APPENDIX A

NOTICE OF PREPARATION AND PUBLIC COMMENTS ON THE NOP

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Notice of Preparation of a Draft Environmental Impact Report

Date: August 8, 2022

To: Responsible Agencies, Interested Parties and Organizations

Subject: Notice of Preparation of an Environmental Impact Report for the Vesting Tentative Tract Map No. 6360 Project in Fresno, CA

Lead Agency: City of Fresno

Contact: Chris Lang
Planner III
City of Fresno – Planning and Development Department
2600 Fresno Street, Room 3043
Fresno, CA 93721
(559) 621-8023
Chris.Lang@fresno.gov

Notice is Hereby Given: The City of Fresno (City) is the Lead Agency on the below-described Vesting Tentative Tract Map No. 6360 (proposed project) and has prepared a Notice of Preparation (NOP) of an Environmental Impact Report (EIR), pursuant to the California Environmental Quality Act (CEQA). The NOP is intended to solicit the views of the public, interested parties, and/or agencies as to the scope and content of the environmental information which is relevant to you or your agency's statutory responsibilities in connection with the proposed project. Specifically, the City is requesting that commenters identify environmental topics (and/or special studies) that they believe need to be explored in the forthcoming EIR, and to identify other relevant environmental issues related to the scope and content of the forthcoming EIR.

Project Title: Vesting Tentative Tract Map No. 6360

Project Location: The proposed project is located on approximately 31.29 acres on the northeast corner of the intersection between North Armstrong Avenue and East McKinley Avenue, in Fresno, California. Site Latitude: 36.766109°, Site Longitude: –119.671989°. Mount Diablo Base & Meridian, SE quarter of Section 27, Township 13 South, Range 21 East (Assessor's Parcel Numbers [APNs]: 574-140-04 and 574-140-05). The attached Figure 1 shows the regional and local context of the project location.

Project Description: The proposed Vesting Tentative Tract Map No. 6360 would construct 328 single-family residences, private streets, communal park space, a 14,168 square-foot pool and recreation area, and supporting landscaping, pedestrian, parking, and public utility uses. The project site plan in shown in Figure 2, attached. Associated entitlements to facilitate development of the proposed project include a Planned Development Permit to allow for 328 single-family residences, a General Plan Amendment (Low Density Residential to Medium Density Residential), and a Rezone from RS-3 to RS-5 (Single Family Residential, Low Density to Single Family Residential, Medium Density). To facilitate the future development of the subject property, the proposed project will also require dedications and/or acquisitions for public street rights-of-way and utility easements, as well as the construction of public facilities and infrastructure in accordance with the standards, specifications, and policies of the City of Fresno.

Areas of Potential Environmental Effects: Potentially significant environmental impacts of the proposed project include, but may not be limited to, the following: Air Quality, Greenhouse Gas Emissions, and Transportation.

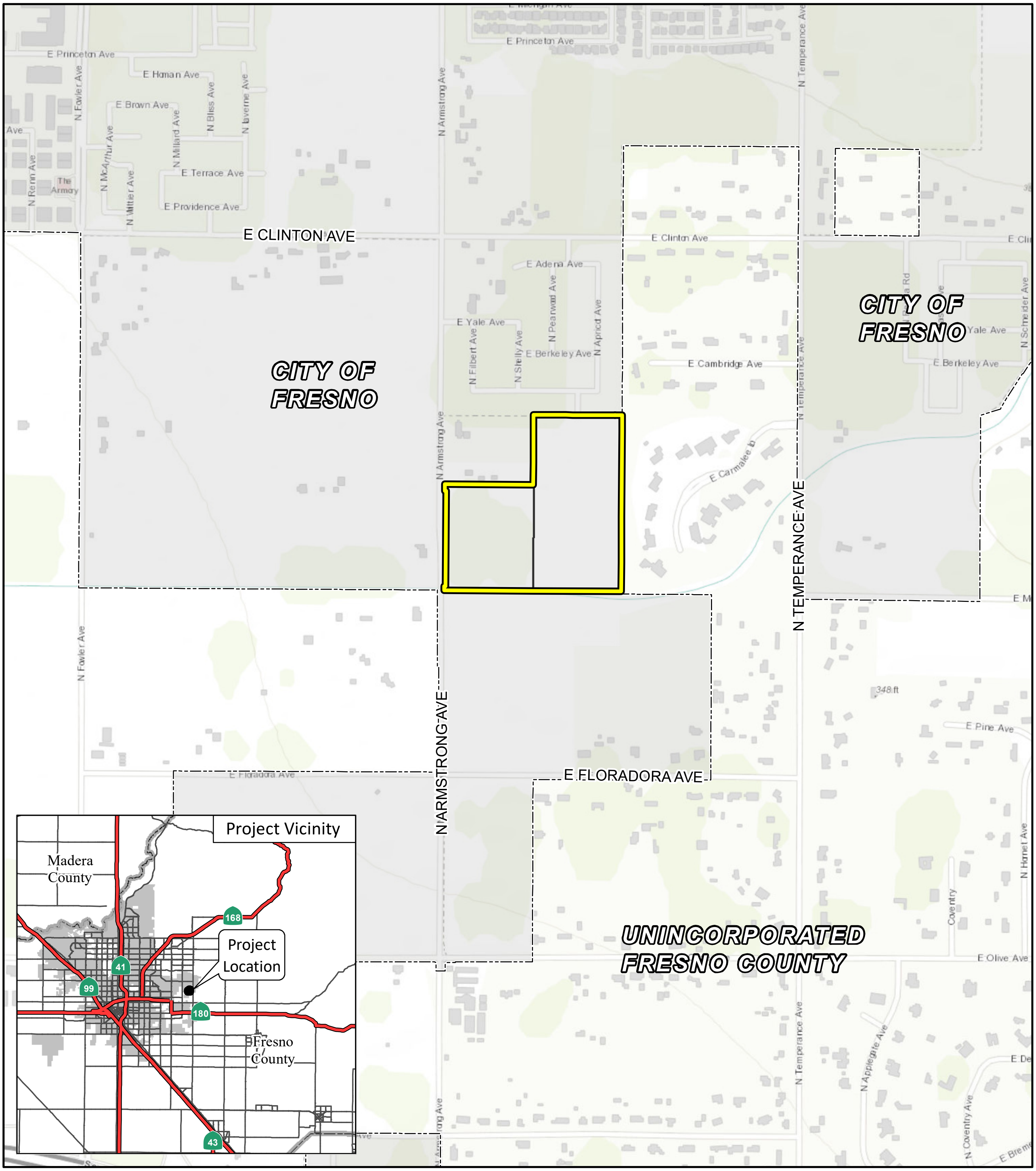
Document Availability and Public Review Timeline: Due to the time limits mandated by State law, your response to the NOP must be sent no later than 30 days after publication of this notice. The review period for the NOP will be from August 8, 2022, to September 6, 2022. Copies of the NOP can be reviewed at the City of Fresno, 2600 Fresno Street, Room 3043, Fresno, CA 93721. Electronic copies can also be accessed on the City's website at: https://www.fresno.gov/darm/planning-development/plans-projects-under-review/

Public Scoping Meeting: The CEQA process encourages comments and questions from the public throughout the planning process. Pursuant to Section 15083 of the CEQA Guidelines, a Public Scoping Meeting will be held to solicit public comments on the scope and content of the EIR**.** A public scoping meeting for this project will be conducted virtually at 6:00 PM on Wednesday, August 17, 2022. The webinar information is provided below:

Via Zoom online meeting at: https://bit.ly/TractMap6360
Or by Phone at: +1 669 444 9171 US
Webinar ID: 301 002 7686

Submitting Comments: Comments and suggestions as to the appropriate scope of analysis of the EIR are invited from all interested parties. Written comments or questions concerning the EIR for the proposed project should be directed to the City's Project Planner, Chris Lang, at the following address by 5:00 PM on September 6, 2022. Please include the commenter's full name, address, phone number and/or email so that we may contact you for clarification, if necessary. Please submit comments to:

Chris Lang
Planner III
City of Fresno – Planning and Development Department
2600 Fresno Street, Room 3043
Fresno, CA 93721
(559) 621-8023
Chris.Lang@fresno.gov



LSA

FIGURE 1

LEGEND

Project Location

Parcel Boundary

Fresno City Limit

N

0 500 1000

FEET

Vesting Tentative Tract Map No. 6360

Notice of Preparation

Regional and Local Context

SOURCE: Esri Streetmap (2021)

I:\HAA2103-TM 6360\GIS\MXD\Regional_Local_Context_NOP.mxd (6/16/2022)

LSA

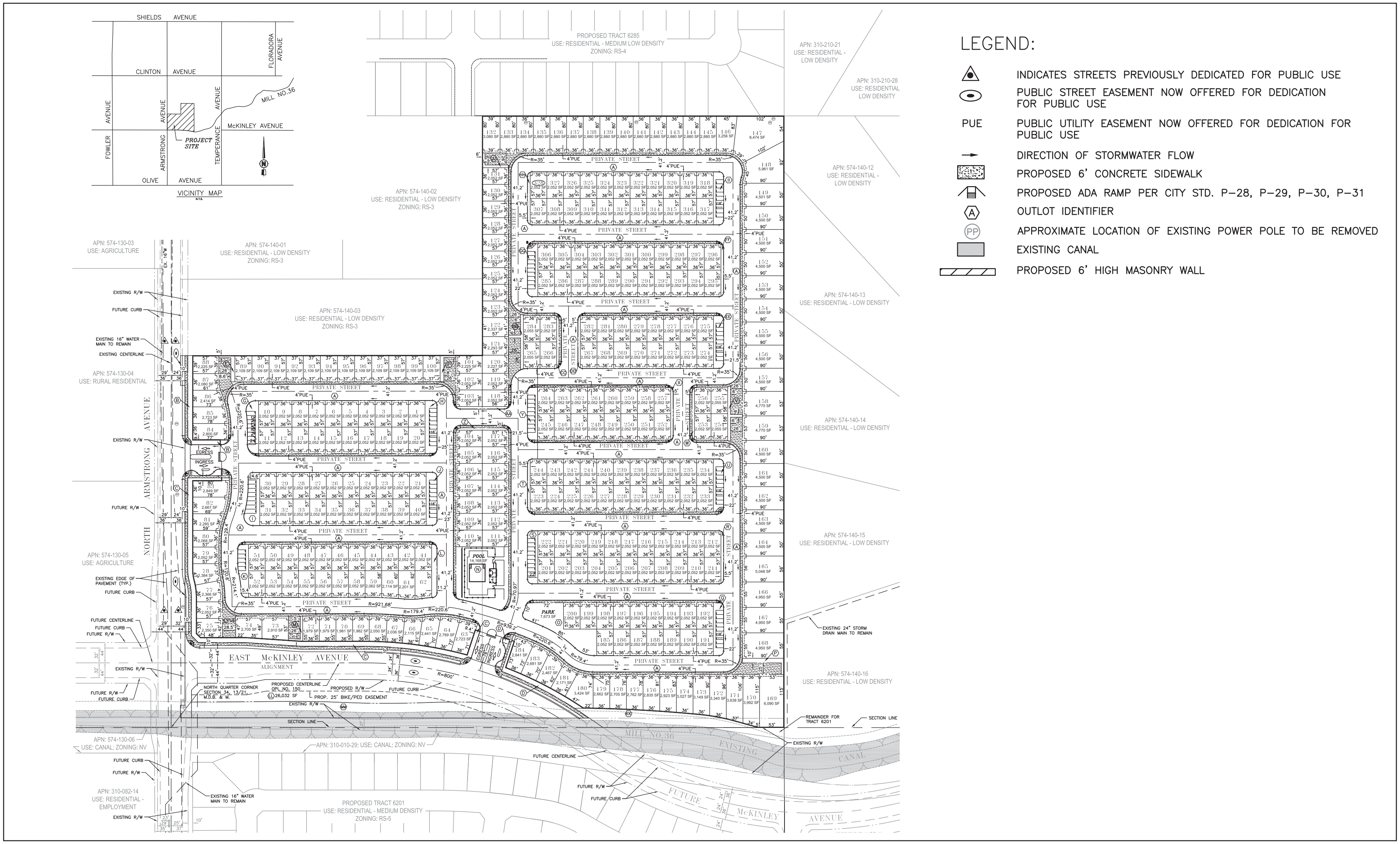


FIGURE 2

0 80 160
FEET

Vesting Tentative Tract Map No. 6360
Notice of Preparation
Site Plan

SOURCE: Harbour & Associates, 5/19/2022

I:\HAA1903-TM 6360\G\NOP Figure\Fig 2_Site Plan.ai (7/20/2022)

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

Governor's Office of Planning & Research
Aug 26 2022
STATE CLEARING HOUSE

August 24, 2022

Chris Lang
City of Fresno
2600 Fresno Street, Room 3043
Fresno, CA 93721

Re: 2022080152, Tract Map No. 6360 Project, Fresno County

Dear Mr. Lang:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
   a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
   b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (https://ohp.parks.ca.gov/?page_id=30331) for an archaeological records search. The records search will determine:
   a. If part or all of the APE has been previously surveyed for cultural resources.
   b. If any known cultural resources have already been recorded on or adjacent to the APE.
   c. If the probability is low, moderate, or high that cultural resources are located in the APE.
   d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
   a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
   b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Cameron.Vela@nahc.ca.gov.

Sincerely,

Cameron Vela

Cameron Vela
Cultural Resources Analyst

cc: State Clearinghouse

County of Fresno

DEPARTMENT OF PUBLIC WORKS AND PLANNING
STEVEN E. WHITE, DIRECTOR

August 26, 2022

Chris Lang, Planner III
City of Fresno – Planning and Development Department
2600 Fresno Street, Room 3043
Fresno, CA 93721
(559) 621-8023
Chris.Lang@fresno.gov

SUBJECT: NOP of EIR Vesting Tentative Tract Map No. 6360

Dear Mr. Lang:

The County of Fresno appreciates the opportunity to review and comment on the subject project being reviewed by the City of Fresno. The documents received for this review were circulated to our various Fresno County Public Works and Planning divisions. Based on the County's initial review, we offer the following comments from our various divisions:

The Fresno County Department of Public Health, Environmental Health Division has completed a review of the Request for Comment for the proposed NOP EIR and offers the following comments for consideration:

Hazards and Hazardous Materials

- If future applicants propose to use and/or store hazardous materials and/or hazardous wastes, they shall meet the requirements set forth in the California Health and Safety Code (HSC), Division 20, Chapter 6.95, and the California Code of Regulations (CCR), Title 22, Division 4.5. Any business that handles a hazardous material or hazardous waste may be required to submit a Hazardous Materials Business Plan pursuant to the California Health and Safety Code (HSC), Division 20, Chapter 6.95, Section 25507 (http://cers.calepa.ca.gov/). Contact the Fresno County Hazmat Compliance Program at (559) 600-3271 for more information.

- If any underground petroleum storage tank(s) are discovered during construction activities, the applicant/property owner shall apply for and secure an Underground Storage Tank Removal Permit from the Fresno County Department of Public Health, Environmental Health Division. Contact the Fresno County Hazmat Compliance Program at (559) 600-3271 for more information.

Hydrology and Water Quality

- As a measure to protect groundwater, all water wells (not intended for use) and septic systems within the property shall be properly destroyed by an appropriately licensed contractor. Contact the Fresno County Department of Public Health, Water Surveillance Program at (559) 600-3357 for more information.

Noise

- Appropriate measures should be incorporated into the construction phase of future projects to minimize potentially significant short-term localized noise impacts to noise sensitive receivers caused by the operation of construction equipment. Construction specifications for projects should require that all construction equipment is maintained according to the manufacturers' specifications, and that noise generating construction equipment is equipped with mufflers. In addition, consideration should be given to limiting noise-generating construction activities to daytime hours.

- Future projects have the potential to expose nearby residents to elevated noise levels. Consideration should be given to conformance with the applicable standards of the Noise Element of the City of Fresno General Plan. Consideration should be given to noise sensitive receivers within the City's Zoning Map.

Transportation Planning reviewed LSA's prepared traffic study for the Tract Map 6360 project in the City of Fresno and asks to please include the following intersections in the study:

- Floradora & Armstrong
- Floradora & Fowler

Growth in the area is moving considerably fast and we would like to capture all traffic, especially on these smaller streets. Other than that, Transportation Planning finds the scope of work sufficient.

If you have any questions regarding the information described in this letter, please contact me at rmartin@fresnocountyca.gov or (559) 600-4305.

Sincerely,

David Randall, Senior Planner

Development Services and Capital Projects Division, Current Planning

Jared Blumenfeld
Secretary for
Environmental Protection

Department of Toxic Substances Control

Meredith Williams, Ph.D., Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Gavin Newsom
Governor

Governor's Office of Planning & Research

Sep 02 2022

STATE CLEARINGHOUSE

SENT VIA ELECTRONIC MAIL

September 2, 2022

Mr. Chris Lang
City of Fresno
2600 Fresno Street, Room 3043
Fresno Street, CA 93721
Chris.Lang@fresno.gov

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE VESTING TENTATIVE TRACT MAP NO. 6360 PROJECT IN FRESNO, CALIFORNIA, DATED AUGUST 8, 2022 (STATE CLEARINGHOUSE NUMBER: 2022080152)

Dear Mr. Lang:

The Department of Toxic Substances Control (DTSC) received a Notice of Preparation of an Environmental Impact Report (EIR) for the Vesting Tentative Tract Map No. 6360 Project in Fresno, California (Project). The Lead Agency is receiving this notice from DTSC because the Project includes one or more of the following: groundbreaking activities, work in close proximity to a roadway, presence of site buildings that may require demolition or modifications, importation of backfill soil, and/or work on or in close proximity to an agricultural or former agricultural site.

DTSC recommends that the following issues be evaluated in the Hazards and Hazardous Materials section of the EIR:

1. A State of California environmental regulatory agency such as DTSC or Regional Water Quality Control Board (RWQCB), or a qualified local agency that meets the requirements of Assembly Bill 304 (AB304) should provide regulatory concurrence that the site is safe for construction and the proposed use.
2. The EIR should acknowledge the potential for historic or future activities on or near the project site to result in the release of hazardous wastes/substances on the project site. In instances in which releases have occurred or may occur, further studies should be carried out to delineate the nature and extent of the

contamination, and the potential threat to public health and/or the environment should be evaluated. The EIR should also identify the mechanism(s) to initiate any required investigation and/or remediation and the government agency who will be responsible for providing appropriate regulatory oversight.

3. Refiners in the United States started adding lead compounds to gasoline in the 1920s in order to boost octane levels and improve engine performance. This practice did not officially end until 1992 when lead was banned as a fuel additive in California. Tailpipe emissions from automobiles using leaded gasoline contained lead and resulted in aerially deposited lead (ADL) being deposited in and along roadways throughout the state. ADL-contaminated soils still exist along roadsides and medians and can also be found underneath some existing road surfaces due to past construction activities. Due to the potential for ADL-contaminated soil DTSC, recommends collecting soil samples for lead analysis prior to performing any intrusive activities for the project described in the EIR.

4. If buildings or other structures are to be demolished on any project sites included in the proposed project, surveys should be conducted for the presence of lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk. Removal, demolition and disposal of any of the above-mentioned chemicals should be conducted in compliance with California environmental regulations and policies. In addition, sampling near current and/or former buildings should be conducted in accordance with DTSC's 2006 *Interim Guidance Evaluation of School Sites with Potential Contamination from Lead Based Paint, Termiticides, and Electrical Transformers*.

5. If any projects initiated as part of the proposed project require the importation of soil to backfill any excavated areas, proper sampling should be conducted to ensure that the imported soil is free of contamination. DTSC recommends the imported materials be characterized according to *DTSC's 2001 Information Advisory Clean Imported Fill Material*.

6. If any sites included as part of the proposed project have been used for agricultural, weed abatement or related activities, proper investigation for organochlorinated pesticides should be discussed in the EIR. DTSC recommends the current and former agricultural lands be evaluated in accordance with DTSC's 2008 *Interim Guidance for Sampling Agricultural Properties (Third Revision)*.

DTSC appreciates the opportunity to comment on the EIR. Should you choose DTSC to provide oversight for any environmental investigations, please visit DTSC's Site Mitigation and Restoration Program page to apply for lead agency oversight. Additional information regarding voluntary agreements with DTSC can be found at DTSC's Brownfield website.

If you have any questions, please contact me at (916) 255-3710 or via email at Gavin.McCreary@dtsc.ca.gov.

Sincerely,

Gavin McCreary
Project Manager
Site Evaluation and Remediation Unit
Site Mitigation and Restoration Program
Department of Toxic Substances Control

cc: (via email)

Governor's Office of Planning and Research
State Clearinghouse
State.Clearinghouse@opr.ca.gov

Mr. Dave Kereazis
Office of Planning & Environmental Analysis
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

September 2, 2022

Chris Lang
City of Fresno
Planning and Development Department
2600 Fresno Street, Room 3043
Fresno, CA, 93721

Project: Notice of Preparation of an Environmental Impact Report for the Vesting Tentative Tract Map No. 6360

District CEQA Reference No: 20221116

Dear Mr. Lang:

The San Joaquin Valley Air Pollution Control District (District) has reviewed the Notice of Preparation (NOP) from the City of Fresno (City) for Vesting Tentative Tract Map No. 6360. Per the NOP, the project consists of 328 single family residences, private streets, communal park space, a 14,168 square-foot pool and recreation area, and supporting landscaping, pedestrian, parking, and public utility uses (Project).

The District offers the following comments regarding the Project:

1) **<u>Project Related Emissions</u>**

At the federal level under the National Ambient Air Quality Standards (NAAQS), the District is designated as extreme nonattainment for the 8-hour ozone standards and serious nonattainment for the particulate matter less than 2.5 microns in size (PM2.5) standards. At the state level under California Ambient Air Quality Standards (CAAQS), the District is designated as nonattainment for the 8-hour ozone, PM10, PM2.5 standards.

The District's initial review of the Project concludes that emissions resulting from construction and/or operation of the Project may exceed any of the following significance thresholds as identified in the District's Guidance for Assessing and Mitigating Air Quality Impacts: https://www.valleyair.org/transportation/GAMAQI.pdf. The District recommends that a more detailed preliminary review of the Project be conducted for the Project's construction and operational emissions.

1a) Construction Emissions

The District recommends, to reduce impacts from construction-related diesel exhaust emissions, the Project should utilize the cleanest available off-road construction equipment, including the latest tier equipment.

1b) Operational Emissions

Operational (ongoing) air emissions from mobile sources and stationary sources should be analyzed separately. For reference, the District's significance thresholds are identified in the District's Guidance for Assessing and Mitigating Air Quality Impacts: https://www.valleyair.org/transportation/GAMAQI.pdf.

Recommended Mitigation Measure: At a minimum, project related impacts on air quality should be reduced to levels of significance through incorporation of design elements such as the use of cleaner Heavy Heavy-Duty (HHD) trucks and vehicles, measures that reduce Vehicle Miles Traveled (VMTs), and measures that increase energy efficiency. More information on transportation mitigation measures can be found at: http://www.valleyair.org/transportation/Mitigation-Measures.pdf.

1c) Recommended Model for Quantifying Air Emissions

Project-related criteria pollutant emissions from construction and operational sources should be identified and quantified. Emissions analysis should be performed using the California Emission Estimator Model (CalEEMod), which uses the most recent CARB-approved version of relevant emissions models and emission factors. CalEEMod is available to the public and can be downloaded from the CalEEMod website at: www.caleemod.com.

2) <u>Health Risk Screening/Assessment</u>

The City should evaluate the risk associated with the Project for sensitive receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) in the area and mitigate any potentially significant risk to help limit exposure of sensitive receptors to emissions.

To determine potential health impacts on surrounding receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) a Prioritization and/or a Health Risk Assessment (HRA) should be performed for the Project. These health risk determinations should quantify and characterize potential Toxic Air Contaminants (TACs) identified by the Office of Environmental Health Hazard Assessment/California Air Resources Board (OEHHA/CARB) that pose a present or potential hazard to human health.

Health risk analyses should include all potential air emissions from the project, which include emissions from construction of the project, including multi-year construction, as well as ongoing operational activities of the project. Note, two common sources of TACs can be attributed to diesel exhaust emitted from heavy-duty off-road earth moving equipment during construction, and from ongoing operation of heavy-duty on-road trucks.

Prioritization (Screening Health Risk Assessment):
A "Prioritization" is the recommended method for a conservative screening-level health risk assessment. The Prioritization should be performed using the California Air Pollution Control Officers Association's (CAPCOA) methodology.

The District recommends that a more refined analysis, in the form of an HRA, be performed for any project resulting in a Prioritization score of 10 or greater. This is because the prioritization results are a conservative health risk representation, while the detailed HRA provides a more accurate health risk evaluation.

To assist land use agencies and project proponents with Prioritization analyses, the District has created a prioritization calculator based on the aforementioned CAPCOA guidelines, which can be found here:
http://www.valleyair.org/busind/pto/emission_factors/Criteria/Toxics/Utilities/PRIORITIZATION-CALCULATOR.xls

Health Risk Assessment:
Prior to performing an HRA, it is strongly recommended that land use agencies/ project proponents develop and submit for District review a health risk modeling protocol that outlines the sources and methodologies that will be used to perform the HRA. This step will ensure all components are addressed when performing the HRA.

A development project would be considered to have a potentially significant health risk if the HRA demonstrates that the project-related health impacts would exceed the District's significance threshold of 20 in a million for carcinogenic risk, or 1.0 for either the Acute or Chronic Hazard Indices.

A project with a significant health risk would trigger all feasible mitigation measures. The District strongly recommends that development projects that result in a significant health risk not be approved by the land use agency.

The District is available to review HRA protocols and analyses. For HRA submittals please provide the following information electronically to the District for review:

- HRA (AERMOD) modeling files
- HARP2 files

- Summary of emissions source locations, emissions rates, and emission factor calculations and methodologies.

For assistance, please contact the District's Technical Services Department by:

- E-Mailing inquiries to: hramodeler@valleyair.org
- Calling (559) 230-5900

Recommended Measure: Development projects resulting in TAC emissions should be located an adequate distance from residential areas and other sensitive receptors in accordance to CARB's Air Quality and Land Use Handbook: A Community Health Perspective located at https://ww3.arb.ca.gov/ch/handbook.pdf.

3) Ambient Air Quality Analysis

An Ambient Air Quality Analysis (AAQA) uses air dispersion modeling to determine if emissions increases from a project will cause or contribute to a violation of State or National Ambient Air Quality Standards. The District recommends an AAQA be performed for the Project if emissions exceed 100 pounds per day of any pollutant.

An acceptable analysis would include emissions from both project-specific permitted and non-permitted equipment and activities. The District recommends consultation with District staff to determine the appropriate model and input data to use in the analysis.

Specific information for assessing significance, including screening tools and modeling guidance, is available online at the District's website: www.valleyair.org/ceqa.

4) Voluntary Emission Reduction Agreement

Criteria pollutant emissions may result in emissions exceeding the District's significance thresholds, potentially resulting in a significant impact on air quality. When a project is expected to have a significant impact, the District recommends the Environmental Impact Report (EIR) also include a discussion on the feasibility of implementing a Voluntary Emission Reduction Agreement (VERA) for this Project.

A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of emissions increases through a process that develops, funds, and implements emission reduction projects, with the District serving a role of administrator of the emissions reduction projects and verifier of the successful mitigation effort. To implement a VERA, the project proponent and the District enter into a contractual agreement in which the project proponent agrees to mitigate project specific emissions by providing funds for the District's incentives programs. The funds are disbursed by the District in the form of grants for projects that achieve emission reductions. Thus, project-related impacts on air quality can be mitigated. Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of old farm tractors.

In implementing a VERA, the District verifies the actual emission reductions that have been achieved as a result of completed grant contracts, monitors the emission reduction projects, and ensures the enforceability of achieved reductions. After the project is mitigated, the District certifies to the Lead Agency that the mitigation is completed, providing the Lead Agency with an enforceable mitigation measure demonstrating that project-related emissions have been mitigated. To assist the Lead Agency and project proponent in ensuring that the environmental document is compliant with CEQA, the District recommends the environmental document includes an assessment of the feasibility of implementing a VERA.

5) Clean Lawn and Garden Equipment in the Community

Since the Project consists of residential development, gas-powered residential lawn and garden equipment have the potential to result in an increase of NOx and PM2.5 emissions. Utilizing electric lawn care equipment can provide residents with immediate economic, environmental, and health benefits. The District recommends the Project proponent consider the District's Clean Green Yard Machines (CGYM) program which provides incentive funding for replacement of existing gas powered lawn and garden equipment. More information on the District CGYM program and funding can be found at: http://www.valleyair.org/grants/cgym.htm and http://valleyair.org/grants/cgym-commercial.htm.

6) On-Site Solar Deployment

It is the policy of the State of California that renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers by December 31, 2045. While various emission control techniques and programs exist to reduce air quality emissions from mobile and stationary sources, the production of solar energy is contributing to improving air quality and public health. The District suggests that the City consider incorporating solar power systems as an emission reduction strategy for the Project.

