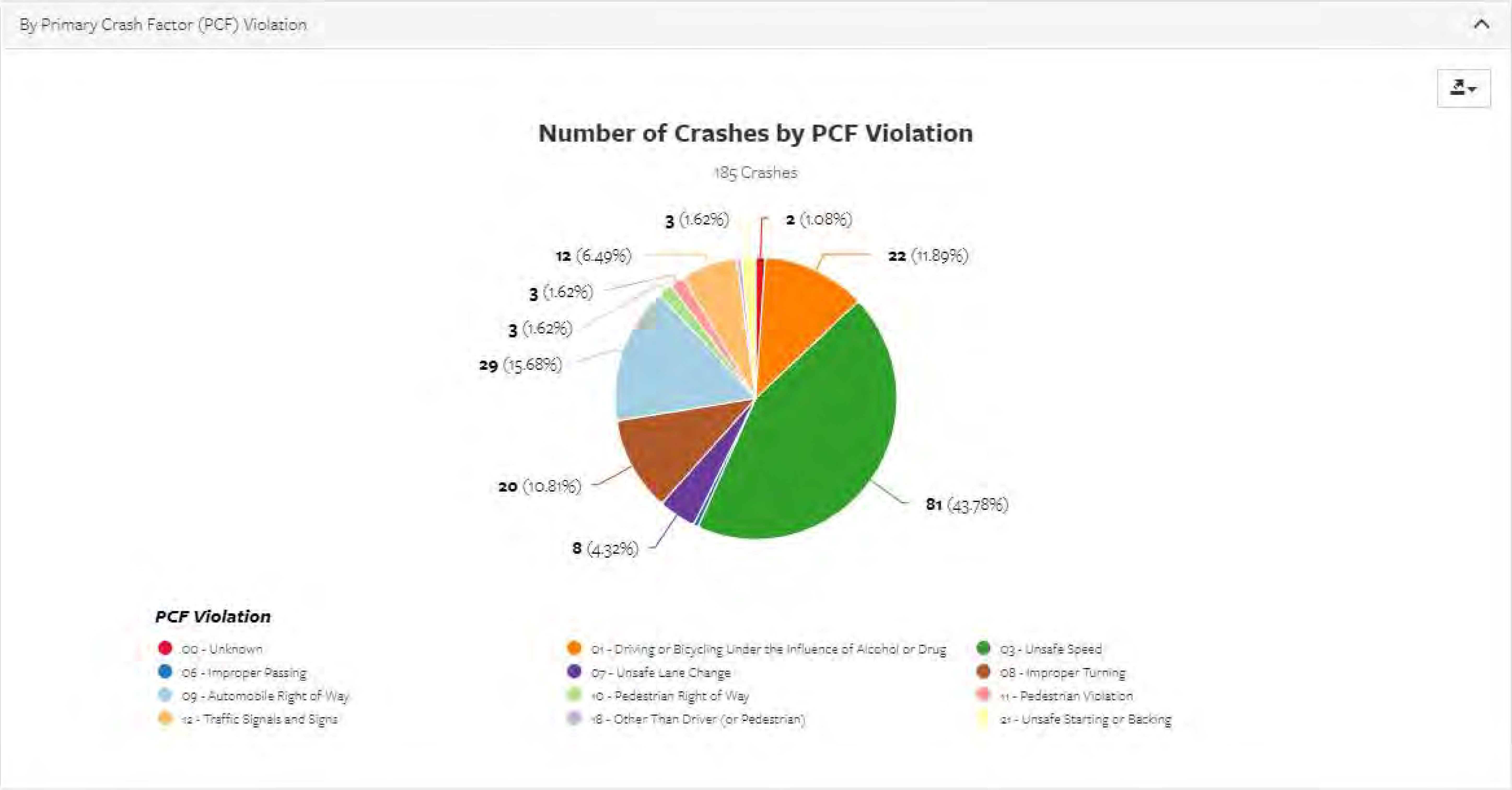
Type of Crash	Count	%
- - Not Stated	0	0.00%
A - Head-On	6	3.24%
B - Sideswipe	12	6.49%
C - Rear End	84	45.41%
D - Broadside	42	22.70%
E - Hit Object	28	15.14%
F - Overturned	4	2.16%
G - Vehicle/Pedestrian	6	3.24%
H - Other	3	1.62%