7) District Rules and Regulations

The District issues permits for many types of air pollution sources, and regulates some activities that do not require permits. A project subject to District rules and regulations would reduce its impacts on air quality through compliance with the District's regulatory framework. In general, a regulation is a collection of individual rules, each of which deals with a specific topic. As an example, Regulation II

(Permits) includes District Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 2520 (Federally Mandated Operating Permits), and several other rules pertaining to District permitting requirements and processes.

The list of rules below is neither exhaustive nor exclusive. Current District rules can be found online at: www.valleyair.org/rules/1ruleslist.htm. To identify other District rules or regulations that apply to future projects, or to obtain information about District permit requirements, the project proponents are strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (559) 230-5888.

7a) District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources

Stationary Source emissions include any building, structure, facility, or installation which emits or may emit any affected pollutant directly or as a fugitive emission. District Rule 2010 (Permits Required) requires operators of emission sources to obtain an Authority to Construct (ATC) and Permit to Operate (PTO) from the District. District Rule 2201 (New and Modified Stationary Source Review) requires that new and modified stationary sources of emissions mitigate their emissions using Best Available Control Technology (BACT).

This Project may be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and may require District permits. Prior to construction, the Project proponent should submit to the District an application for an ATC. For further information or assistance, the project proponent may contact the District's SBA Office at (559) 230-5888.

7b) District Rule 9510 - Indirect Source Review (ISR)

The Project is subject to District Rule 9510 because it will receives a project-level discretionary approval from a public agency and will equal or exceed 50 dwelling units of residential.

The purpose of District Rule 9510 is to reduce the growth in both NOx and PM emissions associated with development and transportation projects from mobile and area sources; specifically, the emissions associated with the construction and subsequent operation of development projects. The ISR Rule requires developers to mitigate their NOx and PM emissions by incorporating clean air design elements into their projects. Should the proposed development project clean air design elements be insufficient to meet the required emission reductions, developers must pay a fee that ultimately funds incentive projects to achieve off-site emissions reductions.

Per Section 5.0 of the ISR Rule, an Air Impact Assessment (AIA) application is required to be submitted no later than applying for project-level approval from a public agency. As of the date of this letter, the District has not received an AIA application for this Project. Please inform the project proponent to immediately submit an AIA application to the District to comply with District Rule 9510. One AIA application should be submitted for the entire Project. It is preferable for the applicant to submit an AIA application as early as possible in the City's approval process so that proper mitigation and clean air design under ISR can be incorporated into the City's analysis.

Information about how to comply with District Rule 9510 can be found online at: http://www.valleyair.org/ISR/ISRHome.htm.

The AIA application form can be found online at: http://www.valleyair.org/ISR/ISRFormsAndApplications.htm.

District staff is available to provide assistance and can be reached by phone at (559) 230-5900 or by email at ISR@valleyair.org.

7c) District Rule 4601 (Architectural Coatings)

The Project may be subject to District Rule 4601 since it may utilize architectural coatings. Architectural coatings are paints, varnishes, sealers, or stains that are applied to structures, portable buildings, pavements or curbs. The purpose of this rule is to limit VOC emissions from architectural coatings. In addition, this rule specifies architectural coatings storage, cleanup and labeling requirements. Additional information on how to comply with District Rule 4601 requirements can be found online at: http://www.valleyair.org/rules/currntrules/r4601.pdf

7d) District Regulation VIII (Fugitive PM10 Prohibitions)

The project proponent may be required to submit a Construction Notification Form or submit and receive approval of a Dust Control Plan prior to commencing any earthmoving activities as described in Regulation VIII, specifically Rule 8021 – *Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities.*

Should the project result in at least 1-acre in size, the project proponent shall provide written notification to the District at least 48 hours prior to the project proponents intent to commence any earthmoving activities pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). Also, should the project result in the disturbance of 5-acres or more, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials, the project proponent shall submit to the

District a Dust Control Plan pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). For additional information regarding the written notification or Dust Control Plan requirements, please contact District Compliance staff at (559) 230-5950.

The application for both the Construction Notification and Dust Control Plan can be found online at:
https://www.valleyair.org/busind/comply/PM10/forms/DCP-Form.docx

Information about District Regulation VIII can be found online at:
http://www.valleyair.org/busind/comply/pm10/compliance_pm10.htm

7e) District Rule 4901 - Wood Burning Fireplaces and Heaters

The purpose of this rule is to limit emissions of carbon monoxide and particulate matter from wood burning fireplaces, wood burning heaters, and outdoor wood burning devices. This rule establishes limitations on the installation of new wood burning fireplaces and wood burning heaters. Specifically, at elevations below 3,000 feet in areas with natural gas service, no person shall install a wood burning fireplace, low mass fireplace, masonry heater, or wood burning heater.

Information about District Rule 4901 can be found online at:
http://valleyair.org/rule4901/

7f) Other District Rules and Regulations

The Project may also be subject to the following District rules: Rule 4102 (Nuisance) and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).

8) District Comment Letter

The District recommends that a copy of the District's comments be provided to the Project proponent.

If you have any questions or require further information, please contact Eric McLaughlin by e-mail at eric.mclaughlin@valleyair.org or by phone at (559) 230-5808.

Sincerely,

Brian Clements
Director of Permit Services

For: Mark Montelongo
Program Manager

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

September 6, 2022

Chris Lang, Planner III
City of Fresno, Planning and Development Department
2600 Fresno Street, Room 3043
Fresno, California 93721
Chris.Lang@fresno.gov
(559) 621-8023

Subject: Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for a Vesting Tentative Tract Map (VTTM) No. 6360 Project (Project)
SCH No.: 2022080152

Dear Mr. Lang:

The California Department of Fish and Wildlife (CDFW) received a NOP from the City of Fresno for the above-referenced Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statue for all the people of the State (Fish and G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

CDFW is also submitting comments as a **Responsible Agency** under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

Nesting Birds: CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include, sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

PROJECT DESCRIPTION SUMMARY

Proponent: Vesting Tentative Tract Map No. 6360

Objective: The proposed Vesting Tentative Tract Map (VTTM) No. 6360 would construct 328 single-family residences, private streets, communal park space, a 14,168 square-foot pool and recreation area, and supporting landscaping, pedestrian, parking, and public utility uses. Associated entitlements to facilitate development of the proposed Project include a Planned Development Permit to allow for 328 single-family residences, a General Plan Amendment (Low Density Residential to Medium Density Residential), and a Rezone from RS-3 to RS-5 (Single Family Residential, Low Density to Single Family Residential, Medium Density). To facilitate the future development of the subject property, the proposed Project will also require dedications and/or acquisitions for public street rights-of-way and utility easements, as well as the construction of public facilities and infrastructure in accordance with the standards, specifications, and policies of the City of Fresno.

Location: The proposed project is located on approximately 31.29 acres on the northeast corner of the intersection between North Armstrong Avenue and East McKinley Avenue, in Fresno, California. Site Latitude: 36.766109°, Site Longitude: –119.671989°. Mount Diablo Base & Meridian, SE quarter of Section 27, Township 13 South, Range 21 East (Assessor's Parcel Numbers [APNs]: 574-140-04 and 574-140-05).

Timeframe: None specified.

COMMENTS AND RECOMMENDATIONS

The NOP indicates that the Environmental Impact Report (EIR) for the Project will consider potential environmental effects of the proposed Project to determine the level of significance of the environmental effect and will analyze these potential effects to the detail necessary to make a determination on the level of significance. The EIR will also identify and evaluate alternatives to the proposed project. When an EIR is prepared, the specifics of mitigation measures may be deferred, provided the lead agency commits to mitigation and establishes performance standards for implementation.

Special-status species have been documented in the Project area per the California Natural Diversity Database (CNDDB), these include, but are not limited to, the State species of special concern burrowing owl (*Athene cunicularia*).

Burrowing Owl (BUOW)

BUOW have been observed approximately 1.03-miles east of the Project site along with other observations in the vicinity of the Project site (CNDDB 2022). BUOW inhabit open grassland or adjacent canal banks, right-of-ways, vacant lots, etc., containing small mammal burrows, a requisite habitat feature used by BUOW for nesting and cover. Review of Google aerial imagery and Google street view (2021) indicates that there is a canal adjacent to the southern side of the Project site. Disturbed grassland is present to the west/northwest and north of the proposed Project.

The large, planned development could potentially have significant direct impacts associated with construction activities which may include burrow collapse, inadvertent entrapment, nest abandonment, reduced reproductive success, reduction in health and vigor of eggs and/or young, and direct mortality of individuals.

BUOW rely on burrow habitat year-round for their survival and reproduction. Habitat loss and degradation are considered the greatest threats to BUOW in California's Central Valley (Gervais et al. 2008). The Project site contains agricultural crops and is bordered by agriculture to the west. A disturbed grassland area is present directly across the canal to the south with more agriculture south of there. Therefore, subsequent ground-disturbing activities associated with the Project have the potential to significantly impact local BUOW populations. In addition, and as described in CDFW's "Staff Report on Burrowing Owl Mitigation" (CDFG 2012), excluding and/or evicting BUOW from their burrows is considered a potentially significant impact under CEQA.

CDFW recommends that a qualified biologist conduct a habitat assessment as part of the biological technical studies conducted in support of the CEQA document, to determine if the Project area or its vicinity contains suitable habitat for BUOW, along with assessing presence/absence of BUOW by having a qualified biologist conduct surveys following the California Burrowing Owl Consortium's "Burrowing Owl Survey

Protocol and Mitigation Guidelines" (CBOC 1993) and CDFW's Staff Report on Burrowing Owl Mitigation" (CDFG 2012). Specifically, the California Burrowing Owl Consortium (CBOC) and CDFW's Staff Report suggest three or more surveillance surveys conducted during daylight with each visit occurring at least three weeks apart during the peak breeding season (April 15 to July 15), when BUOW are most detectable.

CDFW recommends no-disturbance buffers, as outlined in the "Staff Report on Burrowing Owl Mitigation" (CDFG 2012), be implemented prior to and during any ground-disturbing activities. Specifically, CDFW's Staff Report recommends that impacts to occupied burrows be avoided in accordance with the following table unless a qualified biologist approved by CDFW verifies through non-invasive methods that either: 1) the birds have not begun egg laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Location	Time of Year	Level of Disturbance		
		Low	Med	High
Nesting sites	April 1-Aug 15	200 m*	500 m	500 m
Nesting sites	Aug 16-Oct 15	200 m	200 m	500 m
Nesting sites	Oct 16-Mar 31	50 m	100 m	500 m

* meters (m)

If BUOW are found within these recommended buffers and avoidance is not possible, it is important to note that according to the Staff Report (CDFG 2012), exclusion is not a take avoidance, minimization, or mitigation method and is considered a potentially significant impact under CEQA. However, if necessary, CDFW recommends that burrow exclusion be conducted by qualified biologists and only during the non-breeding season, before breeding behavior is exhibited and after the burrow is confirmed empty through non-invasive methods, such as surveillance. CDFW recommends replacement of occupied burrows with artificial burrows at a ratio of 1 burrow collapsed to 1 artificial burrow constructed (1:1) as mitigation for the potentially significant impact of evicting BUOW. BUOW may attempt to colonize or re-colonize an area that will be impacted; thus, CDFW recommends ongoing surveillance, at a rate that is sufficient to detect BUOW if they return.

II. Editorial Comments and/or Suggestions

Nesting Birds: The Project vicinity is adjacent to habitat that provides nesting habitat for birds. CDFW encourages that Project implementation occur during the bird non-nesting season. However, if ground-disturbing or vegetation-disturbing activities must occur during the breeding season (February through mid-September), the Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes sections referenced above.

To evaluate Project-related impacts on nesting birds, CDFW recommends that a qualified wildlife biologist conduct a habitat assessment for nesting birds as part of the biological technical studies conducted in support of the CEQA document with the findings reported therein. CDFW also recommends that a qualified wildlife biologist conduct pre-activity surveys for active nests no more than 10 days prior to the start of ground or vegetation disturbance to maximize the probability that nests that could potentially be impacted are detected. CDFW also recommends that surveys cover a sufficient area around the Project site to identify nests and determine their status. A sufficient area means any area potentially affected by the Project. Prior to initiation of Project activities, CDFW recommends that a qualified biologist conduct a survey to establish a behavioral baseline of all identified nests. Once Project activities begins, CDFW recommends having a qualified biologist continuously monitor nests to detect behavioral changes resulting from the Project. If behavioral changes occur, CDFW recommends halting the work causing that change and consulting with CDFW for additional avoidance and minimization measures.

If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or on-site parental care for survival. Variance from these no-disturbance buffers is possible when there is compelling biological or ecological reason to do so, such as when the Project site would be concealed from a nest site by topography. CDFW recommends that a qualified wildlife biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to CNDDB. The CNDDB field survey form can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data. The completed form can be mailed electronically to CNDDB at the following email address: CNDDB@wildlife.ca.gov. The types of information reported to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

FILING FEES

If it is determined that the Project has the potential to impact biological resources, an assessment of filing fees will be necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089).

CDFW appreciates the opportunity to comment on the Project to assist Fresno County Department of Public Works and Planning in identifying and mitigating the Project's impacts on biological resources.

More information on survey and monitoring protocols for sensitive species can be found at CDFW's website (https://www.wildlife.ca.gov/Conservation/Survey-Protocols). If you have any questions, please contact Kelley Nelson, Environmental Scientist, at the address provided on this letterhead, or by electronic mail at Kelley.Nelson@wildlife.ca.gov.

Sincerely,

DocuSigned by:
FA83F09FE08945A...

Julie A. Vance
Regional Manager

ec: Patricia Cole (patricia_cole@fws.gov)
United States Fish and Wildlife Service

LITERATURE CITED

CDFW. 2022. Biogeographic Information and Observation System (BIOS). https://www.wildlife.ca.gov/Data/BIOS. Accessed August 15, 2022.

BUOW Literature Citations

California Burrowing Owl Consortium. 1993. Burrowing owl survey protocol and mitigation guidelines. April 1993.

CDFG. 2012. Staff Report on Burrowing Owl Mitigation. California Department of Fish and Game.

Gervais, J.A., D.D. Rosenberg, and L.A. Comrack. 2008. Burrowing Owl (Athene cunicularia) in Shuford, W.D. and T. Gardali, editors.

Plan Review Team
Land Management

PGEPlanReview@pge.com

September 6, 2022

Chris Lang
City of Fresno
2600 Fresno St, Rm 3043
Fresno, CA 93721

Ref: Gas and Electric Transmission and Distribution

Dear Chris Lang,

Thank you for submitting the Vesting Tentative Tract Map No. 6360 plans for our review. PG&E will review the submitted plans in relationship to any existing Gas and Electric facilities within the project area. If the proposed project is adjacent/or within PG&E owned property and/or easements, we will be working with you to ensure compatible uses and activities near our facilities.

Attached you will find information and requirements as it relates to Gas facilities (Attachment 1) and Electric facilities (Attachment 2). Please review these in detail, as it is critical to ensure your safety and to protect PG&E's facilities and its existing rights.

Below is additional information for your review:

1. This plan review process does not replace the application process for PG&E gas or electric service your project may require. For these requests, please continue to work with PG&E Service Planning: https://www.pge.com/en_US/business/services/building-and-renovation/overview/overview.page.

2. If the project being submitted is part of a larger project, please include the entire scope of your project, and not just a portion of it. PG&E's facilities are to be incorporated within any CEQA document. PG&E needs to verify that the CEQA document will identify any required future PG&E services.

3. An engineering deposit may be required to review plans for a project depending on the size, scope, and location of the project and as it relates to any rearrangement or new installation of PG&E facilities.

Any proposed uses within the PG&E fee strip and/or easement, may include a California Public Utility Commission (CPUC) Section 851 filing. This requires the CPUC to render approval for a conveyance of rights for specific uses on PG&E's fee strip or easement. PG&E will advise if the necessity to incorporate a CPUC Section 851filing is required.

This letter does not constitute PG&E's consent to use any portion of its easement for any purpose not previously conveyed. PG&E will provide a project specific response as required.

Sincerely,

Plan Review Team
Land Management

Attachment 1 – Gas Facilities

There could be gas transmission pipelines in this area which would be considered critical facilities for PG&E and a high priority subsurface installation under California law. Care must be taken to ensure safety and accessibility. So, please ensure that if PG&E approves work near gas transmission pipelines it is done in adherence with the below stipulations. Additionally, the following link provides additional information regarding legal requirements under California excavation laws: https://www.usanorth811.org/images/pdfs/CA-LAW-2018.pdf

1. Standby Inspection: A PG&E Gas Transmission Standby Inspector must be present during any demolition or construction activity that comes within 10 feet of the gas pipeline. This includes all grading, trenching, substructure depth verifications (potholes), asphalt or concrete demolition/removal, removal of trees, signs, light poles, etc. This inspection can be coordinated through the Underground Service Alert (USA) service at 811. A minimum notice of 48 hours is required. Ensure the USA markings and notifications are maintained throughout the duration of your work.

2. Access: At any time, PG&E may need to access, excavate, and perform work on the gas pipeline. Any construction equipment, materials, or spoils may need to be removed upon notice. Any temporary construction fencing installed within PG&E's easement would also need to be capable of being removed at any time upon notice. Any plans to cut temporary slopes exceeding a 1:4 grade within 10 feet of a gas transmission pipeline need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

3. Wheel Loads: To prevent damage to the buried gas pipeline, there are weight limits that must be enforced whenever any equipment gets within 10 feet of traversing the pipe.

Ensure a list of the axle weights of all equipment being used is available for PG&E's Standby Inspector. To confirm the depth of cover, the pipeline may need to be potholed by hand in a few areas.

Due to the complex variability of tracked equipment, vibratory compaction equipment, and cranes, PG&E must evaluate those items on a case-by-case basis prior to use over the gas pipeline (provide a list of any proposed equipment of this type noting model numbers and specific attachments).

No equipment may be set up over the gas pipeline while operating. Ensure crane outriggers are at least 10 feet from the centerline of the gas pipeline. Transport trucks must not be parked over the gas pipeline while being loaded or unloaded.

4. Grading: PG&E requires a minimum of 36 inches of cover over gas pipelines (or existing grade if less) and a maximum of 7 feet of cover at all locations. The graded surface cannot exceed a cross slope of 1:4.

5. Excavating: Any digging within 2 feet of a gas pipeline must be dug by hand. Note that while the minimum clearance is only 12 inches, any excavation work within 24 inches of the edge of a pipeline must be done with hand tools. So to avoid having to dig a trench entirely with hand tools, the edge of the trench must be over 24 inches away. (Doing the math for a 24 inch

wide trench being dug along a 36 inch pipeline, the centerline of the trench would need to be at least 54 inches [24/2 + 24 + 36/2 = 54] away, or be entirely dug by hand.)

Water jetting to assist vacuum excavating must be limited to 1000 psig and directed at a 40° angle to the pipe. All pile driving must be kept a minimum of 3 feet away.

Any plans to expose and support a PG&E gas transmission pipeline across an open excavation need to be approved by PG&E Pipeline Services in writing PRIOR to performing the work.

6. Boring/Trenchless Installations: PG&E Pipeline Services must review and approve all plans to bore across or parallel to (within 10 feet) a gas transmission pipeline. There are stringent criteria to pothole the gas transmission facility at regular intervals for all parallel bore installations.

For bore paths that cross gas transmission pipelines perpendicularly, the pipeline must be potholed a minimum of 2 feet in the horizontal direction of the bore path and a minimum of 12 inches in the vertical direction from the bottom of the pipe with minimum clearances measured from the edge of the pipe in both directions. Standby personnel must watch the locator trace (and every ream pass) the path of the bore as it approaches the pipeline and visually monitor the pothole (with the exposed transmission pipe) as the bore traverses the pipeline to ensure adequate clearance with the pipeline. The pothole width must account for the inaccuracy of the locating equipment.

7. Substructures: All utility crossings of a gas pipeline should be made as close to perpendicular as feasible (90° +/- 15°). All utility lines crossing the gas pipeline must have a minimum of 12 inches of separation from the gas pipeline. Parallel utilities, pole bases, water line 'kicker blocks', storm drain inlets, water meters, valves, back pressure devices or other utility substructures are not allowed in the PG&E gas pipeline easement.

If previously retired PG&E facilities are in conflict with proposed substructures, PG&E must verify they are safe prior to removal. This includes verification testing of the contents of the facilities, as well as environmental testing of the coating and internal surfaces. Timelines for PG&E completion of this verification will vary depending on the type and location of facilities in conflict.

8. Structures: No structures are to be built within the PG&E gas pipeline easement. This includes buildings, retaining walls, fences, decks, patios, carports, septic tanks, storage sheds, tanks, loading ramps, or any structure that could limit PG&E's ability to access its facilities.

9. Fencing: Permanent fencing is not allowed within PG&E easements except for perpendicular crossings which must include a 16 foot wide gate for vehicular access. Gates will be secured with PG&E corporation locks.

10. Landscaping: Landscaping must be designed to allow PG&E to access the pipeline for maintenance and not interfere with pipeline coatings or other cathodic protection systems. No trees, shrubs, brush, vines, and other vegetation may be planted within the easement area. Only those plants, ground covers, grasses, flowers, and low-growing plants that grow unsupported to a maximum of four feet (4') in height at maturity may be planted within the easement area.

11. Cathodic Protection: PG&E pipelines are protected from corrosion with an “Impressed Current” cathodic protection system. Any proposed facilities, such as metal conduit, pipes, service lines, ground rods, anodes, wires, etc. that might affect the pipeline cathodic protection system must be reviewed and approved by PG&E Corrosion Engineering.

12. Pipeline Marker Signs: PG&E needs to maintain pipeline marker signs for gas transmission pipelines in order to ensure public awareness of the presence of the pipelines. With prior written approval from PG&E Pipeline Services, an existing PG&E pipeline marker sign that is in direct conflict with proposed developments may be temporarily relocated to accommodate construction work. The pipeline marker must be moved back once construction is complete.

13. PG&E is also the provider of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E’s facilities must be reviewed and approved by PG&E to ensure that no impact occurs which may endanger the safe operation of its facilities.

Attachment 2 – Electric Facilities

It is PG&E's policy to permit certain uses on a case by case basis within its electric transmission fee strip(s) and/or easement(s) provided such uses and manner in which they are exercised, will not interfere with PG&E's rights or endanger its facilities. Some examples/restrictions are as follows:

1. Buildings and Other Structures: No buildings or other structures including the foot print and eave of any buildings, swimming pools, wells or similar structures will be permitted within fee strip(s) and/or easement(s) areas. PG&E's transmission easement shall be designated on subdivision/parcel maps as "**RESTRICTED USE AREA – NO BUILDING.**"

2. Grading: Cuts, trenches or excavations may not be made within 25 feet of our towers. Developers must submit grading plans and site development plans (including geotechnical reports if applicable), signed and dated, for PG&E's review. PG&E engineers must review grade changes in the vicinity of our towers. No fills will be allowed which would impair ground-to-conductor clearances. Towers shall not be left on mounds without adequate road access to base of tower or structure.

3. Fences: Walls, fences, and other structures must be installed at locations that do not affect the safe operation of PG&'s facilities. Heavy equipment access to our facilities must be maintained at all times. Metal fences are to be grounded to PG&E specifications. No wall, fence or other like structure is to be installed within 10 feet of tower footings and unrestricted access must be maintained from a tower structure to the nearest street. Walls, fences and other structures proposed along or within the fee strip(s) and/or easement(s) will require PG&E review; submit plans to PG&E Centralized Review Team for review and comment.

4. Landscaping: Vegetation may be allowed; subject to review of plans. On overhead electric transmission fee strip(s) and/or easement(s), trees and shrubs are limited to those varieties that do not exceed 10 feet in height at maturity. PG&E must have access to its facilities at all times, including access by heavy equipment. No planting is to occur within the footprint of the tower legs. Greenbelts are encouraged.

5. Reservoirs, Sumps, Drainage Basins, and Ponds: Prohibited within PG&E's fee strip(s) and/or easement(s) for electric transmission lines.

6. Automobile Parking: Short term parking of movable passenger vehicles and light trucks (pickups, vans, etc.) is allowed. The lighting within these parking areas will need to be reviewed by PG&E; approval will be on a case by case basis. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications. Blocked-up vehicles are not allowed. Carports, canopies, or awnings are not allowed.

7. Storage of Flammable, Explosive or Corrosive Materials: There shall be no storage of fuel or combustibles and no fueling of vehicles within PG&E's easement. No trash bins or incinerators are allowed.

8. Streets and Roads: Access to facilities must be maintained at all times. Street lights may be allowed in the fee strip(s) and/or easement(s) but in all cases must be reviewed by PG&E for proper clearance. Roads and utilities should cross the transmission easement as nearly at right angles as possible. Road intersections will not be allowed within the transmission easement.

9. Pipelines: Pipelines may be allowed provided crossings are held to a minimum and to be as nearly perpendicular as possible. Pipelines within 25 feet of PG&E structures require review by PG&E. Sprinklers systems may be allowed; subject to review. Leach fields and septic tanks are not allowed. Construction plans must be submitted to PG&E for review and approval prior to the commencement of any construction.

10. Signs: Signs are not allowed except in rare cases subject to individual review by PG&E.

11. Recreation Areas: Playgrounds, parks, tennis courts, basketball courts, barbecue and light trucks (pickups, vans, etc.) may be allowed; subject to review of plans. Heavy equipment access to PG&E facilities is to be maintained at all times. Parking is to clear PG&E structures by at least 10 feet. Protection of PG&E facilities from vehicular traffic is to be provided at developer's expense AND to PG&E specifications.

12. Construction Activity: Since construction activity will take place near PG&E's overhead electric lines, please be advised it is the contractor's responsibility to be aware of, and observe the minimum clearances for both workers and equipment operating near high voltage electric lines set out in the High-Voltage Electrical Safety Orders of the California Division of Industrial Safety (https://www.dir.ca.gov/Title8/sb5g2.html), as well as any other safety regulations. Contractors shall comply with California Public Utilities Commission General Order 95 (http://www.cpuc.ca.gov/gos/GO95/go_95_startup_page.html) and all other safety rules. No construction may occur within 25 feet of PG&E's towers. All excavation activities may only commence after 811 protocols has been followed.

Contractor shall ensure the protection of PG&E's towers and poles from vehicular damage by (installing protective barriers) Plans for protection barriers must be approved by PG&E prior to construction.

13. PG&E is also the owner of distribution facilities throughout many of the areas within the state of California. Therefore, any plans that impact PG&E's facilities must be reviewed and approved by PG&E to ensure that no impact occurs that may endanger the safe and reliable operation of its facilities.

APPENDIX B

INITIAL STUDY

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APPENDIX G/INITIAL STUDY FOR A NEGATIVE DECLARATION

Environmental Checklist Form for:
EA No. T-6360/P22-00387/P22-00388

1.	**Project title:** Vesting Tentative Tract Map No. 6360 Environmental Assessment Application No. T-6360/P22-00387/P22-00388
2.	**Lead agency name and address:** City of Fresno Planning and Development Department 2600 Fresno Street Fresno, CA 93721
3.	**Contact person and phone number:** Chris Lang, Planner III City of Fresno Planning and Development Dept. (559) 621-8023
4.	**Project location:** Northeast corner of North Armstrong Avenue and East McKinley Avenue (APN: 574-140-04 and 574-140-05)
5.	**Project sponsor's name and address:** Wilson Premier Homes, Inc. 7550 North Palm Avenue, Suite 102 Fresno, CA, 93711
6.	**General & Community plan land use designation:** Low Density Residential
7.	**Zoning:** Residential Single-Family District (RS-3)
8.	**Description of project:** The following describes the proposed Vesting Tentative Tract Map No. 6360 (proposed project). Existing Conditions The project site is approximately 31.29 acres in size, is currently being used to grow agricultural crops, and is located in the City of Fresno, on the northeast corner of the intersection between North Armstrong Avenue and the future extension of East McKinley Avenue. Figure 1 shows the site's regional and local context. The project site

is bounded by North Armstrong Avenue to the west, by Mill No. 36 Canal and TM 6201 to the south, by rural residential uses to the east, and by residential development to the north. Figure 2 depicts an aerial photograph of the project site and surrounding land uses. The project site is undeveloped and does not have any existing structures. The project site is currently being used to grow agricultural crops.

Project Characteristics

The proposed project would consist of the development of approximately 326 residential lots ranging in sizes between approximately 1,979 and 8,474 square feet, with the average lot size being approx. 2,365 square feet. The proposed lots would be developed into single-family residences over time. Thirty-nine outlot spaces would also be included in the project. Although the site plan does not provide details on what would be constructed in these spaces, potential uses for the outlots would include private landscaping, private pool, private road, private park, private parking, public pedestrian, and public utility uses. Figure 3 shows the proposed site plan for the project. The proposed project would include approximately 53,016 square feet of open space, including an approximately 11,777 square-foot park, a 15,207 square-foot pool and recreation area, and a 26,032 square-foot area across East McKinley Avenue parallel to the project site that would be deeded to the City of Fresno for future trail and open space uses. The project site would introduce approximately 7.09 acres of impervious surfaces to the site. The proposed project would remove five existing power poles along North Armstrong Avenue, two existing power poles located along the project site's northern boundary, and two existing power poles located on the northeast corner of the project site.

Access, Circulation and Parking

The proposed project would include approximately 157,367 square feet of parking space, which includes private parking stalls and parking garages attached to proposed residential units. Two parking spaces would be provided for each proposed residential unit, approximately 652 parking spaces in total. Vehicle access to the project site would be provided by two gated 55-foot-wide ingress and egress driveways located on North Armstrong Avenue and on East McKinley Avenue. The proposed project would construct an approximately 861-foot-long eastern extension of McKinley Avenue. This extension of McKinley Avenue would be two-lanes and approximately 64 feet wide within an approximately 88-foot right-of-way, with curbs on both sides of the proposed extension, as well as a 6-foot pedestrian concrete sidewalk along the project frontage with McKinley Avenue. A 25-foot bike and pedestrian easement would also be included across the proposed roadway extension, parallel with the project site. The proposed project would also include the expansion of the North Armstrong Avenue right-of-way and the construction of new curbs on both sides of the portion of North Armstrong Avenue facing the project. The project would also construct a 6-foot pedestrian concrete sidewalk on the project frontage with North Armstrong Avenue. Vehicle circulation within the project site would be provided by a network of two-way, 41.2-foot-wide roadways. Pedestrian circulation would occur through internal pedestrian sidewalks with Americans with Disabilities Act (ADA) compliant access ramps.

Landscaping
The proposed project would include approximately 1.04 acres of landscaping along the perimeter and within the project site.

Lighting
The proposed project would introduce approximately 9 new exterior lights to the project site along the McKinley and Armstrong Avenues' right-of-way (ROW) on the project perimeter. Additionally, the project would include approximately 49 interior lights associated with private street lighting and private lighting systems.

Utilities and Infrastructure

- **Water and Wastewater.** Water supply and wastewater services for the proposed project would be provided by the City of Fresno through the Department of Public Utilities (DPU) Water and Wastewater Management Divisions. The proposed project would connect to an existing water service pipeline located along North Armstrong Avenue, and proposed wastewater service pipelines located along North Armstrong Avenue and the future extension of East McKinley Avenue.

- **Stormwater.** The Fresno Metropolitan Flood Control District (FMFCD) would provide flood control and urban storm water services to the project site. Stormwater from the project site would be directed through internal drainage infrastructure (e.g., manholes, drainage basins, and drainage lines) towards proposed drainage infrastructure located along North Armstrong Avenue and along the future extension of East McKinley Avenue. Stormwater from the project site would then be redirected towards ponding Basin BS, located approximately 0.26-mile southwest of the project site across Mill No. 36 Canal.

- **Solid Waste.** Solid waste collection for the project site would be provided by the City of Fresno through the Department of Public Utilities (DPU) Solid Waste and Recycling Division.

- **Electricity and Telecommunication.** Electricity for the proposed project would be supplied by the Pacific Gas and Electric Company (PG&E) through connections to existing service lines. The proposed project would be all-electric; therefore, the proposed project would not include any new natural gas services. Telecommunication services to the project site would be provided by Comcast and AT&T.

Energy Reduction Strategies

The proposed project would also incorporate the following energy reduction strategies and sustainability features:

- Third party independent inspections would be conducted to assure energy efficiency compliance.

- Heating, ventilation, and air conditioning (HVAC) equipment for the project would be rated 14 seasonal energy efficiency ratio (SEER), 12 energy efficiency ratio (EER) and 92 percent ultra efficient.

- Solar panels would be provided ranging from 3.71 kilowatts (kW) to 3.98 kW.

- Windows would be argon-filled vinyl low-e, double strength glass to reduce energy and increase ultraviolet (UV) blockage.

Additionally, the project would be designed to include the following water and wastewater conservation measures:

- Install all lead-free plumbing fixtures including water-saving shower heads rated 1.75 gallons per minute (gpm) and sink faucets rated to 1.5 gpm.

- Install water conservation toilets with a flush rate of 1.228 gpm

- Install water-wise landscaping and drought tolerant native California and/or Mediterranean plant species.

- Install Intellisense Environmental sensitive landscape controllers.

Grading and Construction

Construction of the proposed project is expected to occur over a period of 36 months starting on April 2024. Site preparation would include removal of rocks, debris, and vegetation from the project site. The proposed project would have 5,500 cubic yards of cut and 80,000 cubic yards of fill, with a net import of 74,500 cubic yards of soil. Dry utility construction would follow, including construction of electrical utilities consisting of conduit, services, transformers, vaults, boxes and streetlights. Street construction would follow, including subgrade preparation, base rock, concrete curbs gutters, valley gutters, ramps and sidewalks, paving and perimeter landscaping and irrigation. Block walls, fences and amenities, would be installed after grading operations and be completed after paving operations. Construction of the proposed project would comply with City standards, including the City's current building code, landscape standards, and lighting standards. The project would be constructed using a minimum of Tier 3 construction equipment. In addition, the project site would be graded similar to other developments throughout the City. The construction schedule for each project development phase is outlined below.

Project Phase	Development Phase	Estimated Construction Period
I	*Site Development*	April 2024 – September 2024
	Home Building	June 2024 – August 2025
II	*Site Development*	September 2024 – April 2025
	Home Building	April 2025 - April - 2027

Building Program

The proposed project would be constructed in two phases. Phase 1 of the proposed project would include the development of approximately 110 single-family residential units with an average size of approximately 1,514 square feet per unit. Phase 1 would be located on the northeast corner of North Armstrong Avenue and East McKinley Avenue and would be accessed through the two ingress and egress streets located on North Armstrong Avenue and East McKinley Avenue. Phase 1 would include the construction of an approximately 15,207-square-foot pool and recreation area, and construction of North Armstrong and East McKinley Avenues. The proposed project would remove 5 existing power poles along North Armstrong Avenue, and two existing power poles located along the project site's northern boundary under this phase.

Phase 2 of the proposed project would include the development of approximately 216 single-family residential units with an average size of approximately 1,514 square feet per unit. Phase 2 would be located east of Phase 1 and North of East McKinley Avenue and to the west, by Mill No. 36 Canal. Phase 2 would include the construction of the onsite approximately 11,777 square foot park and removal of the two existing power poles located at the northeast corner of the project site.

9. **Surrounding land uses and setting:**

	Planned Land Use	Existing Zoning	Existing Land Use
North	Residential - Low Density/ Medium Low Density	RS-4, Residential Single-Family, Medium Low Density	Residential - Medium Low Density
East	Residential – Medium Low Density/ Open Space/ Elementary School	RR NB, Rural Residential, Neighborhood Beautification (Fresno County)	Rural Residential
South	Residential - Low Density/ Medium Density	RS-5, Residential Single-Family, Medium Density	Agriculture/Rural Residential
West	Residential – Medium Density/ Elementary School	RS-5, Residential Single-Family, Medium Density	Agriculture/Rural Residential

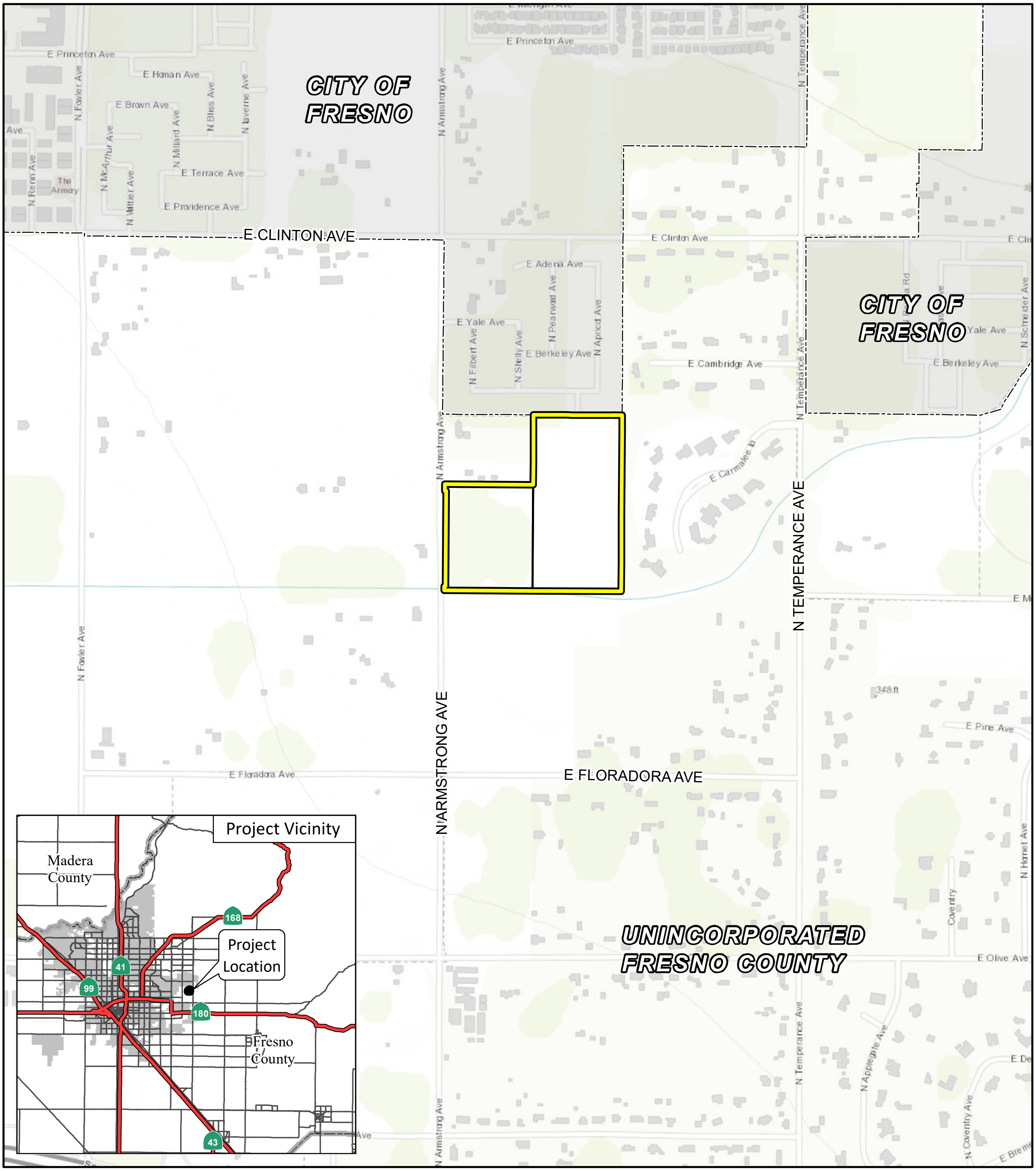
10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):**

- Planning & Development Department, General Plan Amendment/Rezone;
- Department of Public Works, Grading Permit;
- Department of Public Utilities, water connection(s)/sanitary sewer connection(s);
- City of Fresno Fire Department;
- Fresno Metropolitan Flood Control District;
- San Joaquin Valley Air Pollution Control District;
- State Water Resources Control Board, National Pollutant Discharge Elimination System (NPDES) General Permit;
- Pacific Gas & Electric, electrical connection.

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code (PRC) Section 21080.3.1? If so, has consultation begun?**

The State requires lead agencies to consider the potential effects of proposed projects and consult with California Native American tribes during the local planning process for the purpose of protecting Traditional Tribal Cultural Resources through the California Environmental Quality Act (CEQA) Guidelines. Pursuant to PRC Section 21080.3.1, the lead agency shall begin consultation with the California Native American tribe that is traditionally and culturally affiliated with the geographical area of the proposed project. Such significant cultural resources are either sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a tribe which is either on

	or eligible for inclusion in the California Historic Register or local historic register, or, the lead agency, at its discretion, and support by substantial evidence, choose to treat the resources as a Tribal Cultural Resources (PRC Section 21074(a)(1-2)). According to the most recent census data, California is home to 109 currently recognized Indian tribes. Tribes in California currently have nearly 100 separate reservations or Rancherias. Fresno County has a number of Rancherias such as Table Mountain Rancheria, Millerton Rancheria, Big Sandy Rancheria, Cold Springs Rancheria, and Squaw Valley Rancheria. These Rancherias are not located within the city limits. Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See PRC Section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per PRC Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that PRC Section 21082.3(c) contains provisions specific to confidentiality. Pursuant to Senate Bill 18 (SB 18), Native American tribes traditionally and culturally affiliated with the project area were invited to consult regarding the proposed project based on a list of contacts provided by the Native American Heritage Commission (NAHC). This list includes tribes that requested notification pursuant to Assembly Bill 52 (AB 52) (Table Mountain Rancheria Tribe and the Dumna Wo Wah Tribe). The City of Fresno mailed notices of the proposed project to each of these tribes on December 22, 2022 which included the required 90-day time period for tribes to request consultation, which ended on March 21, 2023.



LSA

FIGURE 1

LEGEND

Project Location

Parcel Boundary

Fresno City Limit

0 500 1000

FEET

SOURCE: Esri Streetmap (2021)

Vesting Tentative Tract Map No. 6360

Regional and Local Context

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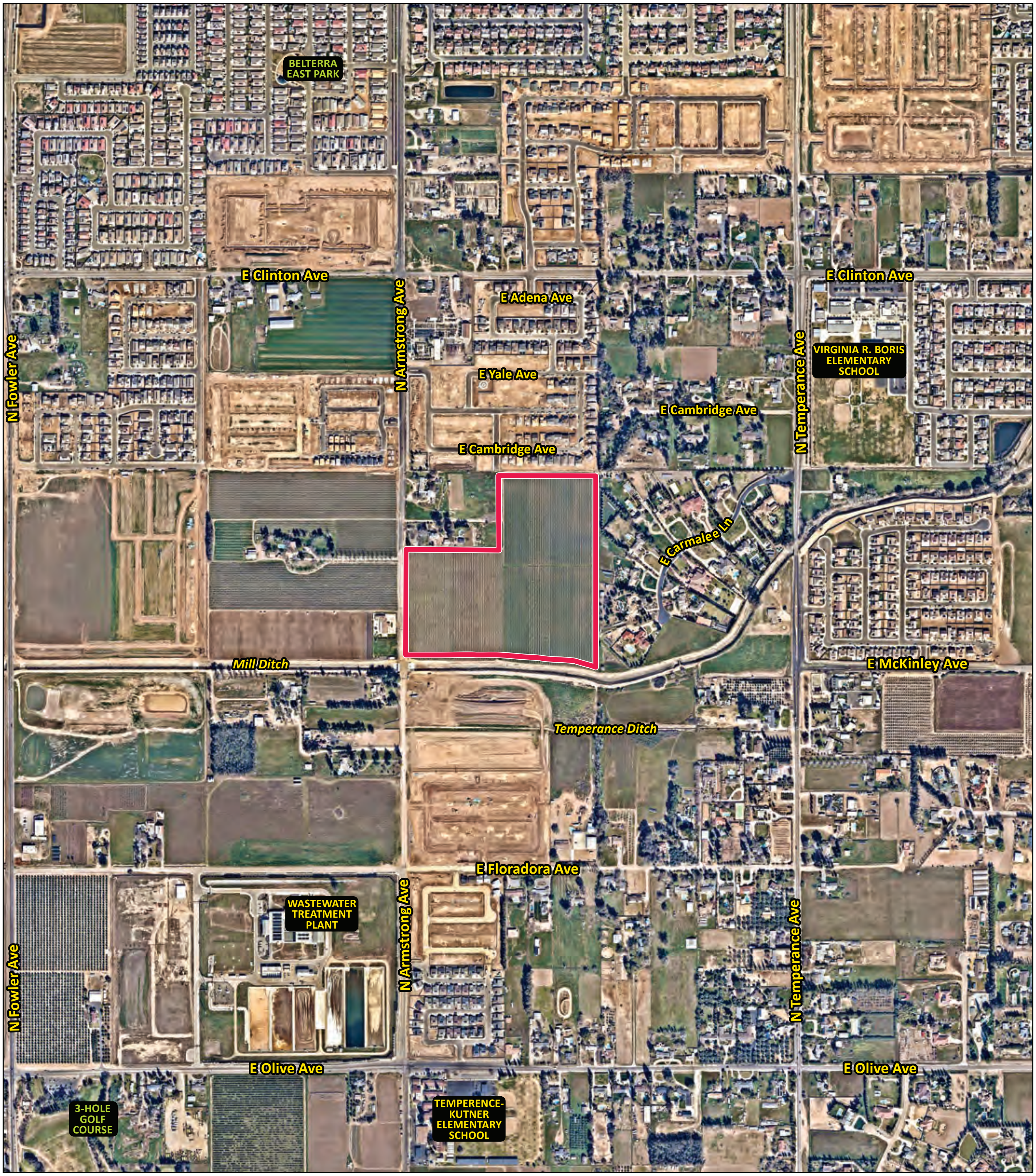

LSA

Project Site Boundary

0 500 1000
FEET

FIGURE 2

Vesting Tentative Tract Map No. 6360

Aerial Photograph of Project Site and Surrounding LU

SOURCE: NearMap, 2/24/2022; LSA, 2022

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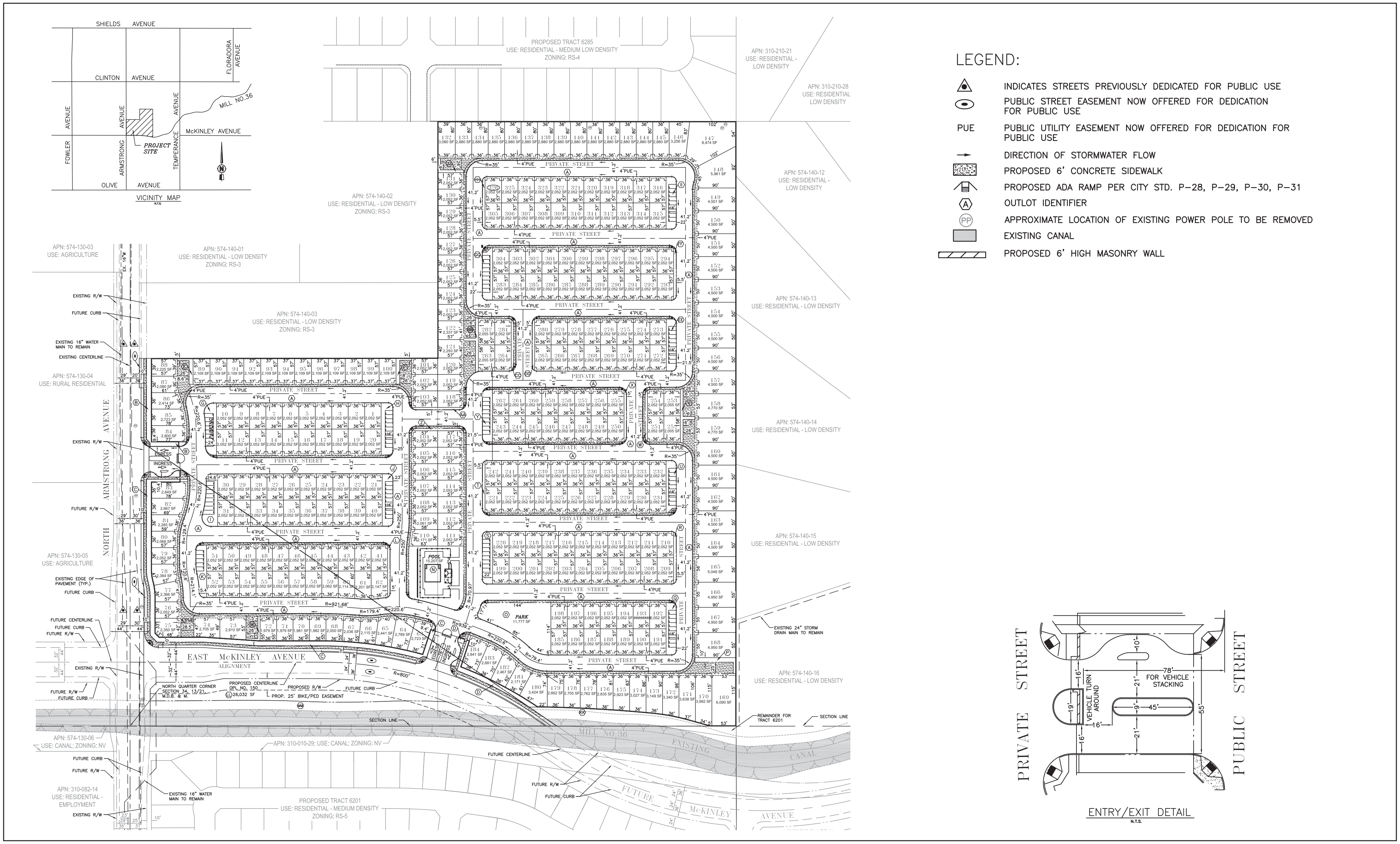

LSA

FIGURE 3

Vesting Tentative Tract Map No. 6360
Site Plan

SOURCE: Harbour & Associates, 11/10/2022

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ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

___	I find that the proposed project could not have a significant effect on the environment. 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.
_X_	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT (EIR) 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.

____

Planner Name, Title Date

EVALUATION OF ADDITIONAL ENVIRONMENTAL IMPACTS NOT ASSESSED IN PROGRAM ENVIRONMENTAL IMPACT REPORT SCH NO. 2019050005 PREPARED FOR THE APPROVED FRESNO GENERAL PLAN (GP PEIR):

1. For purposes of this Initial Study, the following answers have the corresponding meanings:

   a. “No Impact” means the specific impact category does not apply to the project, or that the record sufficiently demonstrates that project specific factors or general standards applicable to the project will result in no impact for the threshold under consideration.

   b. “Less Than Significant Impact” means there is an impact related to the threshold under consideration, but that impact is less than significant.

   c. “Less Than Significant with Mitigation Incorporation” means there is a potentially significant impact related to the threshold under consideration, however, with the mitigation incorporated into the project, the impact is less than significant. For purposes of this Initial Study “mitigation incorporated into the project” means mitigation originally described in the GP PEIR and applied to an individual project, as well as mitigation developed specifically for an individual project.

   d. “Potentially Significant Impact” means there is substantial evidence that an effect may be significant related to the threshold under consideration.

2. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (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. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

4. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

5. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from, "Earlier Analyses," as described in (6) below, may be cross-referenced).

6. Earlier analyses may be used where, pursuant to the tiering, Program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a. Earlier Analysis Used. Identify and state where they are available for review.

   b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in the PEIR or another earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

7. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

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

9. The explanation of each issue should identify:

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

b. The mitigation measure identified, if any, to reduce the impact to less than significance.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS – Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock out-croppings, and historic buildings within a state scenic highway?				X
c) In nonurbanized areas, substantially degrade the existing visual character or quality 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?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?		X		

DISCUSSION

a) Have a substantial adverse effect on a scenic vista?

A scenic vista is generally defined as a public vantage point with an expansive view of a significant landscape feature. The City of Fresno contains views of highly valued features such as the San Joaquin River, Sierra Nevada Mountain foothills, and buildings in Downtown Fresno. Figure POSS-2 in the General Plan has identified six vista points along the San Joaquin River bluff.[1]

The project site is located in a mainly undeveloped area of the City of Fresno, and it is surrounded by residential developments to the north, rural residential uses to the east, rural residential and agricultural uses to the south, and agricultural and rural residential uses to the west. The proposed project would include the construction of a 326-lot residential development for single-family residences. The proposed project would also include landscaped spaces, a private pool, a park area, private streets, pedestrian, and utility infrastructure.

The construction of the proposed project would not affect or block a scenic vista identified in the General Plan. Furthermore, the project site is not located within or in the vicinity of any of the scenic vista points identified in the General Plan. Therefore, the proposed project would have a less-than-significant impact on a scenic vista. This section will not be discussed in the EIR.

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

According to the California Department of Transportation mapping of State Scenic Highways,[2] the County of Fresno has one officially designated State Scenic Highway located along State Route 180, east of the City of Fresno, starting approximately 12.6 miles east of the project site. Three eligible State Scenic Highways are also located within the County of Fresno. The nearest one is located along State Route 168, approximately 4.5 miles northwest of the project site. Since there are no eligible or officially designated State Scenic Highways within the immediate vicinity of the project site, the proposed project would not impact a designated or eligible State Scenic Highway or impact scenic resources located within the highway segments or its viewshed. Therefore, no impact on scenic resources within a state scenic highway would occur as a result of the proposed project. This section will not be discussed in the EIR.

c) 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

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1 City of Fresno. 2014. Fresno General Plan. Chapter 5: Parks, Open Space, and Schools. Figure POSS-2: San Joaquin River Parkway Path & Trail Access Points. pg.5-19. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2019/07/General-Plan-5-Parks-Open-Space-and-Schools-7-19.pdf (accessed April 14, 2022).

2 California Department of Transportation (Caltrans). State Scenic Highways. Website: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways (accessed on April 14, 2022).

scenic quality?

The proposed project would include the construction of an approximately 326-lot residential development for single-family residences. The project site is currently undeveloped and used to grow agricultural crops, and is surrounded by residential developments to the north, rural residential uses to the east, rural residential and agricultural uses to the south, and agricultural and rural residential uses to the west. The proposed project would change the existing agricultural use of the site to a residential use. The proposed project contains distant views of the Sierra Nevada mountains which may be affected by development of the project site. However, these views are limited and obstructed by existing development north and east of the site. As such, the proposed project would not significantly affect quality of this view.

Additionally, the proposed project would be constructed in compliance with applicable measurements, height, and design requirements for the proposed Residential Single-Family, Medium Density (RS-5) zoning district, which would be established for the project site subject to completion of the City's rezone process. Furthermore, the single-family residences that would be constructed in the project site would not represent oversized elements that would greatly differ in size and scale with residential uses to the north. Therefore, the proposed project would not substantially degrade the existing visual character or quality of public views of the project site and its surroundings, and the impact would be less than significant. This section will not be discussed in the EIR.

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

The proposed project would include the construction of approximately 326 new residential units within the project site, as well as landscaped, recreational, and utility areas. Implementation of the proposed project would introduce new sources of light and glare into the project site. The new sources of light and glare introduced by the proposed project (e.g., building interior lighting, exterior lighting fixtures, and reflective surfaces such as windows) would be comparable to the existing light and glare emitted by residential and rural residential uses directly north and east of the project site and would not represent significant adverse effects to day and nighttime views. Furthermore, the proposed project would comply with the California Building Code (Title 24, California Code of Regulations) standards and the City's Municipal Code (Article 25, Section 15-2508 Lighting and Glare).

To ensure that the proposed project's lighting systems do not create a substantial new source of light mitigation measures AES-1 and AES-2 shall be required to provide shielding mechanisms to direct light away from nearby uses. Additionally, mitigation measure AES-3 would ensure that the proposed project's lighting systems do not create a substantial new source of light by imposing a cap on the intensity of lighting systems based on the average intensity of the surrounding streets. As a result, any new sources of light resulting from the proposed project would not be substantial in the context of existing lighting sources.

Additionally, while the project does not propose use of highly reflective glass elements or building materials, mitigation measure AES-4 requires materials used on building facades to be non-reflective. Therefore, any new source of glare would not be substantial. Accordingly, with the incorporation of Mitigation Measures AES-1 through AES-4, the project's potential impacts would be less than significant. This section will not be discussed in the EIR.

MITIGATION MEASURES

Mitigation Measure AES-1: Lighting systems for street and parking areas shall include shields to direct light to the roadway surfaces and parking areas. Vertical shields on the light fixtures shall also be used to direct light away from adjacent light sensitive land uses such as residences.

Mitigation Measure AES-2: Lighting systems for public facilities such as active play areas shall provide adequate illumination for the activity; however, low intensity light fixtures and shields shall be used to minimize spillover light onto adjacent properties.

Mitigation Measure AES-3: Lighting systems for freestanding signs shall not exceed 100 foot Lamberts (FT-L) when adjacent to streets which have an average light intensity of less than 2.0 horizontal footcandles and shall not exceed 500 FT-L when adjacent to streets which have an average light intensity of 2.0 horizontal footcandles or greater.

Mitigation Measure AES-4: Materials used on building facades shall be non-reflective.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				

ENVIRONMENTAL ISSUES	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 (Farm-land), as shown on the maps prepared pursuant to the Farmland Mapping and Monito-ring Program of the California Resources Agency, to non-agricultural use?			X	
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?			X	
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))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
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?			X	

DISCUSSION

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

The project site is zoned within the Residential Single-Family District (RS-3) of the City of Fresno, indicating that the development of the project site for residential uses is consistent with planned development under the General Plan. The City of Fresno General Plan PEIR identifies that development under the General Plan would result in significant impacts related to the conversion of Important Farmland to non-agricultural uses. The project site is classified as "Prime Farmland" by the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP)[3]. The proposed project would develop the 31.29-acre project site into a 326-lot residential development. As such, implementation of the proposed project would result in the conversion of Prime Farmland to a non-agricultural use.

In order to assess the significance of project-specific impacts to agricultural resources, associated with the development of the project site, a California LESA Model was prepared for the project site, and is included as an attachment to this Initial Study. The LESA Model is composed of a Land Evaluation (LE) portion, which measures soil quality, and the Site Assessment (SA) portion, which evaluates other factors that contribute to the site's agricultural importance (e.g., parcel size and on-farm investments). A Final LESA Score of 0 to 39 points is not considered significant. A final score between 40 to 59 points is considered significant only if the LE and SA subscores are each greater than or equal to 20 points. A final score between 60 to 79 points is considered significant unless either the LE or SA subscores is less than 20 points. A final score between 80 to 100 points is considered significant.