Number of Crashes per Day of Week per Time

185 Crashes

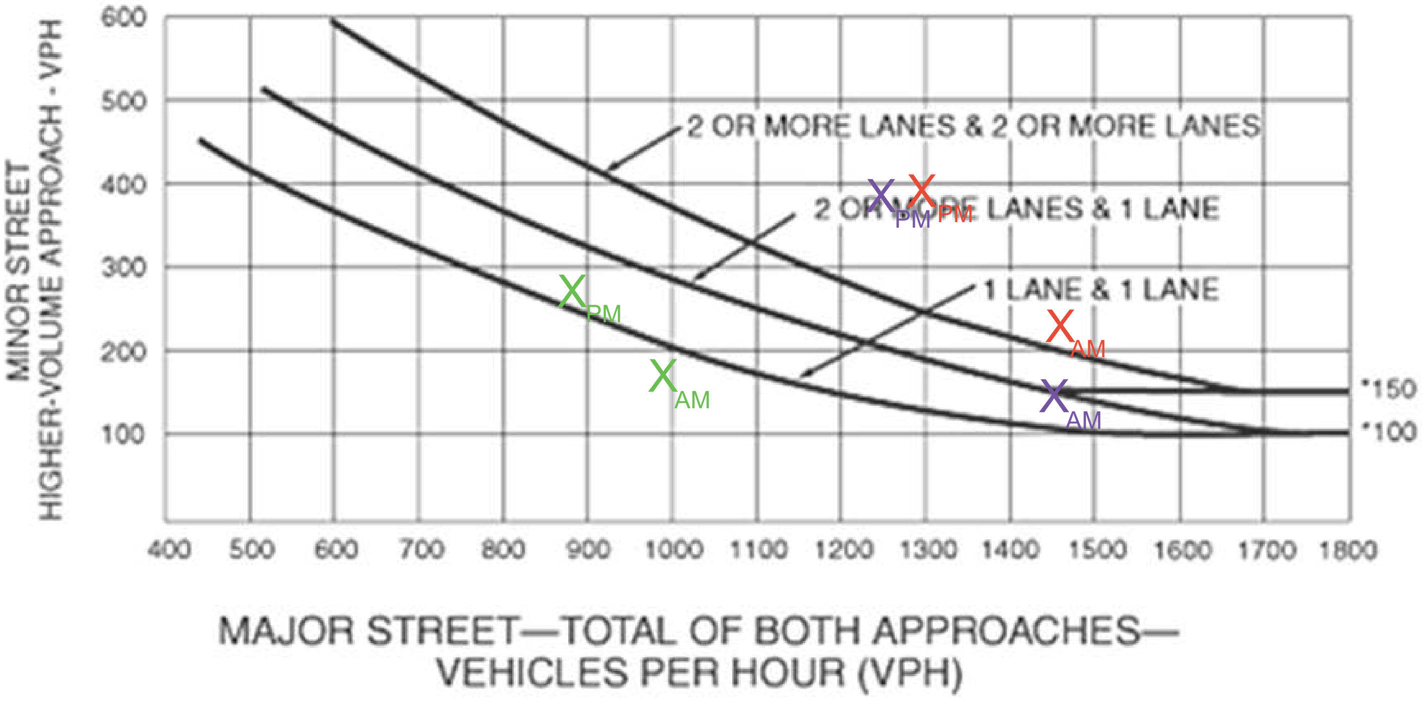
	1 - Monday	2 - Tuesday	3 - Wednesday	4 - Thursday	5 - Friday	6 - Saturday	7 - Sunday
25:00 - Unknown	0	0	0	0	0	0	0
21:00~23:59	1	2	0	2	2	3	2
18:00~20:59	8	0	2	2	7	5	3
15:00~17:59	7	5	13	6	9	4	1
12:00~14:59	5	3	4	5	3	5	3
09:00~11:59	1	5	1	2	2	4	2
06:00~08:59	7	3	12	4	4	4	0
03:00~05:59	0	0	0	3	3	2	0
00:00~02:59	3	1	1	3	0	4	2