The proposed project achieved a Final LESA Score of 68.72 points, with an LE subscore of 49.97 points and a SA subscore of 18.72 points. Because the SA subscore was below 20 points, the conversion of agricultural land associated with implementation of the proposed project would not be considered significant and would not represent a significant impact to agricultural resources under CEQA. Therefore, impacts related to the conversion of Important Farmland to a non-agricultural use would be less than significant. This section will not be included in the EIR.

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

The project site is zoned within the Residential Single-Family District (RS-3) of the City of Fresno. The project is not subject to a Williamson Act contract. Therefore, development of the proposed project would not conflict with existing zoning for agricultural use or with a Williamson Act contract, and the impact would be less than significant. This section will not be included in the EIR.

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

3 California Department of Conservation. 2016. California Important Farmland Finder. Website: https://maps.conservation.ca.gov/DLRP/CIFF/ (accessed April 14, 2022).

defined by Government Code section 51104(g))?

The project site is zoned within the Residential Single-Family District (RS-3). The project site is not currently used for timberland production, nor is it zoned for forest land or timberland. No forest lands or timberland are located on the project site. The proposed project would not conflict with the existing zoning for, or cause rezoning of forest land or conversion of forest land to non-forest uses. Therefore, the proposed project would have no impact. This section will not be included in the EIR.

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

Please refer to the discussion for c) above. The proposed project would not result in the loss of forest land or conversion of forest land to non-forest uses. Therefore, the proposed project would have no impact. This section will not be included in the EIR.

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?

Please refer to discussions a) and c) of section. The project site is not used for timberland production or zoned for forest land or timberland. The project site is classified as "Prime Farmland" by the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP), and as such, development of the project would result in the conversion of Important Farmland. However, the LESA Model prepared for the project site identifies that the conversion of Important Farmland associated with development of the project site would result in a less-than-significant impact. Thus, the proposed project would have a less than significant impact on Important Farmland. This section will not be included in the EIR.

MITIGATION MEASURES

The proposed project would not result in any potentially significant impacts related to agricultural and forestry resources, and no mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				

ENVIRONMENTAL ISSUES	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 (*e.g.*, by having potential emissions of regulated criterion pollutants which exceed the San Joaquin Valley Air Pollution Control Districts (SJVAPCD) adopted thresholds for these pollutants)?	X			
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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	X			
c) Expose sensitive receptors to substantial pollutant concentrations?	X			
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	X			

DISCUSSION

The proposed project is located in Fresno County and is within the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD is responsible for air quality regulation within the eight-county San Joaquin Valley region.

Both the California Air Resources Board (CARB) and the U.S. Environmental Protection Agency (USEPA) have established health-based Ambient Air Quality Standards for six criteria air pollutants: carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and suspended particulate matter (PM_{10} and $PM_{2.5}$). These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Two criteria pollutants, O_3 and NO_2, are considered regional pollutants because they (or their precursors) affect air quality on a regional scale. Pollutants such as PM, CO, SO_2, and Pb are considered local pollutants because they tend to accumulate in the air locally. The San Joaquin Valley Air Basin (Air Basin) is under State non-attainment status for ozone and particulate matter (PM_{10} and $PM_{2.5}$) standards. The Air Basin is also classified as non-attainment for both the federal ozone 8-hour standard and the federal $PM_{2.5}$ 24-hour standard.

A threshold of significance is defined by the SJVAPCD in its *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI)[4] as an identifiable quantitative, qualitative, or performance level of a particular environmental effect. Non-compliance with a threshold of significance means the effect will normally be determined to be significant. Compliance with a threshold of significance means the effect normally will be determined to be less than significant. The SJVAPCD has established thresholds of significance for criteria pollutant emissions generated during construction and operation of projects as shown in Table 1 below.[5]

Table 1: SJVAPCD Construction and Operation Thresholds of Significance (Tons per Year)

	CO	NO_x	ROG	SO_x	PM_{10}	$PM_{2.5}$
Construction Thresholds	100	10	10	27	15	15
Operation Thresholds	100	10	10	27	15	15

Source: SJVAPCD (2015). Guidance for Assessing and Mitigating Air Quality Impacts.

The emissions thresholds in the SJVAPCD GAMAQI were established based on the attainment status of the air basin in regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety, these emission thresholds are regarded as conservative and would overstate an individual project’s contribution to health risks.

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

CEQA requires that certain proposed projects be analyzed for consistency with the applicable air quality plan. An air quality plan describes air pollution control strategies to be implemented by a city, county, or region classified as a non-attainment area. The main purpose of the air quality plan is to bring the area into compliance with the requirements of the federal and State air quality standards. To bring the Air Basin into attainment, the SJVAPCD adopted the 2022 Plan for the 2015 8-hour ozone standard in December 2022

4 San Joaquin Valley Air Pollution Control District. 2015a. Guidance for Assessing and Mitigating Air Quality Impacts. Website: https://www.valleyair.org/transportation/GAMAQI.pdf (accessed April 19, 2022).

5 San Joaquin Valley Air Pollution Control District. 2015b. Air Quality Thresholds of Significance – Criteria Pollutants. Website: http://www.valleyair.org/transportation/0714-GAMAQI-Criteria-Pollutant-Thresholds-of-Significance.pdf (accessed on April 19, 2022).

to satisfy Clean Air Act requirements and ensure attainment of the 70 parts per billion (ppb) 8-hour ozone standard.[6]

To assure the Air Basin's continued attainment of the USEPA PM_{10} standard, the SJVAPCD adopted the 2007 PM_{10} Maintenance Plan in September 2007. SJVAPCD Regulation VIII (Fugitive PM_{10} Prohibitions) is designed to reduce PM_{10} emissions generated by human activity. The SJVAPCD adopted the 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ standard to address the USEPA federal annual $PM_{2.5}$ standard of 12 µg/m3, established in 2012. In addition, the SJVAPCD is in the process of developing an attainment strategy to address multiple $PM_{2.5}$ standards (1997, 2006, and 2012 $PM_{2.5}$ standards) and a plan to demonstrate maintenance of the 1987 PM_{10} standard as required under the federal Clean Air Act.

For a project to be consistent with SJVAPCD air quality plans, the pollutants emitted from a project should not exceed the SJVAPCD emission thresholds or cause a significant impact on air quality. Construction and operation of the project may result in an increase in air pollutant emissions. As a result, the project could have a potential adverse effect on the SJVAPCD's implementation of clean air plans. Therefore, the EIR will provide further analysis of the project's consistency with the SJVAPCD's clean air plans.

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?

CEQA defines a cumulative impact as two or more individual effects, which when considered together, are considerable or which compound or increase other environmental impacts. Therefore, if annual emissions of construction- or operational-related criteria air pollutants exceed any applicable threshold established by the SJVAPCD, the proposed project would result in a cumulatively significant impact.

Short-term emissions would occur in association with construction activities, including grading, and vehicle/equipment use. Long-term operational emissions are associated with stationary sources and mobile sources. Stationary source emissions result from the consumption of electricity. Mobile source emissions result from vehicle trips and result in air pollutant emissions affecting the entire air basin. As noted above, specific criteria for determining whether the potential air quality impacts of a project are significant are set forth by the SJVAPCD.

Short-Term (Construction) Emissions. During construction, short-term degradation of air quality may occur due to the release of particulate matter emissions generated by demolition, grading, hauling, and building activities. Emissions from construction

6 San Joaquin Valley Air Pollution Control District (SJVAPCD). 2022. 2022 Plan for the 2015 8-Hour Ozone Standard. December 15. Website: https://ww2.valleyair.org/media/q55posm0/0000-2022-plan-for-the-2015-8-hour-ozone-standard.pdf (accessed April 2023).

equipment are also anticipated and would include CO, NOx, ROG, directly emitted particulate matter (PM2.5 and PM10), and toxic air contaminants (TACs) such as diesel exhaust particulate matter. Construction-related effects on air quality from the proposed project would be greatest during site preparation because most engine emissions are associated with the excavation, handling, and transport of soils on the site. If not properly controlled, these activities would temporarily generate PM10, PM2.5, and to a lesser extent CO, SO2, NOx, and volatile organic compounds. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM10 emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM10 emissions would depend on soil moisture, the silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site. These emissions would be temporary and limited to the immediate area surrounding the construction site.

The development of the proposed project would result in the construction of 326 single-family residences over a period of 36 months. The proposed project would also include private landscaping, private pool, private road, private park, private parking, public pedestrian, and public utility uses.

Long-Term (Operational) Emissions. The project would generate long-term air emissions associated with changes in the permanent use of the project site. These long-term emissions are primarily mobile source emissions that would result from vehicle trips associated with the proposed project. The proposed project would also generate energy emissions from electricity usage in the residential development.

Development of the proposed project would result in the construction of a 326-lot residential development for single-family residences that would result in the emission of air pollutants in the Air Basin, which is currently in non-attainment for federal and State air quality standards. Therefore, implementation of the project could potentially contribute to air quality impacts, which could cause a cumulative impact in the Air Basin. Therefore, the EIR will provide further analysis of cumulative air pollutant emissions associated with the project.

c) Expose sensitive receptors to substantial pollutant concentrations?

Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel particulate matter are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to diesel particulate matter. Exposure from diesel exhaust associated with construction activity contributes to both cancer and chronic non-cancer health risks. The nearest sensitive receptors to the project site include residential uses located directly adjacent to the project site's eastern boundary.

Construction of the proposed project may expose surrounding sensitive receptors to airborne particulates, as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). Therefore, the EIR will provide further analysis of air pollutant emissions associated with the proposed project.

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

During construction, the various diesel-powered vehicles and equipment in use on-site would create localized odors. In addition, once developed, proposed uses in the project site could potentially create objectionable odors that could affect adjacent uses. Potential odor emissions resulting from the project would be evaluated in the EIR.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES – Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			X	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?			X	

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?			X	
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?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
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?				X

DISCUSSION

Argonaut Ecological Consulting Inc. conducted a Biological Resource Assessment (BRA)[7] to assess potential impacts of the proposed project on biological resources. The following summarizes the resources and methods used to assess the project site.

Resources consulted. Documents and sources of information used to prepare this BRA

7 Argonaut Ecological Consulting Inc. 2021. Biological Resource Assessment Tentative Subdivision Map No. 6360 N. Armstrong at E. McKinley APN 574-140-04 & 05. July 23.

include the following:

- U.S. Department of Agriculture, Natural Resources Conservation Service, Soil Survey of Fresno Area (Soils mapper).
- Aerial photography (Google Earth®, Bing®, and historic aerials).
- California Department of Fish and Wildlife, California Natural Diversity Database (CNDDB/RareFind - Recent version with updates).
- Fresno County Farmland Mapping and Monitoring Program (FMMP) 1984-2014.
- U.S. Fish and Wildlife Service, Information for Planning Consultation (IPAC).
- U.S. Fish and Wildlife Service, National Wetland Inventory Map.
- U.S. Geological Survey, Historical Topographic Map, Clovis Quadrangle, 1919, University of Texas, Austin, Perry-Castañeda Map Collection.
- Henry Madden Library, Fresno State University. Historical Aerial Photography collection dating back to 1957.

Data and Literature Review. The California Natural Diversity Database/ RareFind (CNDDB) and the U.S. Fish and Wildlife Service (USFWS) IPAC were consulted to determine the species potentially present within the project site based on location. The purpose of the review was to determine the likelihood of special status species being present on the project site based on the site's distance from documented species occurrences and the presence or absence of habitat types utilized by such species. The CNDDB includes records of reported observations for special status plant and animal species and is queried based on a search radius of USGS quadrangle maps. Table 2 shows the special status species occurrence summary for the project area. High-resolution aerial photographs were reviewed to determine if any areas on the project site appear to support the presence of Waters of the U.S. Aerial photographs and wetland mapping were also reviewed to determine the presence of wetlands in the project site.

Table 2: Special Status Species Summary For Project Area

Common Name	Scientific Name	Status	Effects	Occurrence in the Study Area
				Birds
Swainson's hawk	*Buteo swainsoni*	CT	NE	Absent. No raptor nests were observed. Species may use the site for foraging.
Tricolored blackbird	*Agesaius tricolor*	CT	NE	**Absent.** Suitable breeding habitat is not within the Study Area.
Burrowing owl	*Athene Cunicularia*	BCC	NE	**Likely Absent.** The Study Area is in orchard production and frequent movement of orchard equipment likely precludes occupation. No evidence of occupation or potential occupation found.
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT/CE	NE	**Absent.** The study area does not support riparian streams or riparian habitat that this species requires.
least Bell's vireo	*Vireo bellii pusillus*	FE/CE FE/CE	NE	**Absent.** Breeding habitat historically found in Southern California and the Central Valley, but population was greatly decreased, and breeding was restricted to Southern California. However, riparian restoration in the Central Valley is beginning to show promise of the species resuming

				breeding in the Central Valley. No suitable breeding habitat is present within the Study Area.
Mammals				
Fresno kangaroo rat	*Dipodomys nitratoides*	CE, FE	NE	**Absent**. Species requires a land surface with hummocks as sites for its extensive, but shallow burrow system, and a substrate of suitable compactness to permit burrowing. Critical habitat limited to area within western Fresno County. Suitable habitat is not present.
San Joaquin kit fox	*Vulpes macrotis mutica*	CT, FE	NE	**Absent**. No suitable habitat is present to support species, no dens.
Plants				
Hartweg's golden Sunburst	*Pseudobahia bahiifolia*	CE, FE 1B	NE	**Absent.** Found in Valley grassland habitat. The study area does not support grassland habitat. Habitat appears to be routinely disturbed by agricultural activities and likely precludes establishment.
San Joaquin adobe sunburst	Pseudobahia peirsonii	CE, FT 1B	NE	**Absent.** Found in Valley grassland habitat. The study area does not support grassland habitat and what nonnative grassland is present is densely populated with non-native species.
Sanford's arrowhead	Sagittaria sandordii	1B	NE	**Likely Absent:** Occurs in slow moving waters and irrigation canals, ditches, and detention basins. Mill Ditch supports suitable habitat, but no plants were observed during the field survey.

Source: Argonaut Ecological Consulting, Inc. (2021)

[1] Status= Listing of special status species, unless otherwise indicated
CE: California listed as Endangered
CT: California listed as Threatened
FE: Federally listed as Endangered
FT: Federally listed as Threatened

[2] Effects = Effect determination
NE: No Effect
ME: May effect, not likely to adversely affect

[3] Definition of Occurrence Indicators
Present/Potentially: Species recorded in area
Absent/Likely Absent: Species not recorded in study area and/or
CNDDB = California Natural Diversity Database provided by CDFG

Field Survey. A site survey was performed on March 10, 2021 and again in June 2021. The majority of the project site was walked, and all habitat features were mapped. Soils, vegetation, and drainage patterns within the project site were inspected to determine the habitat present and the habitat's suitability for species of concern.

Environmental Setting. The project site lies within the San Joaquin Valley and is fairly flat, remaining between 384 and around 390 feet above mean sea level throughout the site. Historically, Dog Creek and Red Bank Slough flowed into what is now Mill No. 36 Canal, located adjacent to the project site's southern boundary. Habitat found in the project site includes agricultural habitat (orchard), and ruderal habitat (ruderal habitat is characterized by sparse, non-native, and typically weedy vegetation) along the Mill No. 36 Canal and along portions of the site that front adjacent roadways. There are no wetlands or drainage features within the project site, other than the Mill No. 36 Canal. No special-status plants or wildlife are expected to occur within the project site, as the site does not have the conditions or habitat required to support special-status species.

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 the U.S. Fish and Wildlife Service?

The project site is located in the City of Fresno, is approximately 31.29 acres in size, and is currently used to grow agricultural crops. The project site is surrounded by agricultural and rural residential uses. Based on the field survey, the project site does not contain critical habitat that could support candidate, sensitive or special-status species. Furthermore, no special-status species have been identified within the project site or in the vicinity of the site. Therefore, the proposed project would not have a substantial adverse effect on a special-status species, and the impact would be less than significant. This section will not be included in the EIR.

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

No riparian habitat or other sensitive natural communities have been identified within the project site, or within the vicinity of the project site. The project site is surrounded by agricultural and rural residential uses. As a result, the impact would be less than significant. This section will not be included in the EIR.

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

The project site is surrounded by agricultural and rural residential uses. The only aquatic feature occurring in the project site is Mill No. 36 Canal. No federally protected aquatic resource occurs within the project site, or within the vicinity of the project site, as confirmed by the field survey of the project site, and through review of the National Wetland Inventory Map.[8] As a result, the proposed project would not have a substantial adverse effect on federally protected wetlands, and a less than significant impact would occur. This section will not be included in the EIR.

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?

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8 Argonaut Ecological Consulting Inc. 2021. op. cit.

The project site is currently being used to grow agricultural crops and is surrounded by agricultural and rural residential uses. Refer to discussions a) and c) of this section. No special status or protected species, including native and migratory wildlife, have been identified on the site. Furthermore, the project site does not contain the habitat needed to support wildlife species. Additionally, the project site has not been identified as a corridor for wildlife species. Therefore, the proposed project would not interfere with the movement of native resident or migratory wildlife species, and the impact would be less than significant. This section will not be included in the EIR.

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

As described in the BRA, the project would not conflict with any local policies or ordinances protecting biological resources. Though the proposed project is subject to provisions of the City's Municipal Code regarding trees on public property (Article 3 of Section 13 of the City of Fresno Municipal Code). The proposed project would require removal of existing orchards trees from the project site for development. However, existing orchard trees are not within the protected tree list outlined in Section 13 of the municipal code. Additional, there are no existing trees within the project site that would need to be removed. As such, the proposed project would not conflict with any of the existing ordinances. As a result, no impact would occur. This section will not be included in the EIR.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The PG&E San Joaquin Valley Operation and Maintenance (O&M) Habitat Conservation Plan (HCP) was approved in 2007 and covers portions of nine counties, including Fresno County. This HCP covers PG&E activities which occur as a result of ongoing O&M that would have an adverse impact on any of the 65 covered species and provides incidental take coverage from the USFWS and CDFW. The City of Fresno Planning Area is not located within the boundaries of any approved or draft Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other adopted local, regional or state HCP.

Therefore, the project would not conflict with the provisions of the PG&E HCP, or any other an adopted HCP or NCCP and the proposed project and would have no impact. This section will not be included in the EIR.

MITIGATION MEASURES

The proposed project would not result in any potentially significant impacts related to biological resources, and no mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

DISCUSSION

Peak & Associates, Inc. conducted a Cultural Resources Assessment (CRA)[9] for the proposed project to assess potential impacts to cultural resources. The following impact discussion summarizes the study and results.

Southern San Joaquin Valley Information Center. A record search was conducted for the project area at the Southern San Joaquin Valley Information Center (SSJVIC) of the California Historical Resources Information System on April 26, 2021 (SSJVIC Records Search File No. 21-147; included as Appendix 2 of CRA). No known archeological sites were found in the project site or within a 0.125-mile radius of the site. No portion of the project site has ever been previously surveyed for prehistoric period cultural resources. Six surveys have been previously conducted within the 0.125-mile search radius.

Field Assessment. A field survey of the project site was conducted on April 27, 2021. The project area is agricultural land currently planted with fruit trees. The Mill No. 36 Canal runs adjacent to the project site's southern boundary. The Mill No. 36 Canal was dry at the time of the survey. The land in the project site is flat and likely leveled for irrigation, with berms spaced evenly apart for rows of orchard trees. The survey employed parallel transects five to seven meters apart, following rows between trees. Closer inspection occurred in areas where soil offered exceptional visibility. No prehistoric or historic period

9 Peak & Associates, Inc. 2021. Cultural Resource Assessment for the Armstrong McKinley Project Area, Tentative Subdivision Map No. 6360, City of Fresno, California. June 27.

cultural resources were observed during the survey. There are no resources eligible for the California Register of Historical Resources within the project site.

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

A historical resource defined by CEQA includes one or more of the following criteria: 1) the resource is listed, or found eligible for listing in, the California Register of Historical Resources (CRHR); 2) listed in a local register of historical resources as defined by Public Resources Code (PRC) Section 5020.1(k); 3) identified as significant in a historical resources survey meeting the requirements of PRC Section 5024.1(g); or 4) determined to be a historical resource by the project's lead agency (PRC Section 21084.1; CEQA Guidelines Section 15064.(a)). Under CEQA, historical resources include built-environment resources and archaeological sites.

No historical resources have been identified in the project site. However, the City has determined that impacts to historical resources could occur as a result of development within the City, and that unknown historical resources may be present in undeveloped parcels. Adherence to Mitigation Measure CUL-1 would require consultation with a qualified historical resource specialist on the event of finding a previously unknown historical resource during construction of the proposed project. Therefore, implementation of Mitigation Measure CUL-1 would reduce potential impacts to unknown historical resources to less than significant. This section will not be included in the EIR.

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

According to the CEQA Guidelines, "When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource" (CEQA Guidelines Section 15064.5(c)(1)). Those archaeological sites that do not qualify as historical resources shall be assessed to determine if these qualify as "unique archaeological resources" (California PRC Section 21083.2).

No archeological resources have been identified on the project site. However, there is potential for unknown archaeological resources to be discovered during project construction. Mitigation Measure CUL-2 requires that if unknown archaeological resources are discovered during construction of the proposed project, work in the area would halt and a qualified archaeologist would be consulted. Therefore, adherence to the requirements in Mitigation Measure CUL-2 would reduce potential impacts to archaeological resources to less than significant. This section will not be included in the EIR.

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

Disturbance of human remains interred outside of formal cemeteries would result in a significant impact. If human remains are identified during project construction, Section 7050.5 of the California Health and Safety Code and Section 5097.98 of the Public Resources Code shall apply, as appropriate. In addition, the project would comply with Mitigation Measure CUL-3, which requires notifying the County Coroner and other relevant parties in the event that human remains are found during construction of the proposed project. Therefore, adherence to the requirements in Mitigation Measure CUL-3 would reduce potential impacts to unknown human remains to less than significant. This section will not be included in the EIR.

MITIGATION MEASURES

Mitigation Measure CUL-1: If previously unknown resources are encountered before or during grading activities, construction shall stop in the immediate vicinity of the find and a qualified historical resources specialist shall be consulted to determine whether the resource requires further study. The qualified historical resources specialist shall make recommendations to the City on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines and the City's Historic Preservation Ordinance. If the resources are determined to be unique historical resources as defined under Section 15064.5 of the CEQA Guidelines, measures shall be identified by the monitor and recommended to the Lead Agency. Appropriate measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds.

No further grading shall occur in the area of the discovery until the Lead Agency approves the measures to protect these. Any historical artifacts recovered as a result of mitigation shall be provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study.

Mitigation Measure CUL-2: Subsequent to a preliminary City review of the project grading plans, if there is evidence that a project will include excavation or construction activities within previously undisturbed soils, a field survey and literature search for prehistoric archaeological resources shall be conducted. The following procedures shall be followed:

- If prehistoric resources are not found during either the field survey or literature search, excavation and/or construction activities can commence. In the event that buried prehistoric archaeological resources are discovered during excavation and/or construction activities, construction shall stop in the immediate vicinity of the find and a qualified archaeologist shall be consulted to determine whether the resource requires further study. The qualified archaeologist shall make recommendations to the City on the measures that shall be implemented to protect the discovered resources, including but not limited to excavation of the finds and evaluation of the finds in accordance with CEQA Guidelines Section 15064.5. If the resources are determined to be unique prehistoric archaeological resources as defined under Section 15064.5 of the CEQA Guidelines, mitigation measures shall be identified by the monitor and recommended to the City of Fresno. Appropriate measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. No further grading shall occur in the area of the discovery until the City of Fresno approves the measures to protect these resources. Any prehistoric archaeological artifacts recovered as a result of mitigation shall be provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study.

- If prehistoric resources are found during the field survey or literature review, the resources shall be inventoried using appropriate State record forms and submit the forms to the Southern San Joaquin Valley Information Center. The resources shall be evaluated for significance. If the resources are found to be significant, measures shall be identified by the qualified archaeologist. Similar to above, appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. In addition, appropriate mitigation for excavation and construction activities in the vicinity of the resources found during the field survey or literature review shall include an archaeological monitor. The monitoring period shall be determined by the qualified archaeologist. If additional prehistoric archaeological resources are found during excavation and/or construction activities, the procedure identified above for the discovery of unknown resources shall be followed.

Mitigation Measure CUL-3: In the event that human remains are unearthed during excavation and grading activities of any future development project, all activity shall cease immediately. Pursuant to Health and Safety Code (HSC) Section 7050.5, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98(a). If the remains are determined to be of Native American descent, the coroner shall within 24 hours notify the Native American Heritage Commission (NAHC). The NAHC shall then contact the most likely descendent of the deceased Native American, who shall then serve as the consultant on how to proceed with the remains. Pursuant to PRC Section 5097.98(b), upon the discovery of Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. ENERGY – Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X	

DISCUSSION

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

The proposed project would increase the demand for electricity and fuel. The discussion and analysis provided below is based on data included in the California Emissions Estimator Model (CalEEMod) output, which is included in Appendix C of the EIR.

Construction-Period Energy Use. The anticipated construction schedule assumes that the proposed project would be built over approximately 36 months. The proposed project would require grading, site preparation, and building activities during construction. Construction of the proposed project would require energy for the manufacture and transportation of construction materials, preparation of the site for grading activities, and construction of the residences. Petroleum fuels (e.g., diesel and gasoline) would be the primary sources of energy for these activities. Construction activities are not anticipated to result in an inefficient use of energy as gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the project. Energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources. Therefore, the proposed project would result in a less-than-significant impact during project construction.

Operational Energy Use. Energy use is typically associated with natural gas use, electricity consumption, and fuel used for vehicle and truck trips. The proposed project would be all-electric; therefore, the proposed project would not consume natural gas. Electricity consumption was estimated for the project using default energy intensities by land use type in CalEEMod.

In addition, the proposed project would result in energy usage associated with gasoline and diesel to fuel project-related trips. Based on the CalEEMod analysis, the proposed project would result in approximately 6,934,713 vehicle miles traveled (VMT) per year. The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has steadily increased from about 14.9 miles per gallon (mpg) in 1980 to 22.9 mpg in 2020.[10] The average fuel economy for heavy-duty trucks in the United States has also steadily increased, from 5.7 mpg in 2013 to a projected 8.0 mpg in 2021.[11] Therefore, using the average fuel economy estimates for 2020 and 2021, the proposed project would result in the consumption of approximately 238,675 gallons of gasoline and 184,498 gallons of diesel.

Table 3 shows the estimated potential increased electricity demand and fuel consumption associated with the proposed project.

Table 3: Estimated Annual Energy Use of Proposed Project

Electricity Use (kWh per year)	Natural Gas Use (therms per year)	Gasoline Consumption (gallons per year)	Diesel Fuel Consumption (gallons per year)
3,075,585	0	238,675	184,498

Source: LSA (December 2023).
kWh = kilowatt-hours

As shown in Table 3, the estimated potential increased electricity demand associated with the proposed project is 3,075,585 kilowatt-hours (kWh) per year. In 2021, Fresno County consumed 8,378 GWh or 8,378,047,292 kWh.[12] Therefore, electricity demand associated with the proposed project would be less than 0.1 percent of Fresno County's total electricity demand.

In addition, the proposed project would result in energy usage associated with gasoline and diesel to fuel project-related trips. As shown above in Table 3, vehicle trips associated with the proposed project would consume approximately 238,675 gallons of gasoline and 184,498 gallons of diesel fuel per year. Based on fuel consumption obtained from EMFAC2021, approximately 157 million gallons of diesel and approximately 372 million gallons of gasoline will be consumed from vehicle trips in Fresno County in 2023.

10 U.S. Department of Transportation (DOT). "Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles." Website: https://www.bts.gov/content/average-fuel-efficiency-us-light-duty-vehicles (accessed May 2023).

11 Ibid.

12 California Energy Commission (CEC), 2021a. Energy Consumption Data Management Service. Electricity Consumption by County. Website: www.ecdms.energy.ca.gov/elecbycounty.aspx (accessed May 2023).

Therefore, vehicle and truck trips associated with the proposed project would increase the annual fuel use in Fresno County by less than 0.1 percent for gasoline fuel usage and by less than 0.1 percent for diesel fuel usage.

The proposed project would exceed Title 24 standards and would install energy efficient appliances. The proposed project would also incorporate the following energy reduction strategies: third party independent inspections would be conducted to assure energy efficiency compliance; heating, ventilation, and air conditioning (HVAC) equipment would be rated 14 seasonal energy efficiency ratio (SEER), 12 energy efficiency ratio (EER) and 92 percent ultra efficient; solar panels would be provided ranging from 3.71 kilowatts (kW) to 3.98 kW; and windows would be argon-filled vinyl low-e, double strength glass to reduce energy and increase ultraviolet (UV) blockage.

In addition, proposed new development would be constructed using energy efficient modern building materials and construction practices, and the proposed project also would use new modern appliances and equipment, in accordance with the Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608). The expected energy consumption during construction and operation of the proposed project would be consistent with typical usage rates for residential uses; however, energy consumption is largely a function of personal choice and the physical structure and layout of buildings.

PG&E is the private utility that would supply the proposed project's electricity services. In 2021, a total of 50 percent of PG&E's delivered electricity came from renewable sources, including solar, wind, geothermal, small hydroelectric and various forms of bioenergy.[13] PG&E reached California's 2020 renewable energy goal in 2017, and is positioned to meet the State's 60 percent by 2030 renewable energy mandate set forth in Senate Bill (SB) 100. In addition, PG&E plans to continue to provide reliable service to their customers and upgrade their distribution systems as necessary to meet future demand.

Therefore, the proposed project would result in a less-than-significant impact during project operation. As such, the proposed project would not result in a potential significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. This section will not be included in the EIR.

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

In 2002, the Legislature passed SB 1389, which required the California Energy Commission (CEC) to develop an integrated energy plan every two years for electricity, natural gas, and transportation fuels, for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least

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[13] PG&E, 2021. *Exploring Clean Energy Solutions*. https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page?WT.mc_id=Vanity_cleanenergy (accessed May 2023).

environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission (ZE) vehicles and their infrastructure needs, and encouragement of urban designs that reduce VMT and accommodate pedestrian and bicycle access.

The most recently CEC adopted energy report is the 2023 Integrated Energy Policy Report[14]. The Integrated Energy Policy Report provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The Integrated Energy Policy Report covers a broad range of topics, including implementation of SB 350, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas (in response to SB 1383), updates on California electricity reliability, natural gas outlook, and climate adaptation and resiliency.

As indicated above, the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. Because California's energy conservation planning actions are conducted at a regional level, and because the proposed project's total impact to regional energy supplies would be minor, the proposed project would not conflict with California's energy conservation plans as described in the CEC's Integrated Energy Policy Report. Therefore, the impact would be less than significant. This section will not be included in the EIR.

MITIGATION MEASURES

The proposed project would not result in any potentially significant impacts related to energy, and no mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS – Would the project:				

14 California Energy Commission, 2023. *2023 Integrated Energy Policy Report*. California Energy Commission. Docket Number: 23-IEPR-01.

ENVIRONMENTAL ISSUES	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:			X	
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.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?			X	
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?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		

DISCUSSION

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 California Geological Survey Special Publication 42.);

Fault ruptures are generally expected to occur along active fault traces that have exhibited signs of recent geological movement (i.e. in the last 11,000 years). Alquist-Priolo Earthquake Fault Zones delineate areas around active faults with potential surface fault rupture hazards that would require specific geological investigations prior to approval of certain kinds of development within the delineated area. The project site is not located within an Alquist-Priolo Earthquake Fault Zone. In addition, no known active or potentially active faults or fault traces are located in the project vicinity. The closest active faults are the Nunez Fault, located approximately 57 miles from the project site, and the Ortigalita Fault, located approximately 67 miles from the project site. Due to the distance of these known faults, no people or structures would be exposed to potential substantial adverse effects, including the risk of loss, injury, or death from the rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map. Therefore, potential impacts related to fault rupture would be less than significant. This section will not be included in the EIR.

ii. Strong seismic ground shaking;

The City of Fresno is located in an area with historically low to moderate level of seismicity. However, strong ground shaking could occur within the project site during seismic events, and occurrences have the possibility to result in significant impacts. Major seismic activity along the nearby Great Valley Fault Zone, the Nunez Fault, or other associated faults could affect the project site through seismic ground shaking. Strong seismic ground shaking could potentially cause structural damage to the proposed project. However, due to the distance of the project site to the known active faults, hazards due to ground shaking would be minimal. In addition, compliance with the California Building Code (Title 24, California Code of Regulations) would ensure that geotechnical design of the proposed project would reduce potential impacts related to seismic ground shaking to less than significant. This section will not be included in the EIR.

iii. Seismic-related ground failure, including liquefaction;

Soil liquefaction is a phenomenon primarily associated with saturated soil layers located close to the ground surface. During ground shaking, these soils lose strength and acquire "mobility" sufficient to permit both horizontal and vertical movements. Soils that are most susceptible to liquefaction are clean, loose, uniformly graded, saturated, fine-grained sands that lie relatively close to the ground surface. However, loose sands that contain a significant amount of fines (silt and clay) may also liquefy. Based on the predicted seismic accelerations, and soil and groundwater conditions typically encountered in the region, general liquefaction potential is low in the Fresno Planning Area.[15] Furthermore, compliance with the Fresno Municipal Code and the California Building Code would ensure potential impacts associated with seismic-related ground failure would be less than significant. This section will not be included in the EIR.

iv. Landslides?

A landslide generally occurs on relatively steep slopes and/or on slopes underlain by weak materials. The City of Fresno Planning Area is located within an area that consists of mostly flat topography within the Central Valley. Accordingly, there is no risk of large landslides in the majority of the Planning Area. However, there is the potential for landslides and slumping along the steep banks of rivers, such as the San Joaquin River bluff, creeks, drainage basins and the many unlined basins and canals that trend throughout the Planning Area. The project site is located on a relatively flat area and is not located next to any hills, within 300 feet of the San Joaquin River bluff, or near unlined basins and canals. Therefore, the potential for the proposed project to expose people or structures to risk as a result of landslides would be less than significant. This section will not be included in the EIR.

15 City of Fresno. 2020. General Plan Program Environmental Impact Report - Geology and Soils. Website: https://www.fresno.gov/wp-content/uploads/2023/03/Fresno-GP-Public-Review-Draft-Program-EIR.pdf (accessed July 25, 2023).

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

The total project site is 31.29 acres, which would be disturbed/developed during proposed grading and construction activities. Grading and earthmoving during project construction has the potential to result in erosion and loss of topsoil. Exposed soils could be entrained in stormwater runoff and transported off the project site. However, this impact would be reduced to a less-than-significant level through compliance with water quality control measures, which include preparation of a Stormwater Pollution Prevention Plan (SWPPP) (refer to Section X, Hydrology and Water Quality). Although designed primarily to protect stormwater quality, the SWPPP would incorporate Best Management Practices (BMPs) to minimize erosion. Additional details regarding the SWPPP are provided in Section X, Hydrology and Water Quality of this Initial Study. This impact would be less than significant. This section will not be included in the EIR.

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?

As described in response to a) in this section, soils on the project site would not be subject to liquefaction, lateral spreading, or landslides. Additionally, the proposed project would be required to conform with the California Building Code, which would reduce risks related to unstable soils. Therefore, the proposed project would have a less-than-significant impact related to the potential to 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. This section will not be included in the EIR.

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

Expansive soils are characterized by the potential for shrinking and swelling as the moisture content of the soil decreases and increases, respectively. Shrink-swell potential is influenced by the amount and type of clay minerals present and can be measured by the percent change of the soil volume. The project site contains Ramona loam and Hanford fine sandy loam, soils with medium to low clay content and medium to low shrink-swell potential.[16] Compliance with the California Building Code requirements would ensure the implementation of design features that would reduce potential impacts related to expansive soils to a less-than-significant level. As such, the risk of expansive soils affecting the proposed project is considered low and would represent a less-than-significant impact. This section will not be included in the EIR.

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16 Natural Resources Conservation Service. Web Soil Survey. Website: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (accessed April 19, 2022).

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The project site would be served by a wastewater conveyance system maintained by the Wastewater Management Division (WMD) of the City of Fresno. Wastewater from the City's collection system is treated at the City's wastewater treatment plant. Development of the proposed project would not involve the use of septic tanks or alternative wastewater disposal systems. Therefore, the proposed project would have no impact related to the use of septic tanks or alternative wastewater disposal systems. This section will not be included in the EIR.

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

No paleontological resources or unique geological features are known to exist within or near the project site, and the proposed project is not expected to alter or destroy a paleontological resource, site, or unique geologic feature. However, development of previously undisturbed parcels in the City could result in the discovery of paleontological resources or unique geologic features. Mitigation Measure GEO-1 would require the project to assess the presence of paleontological resources or unique geologic features if construction activities occur in undisturbed soils. Mitigation Measure GEO-1 would also require the implementation of mitigation measures issued by a qualified paleontologist in the event of finding previously unknown resources during project construction. Adherence to the requirements in Mitigation Measure GEO-1 would reduce potential impacts to paleontological resources or unique geologic features to less than significant. This section will not be included in the EIR.

MITIGATION MEASURES

Mitigation Measure GEO-1 Subsequent to a preliminary City review of the project grading plans, if there is evidence that a project will include excavation or construction activities within previously undisturbed soils, a field survey and literature search for unique paleontological/geological resources shall be conducted. The following procedures shall be followed:

- If unique paleontological/geological resources are not found during either the field survey or literature search, excavation and/or construction activities can commence. In the event that unique paleontological/geological resources are discovered during excavation and/or construction activities, construction shall stop in the immediate vicinity of the find and a qualified paleontologist shall be consulted to determine whether the resource requires further study. The qualified paleontologist shall make recommendations to the City on the measures that shall be implemented to protect the discovered resources, including but not limited to, excavation of the finds and evaluation of the finds.

If the resources are determined to be significant, mitigation measures shall be identified by the monitor and recommended to the Lead Agency. Appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. No further grading shall occur in the area of the discovery until the Lead Agency approves the measures to protect these resources. Any paleontological/geological resources recovered as a result of mitigation shall be provided to a City-approved institution or person who is capable of providing long-term preservation to allow future scientific study.

- If unique paleontological/geological resources are found during the field survey or literature review, the resources shall be inventoried and evaluated for significance. If the resources are found to be significant, mitigation measures shall be identified by the qualified paleontologist. Similar to above, appropriate mitigation measures for significant resources could include avoidance or capping, incorporation of the site in green space, parks, or open space, or data recovery excavations of the finds. In addition, appropriate mitigation for excavation and construction activities in the vicinity of the resources found during the field survey or literature review shall include a paleontological monitor. The monitoring period shall be determined by the qualified paleontologist. If additional paleontological/geological resources are found during excavation and/or construction activities, the procedure identified above for the discovery of unknown resources shall be followed.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS – Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	X			
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	X			

DISCUSSION

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

The *State CEQA Guidelines* indicate that a project would normally have a significant adverse green-house gas emission impact if the project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Section 15064.4 of the *State CEQA Guidelines* states that: "A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." In performing that analysis, the lead agency has discretion to determine whether to use a model or methodology to quantify greenhouse gas emissions, or to rely on a qualitative analysis or performance-based standards. In making a determination as to the significance of potential impacts, the lead agency then considers the extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting, whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project, and the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

Therefore, consistent with the *State CEQA Guidelines,* Section 15183.5, if a project is consistent with an adopted qualified Greenhouse Gas Reduction Strategy that meets required standards, it can be presumed that the project would not have significant greenhouse gas emission impacts.

The City of Fresno Greenhouse Gas Reduction Plan (GHG Reduction Plan), adopted in December 2014 and updated in 2021, meets the requirements for a Qualified Greenhouse Gas Reduction Strategy. Therefore, the proposed project's greenhouse gas emissions would not be considered significant if the proposed project is consistent with the City's GHG Reduction Plan Update.

The EIR will analyze greenhouse gas emissions from the proposed project and determine whether the proposed project would be consistent with the City's GHG Reduction Plan Update to define significance of greenhouse gas emissions.

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

As discussed in discussion a) above, the City of Fresno GHG Reduction Plan Update is Qualified Greenhouse Gas Reduction Strategy (State CEQA Guidelines, Section 15183.5) implemented to reach Statewide, regional, and local greenhouse gas emission reduction goals.

The EIR will determine whether the proposed project would be consistent with the City's GHG Reduction Plan Update and other applicable plans, policies or regulations adopted for the purpose of reducing the emissions of greenhouse gases.

ENVIRONMENTAL ISSUES	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
IX. HAZARDS AND HAZARDOUS MATERIAL – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
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?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
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?				X

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	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 for people residing or working in the project area?			X	
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	

DISCUSSION

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

Construction activities associated with the proposed project would involve the use of limited amounts of potentially hazardous materials, including but not limited to, solvents, paints, fuels, oils, and transmission fluids. However, all materials used during construction would be contained, stored, and handled in compliance with applicable standards and regulations established by the Department of Toxic Substances Control (DTSC), the United States Environmental Protection Agency (USEPA), and the Occupational Safety and Health Administration (OSHA). The proposed project consists of single-family residential uses and would not introduce manufacturing, industrial, or other uses utilizing large amounts of hazardous materials into the project site. The proposed residential use would utilize small quantities of common hazardous substances, including paints, fuels, oils and cleaning agents during project operation. All storage, handling, and disposal of hazardous materials during project construction and operation would comply with applicable standards and regulations, including General Plan Policies NS-4-a, NS-4-e, and NS-4-f.[17] Compliance with applicable regulations regarding the handling and storage of hazardous substances would result in a less-than-significant impact. This section will not be included in the EIR.

- **Policy NS-4-a: Processing and Storage.** Require safe processing and storage of hazardous materials, consistent with the California Building Code and the Uniform Fire Code, as adopted by the City.

- **Policy NS-4-e: Compliance with County Program.** Require that the production, use, storage, disposal, and transport of hazardous materials conform to the standards and procedures established by the County Division of Environmental Health. Require compliance with the County's Hazardous Waste Generator Program, including the submittal and implementation of a Hazardous Materials Business Plan, when applicable.

- **Policy NS-4-f: Hazardous Materials Facilities.** Require facilities that handle hazardous materials or hazardous wastes to be designed, constructed, and operated in accordance with applicable hazardous materials and waste management laws and regulations.

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

See discussion a) above. Additionally, Phase I Environmental Site Assessments (ESAs)[18] [19]were prepared by Krazan and Associates, Inc. for the project parcels (i.e., APNs 574-140-04 and 574-140-05) to identify recognized environmental conditions (RECs) in connection with the previous ownership and uses of the site. The term recognized environmental conditions means the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

The scope of work for the Phase I ESAs included a reconnaissance of existing on-site conditions and observations of adjacent property uses, a review of Project Applicant-provided documents, historical aerial photographs of the site, and pertinent building permit records, cross-referencing directories and historical Sanborn Fire Insurance Maps

17 City of Fresno. 2014. Fresno General Plan - Noise and Safety Element. pp. 9-33, 9-34. Website: https://www.fresno.gov/wp-content/uploads/2023/03/9-Noise-and-Safety-02-03-21.pdf (accessed July 25, 2023).

18 Krazan and Associates, Inc. 2021. Phase I Environmental Site Assessment, Ryan Metzler Agricultural Property, East of North Armstrong Avenue and North of the Mill Ditch, APN 574-140-05, Fresno, California 93727. March 30.

19 Krazan and Associates, Inc. 2021. Phase I Environmental Site Assessment, Hagerty Property, Northeast of N. Armstrong Avenue & Mill Ditch, APN 574-140-04, Fresno, California 93727. May 12.

(SFIMs), interviews with people knowledgeable of the previous and current ownership and uses of the project site, and a review of local regulatory agency records and local, state, and federal regulatory agency lists.

The project site consists of agricultural land currently used for cultivation of fruit orchard. The project site is relatively flat and located approximately 340 to 345 feet above mean sea level. The project site is located within the San Joaquin Valley, which is dominated by sedimentary deposits derived from the erosion of the Sierra Nevada Mountains. Near-surface sediments are dominated by sands and silty sands with lesser silts, minor clays, and gravel. Groundwater in the project vicinity is reported to be first encountered at a depth of approximately 80 feet below ground surface (bgs).

Assessment of the project site did not identify building structures or evidence of hazardous materials storage or waste onsite. The only other structures found on the site include one electrically powered agricultural water well and associated booster pump, agricultural filtration system and pole-mounted electrical transformer located along the site's southern boundary, and another agricultural water well and associated booster pump, as well as two pole-mounted electrical transformers, located along the site's northeastern corner.

Review of historical aerial photographs of the site revealed that the project site has been in agricultural use since at least 1937. Although the potential exists that environmentally persistent pesticides/herbicides were historically applied to the orchards grown on the project site, 1) no material evidence of the use of environmentally persistent pesticides/herbicides was obtained during the course of the site assessment, and 2) it is anticipated that any environmentally persistent pesticides/herbicides potentially located onsite will be dislocated and diluted as a result of the grading and trenching operations which will be conducted in conjunction with the development of the site. As such, the potential for elevated concentrations of environmentally persistent pesticides/herbicides related to crop cultivation to exist in the near-surface soils onsite at concentrations which would require regulatory action is considered low.

One potential area of concern due to a data gap was identified for the site, as one residential unit with associated out-structures was observed in historical aerial photographs of the site between 1937 and 1962. While no underground storage tanks (USTs) for the project site were identified on file with the local regulatory agencies, USTs on rural or agricultural properties historically have been exempt from requirements for registration with regulatory agencies. As such, it is unknown whether subsurface features such as unregistered USTs may exist on the site and remain unknown based upon the absence of any regulatory or municipality data or evidence indicating their presence or location. However, based on review of existing files documenting the project site, review of historical aerial photographs, a site reconnaissance, contacts with the local regulatory agencies, and an interview with a representative of the owner of the project site, there is no evidence that recognized environmental conditions exist in connection with the historical uses of the project site.

Additionally, review of government database reports, and consultation with local regulatory agencies indicates that there is no evidence that RECs exist in connection with the project site from adjacent or vicinity property uses.

Therefore, the proposed project would not result in a significant hazard to the public or the environment through the transport, use, or disposal of hazardous materials, or result in a foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment. Additionally, the proposed project would comply with the General Plan Policies outlined above, which require compliance with local, State and federal standards and procedures to avoid the release or upset of hazardous materials. This impact would be less than significant. This section will not be included in the EIR.

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

The closest existing schools to the project site are the Virginia R. Boris Elementary School, located approximately 0.28-mile northeast of the project site, Temperance-Kutner Elementary School, located approximately 0.55-mile south of the project site and Roger S. Oraze Elementary School, located approximately 1.12 miles north of the project site. Additionally, the Clovis Unified School District (CUSD) is planning the construction of a new elementary school located at the intersection of McKinley and Fowler Avenues20, approximately 0.39-mile west of the site. As previously stated, the proposed project would not result in the use or emission of substantial quantities of hazardous materials that would pose a human or environmental health risk. In addition, all hazardous materials within the project site would be handled, stored, and disposed of in accordance with applicable standards and regulations. Therefore, because the proposed project would not result in the emission of hazardous materials or acutely hazardous substances within one-quarter mile of a school, the impact would be less than significant. This section will not be included in the EIR.

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?

According to the DTSC EnviroStor database,[21] the project site is not located on a federal superfund site, State response site, voluntary cleanup site, school cleanup site, evaluation site, school investigation site, military evaluation site, tiered permit site, or corrective action site. The project site is not included on the list of hazardous materials

20 Clovis Unified School District (CUSD). 2022. Annual Report to the Community. Website: https://www.cusd.com/AnnualReport.aspx (accessed July 25, 2023).

21 California Department of Toxic Substances Control. 2007. EnviroStor. Website: https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=fresno (accessed April 19, 2022).

sites compiled pursuant to Government Code Section 65962.5.[22] As a result, the proposed project would not create a significant hazard to the public or the environment, and there would be no impact. This section will not be included in the EIR.

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

The nearest airports to the project site include the Fresno Yosemite International Airport, located approximately 1.6 miles west of the project site, Fresno Chandler Executive Airport, located approximately 8.3 miles southwest of the project site, and the Sierra Sky Airport, located approximately 11 miles northwest of the project site. The nearest medical center helipads (HP) include the Saint Agnes Medical Center HP, located approximately 7.0 miles northwest of the project site and the Valley Children's Hospital HP located approximately 10.6 miles northwest of the project site.[23] Due to the distance between the project site and local helipads, operations at these locations are not expected to pose a safety hazard for people in the project site.

The project site is within Zone 6 (Traffic Pattern Zone) of the Fresno Yosemite International Airport. Within Zone 6, prohibited uses include outdoor stadiums and similar high intensity uses, as well as uses that would represent hazards to flight including physical (e.g., tall objects), visual, and electronic forms of interference with the safety of aircraft operations.[24] The proposed project would include a 326-lot residential development compliant with the with applicable measurements, height, and design requirements for the proposed RS-5 zoning for the project site, and as such would not introduce an incompatible use that would represent a visual hazard. The project site is currently designated Low-Density Residential in the General Plan and zoned within the RS-3 District. The proposed project would require a General Plan Amendment and Rezone to Medium Density Residential and RS-5 respectively. The Project Applicant would be required to submit a General Plan Amendment and Rezone application and comply with all the City's associated requirements and fees. After fulfilment of a General Plan Amendment and Rezone requirements, the proposed residential density of the project would be compatible with permitted densities for the project site's zoning and General Plan land use designation. Additionally, the proposed residential use is not expected to result in electronic interference to aircrafts in the vicinity. Within Zone 6, there is generally no concern with regard to any object up to 100 feet above ground level (AGL) unless it is located on high ground or it is a solitary object (e.g., an antenna) more than 35 feet AGL. The proposed project is located in a generally flat area and would include

22 California Environmental Protection Agency. 2018. Government Code Section 65962.5(a) Hazardous Waste and Substances Site List. Website: https://calepa.ca.gov/sitecleanup/corteselist/section-65962-5a/ (accessed April 19, 2022).

23 California Department of Transportation (Caltrans). 2019. Caltrans HeliPlates. website: https://heliplates.dot.ca.gov/# (accessed April 19, 2022).

24 Fresno Council of Governments, 2018. *Fresno County Airport Land Use Compatibility Plan*. December.

residential units with dimensions in compliance with proposed zoning for the site. As such, the project would not introduce oversized objects or solitary objects that would result in a physical hazard to aircrafts. Therefore, the proposed project would not expose persons to airport-related hazards, and the potential impact would be less than significant. This section will not be included in the EIR.

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

The California Emergency Services Act requires cities to prepare and maintain an Emergency Plan for natural, manmade, or war-caused emergencies that result in conditions of disaster or in extreme peril to life. The City's full-time Emergency Preparedness Officer (EPO) is responsible for ensuring that Fresno's emergency response plans are up-to-date and implemented properly. The EPO also facilitates cooperation between City departments and other local, State and federal agencies that would be involved in emergency response operations. The City of Fresno Emergency Operations Center (EOC) serves as the coordination and communication between the City of Fresno and Fresno County Operational Area EOC. The proposed project would not result in any alterations of existing roadways that would permanently block the circulation of emergency response services or introduce elements that would conflict with the operations of the EOC. Therefore, the proposed project would not interfere with emergency evacuation plans in the City, and this impact would be less than significant. This section will not be included in the EIR.

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

Wildland fires occur in geographic areas that contain the types and conditions of vegetation, topography, weather, and structure density susceptible to risks associated with uncontrolled fires that can be started by lightning, improperly managed campfires, cigarettes, sparks from automobiles, and other ignition sources. The project site is located in an area mapped as Local Responsibility Area (LRA) Unzoned, indicating that the area is urbanized and not susceptible to wildland conflagrations, and is not located within a very high fire hazard severity zone (VHFHSZ).[25] Therefore, the proposed project would not expose people or structures to a significant loss, injury or death involving wildland fires and the impact would be less than significant. This section will not be included in the EIR.

MITIGATION MEASURES

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25 California Department of Forestry and Fire Protection (CAL FIRE). 2022. Fresno County State Responsibility Area Fire Hazard Severity Zones. Website: https://osfm.fire.ca.gov/fire-hazard-severity-zones-maps-2022/ (accessed April 2023).

The proposed project would not result in any potentially significant impacts related to hazards and hazardous materials, and no mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
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:			X	
i) Result in a substantial erosion or siltation on- or off-site;			X	
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site:			X	
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			X	

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
iv) impede or redirect flood flows?			X	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

DISCUSSION

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

The State Water Resources Control Board and nine Regional Water Quality Control Boards regulate the water quality of surface water and groundwater bodies throughout California. The proposed project is within the jurisdiction of the Central Valley Regional Water Quality Control Board (RWQCB).

Construction. Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During project construction , there would be an increased potential to expose soils to wind and water erosion, which could result in temporary minimal increases in sediment load in nearby water bodies, including Mill No. 36 Canal, located directly south of the project site.

Because the project would disturb greater than 1 acre of soil, it is required to comply with the State Water Resources Control Board's National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, as amended by 2010-0014-DWG and 2012-0006-DWQ, NPDES No. CAS000002) (Construction General Permit). The project is also subject to Article 7, Urban Storm Water Quality Management and Discharge Control, Section 6-714, Requirement to Prevent, Control, and Reduce Storm Water Pollutants of the City's Municipal Code.

The Construction General Permit requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP) and implement Construction Best Management Practices (BMPs). Construction BMPs would include, but not be limited to, erosion and sediment control, designed to minimize erosion and retain sediment on site, and good housekeeping practices to prevent spills, leaks, and discharge of construction debris and waste into receiving waters. Section 6-714 of the City's Municipal Code also requires the implementation of BMPs to the maximum extent technologically and economically feasible to prevent and reduce pollutants from entering stormwater during construction. Therefore, adherence to the required SWPPP and the City's Municipal Code and implementation of construction BMPs, would reduce the potential for the discharge of pollutants into Mill No. 36 Canal during construction and impacts associated with the violation of water quality standards or waste discharge requirements would be less than significant.

Operation. Operation of the proposed project could result in surface water pollution associated with chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and waste that may be spilled or leaked and have the potential to be transported via runoff during periods of heavy precipitation into nearby water bodies.

The City of Fresno operates under the California Regional Water Quality Control Board Central Valley Regional National Pollutant Discharge Elimination System Permit and Waste Discharge Requirements General Permit for Discharges from Municipal Separate Storm Sewer Systems (MS4) (Order No. R5-2016-0040-014, NPDES No. CAS0085324). Consistent with the City of Fresno's MS4 Permit, the project would implement storm water quality controls recommended in the Fresno-Clovis Storm Water Quality Management Construction and Post-Construction Guidelines. Adherence to the City of Fresno's MS4 Permit would reduce the potential for the discharge of pollutants during project operations and impacts associated with the violation of water quality standards or waste discharge requirements would be less than significant.

Infiltration of stormwater could have the potential to affect groundwater quality. The majority of the project site would be impervious surface; and therefore, it is not expected that stormwater would infiltrate during project operations. Because stormwater would be collected and diverted to the storm drain system, there is not a direct path for pollutants to reach groundwater. Therefore, project operations would not violate groundwater quality standards or waste discharge requirements and impacts would be less than significant.

Therefore, impacts associated with the proposed project would be less than significant. This section will not be included in the EIR.

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

The City of Fresno overlies the Kings Subbasin, which is part of the greater San Joaquin Valley Groundwater Basin. Temporary dewatering from excavations could be necessary during construction. Construction-related dewatering would be temporary and limited to the area of excavations on the project site and would not substantially contribute to depletion of groundwater supplies. Operation of the project would not require groundwater extraction. Following project implementation, there would be an increase in impervious surface area given that the project site would be mostly built out aside from planting areas located internally and around the perimeter of the project site. An increase in impervious surface area decreases infiltration, which can decrease the amount of water that is able to recharge the aquifer/groundwater. However, the stormwater from the project site would be collected and directed to the Fresno Metropolitan Flood Control District's (FMFCD) storm drain system, which includes infiltration facilities to replenish groundwater supplies in the basin. Therefore, the project would not impede the Central Valley Regional Water Quality Control Board's ability to manage groundwater. Thus, this project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project would impede sustainable management of the Kings Subbasin. Impacts would be less than significant, and no mitigation is required.

Additionally, as discussed below in Section XIX, Utilities and Service Systems, the City receives its water supply from groundwater and surface water. The City has indicated that groundwater wells, pump stations, recharge facilities, water treatment and distribution systems shall be expanded incrementally to mitigate increased water demands. One of the primary objectives of Fresno's future water supply plans detailed in the City's current Urban Water Management Plan (UWMP) is to balance groundwater operations through a host of strategies. Through careful planning, Fresno has designed a comprehensive plan to accomplish this objective by increasing surface water supplies and surface water treatment facilities, intentional recharge, and conservation, thereby reducing groundwater pumping. The City continually monitors impacts of land use changes and development project proposals on water supply facilities by assigning fixed demand allocations to each parcel by land use as currently zoned or proposed to be rezoned.

The City relies on groundwater and surface water supplies to meet water demands. In 2006, Fresno updated its Metropolitan Water Resources Management Plan designed to ensure the Fresno metro area has a reliable water supply through 2050. The plan implements a conjunctive use program, combining groundwater, treated surface water, artificial recharge, and an enhanced water conservation program.

The General Plan policies require the City to maintain a comprehensive conservation program to help reduce per capita water usage, and includes conservation programs such as landscaping standards for drought tolerance, irrigation control devices, leak detection and retrofits, water audits, public education and implementing U.S. Bureau of Reclamation Best Management Practices for water conservation to maintain surface water entitlements.

Implementation of the Fresno General Plan policies, the Kings Basin Integrated Regional Water Management Plan, the City of Fresno UWMP, the Fresno-Area Regional Groundwater Management Plan, and the City of Fresno Metropolitan Water Resource Management Plan would address the issues of providing an adequate, reliable, and sustainable water supply for the proposed project. Therefore, the proposed project would not decrease groundwater supplies, interfere substantially with groundwater recharge or impede sustainable groundwater management of the basin. The impact would be less than significant. This section will not be included in the EIR.

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?

Construction of the proposed project would result in grading on the site that would expose native soils that could be subject to the effects associated with wind and water erosion unless adequate measures are taken to limit the transport of soils in surface water from the site to downstream locations.