By Primary Crash Factor (PCF) Violation
Number of Crashes by PCF Violation
185 Crashes
3 (1.62%)
2 (1.08%)
12 (6.49%)
22 (11.89%)
3 (1.62%)
3 (1.62%)
29 (15.68%)
20 (10.81%)
81 (43.78%)
8 (4.32%)
PCF Violation
00 - Unknown
01 - Driving or Bicycling Under the Influence of Alcohol or Drug
03 - Unsafe Speed
06 - Improper Passing
07 - Unsafe Lane Change
08 - Improper Turning
09 - Automobile Right of Way
10 - Pedestrian Right of Way
11 - Pedestrian Violation
12 - Traffic Signals and Signs
18 - Other Than Driver (or Pedestrian)
21 - Unsafe Starting or Backing

Appendix E – Signal Warrant Worksheets

SR 99 SB Ramps / Clovis Ave

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

LEGEND

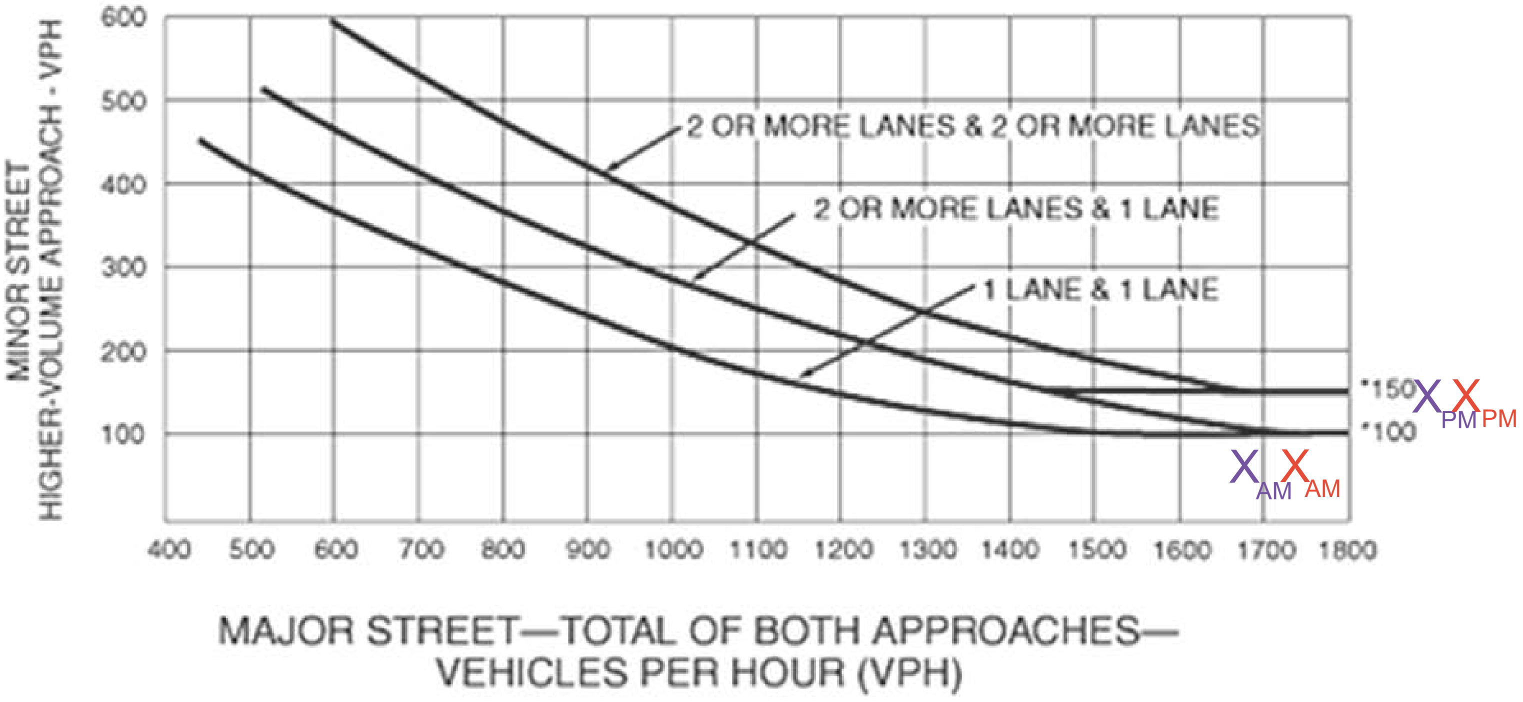
X_{AM} X_{PM} Existing Plus Project