Stormwater collection and disposal, and flood control for the City of Fresno, City of Clovis, and the unincorporated areas within the City of Fresno's sphere of influence are provided by the FMFCD. Stormwater from the project site would be directed through internal drainage infrastructure (e.g., manholes, drainage basins, and drainage lines) towards proposed drainage infrastructure located along North Armstrong Avenue and along the future extension of East McKinley Avenue. Stormwater from the project site would then be redirected towards ponding Basin BS, located 0.26-mile southwest of the project site, across Mill No. 36 Canal.

As discussed previously, the Construction General Permit requires preparation of a SWPPP to identify construction BMPs to be implemented as part of the project to reduce impacts to water quality during construction, including those impacts associated with soil erosion and siltation. With compliance with the requirements in the Construction General Permit and implementation of the construction BMPs, and with compliance with the City's Municipal Code, construction impacts related to on- or off-site erosion or siltation would be less than significant.

The project would increase the amount of impervious surface, which would increase the volume of runoff during a storm, and which can more effectively transport sediments to receiving waters. At project completion, much of the project site would be impervious surface area and not prone to onsite erosion or siltation because no exposed soil would be present in these areas. The remaining portion of the site would consist of pervious surface area, which would contain landscaping that would minimize onsite erosion and siltation by stabilizing the soil. Additionally, the Project Applicant would be required to establish and maintain existing drainage patterns. Therefore, the proposed project would not alter the existing drainage pattern of the site or increase the rate or amount of surface runoff in a manner that would result in an impact related to substantial erosion or siltation on- or off-site. This section will not be included in the EIR.

ii. *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?*

During construction, soil would be disturbed and compacted, and drainage patterns would be temporarily altered, which can increase the volume and velocity of stormwater runoff and increase the potential for localized flooding compared to existing conditions. As discussed above, the Construction General Permit requires the preparation of a SWPPP and implementation of construction BMPs to control and direct surface runoff on site. With adherence to the Construction General Permit, construction impacts related to altering the existing drainage pattern of the site or area or increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site would be less than significant.

While the project would permanently increase the impervious surface area in the project site, the project would be required to direct runoff towards proposed drainage infrastructure along North Armstrong Avenue and East McKinley Avenue. In addition, prior to final development approval, the project applicant shall submit a Grading Plan and Drainage Report to the FMFCD for review and approval. According to the City's preliminary review, permanent drainage service is available for the project area, provided that the Project Applicant can verify to the satisfaction of the City that runoff can be safely conveyed to existing and proposed Master Plan inlets and drainage infrastructure. The FMFCD's existing Master Plan drainage system is designed to serve medium density residential uses, and the proposed project would introduce a medium density residential use in the site. As such, the runoff from the project site would be able to be safely conveyed through proposed Master Plan drainage infrastructure on North Armstrong Avenue and East McKinley Avenue. Additionally, the project would be required to maintain the existing drainage pattern of the site. Therefore, the project would not increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site and impacts would be considered less than significant.

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?*

Construction. The proposed project would result in an increase in impervious surfaces given that the project site would be mostly built out aside from planting areas located internally and around the perimeter of the project site. However, compliance with pre-existing regulatory requirements, including compliance with the Construction General Permit and implementation of a SWPPP, would reduce or eliminate the potential for project construction to cause substantial additional polluted runoff or runoff in excess of existing or planned stormwater drainage systems. Therefore, construction would not result in additional sources of polluted runoff to be discharged to the storm drain system and impacts would be less than significant. No mitigation is required.

Operations. As discussed above, the proposed project would result in an increase in impervious surfaces. However, compliance with existing regulatory requirements, including the MS4 Permit, would reduce or eliminate the potential for project operations to cause substantial additional polluted runoff or runoff in excess of existing or planned stormwater drainage systems. Therefore, project operations would not result in additional sources of polluted runoff to be discharged to the storm drain system and impacts would be less than significant. This section will not be included in the EIR.

iv. Impede or redirect flood flows?

Title 44 of the Code of Federal Regulations, Part 60 regulations (44CFR60), and the floodplain ordinance of the City of Fresno require that placement and flood provision structures within a floodplain not result in a cumulative change in the floodplain water surface that exceeds one foot. In addition, the regulations under 44CFR60 do not allow placement of structures within a regulatory floodway unless that placement would not result in any increase in the floodplain water surface elevation, meaning that there is no displacement or redirection of the floodway. The City's floodplain ordinance (Chapter 11, Article 6 of the City's Municipal Code) requires that a registered Civil Engineer in the State of California certify that no displacement of floodwater would result from the flood proofing of a structure within a floodplain or a regulatory floodway. The majority of the project site is not located within the 100-year flood hazard area as mapped by the Federal Emergency Management Agency (FEMA).[26] However, the project site is located adjacent to Mill No. 36 Canal, which is a 100-year flood hazard area (i.e., Zone AE). Construction in the vicinity of Mill No. 36 Canal would be compliant with applicable requirements of the City's floodplain ordinance (Fresno Municipal Code, Chapter 11, Article 6), including specifications for residential uses (e.g., elevation of structures constructed in Zone AE up to or six inches above base flood elevation), and 44CFR60 requirements (e.g., for non-residential and utility structures, be designed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy). The Project Applicant would obtain necessary development permits and comply with applicable design and pre- and post-construction inspection requirements. As a result, the impact would be less than significant. This section will not be included in the EIR.

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

26 Federal Emergency Management Agency. 2020. FEMA Flood Map Service Center: Search By Address. Website: https://msc.fema.gov/portal/search?AddressQuery#searchresultsanchor (accessed April 20, 2022).

The project site is not located in tsunami, or seiche zones. Refer to discussion c) iv regarding flood hazards. Refer to discussion a) in Section IX, Hazards and Hazardous Materials regarding the use of hazardous materials within the project site. As a result, a less-than-significant impact would occur related to the release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones. This section will not be discussed in the EIR.

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

The City is located within the Kings Sub-basin, which is part of the larger San Joaquin Valley Groundwater Basin. The planning documents regarding water resources for the City include City of Fresno Urban Water Management Plan, and City of Fresno Metropolitan Water Resources Management Plan. The project would be required to adhere to the City's water resources planning documents, NPDES drainage control requirements during construction and operation, as well as to FMFCD drainage control requirements. Furthermore, the project would be required to implement a SWPPP, which would control water quality of runoff from the project site. As a result, the project would not conflict with any applicable water quality control plan or groundwater management plan, and the impact would be less than significant. This section will not be included in the EIR.

MITIGATION MEASURES

The proposed project would not result in any potentially significant impacts related to hydrology and water quality, and no mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			X	

Discussion

a) Physically divide an established community?

The physical division of an established community typically refers to the construction of a physical feature (such as an interstate highway or railroad tracks) or removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and outlying areas.

The proposed project would consist of a 326-lot residential development for single-family residences. The development would potentially include landscaped spaces, a private pool, a park area, private streets, pedestrian, and utility infrastructure. The project site is bounded by residential developments to the north, rural residential uses to the east, rural residential and agricultural uses to the south, and agricultural and rural residential uses to the west. The proposed project would not construct features that would divide an established community or remove means of access that would impair mobility in a community. Therefore, the proposed project would have no impact. This section will not be included in the EIR.

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

The project site is designated Low Density Residential in the City of Fresno General Plan and zoned within the Residential Single-Family District (RS-3). The project would require a change to the General Plan land use designation and zoning of the project site. The Project Applicant would need to submit a Plan Amendment and Rezone application and comply with all of the City's associated requirements and fees. The impact of this land use change would be less than significant with implementation of the City's applicable requirements. This section will not be included in the EIR.

MITIGATION MEASURES

The proposed project would not result in any potentially significant impacts related to land use and planning, and no mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES – Would the project:				

ENVIRONMENTAL ISSUES	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?			X	
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?			X	

DISCUSSION

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?

The principal area for mineral resources in the City of Fresno Planning Area is located along the San Joaquin River Corridor. The California Department of Mines and Geology classifies lands along the San Joaquin River Corridor as Mineral Resource Zone (MRZ) 1, MRZ 2, and MRZ 3. The project site is not located in the vicinity of the San Joaquin River Corridor, is not a MRZ, and it doesn't contain a MRZ. Therefore, the proposed project would not result in the loss of availability of known mineral resources.[27] [28] The impact would be less than significant. This section will not be included in the EIR.

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?

Please refer to the discussion for a). The proposed project would not result in the loss of availability of any known locally important mineral resource recovery sites. Therefore, the proposed project would have a less-than-significant impact. This section will not be included in the EIR.

MITIGATION MEASURES

27 Fresno County. 2000. Fresno County General Plan Background Report. Website: 8398-background_report_june04.pdf (fresnocountyca.gov) (accessed November 2023).

28 California Department of Conservation. 2016. Mines & Mineral Resource Related Data & Maps. Website: https://maps.conservation.ca.gov/mineralresources/ (accessed May 2, 2022).

The proposed project would not result in any potentially significant impacts related to mineral resources, and no mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE – Would the project result in:				
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?		X		
b) Generation of excessive groundborne vibration or groundborne noise levels?			X	
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?			X	

DISCUSSION

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 in other applicable local, state, or federal standards?

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness; and similarly, each 10 dB decrease in sound level is perceived as half as loud. Sound intensity is normally measured through the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for 24-hour sound measurements that better represent human sensitivity to sound at night.

As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise sensitive receptor of concern.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq}, the community noise equivalent level (CNEL), and the day-night average level (L_{dn}) based on dBA. CNEL is the time varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale, but without the adjustment for events occurring during the evening relaxation hours. CNEL and L_{dn} are within one dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

A project would have a significant noise effect if it would substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of applicable regulatory agencies, including, as appropriate, the City of Fresno.

The City of Fresno addresses noise in the Noise Element of the General Plan and in Chapter 10, Article 1 (Noise Regulations), of the Fresno Municipal Code. Listed below are objectives and policies related to noise that are presented in the Noise Element of the General Plan. In addition, the Noise Element sets noise standards for transportation and stationary noise sources as shown in Table 4 and Table 5, below.

Table 4: Transportation (Non-Aircraft) Noise Sources

Noise-Sensitive Land Use[1]	Outdoor Activity Areas[2]	Interior Spaces	
	L_{dn}/CNEL, dB	L_{dn}/CNEL, dB	L_{eq} dB[2]
Residential	65	45	-
Transient Lodging	65	45	-
Hospitals, Nursing Homes	65	45	-
Theaters, Auditoriums, Music Halls	-	-	35
Churches, Meeting Halls	65	-	45
Office Buildings	-	-	45
Schools, Libraries, Museums	-	-	45

Source: City of Fresno General Plan (2014).

1 Where the location of outdoor activity areas is unknown or is not applicable, the exterior noise level standard shall be applied to the property line of the receiving land use.

2 As determined for a typical worst-case hour during periods of use.

CNEL = community noise equivalent level
dB = decibel(s)
L_{dn} = day-night average noise level
L_{eq} = equivalent continuous sound level

Table 5: Stationary Noise Sources

	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly Equivalent Sound Level (L_{eq}), dBA	50	45
Maximum Sound Level (L_{max}), dBA	70	60

Source: City of Fresno General Plan (2014).

1 The Planning and Development Director, on a case-by-case basis, may designate land uses other than those shown in this table to be noise-sensitive, and may require appropriate noise mitigation measures.

2 As determined at outdoor activity areas. Where the location of outdoor activity areas is unknown or not applicable, the noise exposure standard shall be applied at the property line of the receiving land use. When ambient noise levels exceed or equal the levels in this table, mitigation shall only be required to limit noise to the ambient plus five dB.

dB = decibel(s)
dBA = A-weighted decibel(s)
L_{dn} = day-night average noise level
L_{eq} = equivalent continuous sound level
L_{max} = maximum A-weighted sound level

- **Policy NS-1-a: Desirable and Generally Acceptable Exterior Noise Environment.** Establish 65 dBA L_{dn} or CNEL as the standard for the desirable maximum average exterior noise levels for defined usable exterior areas of residential and noise-sensitive uses for noise, but designate 60 dBA L_{dn} or CNEL (measured at the property line) for noise generated by stationary sources impinging upon residential and noise-sensitive uses. Maintain 65 dBA L_{dn} or CNEL as the maximum average exterior noise levels for non-sensitive commercial land uses, and maintain 70 dBA L_{dn} or CNEL as maximum average exterior noise level for industrial land uses, both to be measured at the property line of parcels where noise is generated which may impinge on neighboring properties.

- **Policy NS-1-c: Generally Unacceptable Exterior Noise Exposure Range.** Establish the exterior noise exposure of greater than 65 dB L_{dn} or CNEL to be generally unacceptable for residential and other noise sensitive uses for noise generated by sources in Policy NS-1-a, and study alternative less noise-sensitive uses for these areas if otherwise appropriate. Require appropriate noise reducing mitigation measures as determined by a site specific acoustical analysis to comply with the generally desirable or generally acceptable exterior noise level and the required 45 dB interior noise level standards set in Table 4 as conditions of permit approval.

- **Policy NS-1-g:** Noise mitigation measures which help achieve the noise level targets of this plan include, but are not limited to, the following:

    - Façades with substantial weight and insulation;
    - Installation of sound-rated windows for primary sleeping and activity areas;
    - Installation of sound-rated doors for all exterior entries at primary sleeping and activity areas;
    - Greater building setbacks and exterior barriers;
    - Acoustic baffling of vents for chimneys, attic and gable ends;
    - Installation of mechanical ventilation systems that provide fresh air under closed window conditions.

- **NS-1-i Mitigation by New Development.** Require an acoustical analysis where new development of industrial, commercial or other noise generating land uses (including transportation facilities such as roadways, railroads, and airports) may result in noise levels that exceed the noise level exposure criteria established by Tables 4 and 5 to determine impacts, and require developers to mitigate these impacts in conformance with Tables 4 and 5 as a condition of permit approval through appropriate means.

    Noise mitigation measures may include:

    - The screening of noise sources such as parking and loading facilities, outdoor activities, and mechanical equipment;
    - Providing increased setbacks for noise sources from adjacent dwellings;
    - Installation of walls and landscaping that serve as noise buffers;
    - Installation of soundproofing materials and double-glazed windows; and

- Regulating operations, such as hours of operation, including deliveries and trash pickup.

Alternative acoustical designs that achieve the prescribed noise level reduction may be approved by the City, provided a qualified Acoustical Consultant submits information demonstrating that the alternative designs will achieve and maintain the specific targets for outdoor activity areas and interior spaces. As a last resort, developers may propose to construct noise walls along roadways when compatible with aesthetic concerns and neighborhood character. This would be a developer responsibility, with no City funding.

- **Policy NS-1-j: Significance Threshold.** Establish, as a threshold of significance for the City's environmental review process, that a significant increase in ambient noise levels is assumed if the project would increase noise levels in the immediate vicinity by 3 dB Ldn or CNEL or more above the ambient noise limits established in this General Plan Update.

Chapter 10, Article 1 (Noise Regulations), of the Fresno Municipal Code establishes excessive noise guidelines and exemptions. Section 10-109 states that construction noise is exempted from City noise regulations provided such work takes place between the hours of 7:00 a.m. and 10:00 p.m. on any day except Sunday.

Certain land uses are considered more sensitive to noise than others. Examples of these land uses include residential areas, educational facilities, hospitals, childcare facilities, and senior housing. The closest sensitive receptors include single-family residential uses located adjacent to the northern and eastern boundaries of the project site and the single-family residential uses located across North Armstrong Avenue, approximately 75 feet west of the project site.

The following section describes how the short-term construction and long-term operational noise impacts of the proposed project would be less than significant with mitigation.

Short-Term (Construction) Noise Impacts. Project construction would result in short-term noise impacts on the nearby sensitive receptors. Maximum construction noise would be short-term, generally intermittent depending on the construction phase, and variable depending on receiver distance from the active construction zone. The duration of noise impacts generally would be from one day to several days depending on the phase of construction. The level and types of noise impacts that would occur during construction are described below.

Short-term noise impacts would occur during grading and site preparation activities. Table 6 lists typical construction equipment noise levels (L_{max}) recommended for noise impact assessments, based on a distance of 50 feet between the equipment and a noise receptor, obtained from the Federal Highway Administration (FHWA) Roadway

Construction Noise Model. Construction-related short-term noise levels would be higher than existing ambient noise levels currently in the project area but would no longer occur once construction of the proposed project is completed.

Table 6: Typical Construction Equipment Noise Levels

Equipment Description	Acoustical Usage Factor (%)	Maximum Noise Level (L_{max}) at 50 Feet[1]
Backhoes	40	80
Compactor (ground)	20	80
Compressor	40	80
Cranes	16	85
Dozers	40	85
Dump Trucks	40	84
Excavators	40	85
Flat Bed Trucks	40	84
Forklift	20	85
Front-end Loaders	40	80
Graders	40	85
Impact Pile Drivers	20	95
Jackhammers	20	85
Pick-up Truck	40	55
Pneumatic Tools	50	85
Pumps	50	77
Rock Drills	20	85
Rollers	20	85
Scrapers	40	85
Tractors	40	84
Welder	40	73

Source: Roadway Construction Noise Model (FHWA 2006).
Note: Noise levels reported in this table are rounded to the nearest whole number.
[1] Maximum noise levels were developed based on Spec 721.560 from the Central Artery/Tunnel (CA/T) program to be consistent with the City of Boston's Noise Code for the "Big Dig" project.
L_{max} = maximum instantaneous sound level

Two types of short-term noise impacts could occur during construction of the proposed project. The first type involves construction crew commutes and the transport of construction equipment and materials to the site, which would incrementally increase noise levels on roads leading to the site. As shown in Table 6, there would be a relatively high single-event noise exposure potential at a maximum level of 84 dBA L_{max} with trucks passing at 50 feet.

The second type of short-term noise impact is related to noise generated during grading and construction on the project site. Construction is performed in discrete steps, or phases, each with its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase.

Table 6 lists maximum noise levels recommended for noise impact assessments for typical construction equipment, based on a distance of 50 feet between the equipment and a noise receptor. Typical noise levels range up to 88 dBA L_{max} at 50 feet during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the project site, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings.

Construction details (e.g., construction fleet activities) are not yet known; therefore, this analysis assumes that scrapers, bulldozers, and water trucks/pickup trucks would be operating simultaneously during construction of the proposed project. As discussed above, noise levels associated with this equipment operating simultaneously would be approximately 88 dBA L_{max} at 50 feet.

As noted above, the closest sensitive receptors to the project site include single-family residential uses located directly adjacent to the project site's northern and eastern boundaries. Based on building setbacks, the closest sensitive receptors include the adjacent single-family residential uses north of the project site, which are approximately 35 feet from project construction activities. Based on a reduction in noise of 6 dBA per doubling of distance, there would be in increase of approximately 3 dBA from the active construction area to the nearest residence. In addition, these residences have a solid wood fence, which would reduce noise levels by approximately 5 dBA. Therefore, the closest off-site sensitive receptor may be subject to short-term construction noise reaching 86 dBA L_{max} (88 dBA L_{max} + 3 dBA – 5 dBA) when construction is occurring.

However, construction equipment would operate at various locations within the 31.29-acre project site and would only generate maximum noise levels when operations occur closest to the receptor. To ensure that the project's potential construction-related noise impacts are less than significant, Mitigation Measure NOI-1 requires the project to equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards, which would reduce the potential impacts associated with construction equipment. Additionally, Mitigation Measure NOI-1 requires the project to designate a "disturbance coordinator" at the City who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler) and would determine and implement reasonable measures warranted to correct the problem. These measures would ensure that the project's potential construction-related noise impacts are mitigated to less-than-significant levels.

Operational Noise Impacts The proposed project would include the construction of 326 new single-family residential units**.** Motor vehicles with their distinctive noise characteristics are the dominant noise source in the project vicinity. The amount of noise varies according to many factors, such as volume of traffic, vehicle mix (percentage of cars and trucks), average traffic speed, and distance from the observer. Implementation of the proposed project would result in new daily trips on local roadways in the project site vicinity. A characteristic of sound is that a doubling of a noise source is required in order to result in a perceptible (3 dBA or greater) increase in the resulting noise level.

As discussed in the Traffic Impact Study (TIS) prepared for the proposed project[29], the proposed project would generate approximately 3,074 daily trips. The adjacent Armstrong Avenue carries approximately 10,580 average daily trips. Project trips would represent a small increase in noise level, up to approximately 1.1 dBA CNEL along Armstrong Avenue based on the following equation:

$$Change\ in\ (dBA) = 10 * \log_{10}\left(\frac{Current\ Volume}{\text{Future Volume}}\right)$$

In general, noise level changes of less than 3 dBA are not perceptible in an outdoor environment. Therefore, since project trips would not result in a doubling of traffic volumes along any roadway segment in the project vicinity, project trips would not result in a perceptible (3 dBA) increase in traffic noise levels at receptors in the project vicinity.

In addition, with implementation of the proposed project, there would be an increase in activity at the project site. The project site itself is surrounded by residential, rural residential and agricultural uses. Noise from the proposed project would be similar to the existing surrounding residential uses and would generally include noise from vehicles, air conditioner units, and other similar equipment. It is not expected that the proposed project would result in a perceptible (3dBA) increase in noise to surrounding land uses. Therefore, it is not expected that the proposed project would substantially increase noise levels over existing conditions. Operation of the proposed project would result in similar noise levels as existing conditions and, therefore, it is not expected that the proposed project would substantially increase noise levels over existing conditions, and impacts would be less than significant with mitigation.

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

Vibration refers to groundborne noise and perceptible motion. Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors. Vibration energy propagates from a source, through intervening soil and rock layers, to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by the occupants as the motion of building surfaces, rattling of items on shelves or hanging on walls, or as a low-frequency rumbling noise. The rumbling noise is caused by the vibrating walls, floors, and ceilings radiating sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 dB or less.

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29 LSA, 2023. *Traffic Impact Study Tract Map 6360 Project, City of Fresno, Fresno County, California*. March.

This is an order of magnitude below the damage threshold for normal buildings.

Typical sources of groundborne vibration are construction activities (e.g., pavement breaking and operating heavy-duty earthmoving equipment), and occasional traffic on rough roads. In general, groundborne vibration from standard construction practices is only a potential issue when within 25 feet of sensitive uses. Groundborne vibration levels from construction activities very rarely reach levels that can damage structures; however, these levels are perceptible near the active construction site. With the exception of old buildings built prior to the 1950s or buildings of historic significance, potential structural damage from heavy construction activities rarely occurs. When roadways are smooth, vibration from traffic (even heavy trucks) is rarely perceptible.

The streets surrounding the project area are paved, smooth, and unlikely to cause significant groundborne vibration. In addition, the rubber tires and suspension systems of buses and other on-road vehicles make it unusual for on-road vehicles to cause groundborne noise or vibration problems. It is, therefore, assumed that no such vehicular vibration impacts would occur and, therefore, no vibration impact analysis of on-road vehicles is necessary. Therefore, once constructed, the proposed project would not contain uses that would generate groundborne vibration. This impact would be less than significant.

Construction Vibration. Construction of the proposed project could result in the generation of groundborne vibration. This construction vibration impact analysis discusses the level of human annoyance using vibration levels in VdB and will assess the potential for building damages using vibration levels in peak particle velocity (PPV) (in/sec) because vibration levels calculated in root-mean-square (RMS) are best for characterizing human response to building vibration, while vibration level in PPV is best used to characterize potential for damage. The Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment guidelines indicate that a vibration level up to 102 VdB (an equivalent to 0.5 in/sec in PPV) is considered safe for buildings consisting of reinforced concrete, steel, or timber (no plaster), and would not result in any construction vibration damage. For a non-engineered timber and masonry building, the construction vibration damage criterion is 94 VdB (0.2 in/sec in PPV).

Table 7 shows the PPV and VdB values at 25 feet from a construction vibration source. As shown in Table 7, bulldozers and other heavy-tracked construction equipment (except for pile drivers and vibratory rollers) generate approximately 87 VdB of groundborne vibration when measured at 25 feet, based on the Transit Noise and Vibration Impact Assessment. At this level, groundborne vibration would result in potential annoyance to residents and workers but would not cause any damage to the buildings.

Table 7: Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV/L_V at 25 feet	
	PPV (in/sec)	L_V (VdB)[1]
Pile Driver (Impact), Typical	0.644	104
Pile Driver (Sonic), Typical	0.170	93
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58
Pile Driver (Impact), Typical	0.644	104

Source: Transit Noise and Vibration Impact Assessment (FTA 2018).
Note: Noise levels reported in this table are rounded to the nearest whole number.
[1] RMS vibration velocity in decibels (VdB) is 1 µin/sec.
µin/sec = micro-inches per second
FTA = Federal Transit Administration
in/sec = inches per second
L_V = velocity in decibels
PPV = peak particle velocity
RMS = root-mean-square
VdB = vibration velocity decibels

Construction vibration, similar to vibration from other sources, would not have any significant effects on outdoor activities (e.g., those outside of residences and commercial/ office buildings in the project vicinity). Outdoor site preparation for the proposed project is expected to include the use of bulldozers and loaded trucks. The greatest levels of vibration are anticipated to occur during the site preparation phase. All other phases are expected to result in lower vibration levels. The distance to the nearest buildings for vibration impact analysis is measured between the nearest off-site buildings and the project boundary (assuming the construction equipment would be used at or near the project boundary) because vibration impacts occur normally within the buildings. The formula for vibration transmission is provided below.

$$L_v dB\,(D) = L_v dB\,(25\text{ ft}) - 30\,\text{Log}\,(D/25)$$

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

As shown in Table 7, for typical construction activity, the equipment with the highest vibration generation potential is the large bulldozer, which would generate 87 VdB at 25 feet. As noted above, the closest sensitive receptors to the project site include single-family residential uses located directly adjacent to the project site's northern and eastern boundaries. Based on building setbacks, the closest sensitive receptors include the adjacent single-family residential uses north of the project site, which are approximately 35 feet from project construction activities.

At 35 feet, these single-family residences would experience vibration levels of up to 83 VdB (0.054 PPV [in/sec]), which would not exceed the FTA threshold of 94 VdB (0.2 in/sec PPV) for non-engineered timber and masonry building damage when bulldozers and loaded trucks operate at or near the project construction boundary. Although construction vibration levels at surrounding uses would have the potential to result in annoyance, these vibration levels would no longer occur once construction of the project is completed and impacts would be considered less than significant. No mitigation is required.

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

The nearest medical center helipads (HP) include the Saint Agnes Medical Center HP, located approximately 7.0 miles northwest of the project site and the Valley Children's Hospital HP located approximately 10.6 miles northwest of the project site. Due to the distance, operations at these heliports are not expected to result in excessive noise levels at the project site. The nearest airports to the project site include the Fresno Yosemite International Airport, located approximately 1.6 miles west of the project site, Fresno Chandler Executive Airport, located approximately 8.3 miles southwest of the project site, and the Sierra Sky Airport, located approximately 11 miles northwest of the project site. Each of these airports has an Airport Land Use Compatibility Plan (ALUCP) which guides local jurisdictions in determining appropriate compatible land uses with detailed findings and policies. In addition, although aircraft-related noise is occasionally audible on the project site, the site does not lie within the 65 dBA CNEL noise contours of any of these airports or helipads, including the Fresno Yosemite International Airport[30]. Therefore, the proposed project would not result in the exposure of sensitive receptors to the excessive noise levels from aircraft noise sources. The impact would be less than significant. This section will not be included in the EIR.

MITIGATION MEASURES

Mitigation Measure NOI-1: The project contractor shall implement the following measures during construction of the project:

- Equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- Place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the active project site.
- Locate equipment staging in areas that would create the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the active project site during all construction activities.

30 Fresno Yosemite International Airport, 2022. *Forecast Conditions (2022) Noise Exposure Map*. Website: https://flyfresno.com/wp-content/uploads/2018/03/2022-NEM_Contour.pdf (accessed May 2023).

- Ensure that all general construction-related activities are restricted to between the hours of 7:00 a.m. and 10:00 p.m. Monday through Saturday. No construction shall occur on Sunday.

- Designate a "disturbance coordinator" at the City who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler) and would determine and implement reasonable measures warranted to correct the problem.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING – Would the project:				
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)?			X	
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?			X	

DISCUSSION

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)?

The project site is currently designated Low-Density Residential in the General Plan and zoned within the Residential Single-Family District (RS-3), which is intended to provide for a variety of single-family residences built to urban or suburban standards to suit a spectrum of individual lifestyles and needs, and to ensure availability throughout the city of the range of housing types necessary for all segments of the community, consistent with the General Plan . The proposed project would require a General Plan Amendment and Rezone to Medium Density Residential and Residential Single-Family, Medium Density (RS-5). The project site does not currently contain any permanent residents.

Although the project site is zoned and designated for residential use, the proposed zoning would introduce higher-density residential uses on the site. Therefore, implementation of the proposed project would potentially result in an increase in unplanned population growth in the City.

The proposed project would introduce 326 single-family residences into the project site, which would increase population in the project site by approximately 988 residents.[31, 32] The addition of 988 new residents represents approximately 0.2 percent of Fresno's 2020 population of 542,107.[33] As such, population growth in the area as a result of residential land uses would be negligible.

The Project Applicant would need to submit a Plan Amendment and Rezone application and comply with all the City's associated requirements and fees. Population growth resulting from site re-zoning and land use change would be less than significant after implementation of the City's applicable requirements. This section will not be included in the EIR.