X_{AM} X_{PM} Horizon Year Without Project

X_{AM} X_{PM} Horizon Year Plus Project

Golden State Blvd / Jefferson Ave

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

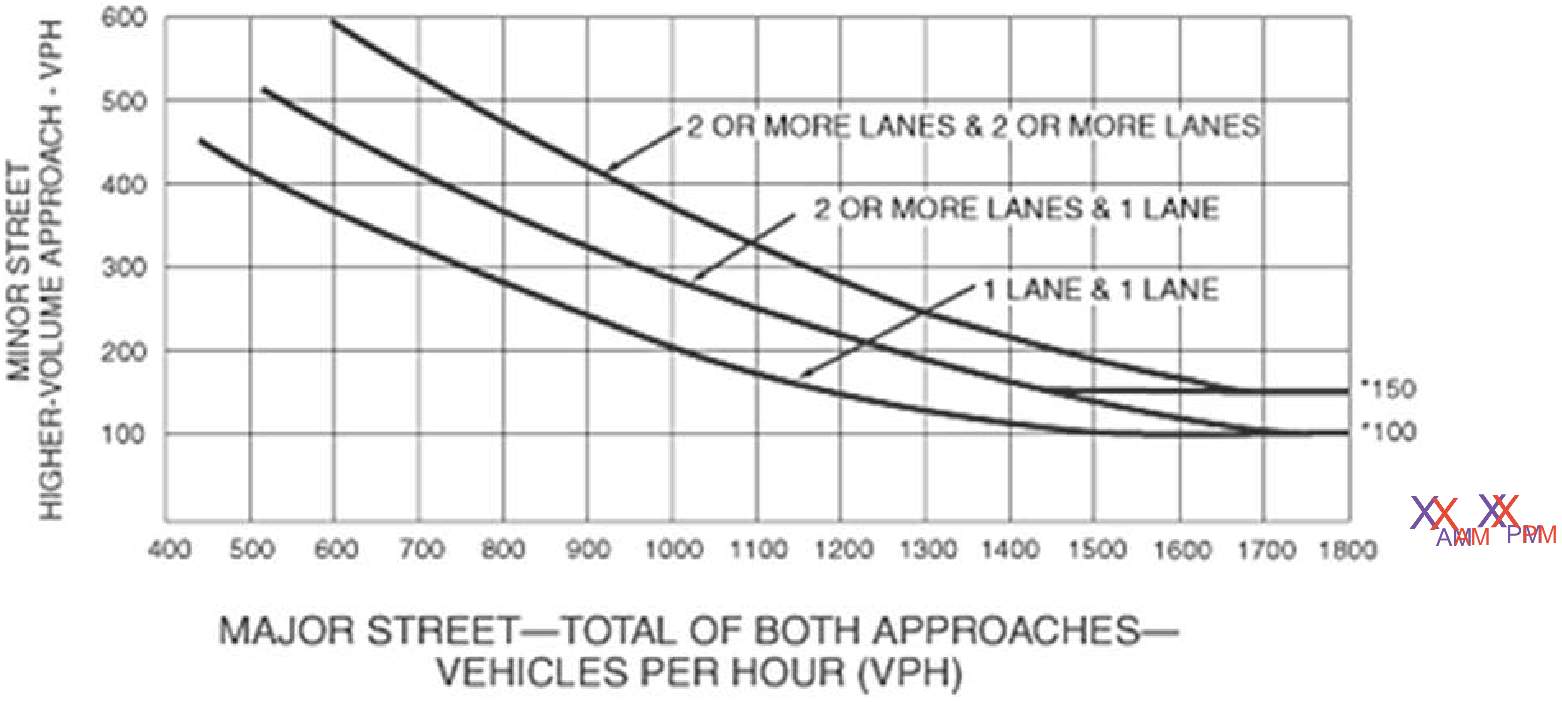
LEGEND

X_{AM} X_{PM} Horizon Year Without Project

X_{AM} X_{PM} Horizon Year Plus Project

Clovis Ave / Jefferson Ave

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

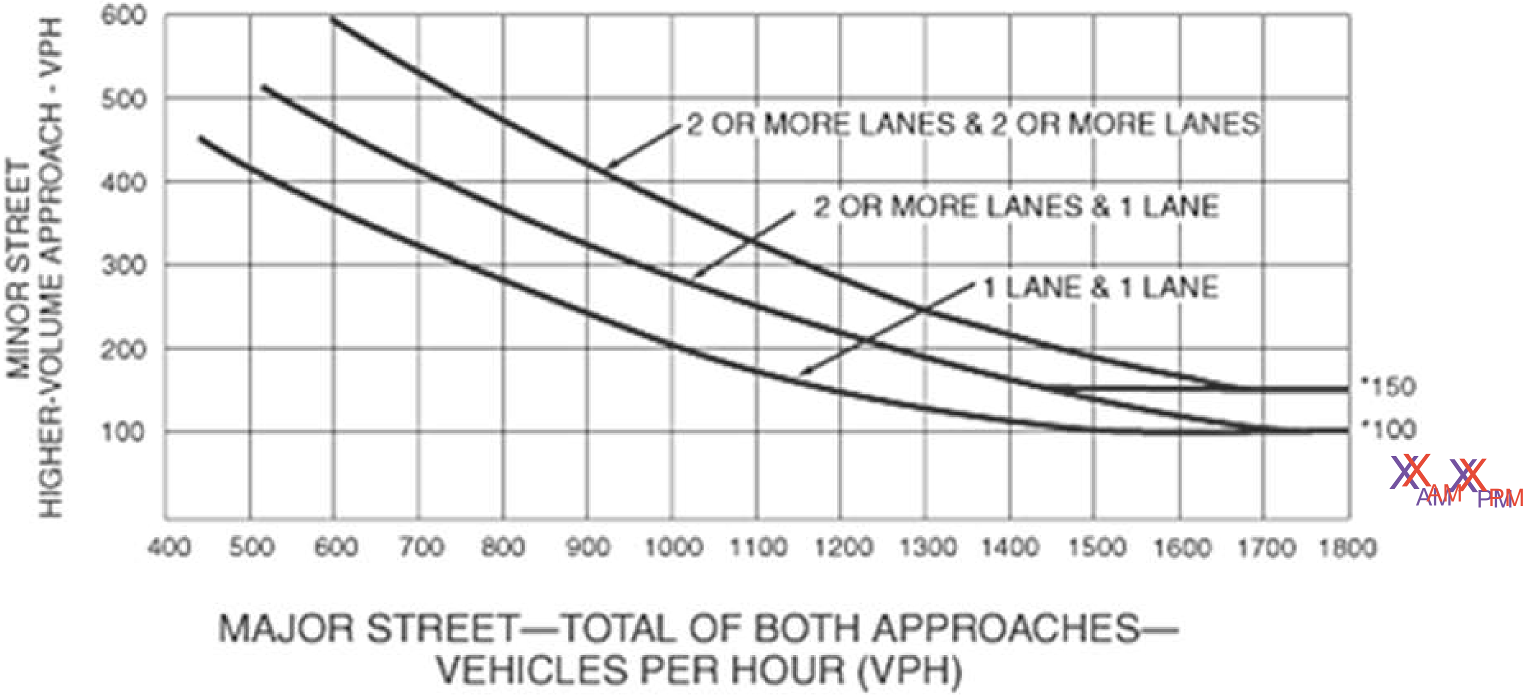