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

The project site is currently used to grow agricultural crops. The proposed project would introduce 326 new single-family residential units into the project site and would not necessitate the displacement or removal of existing housing. Therefore, the proposed project would not require the construction of replacement housing, and the impact would be less than significant. This section will not be included in the EIR.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES – Would the project:				

31 Based on an average of 3.03 persons per household in the City of Fresno , as identified by the Census Bureau.

32 United States Census Bureau. QuickFacts. Fresno City, California. Website: https://www.census.gov/quickfacts/fresnocitycalifornia (accessed February 2023).

33 Ibid.

ENVIRONMENTAL ISSUES	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:			X	
Fire protection?			X	
Police protection?			X	
Schools?			X	
Parks?			X	
Other public facilities?			X	

DISCUSSION

a) **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:**

Fire protection

The City of Fresno Fire Department (FFD) would provide fire protection services to the proposed project. There are 20 FFD fire stations in Fresno, with the closest fire station, Fire Station 10, located approximately 3 miles northwest from the project site. Planned growth under the General Plan would increase calls for fire protection service in the City. The project would introduce 326 single-family residences into the project site. The Project Applicant would need to submit a General Plan Amendment (GPA) and rezone application and comply with all associated requirements and fees. The project would be consistent with the General Plan after implementation of GPA and rezone requirements.

The project could result in an incremental increase in the demand for fire protection services. However, the proposed project would be required to comply with all applicable codes for fire safety and emergency access. In addition, the project applicant would be required to submit plans to the FFD for review and approval prior to the issuance of building permits to ensure the project would conform to applicable building codes. Furthermore, the Project Applicant would be required to pay a Fire Facilities Fee pursuant to Chapter 12, Article 4.9 of the Fresno Code of Ordinances to account for the potential impacts to fire service facilities.

The FFD would continue providing services to the project site and would not require additional firefighters to serve the proposed project. The construction of a new or expanded fire station would not be required.[34] The proposed project would not result in a significant impact on the physical environment due to the incremental increase in demand for fire protection and life safety services. The incremental increase in demand for services is not expected to adversely affect existing responses times to the site or within the City. Therefore, construction and operation of the proposed project would have a less-than-significant impact on fire protection.

Police protection

The City of Fresno Police Department (FPD) provides police protection to the project site. The Police Department Patrol Division is divided into five policing districts with the nearest being the Northeast Policing District, located approximately 11 miles northwest of the project site. Planned growth under the General Plan would increase calls for police protection service in the City. The Project Applicant would need to submit a GPA and rezone application and comply with all associated requirements and fees. The project would be consistent with the General Plan after implementation of GPA and rezone requirements.

The project could result in an incremental increase in the demand for police protection services. The Project Applicant would be required to pay a Police Facilities Fee pursuant to Chapter 12, Article 4.8 of the Fresno Code of Ordinances to account for the potential impacts to police protection services.

The FPD would continue to provide services to the project site and would not require additional officers to serve the project site.[35] [36] The construction of new or expanded police facilities would not be required. Therefore, the proposed project would not result in a substantial adverse impact associated with the provision of additional police

34 City of Fresno. November 9, 2023. Chris Lang, Supervising Planner, personal communication.
35 Ibid.
36 City of Fresno. November 13, 2023. Chris Lang, Supervising Planner, personal communication.

facilities or services and impacts to police protection would represent a less-than-significant impact.

Schools

Clovis Unified School District (CUSD) would provide school services to the proposed project. The proposed project involves a residential use that might generate an increase in demand for school services in the City. The CUSD currently serves approximately 43,000 students and operates 34 elementary schools, five intermediate schools, five high schools, one adult school and six alternative education campuses. Planned growth under the General Plan would increase demand for school services. The Project Applicant would need to submit a GPA and rezone application and comply with all associated requirements and fees. The project would be consistent with growth under the General Plan after implementation of GPA and rezone requirements

The proposed project would increase the demand for school services in the vicinity. The Project Applicant would be required to pay appropriate school developer fees at time of building permits to address potential impacts to CUSD services, as set forth in Education Code Section 17620, pursuant to Government Code 65995.

Payment of school developer fees will address potential impacts related to constructing school facilities. Therefore, the proposed project would not result in a substantial adverse impact associated with the provision of additional school facilities or services and impacts related to increased demand for school services would represent a less-than-significant. This section will not be included in the EIR.

Parks

The proposed project would consist of a 326-lot residential development for single-family residences. The proposed project would also include the construction of a 11,777 square-foot community park, and a 15,207 square-foot private pool and recreation area. Planned growth under the General Plan would increase demand for parks in the City. The Project Applicant would need to submit a GPA and rezone application and comply with all associated requirements and fees. The project would be consistent with growth under the General Plan after implementation of GPA and rezone requirements.

The proposed project could increase the demand for park services and nearby recreational facilities. However, the proposed project would include the construction of a private park and recreation area that would offset the demand for public parks in the project vicinity. Furthermore, the Project Applicant would be required to pay a Park Facilities Fee, pursuant to Chapter 12, Article 4.7 of the Fresno Code of Ordinances at the time building permits are obtained. Therefore, the proposed project would not result in a substantial adverse impact associated with the provision of additional park facilities, and impacts to parks would represent a less-than-significant impact.

Other public facilities

Planned growth under the General Plan would increase the demand for public facilities in the City. The Project Applicant would need to submit a GPA and rezone application and comply with all associated requirements and fees. The project would be consistent with growth under the General Plan after implementation of GPA and rezone requirements.

Development of the proposed project could also increase demand for other public services, including libraries, community centers, and public health care facilities. The Project Applicant would be required to coordinate with the City the payment of applicable impact fees to mitigate impacts to public facilities resulting from the proposed project. As such, the impact would be less than significant. This section will not be included in the EIR.

MITIGATION MEASURES

The proposed project would not result in any potentially significant impacts related to public services, and no mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION - Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
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?			X	

DISCUSSION

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

The proposed project would consist of a 326-lot residential development for single-family residences. The development would potentially include landscaped spaces, a private pool, a park area, private streets, pedestrian, and utility infrastructure. The development of the project would result in population growth which could increase the demand for nearby recreational facilities. Nearby parks that may be affected by increased demand for recreational facilities resulting from the project include Al Radka Park, a 14.35-acre community park located approximately 1.12 miles southwest from the project site, Airways Pool Complex, a 1.35-acre special use facility located approximately 2.0 miles northwest from the project site, Reedy Discovery Center, a 5.64-acre special use facility located approximately 3.2 miles west from the project site and Pilibos Park, a 13.22-acre community park located approximately 3.75 miles southwest from the project site.

The Project Applicant would be required to pay a Park Facility Fee pursuant to Chapter 12, Article 4.7 of the Fresno Code of Ordinances at the time building permits are obtained. The impact fee would serve to offset project impact on existing recreational facilities. Therefore, the impact would be less than significant. This section will not be included in the EIR.

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

The proposed project would introduce 326 single-family residences into the project site, which would increase population in the project site by approximately 988 residents.[37][38] The population growth resulting from the proposed project could increase the demand for nearby recreational facilities. As identified in the City's Parks Master Plan[39], the City of Fresno owns and operates a park system that includes more than 80 public parks, trails, regional parks, neighborhood parks, educational facilities, community pools, splash parks, and dual-use ponding basins. The Parks Master Plan identified a level of service (LOS) goal for pocket, neighborhood and community parks of 3 acres of parks per 1,000 residents. For regional, open space/natural areas, and special use parks, a LOS goal of 2 acres of parks per 1,000 residents was identified. The project site is within the service area of Al Radka Park, a 14.35-acre community park located 1.12 miles southwest from the project site, Airways Pool Complex, a 1.35-acre special use facility located approximately 2.0 miles northwest from the project site, Reedy Discovery Center, a 5.64-

37 Based on an average of 3.03 persons per household in the City of Fresno , as identified by the Census Bureau.

38 United States Census Bureau. QuickFacts. Fresno City, California. Website: https://www.census.gov/quickfacts/fresnocitycalifornia (accessed February 2023).

39 City of Fresno. 2017. Fresno Parks Master Plan. Website: https://www.fresno.gov/wp-content/themes/cityoffresno/_largefiles/FresnoPMPFinalDocumentwithAppA051818_S.pdf (accessed July 25, 2023).

acre special use facility located approximately 3.2 miles west from the project site and Pilibos Park, a 13.22-acre community park located approximately 3.75 miles southwest from the project site. The community and special-use recreational facilities located in the vicinity of the project site would have sufficient capacity to serve the additional 988 residents resulting from the proposed project. Therefore, the proposed project would not require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment, and the impact would be less than significant. This section will not be included in the EIR.

MITIGATION MEASURES

The proposed project would not result in any potentially significant impacts related to recreation, and no mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION – Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	X			
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	X			
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	X			
d) Result in inadequate emergency access?			X	

DISCUSSION

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

The Mobility and Transportation Element of the City of Fresno General Plan outlines the necessary transportation system and infrastructure standards needed to serve planned land use and development in the City. This Element includes objectives and policies for all modes of transportation, and for all users of streets and highways, transit, sidewalks and trails.

The 2016 City of Fresno Active Transportation Plan (ATP) is a comprehensive guide outlining the vision for active transportation in the City of Fresno. The ATP envisions a complete, safe, and comfortable network of trails, sidewalks, and bikeways that serves all residents of Fresno. This plan seeks to achieve the following goals:

- Equitably improve the safety and perceived safety of walking and bicycling in Fresno
- Increase walking and bicycling trips in Fresno by creating user-friendly facilities
- Improve the geographic equity of access to walking and bicycling facilities in Fresno
- Fill key gaps in Fresno's walking and bicycling networks

Vehicular access to the project site includes North Armstrong Avenue to the west, and East McKinley Avenue, to the south. The nearest bus stop is located near the intersection of East Princeton Drive and North Fowler Avenue, approximately 0.8 miles northwest of the project site. No walking trails or bike trails are present in the project vicinity.

The proposed project is located within Traffic Impact Zone (TIZ) III, as defined in the Mobility and Transportation Element of the City of Fresno General Plan.[40] According to the Mobility and Transportation Element, projects in TIZ III that generate more than 100 peak hour trips would require a detailed traffic analysis. The proposed project would introduce 988 residents to the project, and it's expected to surpass the 100 peak hour trips threshold for TIZ III as determined in the General Plan. This would be a potentially significant impact. The EIR will further analyze potential conflict between the proposed project and the City's transportation programs and policies.

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

Senate Bill (SB) 743 requires that relevant CEQA analysis of transportation impacts be conducted using a metric known as vehicle miles traveled (VMT) instead of Level of Service (LOS). VMT measures how much actual auto travel (additional miles driven) a proposed project would create on California roads. If the project adds excessive car travel onto our roads, the project may cause a significant transportation impact.

The State CEQA Guidelines were amended to implement SB 743, by adding Section

40 City of Fresno. 2014. Fresno General Plan - Mobility and Transportation Element. p. 4-32. Website: https://www.fresno.gov/wp-content/uploads/2023/03/upload_temp4-Mobility-and-Transportation-9-30-2021.pdf (accessed July 25, 2023).

15064.3. Among its provisions, Section 15064.3 confirms that, except with respect to transportation projects, a project's effect on automobile delay shall not constitute a significant environmental impact. Therefore, LOS measures of impacts on traffic facilities is no longer a relevant CEQA criteria for transportation impacts.

CEQA Guidelines Section 15064.3(b)(4) states that "[a] lead agency has discretion to evaluate a project's vehicle miles traveled (VMT), including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's VMT and revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate used to estimate vehicle miles traveled and any revision to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section."

On June 25, 2020, the City of Fresno adopted CEQA Guidelines for Vehicle Miles Traveled Thresholds, dated June 25, 2020, pursuant to Senate Bill 743 to be effective of July 1, 2020. The thresholds described therein are referred to herein as the City of Fresno VMT Thresholds. The City of Fresno VMT Thresholds document was prepared and adopted consistent with the requirements of CEQA Guidelines Sections 15064.3 and 15064.7. The December 2018 Technical Advisory on Evaluating Transportation Impacts in CEQA (Technical Advisory) published by the Governor's Office of Planning and Research (OPR), was utilized as a reference and guidance document in the preparation of the Fresno VMT Thresholds.

The proposed project would consist of the construction of a 326-lot residential development for single-family residences. The proposed project would also include landscaped spaces, a private pool, a park area, private streets, pedestrian, and utility infrastructure. According to the City's VMT Thresholds, projects generating less than 500 daily trips could be screened out of a detailed VMT analysis. As discussed in the Traffic Impact Study (TIS) prepared for the proposed project[41], the proposed project would generate approximately 3,074 daily trips.

Therefore, the proposed project does not qualify for a streamlined project VMT analysis under the screening criteria identified by the City. The EIR will further analyze project VMT impacts and, if possible, provide mitigation measures to reduce impacts below significance levels.

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

The proposed project would consist of a 326-lot residential development for single-family

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41 LSA, 2023. *Traffic Impact Study Tract Map 6360 Project, City of Fresno, Fresno County, California*. March.

residences. The development would potentially include landscaped spaces, a private pool, a park area, private streets, pedestrian, and utility infrastructure. Currently, there is not enough information to determine whether the project would introduce hazardous geometric design features to the vicinity. The EIR will further analyze project design features, and, if applicable, identify mitigation measures for potential hazards.

d) Result in inadequate emergency access?

The proposed project would consist of a 326-lot residential development for single-family residences. The development would potentially include landscaped spaces, a private pool, a park area, private streets, pedestrian, and utility infrastructure. Emergency vehicles would have access to the project site via North Armstrong Avenue, and East McKinley Avenue. Furthermore, the proposed project's site plan would be subject to review and approval by the FFD to ensure the project includes adequate emergency access. In addition, as discussed in Section IX, Hazards and Hazardous Materials, project implementation would not physically interfere with emergency evacuation to and from the project site. Therefore, the proposed project would result in less-than-significant impacts related to inadequate emergency access, and no mitigation is required. This section will not be included in the EIR.

ENVIRONMENTAL ISSUES	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
XVII. TRIBAL CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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:		X		
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC section 5020.1(k), or,		X		

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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 PRC section 5024.1. In applying the criteria set forth in subdivision (c) of PRC section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		X		

DISCUSSION

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:**

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

A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

The State requires lead agencies to consider the potential effects of proposed projects and consult with California Native American tribes during the local planning process for the purpose of protecting Traditional Tribal Cultural Resources through the CEQA Guidelines. Pursuant to PRC Section 21080.3.1, the lead agency shall begin consultation with the California Native American tribe that is traditionally and culturally affiliated with the geographical area of the proposed project. Such significant cultural resources are either sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a tribe which is either on or eligible for inclusion in the California Historic Register or local historic register, or, the lead agency, at its discretion, and support by substantial evidence, choose to treat the resources as a Tribal Cultural Resources (PRC Section 21074(a)(1-2)).

Additional information may also be available from the California Native American Heritage Commission's Sacred Lands File per PRC Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that PRC Section 21082.3(c) contains provisions specific to confidentiality.

Pursuant to Senate Bill 18 (SB 18), Native American tribes traditionally and culturally affiliated with the project area were invited to consult regarding the proposed project based on a list of contacts provided by the Native American Heritage Commission (NAHC). These tribes included: Big Sandy Rancheria of Western Mono Indians, Cold Springs Rancheria of Mono Indians, Dumna Wo-Wah Tribal Government, Kings River Choinumni Farm Tribe, Table Mountain Rancheria, Traditional Choinumni Tribe, Tule River Indian Tribe, North Fork Rancheria of Mono Indians, North Valley Yokuts Tribe, Picayune Rancheria of Chukchansi Indians, and Wuksache Indian Tribe/Eshom Valley Band.

Assembly Bill (AB) 52, which became law January 1, 2015, requires that, as part of the CEQA review process, public agencies provide early notice of a project to California Native American Tribes to allow for consultation between the tribe and the public agency. The purpose of AB 52 is to provide the opportunity for public agencies and tribes to consult and consider potential impacts to Tribal Cultural Resources (TCR's), as defined by the Public Resources Code (PRC) Section 2107(a). Under AB 52, public agencies shall reach out to California Native American Tribes who have requested to be notified of projects in areas within or which may have been affiliated with their tribal geographic range. Pursuant to Assembly Bill 52 (AB 52), Table Mountain Rancheria and Dumna Wo Wah Tribes were invited to consult. The contracted Tribes did not request consultation.

No tribal cultural resources or historical resources were identified on the project site. If any artifacts are inadvertently discovered during ground-disturbing activities, existing federal, State, and local laws and regulations would require construction activities to cease until such artifacts are properly examined and determined not to be of significance by a qualified cultural resources professional. In addition, Mitigation Measures CUL-1, CUL-2 and CUL-3 included above in Section V, Cultural Resources, would apply to the project and would reduce potential impacts to unknown historical resources to less than significant. This section will not be included in the EIR.

MITIGATION MEASURES

Refer to Mitigation Measures CUL-1, CUL-2 and CUL-3.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS – Would the project:				
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 effect?			X	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
c) Result in a determination by the waste water 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?			X	
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?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

DISCUSSION

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?

Water supply and wastewater services for the proposed project would be provided by the City of Fresno through the Department of Public Utilities (DPU) Water and Wastewater Management Divisions. The proposed project would connect to an existing water service pipeline located along North Armstrong Avenue, and proposed wastewater service pipelines located along North Armstrong Avenue and the future extension of East McKinley Avenue. The Department of Public Utilities has determined that adequate sanitary sewer and water services would be available to serve the proposed project subject to the payment of any applicable connection charges and/or fees and extension of services in a manner which is compliant with the Department of Public Utilities standards, specifications, and policies. The Project Applicant would need to contact the Department of Public Utilities to determine service requirements.

Electric power and telecommunication facilities would require connections to the project site. However, because the project site is located near existing infrastructure, connection to these facilities would not cause significant environmental effects.

Stormwater from the project site would be directed through internal drainage infrastructure (e.g., manholes, drainage basins, and drainage lines) towards proposed drainage infrastructure located along North Armstrong Avenue and along the future extension of East McKinley Avenue. Stormwater from the project site would then be redirected towards Ponding Basin BS, located southwest of the project site. Impacts to storm drainage facilities have been previously discussed in Section X, Hydrology and Water Quality. Compliance with the FMFCD Master Plan would ensure that the proposed project would not exceed capacity of existing and planned stormwater drainage systems. The project would not result in the construction of new drainage facilities or expansion of existing facilities, the construction of which would cause significant environmental effects. The Project Applicant would be required to pay drainage fees to the FMFCD to address impacts to storm drainage infrastructure resulting from the proposed project.

Therefore, the impact would be less than significant. This section will not be included in the EIR.

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

The City of Fresno Department of Public Utilities would supply water to the project site. Based on the City's 2020 Urban Water Management Plan, the water supplies under normal conditions for the City from 2025 (329,030 Acre Feet (AF)/year) to 2045 (357,330

AF/year) would be sufficient to cover the potable water demand (i.e., 136,504 AF by 2025 and 167,947 AF by 2045) for each normal year respectively.[42]

During a single dry year, water supplies for the City from 2025 (188,852 AF/year) to 2045 (211,158 AF/year) would be sufficient to cover the potable water demand for each year (i.e., 136,504 AF by 2025 and 167,947 AF by 2045) respectively.

After a 5-year dry period, water supplies for the City from 2025 (315,000 AF/year) to 2045 (340,000 AF/year) would be sufficient to cover the potable water demand for each year (i.e., 136,504 AF by 2025 and 167,947 AF by 2045) respectively.

After submitting a GPA and rezone application and complying with all associated requirements and fees related to the GPA and rezone progress, the proposed project would be consistent with growth under the City's General Plan and would be accounted for in the City's UWMP projections. Therefore, the proposed project would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years, and the impact would be less than significant. This section will not be included in the EIR.

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?

Water supply and wastewater services for the proposed project would be provided by the City of Fresno through the Department of Public Utilities (DPU) Water and Wastewater Management Divisions. The City of Fresno owns and operates two wastewater treatment facilities. They are the Fresno/Clovis Regional Wastewater Reclamation Facility and the North Fresno Wastewater Reclamation Facility. The RWRF currently has a capacity of 87 million gallons per day (mgd).[43] The North Fresno Facility has a capacity of 1.07 mgd.[44] The Department of Public Utilities has determined that adequate sanitary sewer and water services would be available to serve the proposed project subject to the payment of any applicable connection charges and/or fees and extension of services in a manner which is compliant with the Department of Public Utilities standards, specifications, and policies. The Project Applicant would need to contact the Department of Public Utilities to determine service requirements. This impact would be less than significant. This section will not be included in the EIR.

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?

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42 City of Fresno. 2021. 2020 Urban Water Management Plan. Website: https://www.fresno.gov/wp-content/uploads/2023/03/Fresno-2020-UWMP_Final_2021-07-21.pdf (accessed July 25, 2023).

43 Ibid.

44 Ibid.

Garbage disposed of in the City of Fresno is taken to Cedar Avenue Recycling and Transfer Station. Once trash has been off-loaded at the transfer station, it is sorted, and non-recyclable solid waste is loaded onto large trucks and taken to the American Avenue Landfill located approximately 6 miles southwest of Kerman.

The American Avenue Landfill (i.e. American Avenue Disposal Site 10-AA-0009) has a maximum permitted capacity of 32,700,000 cubic yards and a remaining capacity of 29,358,535 cubic yards, with an estimated closure date of August 31, 2031. The maximum permitted throughput is 2,200 tons per day.

Other landfills within the County of Fresno include the Clovis Landfill (City Of Clovis Landfill 10-AA-0004) with a remaining capacity of 7,740,000 cubic yards, a maximum permitted throughput of 2,000 tons per day, and an estimated closure date of April 30, 2047.[45,46]

According to the CalEEMod Analysis prepared for the project, operation of the proposed project would generate approximately 86.78 tons of solid waste per year, or approximately 0.24 tons per day. Given the available capacity at the landfills, the additional solid waste generated by the proposed project is not anticipated to cause the facility to exceed its daily permitted capacity. As such, the project would be served by a landfill with sufficient capacity to accommodate the project's waste disposal needs, and impacts associated with the disposition of solid waste would be less than significant. This section will not be included in the EIR.

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

The proposed project would comply with Cal Green, the City's Construction and Demolition (C&D) Waste Management Guide, and with waste management policies and recommendations from the General Plan and the Greenhouse Gas Reduction Plan Update. The proposed project would dispose of waste in accordance with applicable federal, state, and local recycling, reduction, and waste requirements and policies. Therefore, the proposed project would not conflict with federal, state, and local management and reduction statutes and regulations related to solid waste, and the impact would be less than significant. This section will not be included in the EIR.

MITIGATION MEASURES

The proposed project would not result in any potentially significant impacts related to recreation, and no mitigation is required.

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45 CalRecycle. n.d. SWIS Facility/Site Summary. American Avenue Disposal Site (10-AA-0009). Website: https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/352 (accessed April 19, 2022).

46 CalRecycle. n.d. SWIS Facility/Site Summary. City Of Clovis Landfill (10-AA-0004). Website: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/4529?siteID=347 (accessed April 19, 2022).

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wldfire?			X	
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?			X	
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?			X	

DISCUSSION

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

The proposed project would consist of a 326-lot residential development for single-family residences. The development would potentially include landscaped spaces, a private pool, a park area, private streets, pedestrian, and utility infrastructure. The project site is bounded by residential developments to the north, rural residential uses to the east, rural residential and agricultural uses to the south, and agricultural and rural residential uses to the west.

The proposed project would construct an extension of McKinley Avenue to facilitate access to, and circulation around the project site. Although construction of the roadway extensions would affect circulation of vehicles along intersecting roadways near the construction site, such as North Armstrong Avenue, these impacts would be temporary and would not substantially or permanently impair emergency evacuation in the City of Fresno.

Therefore, would not substantially impair any nearby roadways that may serve as emergency evacuation routes or interfere with any emergency evacuation routes within the City of Fresno or an adopted emergency response plan. Therefore, the impact would be less than significant. This section will not be included in the EIR.

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

The project site is located in an area mapped by CAL FIRE as Local Responsibility Area (LRA) Unzoned, indicating that the area is urbanized and not susceptible to wildland conflagrations, and is not located within a very high fire hazard severity zone (VHFHSZ). and is not located within a VHFHSZ.[47] The project site would comply with City and County fire safety regulations for project construction and operation. Therefore, the proposed project would not exacerbate wildfire risks and potentially expose project occupants to wildfires. The impact would be less than significant. This section will not be included in the EIR.

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?

The project site is located in an LRA Unzoned area, and is not located within a VHFHSZ. Although the proposed project may require the installation of infrastructure to serve the site, the installation of this infrastructure would not exacerbate fire risk in the project vicinity. The installation of wastewater and stormwater infrastructure to serve the project site would comply with design and construction requirements of the City and FMFCD. The project applicant would also pay for applicable impact fees and connection fees for utilities that would serve the project site. Compliance with utility installation requirements of the

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47 California Department of Forestry and Fire Protection (CAL FIRE). 2022. Fresno County State Responsibility Area Fire Hazard Severity Zones. Website: https://osfm.fire.ca.gov/fire-hazard-severity-zones-maps-2022/ (accessed April 2023).

City and utility providers would reduce potential impacts to less than significant. This section will not be included in the EIR.

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?

As discussed above, the project is not located within a VHFHSZ. The project site is also located on a relatively flat area and is not adjacent to any hills. In general, the potential for land sliding or slope failure in the City is very low, and the project site would not be susceptible to landslides. The project site is also not located on a flood hazard zone and would not be susceptible to flooding due to post-fire drainage changes. Therefore, the proposed project would not expose people or structures to significant post-fire risks, and the impact would be less than significant. This section will not be included in the EIR.

MITIGATION MEASURES

The proposed project would not result in any potentially significant impacts related to wildfires, and no mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, 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?		X		

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?	X			
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	X			

DISCUSSION

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 an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?

The project site does not provide suitable habitat for special-status animal species. Common wildlife species that are adapted to urban environments are expected to continue to use the project site and vicinity. The project site is not occupied by, or suited for, any special-status species. As a result, the proposed project would not have direct or indirect adverse effects on special-status plants or wildlife. The project site is not in an area where there are important examples of California history or prehistory. Additionally, with implementation of Mitigation Measures CUL-1 through CUL-3, the proposed project would not result in impacts to previously undiscovered resources. As a result, a less-than-significant impact with mitigation would occur.

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.)

The proposed project's impacts would be individually limited and not cumulatively considerable due to the site-specific nature of the potential impacts. The potentially significant impacts that can be reduced to less-than-significant levels with implementation of recommended mitigation measures include the topics of Aesthetics, Cultural Resources, Geology and Soils, Noise and Tribal Cultural Resources. These impacts would primarily be related to construction-period activities, would be temporary in nature, and would not substantially contribute to any potential cumulative impacts associated with these topics.

For the topics of Biological Resources, Agriculture and Forestry Resources, Energy, Hazards and Hazardous Materials, Hydrology and Water Quality Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation, and Utilities and Service Systems, and Wildlife, the proposed project would have no impacts or less-than-significant impacts, and therefore, the proposed project would not substantially contribute to any potential cumulative impacts for these topics.

The proposed project could potentially contribute to cumulatively considerable impacts for the topics of Air Quality, Greenhouse Gas Emissions, and Transportation. The EIR will further analyze the proposed project's contribution to potentially cumulative impacts with these topics.

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

The proposed project's potential to result in environmental effects that could directly or indirectly impacts human beings has been evaluated in this Initial Study. The project could potentially have significant environmental effects that could adversely impact human beings and the environment. The project will require an EIR to analyze potentially significant impacts.

Environmental Assessment Application No. T-6360/P22-00387/P22-00388

Attachment:

Land Evaluation and Site Assessment Model

LSA

CARLSBAD
CLOVIS
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: October 18, 2023

TO: Jeff Harris, Chief Operating Officer
Wilson Homes, Inc.
7550 North Palm, Suite 102
Fresno, CA 93711

FROM: Pamela Reading, Principal, LSA
Nathaly Granda Bustamante, Environmental Planner, LSA

SUBJECT: Land Evaluation and Site Assessment Model (LESA Model) for Assessor's Parcel Numbers (APNs) 574-140-04 and 574-140-05 in Fresno, California

Wilson Homes, Inc. (project applicant) is proposing to develop two parcels in the City of Fresno (APNs 574-140-04 and 574-140-05) with 326 single-family homes. In performing due diligence for this project, the project applicant determined that according to the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP), 30.77 acres of the 31.29-acre project site is designated Prime Farmland and Farmland of Local Importance. Therefore, the California Agricultural Land Evaluation and Site Assessment (LESA) model prepared by the California Department of Conservation (refer to Appendix A) was prepared to determine if the conversion of Prime Farmland and Farmland of Local Importance to a non-agricultural use would constitute a significant impact pursuant to the California Environmental Quality Act (CEQA) Statute and Guidelines.

The information used to prepare the LESA Model was based on information obtained from the California Department of Conservation FMMP, the United States Department of Agriculture, the Natural Resources Conservation Service (NRCS), and Geographic information system (GIS) tools.