LEGEND

X_{AM} X_{PM} Horizon Year Without Project

X_{AM} X_{PM} Horizon Year Plus Project

Clovis Ave / Lincoln Ave

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

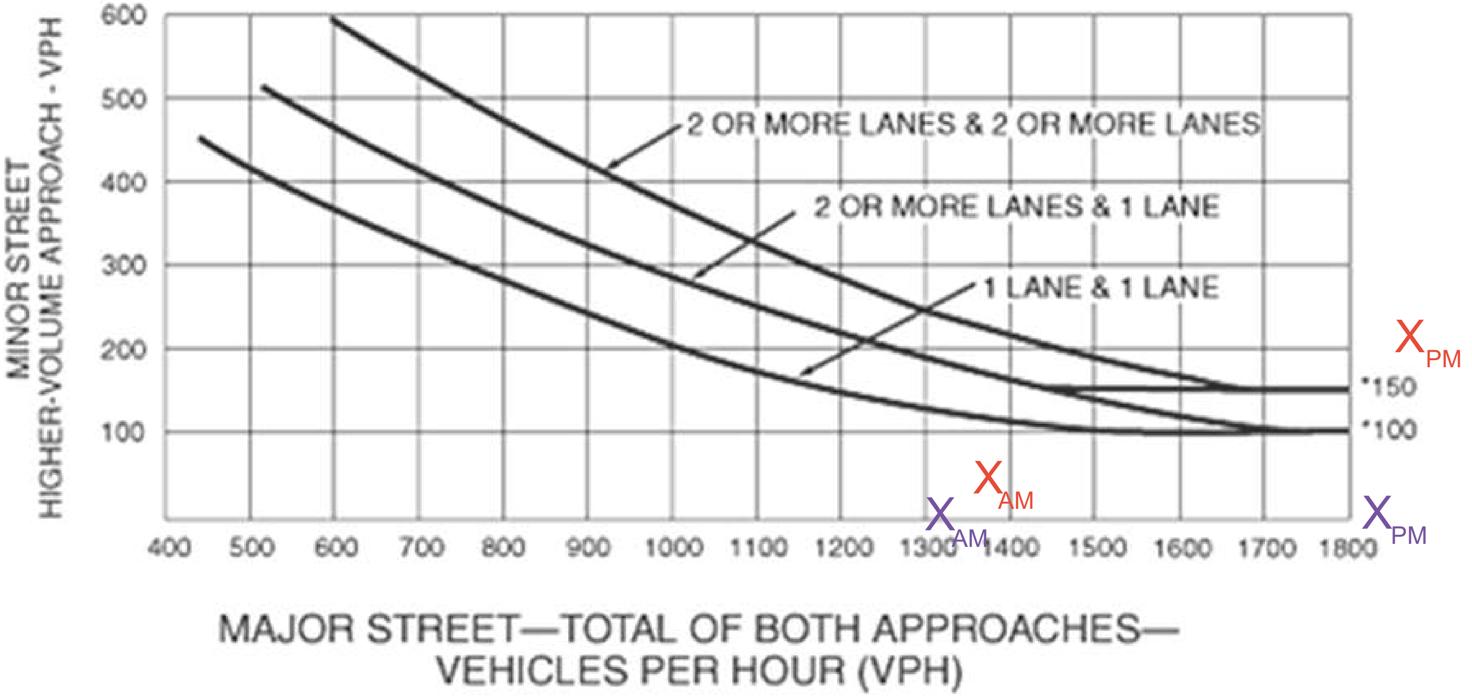
LEGEND

X$_{AM}$ X$_{PM}$ Horizon Year Without Project

X$_{AM}$ X$_{PM}$ Horizon Year Plus Project

Golden State Blvd / Clayton Ave

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

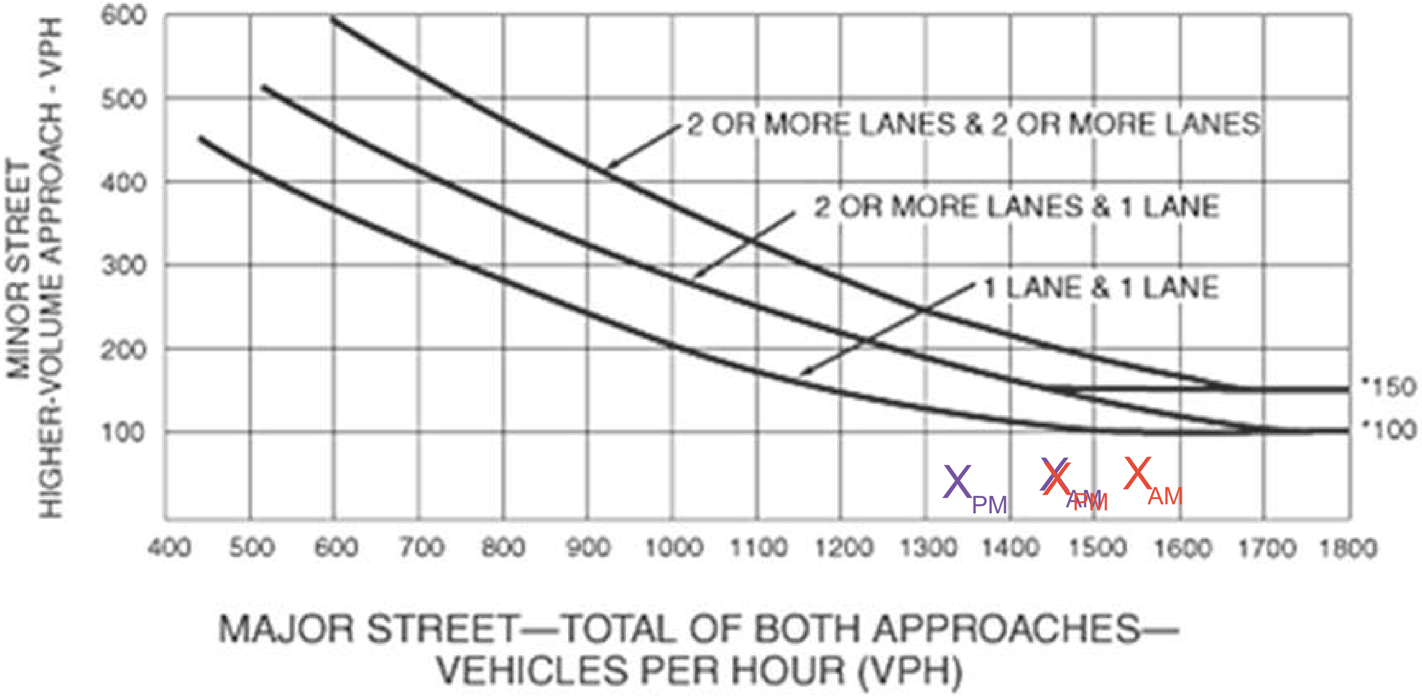
LEGEND

X_{AM} X_{PM} Horizon Year Without Project

X_{AM} X_{PM} Horizon Year Plus Project

Clovis Ave / SR 99 NB Ramps

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

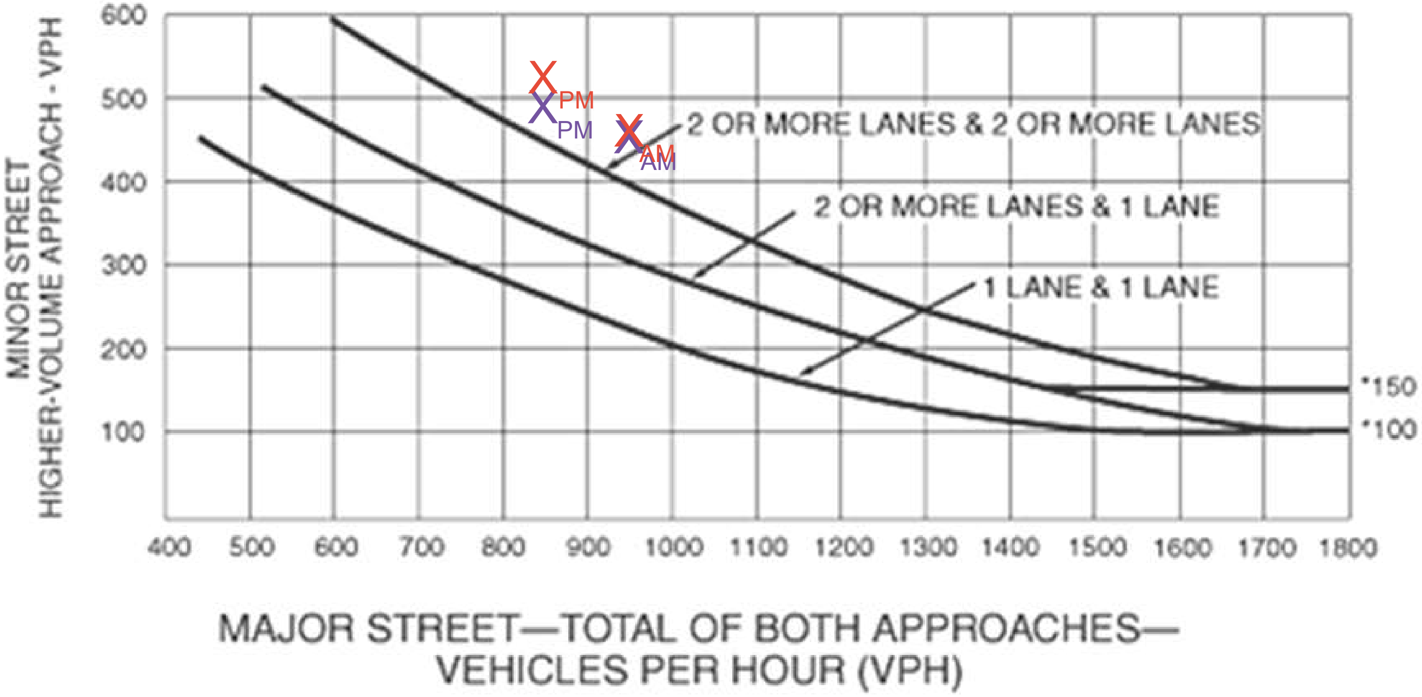
LEGEND

X$_{AM}$ X$_{PM}$ Horizon Year Without Project

X$_{AM}$ X$_{PM}$ Horizon Year Plus Project

Merced St / SR 99 SB Off Ramp-Fowler Ave

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

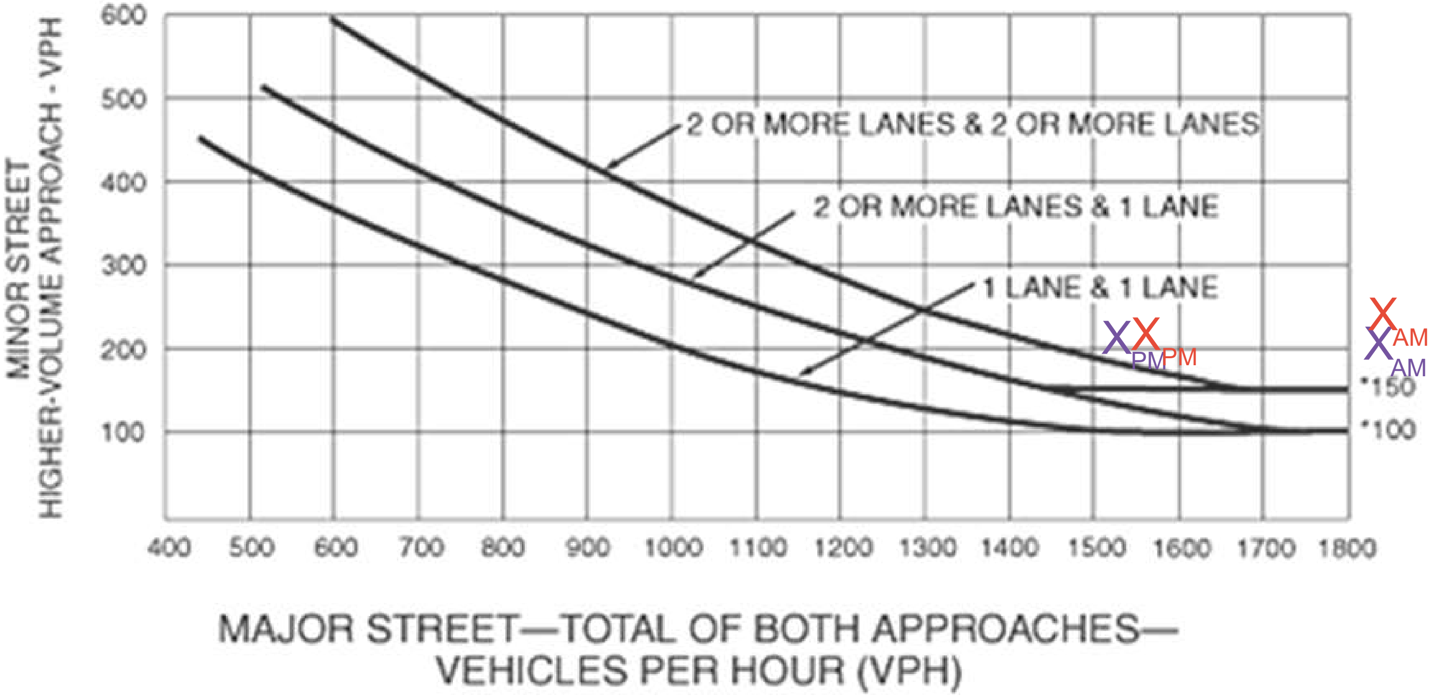
LEGEND

X_{AM} X_{PM} Horizon Year Without Project

X_{AM} X_{PM} Horizon Year Plus Project

Merced St / SR 99 SB NB Ramps

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

LEGEND

X_{AM} X_{PM} Horizon Year Without Project

X_{AM} X_{PM} Horizon Year Plus Project