LESA is a term used to define an approach for rating the relative quality of land resources based on specific measurable features. The formulation of a California LESA Model is the result of Senate Bill 850 (Chapter 812/1993), which charged the Resource Agency (in consultation with the Governor's Office of Planning and Research) with developing an amendment to Appendix G of the State CEQA Guidelines concerning agricultural lands. Such an amendment is intended "to provide lead agencies with an optional methodology to ensure that significant effects on the environment of agricultural land conversions are quantitatively and consistently considered in the environmental review process" (Public Resources Code [PRC] Section 21095). A LESA analysis is based on the definition of agricultural land contained in CEQA, PRC Section 21060.1:

21060.1 (a) “Agricultural land” means prime farmland, farmland of statewide importance, or unique farmlands, as defined by the United States Department of Agriculture land inventory and monitoring criteria as modified for California.

21060.1 (b) In those areas of the state where lands have not been surveyed for the classifications specific in subdivision (a), “agricultural land” means land that meets the requirement of “prime agricultural land” as defined in paragraph (1), (2), (3), or (4) of subdivision (c) of Section 51201 of the Government Code [the Williamson Act].

The LESA Model is composed of a Land Evaluation (LE) portion, which measures soil quality, and the Site Assessment (SA) portion, which evaluates other factors that contribute to the site’s agricultural importance (e.g., parcel size and on-farm investments). A Final LESA Score of 0 to 39 points is not considered significant. A final score between 40 to 59 points is considered significant only if the LE and SA subscores are each greater than or equal to 20 points. A final score between 60 to 79 points is considered significant unless either the LE or SA subscores is less than 20 points. A final score between 80 to 100 points is considered significant. The proposed project achieved a Final LESA Score of 68.72 points, with an LE subscore of 49.97 points and a SA subscore of 18.72 points. Because the SA subscore was below 20 points, the the conversion of Prime Farmland and Farmland of Local Importance associated with implementation of the proposed project would not result in a significant impact pursuant to CEQA.

Attachment: A: LESA Model
B: Figures

ATTACHMENT A

LESA MODEL

NOTES

The Vesting Tentative Tract Map No. 6360 Project is a 31.29 acre project site located in the City of Fresno. Three soil types have been identified on the project site: Greenfield sandy loam (GtA), 0 to 3 percent slopes, Hanford fine sandy loam (Hm), and Ramona loam (Rc). (refer to Figure 1: Soils, at the end of the worksheets). The acreage of each soil type is divided by the total project acreage (31.29 acres) to determine the proportion of each soil type on the project site. The Land Capability Classification (LCC) and Storie Index for the on-site soils were found on the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey.

According to the USDA NRCS Web Soil Survey, the LCCs for the three soil types are as follows: I for GtA, Hm, and Rc for irrigated land; and IVc for GtA, Hm, and Rc for nonirrigated land. The LCC value for irrigated land was used for each soil type, as the project site is irrigated through Fresno Irrigation District (FID) water deliveries and groundwater.

According to the USDA NRCS Web Soil Survey, Greenfield sandy loam, 0 to 3 percent slopes, has a Storie Index of 93; Hanford fine sandy loam has a Storie Index of 100; and Ramona loam has a Storie Index of 100.

Calculation of the Land Evaluation (LE) Score

Part 1. Land Capability Classification (LCC) Score:

(1) Determine the total acreage of the project.
(2) Determine the soil types within the project area and enter them in **Column A** of the **Land Evaluation Worksheet** provided on page 2-A.
(3) Calculate the total acres of each soil type and enter the amounts in **Column B**.
(4) Divide the acres of each soil type (**Column B**) by the total acreage to determine the proportion of each soil type present. Enter the proportion of each soil type in **Column C**.
(5) Determine the LCC for each soil type from the applicable Soil Survey and enter it in **Column D**.
(6) From the LCC Scoring Table below, determine the point rating corresponding to the LCC for each soil type and enter it in **Column E**.

LCC Scoring Table

LCC Class	**I**	**IIe**	**IIs,w**	**IIIe**	**IIIs,w**	**IVe**	**IVs,w**	**V**	**VI**	**VII**	**VIII**
Points	**100**	**90**	**80**	**70**	**60**	**50**	**40**	**30**	**20**	**10**	**0**

(7) Multiply the proportion of each soil type (**Column C**) by the point score (**Column E**) and enter the resulting scores in **Column F**.
(8) Sum the LCC scores in **Column F**.
(9) Enter the LCC score in box <1> of the **Final LESA Score Sheet** on page 10-A.

Part 2. Storie Index Score:

(1) Determine the Storie Index rating for each soil type and enter it in **Column G**.
(2) Multiply the proportion of each soil type (**Column C**) by the Storie Index rating (**Column G**) and enter the scores in **Column H**.
(3) Sum the Storie Index scores in **Column H** to gain the Storie Index Score.
(4) Enter the Storie Index Score in box <2> of the **Final LESA Score Sheet** on page 10-A.

Land Evaluation Worksheet

Land Capability Classification (LCC) and Storie Index Scores

A Soil Map Unit	B Project Acres	C Proportion of Project Area	D LCC	E LCC Rating	F LCC Score	G Storie Index	H Storie Index Score
GtA	0.5	0.016	I	100	1.6	93	1.488
Hm	1.96	0.063	I	100	6.3	100	6.3
Rc	28.83	0.921	I	100	92.1	100	92.1
Totals	31.29	(Must Sum to 1.0)		***LCC Total Score***	100	***Storie Index Total Score***	99.888

Site Assessment Worksheet 1.

Project Size Score

	I LCC Class I - II	J LCC Class III	K LCC Class IV - VIII
	0.5		
	1.96		
	28.83		
Total Acres	31.29		
Project Size Scores	50		

Highest Project Size Score 50

NOTES

Column I - 31.29 acres of Class I soils corresponds to a score of 50 points.

Calculation of the Site Assessment (SA) Score

Part 1. Project Size Score:.

(1) Using **Site Assessment Worksheet 1** provided on page 2-A, enter the acreage of each soil type from **Column B** in the **Column - I, J or K** - that corresponds to the LCC for that soil. (Note: While the Project Size Score is a component of the Site Assessment calculations, the score sheet is an extension of data collected in the Land Evaluation Worksheet, and is therefore displayed beside it).
(2) Sum **Column I** to determine the total amount of class I and II soils on the project site.
(3) Sum **Column J** to determine the total amount of class III soils on the project site.
(4) Sum **Column K** to determine the total amount of class IV and lower soils on the project site.
(5) Compare the total score for each LCC group in the Project Size Scoring Table below and determine which group receives the highest score.

Project Size Scoring Table

Class I or II		**Class III**		**Class IV or Lower**	
Acreage	Points	Acreage	Points	Acreage	Points
>80	100	>160	100	>320	100
60-79	90	120-159	90	240-319	80
40-59	80	80-119	80	160-239	60
20-39	50	60-79	70	100-159	40
10-19	30	40-59	60	40-99	20
10<	0	20-39	30	40<	0
		10-19	10		
		10<	0		

(6) Enter the **Project Size Score** (the highest score from the three LCC categories) in box <3> of the **Final LESA Score Sheet** on page 10-A.

NOTES

The 31.29 project site is currently irrigated as follows: 60 percent of the site is irrigated via FID surface water deliveries, and approximately 40 percent with groundwater.

The property owner has indicated that irrigation of the site has been physically feasible during regular rainfall years; however, increasing utility costs for water supply have placed economic restrictions on irrigation of the project site.

Additionally, the property owner has indicated that due to the installation of a Municipal water well in the vicinity of the property, the local aquifer has been heavily impacted, a condition that is exacerbated during drought years. As such, during drought years, physical restrictions impede reliable groundwater extraction for irrigation of the project site. Similarly, during drought years, FID surface water deliveries are greatly reduced, making this source unreliable for irrigation. Furthermore, increasing utility costs for water supply also present economic restrictions for irrigation of the property during drought years. As such, a Water Availability Score of 45 points was assigned to the project site.

Part 2. Water Resource Availability Score:

(1) Determine the type(s) of irrigation present on the project site, including a determination of whether there is dryland agricultural activity as well.

(2) Divide the site into portions according to the type or types of irrigation or dryland cropping that is available in each portion. Enter this information in **Column B** of **Site Assessment Worksheet 2. - Water Resources Availability**.

(3) Determine the proportion of the total site represented for each portion identified, and enter this information in **Column C**.

(4) Using the Water Resources Availability Scoring Table, identify the option that is most applicable for each portion, based upon the feasibility of irrigation in drought and non-drought years, and whether physical or economic restrictions are likely to exist. Enter the applicable Water Resource Availability Score into **Column D**.

(5) Multiply the Water Resource Availability Score for each portion by the proportion of the project area it represents to determine the weighted score for each portion in **Column E**.

(6) Sum the scores for all portions to determine the project's total Water Resources Availability Score

(7) Enter the Water Resource Availability Score in box <4> of the **Final LESA Score Sheet** on page 10-A.

Site Assessment Worksheet 2. - Water Resources Availability

A	B	C	D	E
Project Portion	Water Source	Proportion of Project Area	Water Availability Score	Weighted Availability Score (C x D)
1	FID Surface Water Delivery	0.6	45	27
2	Groundwater	0.4	45	18
3				
4				
5				
6				
		(Must Sum to 1.0)	***Total Water Resource Score***	45

Water Resource Availability Scoring Table

Option	Non-Drought Years: Irrigated Production Feasible?	Non-Drought Years RESTRICTIONS: Physical Restrictions ?	Non-Drought Years RESTRICTIONS: Economic Restrictions ?	Drought Years: Irrigated Production Feasible?	Drought Years RESTRICTIONS: Physical Restrictions ?	Drought Years RESTRICTIONS: Economic Restrictions ?	WATER RESOURCE SCORE
1	YES	NO	NO	YES	NO	NO	100
2	YES	NO	NO	YES	NO	YES	95
3	YES	NO	YES	YES	NO	YES	90
4	YES	NO	NO	YES	YES	NO	85
5	YES	NO	NO	YES	YES	YES	80
6	YES	YES	NO	YES	YES	NO	75
7	YES	YES	YES	YES	YES	YES	65
8	YES	NO	NO	NO	-- --	-- --	50
9	YES	NO	YES	NO	-- --	-- --	45
10	YES	YES	NO	NO	-- --	-- --	35
11	YES	YES	YES	NO	-- --	-- --	30
12	Irrigated production not feasible, but rainfall adequate for dryland production in both drought and non-drought years						25
13	Irrigated production not feasible, but rainfall adequate for dryland production in non-drought years (but not in drought years)						20
14	Neither irrigated nor dryland production feasible						0

NOTES

As shown in Figure 2, the total acreage of the Zone of Influence (ZOI) is 304.76 acres, and 152.14 acres of the ZOI are under agricultural production (based on the California Department of Conservation Farmland Mapping and Monitoring Program). Approximately 50 percent of the ZOI is under agricultural production. Therefore, the Surrounding Agricultural Land Score equates to 30 points.

Part 3. Surrounding Agricultural Land Use Score:

(1) Calculate the project's Zone of Influence (ZOI) as follows:

(a) a rectangle is drawn around the project such that the rectangle is the smallest that can completely encompass the project area.

(b) a second rectangle is then drawn which extends one quarter mile on all sides beyond the first rectangle.

(c) The ZOI includes all parcels that are contained within or are intersected by the second rectangle, less the area of the project itself.

(2) Sum the area of all parcels to determine the total acreage of the ZOI.

(3) Determine which parcels are in agricultural use and sum the areas of these parcels

(4) Divide the area in agriculture found in step (3) by the total area of the ZOI found in step (2) to determine the percent of the ZOI that is in agricultural use.

(5) Determine the Surrounding Agricultural Land Score utilizing the Surrounding Agricultural Land Scoring Table below.

Surrounding Agricultural Land Scoring Table

Percent of ZOI in Agriculture	Surrounding Agricultural Land Score
90-100	100
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
<40	0

(5) Enter the Surrounding Agricultural Land Score in box <5> of the **Final LESA Score Sheet** on page 10-A.

Site Assessment Worksheet 3.
Surrounding Agricultural Land and Surrounding Protected Resource Land

A	B	C	D	E	F	G
Zone of Influence					Surrounding Agricultural Land Score (From Table)	Surrounding Protected Resource Land Score (From Table)
Total Acres	Acres in Agriculture	Acres of Protected Resource Land	Percent in Agriculture (A/B)	Percent Protected Resource Land (A/C)		
304.76	152.14	0	49.9	0	30	0

NOTES

As shown in Figure 3, the total acreage of the ZOI is 304.76 acres. No portion of the ZOI consists of protected resource lands, defined as Williamson Act contracted lands; publicly owned lands maintained as park, forest, or watershed resources; and lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses. As such, the Surrounding Protected Resource Score equates to 0 points.

Part 4. Protected Resource Lands Score:

The Protected Resource Lands scoring relies upon the same Zone of Influence information gathered in Part 3, and figures are entered in Site Assessment Worksheet 3, which combines the surrounding agricultural and protected lands calculations.

(1) Use the total area of the ZOI calculated in Part 3. for the Surrounding Agricultural Land Use score.
(2) Sum the area of those parcels within the ZOI that are protected resource lands, as defined in the California Agricultural LESA Guidelines.
(3) Divide the area that is determined to be protected in Step (2) by the total acreage of the ZOI to determine the percentage of the surrounding area that is under resource protection.
(4) Determine the Surrounding Protected Resource Land Score utilizing the Surrounding Protected Resource Land Scoring Table below.

Surrounding Protected Resource Land Scoring Table

Percent of ZOI Protected	Protected Resource Land Score
90-100	100
80-89	90
75-79	80
70-74	70
65-69	60
60-64	50
55-59	40
50-54	30
45-49	20
40-44	10
<40	0

(5) Enter the Protected Resource Land score in box <6> of the **Final LESA Score Sheet** on page 10-A.

NOTES

The component LE and SA factors have been entered into the Final LESA Score Sheet.

The LE factor scores are multiplied by the factor weights to determine the weighted score for each. The weighted LE factor scores are summed to determine the LE portion of the Final LESA score.

The SA factor scores are multiplied by the factor weights to determine the weighted score for each. The weighted SA factor scores are summed to determine the SA portion of the Final LESA score.

The LE and SA subtotals are summed to determine the Final LESA Score. The Final LESA Score for the proposed project is 68.72 points. A final score between 60 to 79 points is considered significant unless either the LE or SA subscores is less than 20 points. While the LE subtotal (49.97 points) is greater than 20 points, the SA subtotal (18.75 points) is below 20 points. Therefore, the LESA Model concludes that the conversion of the agricultural land (Prime Farmland and Farmland of Local Importance) on the project site to a non-agricultural use would constitute a less-than-significant impact.

Final LESA Score Sheet

Calculation of the Final LESA Score:

(1) Multiply each factor score by the factor weight to determine the weighted score and enter in Weighted Factor Scores column.
(2) Sum the weighted factor scores for the LE factors to determine the total LE score for the project.
(3) Sum the weighted factor scores for the SA factors to determine the total SA score for the project.
(4) Sum the total LE and SA scores to determine the Final LESA Score for the project.

	Factor Scores	**Factor Weight**	**Weighted Factor Scores**
LE Factors			
Land Capability Classification	*<1>* 100	0.25	25
Storie Index	*<2>* 99.888	0.25	24.97
LE Subtotal		***0.50***	49.97
SA Factors			
Project Size	*<3>* 50	0.15	7.5
Water Resource Availability	*<4>* 45	0.15	6.75
Surrounding Agricultural Land	*<5>* 30	0.15	4.5
Protected Resource Land	*<6>* 0	0.05	0
SA Subtotal		***0.50***	18.75
		Final LESA Score	68.72

For further information on the scoring thresholds under the California Agricultural LESA Model, consult Section 4 of the Instruction Manual.

ATTACHMENT B

FIGURES

LSA

Project Location (31.29 acres)

Soils

GtA - Greenfield sandy loam, 0 to 3 percent slopes (0.50 acres)

Hm - Hanford fine sandy loam (1.96 acres)

Rc - Ramona loam (28.83 acres)

0 100 200

FEET

FIGURE 1

Vesting Tentative Tract Map No. 6360 Project

Soils

SOURCE: Nearmap (2023), USDA NRCS (2023)

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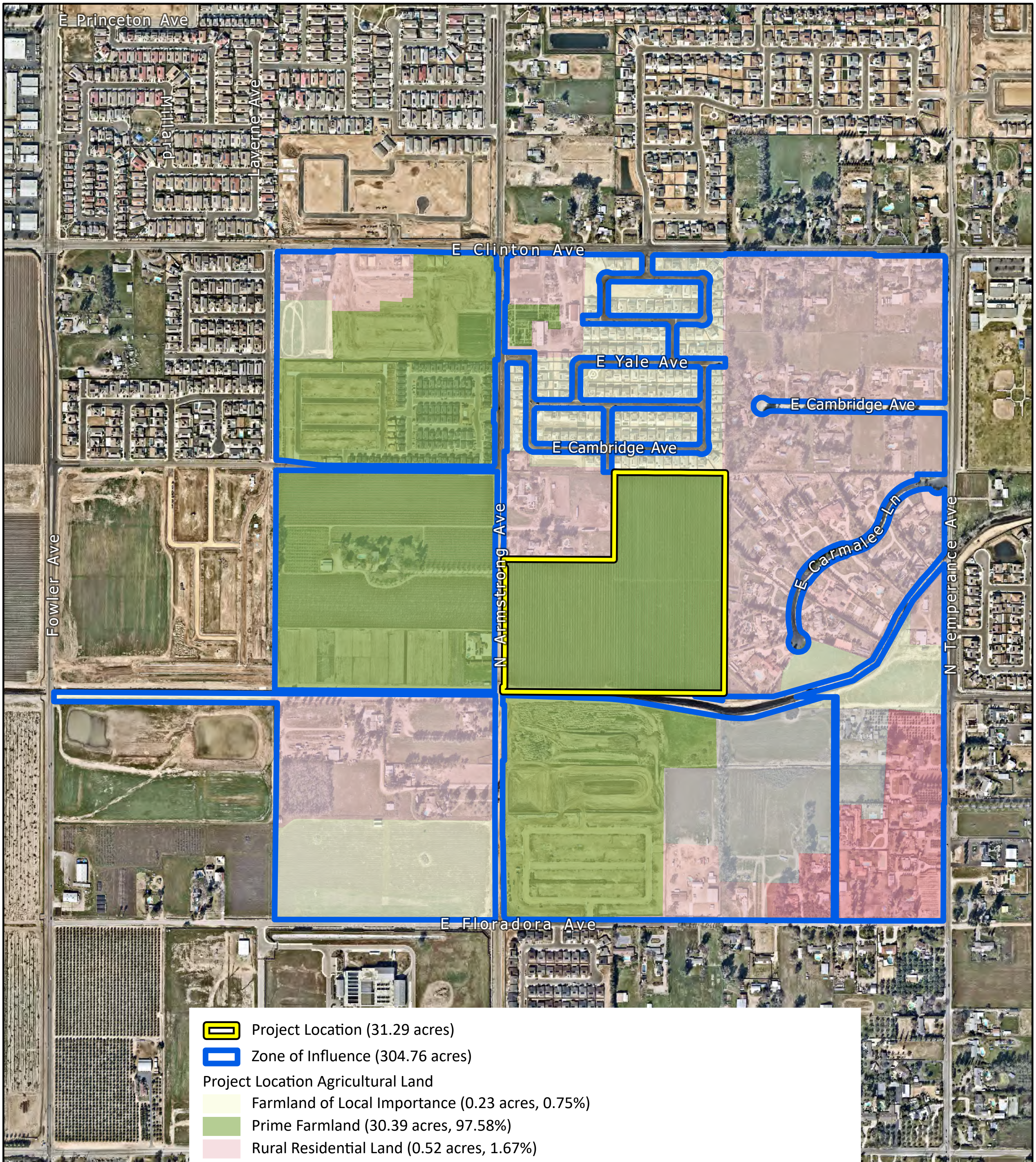


Project Location (31.29 acres)

Zone of Influence (304.76 acres)

Project Location Agricultural Land

- Farmland of Local Importance (0.23 acres, 0.75%)
- Prime Farmland (30.39 acres, 97.58%)
- Rural Residential Land (0.52 acres, 1.67%)

Zone of Influence Agricultural Land

- Urban and Built-Up Land (16.86 acres, 5.53%)
- Farmland of Local Importance (51.92 acres, 17.04%)
- Prime Farmland (100.22 acres, 32.89%)
- Rural Residential Land (113.35 acres, 37.19%)
- Vacant or Disturbed Land (22.39 acres, 7.35%)

LSA

FIGURE 2

N

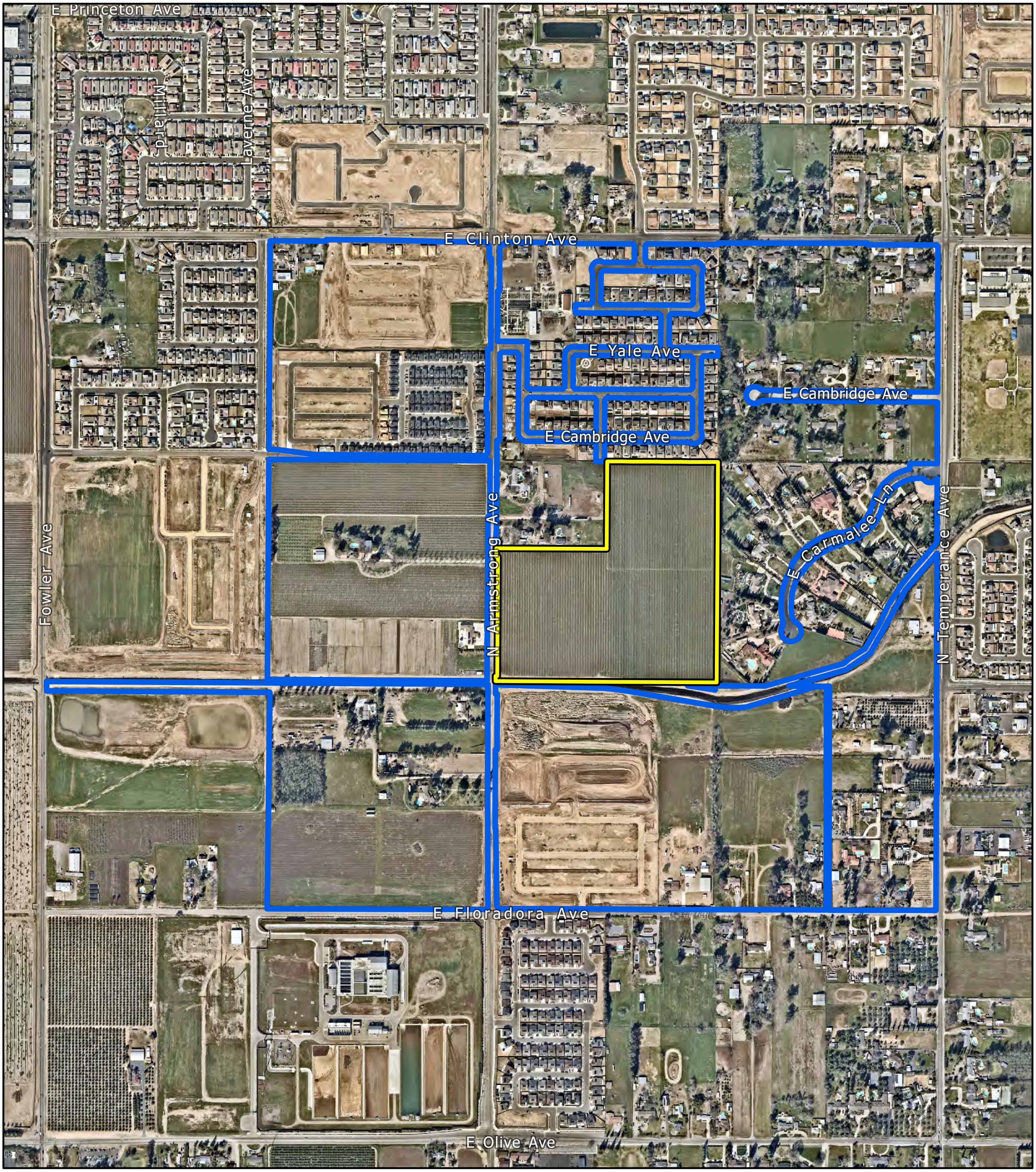
0 400 800
FEET

Vesting Tentative Tract Map No. 6360 Project

Zone of Influence Agricultural Lands

SOURCE: Nearmap (2023), USDA NRCS (2023)

J:\HAA2103\GIS\Pro\Vesting Tentative Tract Map No. 6360 Project\Vesting Tentative Tract Map No. 6360 Project.aprx (10/16/2023)



LSA

Project Location (31.29 acres)

Zone of Influence (304.76 acres)

N

0 400 800

FEET

SOURCE: Nearmap (2023), USDA NRCS (2023)

FIGURE 3

Vesting Tentative Tract Map No. 6360 Project

Zone of Influence Protected Lands

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APPENDIX C

CALEEMOD OUTPUT SHEETS

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Vesting Tentative Tract Map No. 6360 Custom Report

Table of Contents

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Vesting Tentative Tract Map No. 6360
Construction Start Date	4/1/2024
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	25.4
Location	36.765565101692715, -119.67168128593465
County	Fresno
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2417
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.21

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

Single Family Housing	326	Dwelling Unit	26.5	770,990	3,818,391	—	0.00	—
City Park	0.90	Acre	0.90	0.00	37,809	37,809	—	—
Recreational Swimming Pool	15.2	1000sqft	0.30	15,207	0.00	—	—	—
Parking Lot	157	1000sqft	3.60	0.00	45,302	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-6	Use Diesel Particulate Filters
Energy	E-1	Buildings Exceed 2019 Title 24 Building Envelope Energy Efficiency Standards
Energy	E-2	Require Energy Efficient Appliances
Energy	E-22*	Obtain Third-party HVAC Commissioning and Veri cation of Energy Savings
Water	W-4	Require Low-Flow Water Fixtures
Water	W-5	Design Water-Efficient Landscapes

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

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.	1.24	54.2	29.8	29.0	0.09	0.99	8.59	9.53	0.91	4.05	4.89	—	12,598	12,598	0.36	1.36	20.4	13,031
Mit.	1.24	54.2	29.8	29.0	0.09	0.28	8.59	8.73	0.27	4.05	4.18	—	12,598	12,598	0.36	1.36	20.4	13,031

% Reduced	—	—	—	—	—	72%	—	8%	71%	—	15%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.06	54.2	14.8	21.4	0.03	0.64	0.80	1.44	0.59	0.19	0.78	—	3,611	3,611	0.14	0.12	0.11	3,652
Mit.	1.06	54.2	14.8	21.4	0.03	0.10	0.80	0.90	0.09	0.19	0.29	—	3,611	3,611	0.14	0.12	0.11	3,652
% Reduced	—	—	—	—	—	84%	—	38%	84%	—	63%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.73	9.76	12.0	15.1	0.03	0.46	2.44	2.89	0.42	1.04	1.44	—	4,040	4,040	0.13	0.33	2.41	4,144
Mit.	0.73	9.76	12.0	15.1	0.03	0.10	2.44	2.54	0.09	1.04	1.13	—	4,040	4,040	0.13	0.33	2.41	4,144
% Reduced	—	—	—	—	—	79%	—	12%	78%	—	22%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.13	1.78	2.19	2.76	0.01	0.08	0.45	0.53	0.08	0.19	0.26	—	669	669	0.02	0.05	0.40	686
Mit.	0.13	1.78	2.19	2.76	0.01	0.02	0.45	0.46	0.02	0.19	0.21	—	669	669	0.02	0.05	0.40	686
% Reduced	—	—	—	—	—	79%	—	12%	78%	—	22%	—	—	—	—	—	—	—

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.24	1.08	29.8	29.0	0.09	0.99	8.59	9.53	0.91	4.05	4.89	—	12,598	12,598	0.36	1.36	20.4	13,031
2025	1.09	1.04	14.6	21.9	0.03	0.64	0.80	1.44	0.59	0.19	0.78	—	3,672	3,672	0.13	0.12	4.08	3,716

2026	1.05	1.00	14.5	21.6	0.03	0.64	0.80	1.44	0.59	0.19	0.78	—	3,647	3,647	0.13	0.12	3.68	3,691
2027	0.15	54.2	1.13	1.75	< 0.005	0.07	0.13	0.20	0.06	0.03	0.09	—	277	277	0.01	0.01	0.46	280
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.06	1.00	14.8	21.4	0.03	0.64	0.80	1.44	0.59	0.19	0.78	—	3,611	3,611	0.14	0.12	0.11	3,652
2025	1.02	0.97	14.7	21.1	0.03	0.64	0.80	1.44	0.59	0.19	0.78	—	3,589	3,589	0.14	0.12	0.11	3,629
2026	0.97	54.2	14.7	20.8	0.03	0.64	0.80	1.44	0.59	0.19	0.78	—	3,566	3,566	0.14	0.12	0.10	3,606
2027	0.14	54.2	1.14	1.60	< 0.005	0.07	0.13	0.20	0.06	0.03	0.09	—	261	261	0.01	0.01	0.01	264
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.60	0.55	12.0	13.2	0.03	0.44	2.44	2.89	0.41	1.04	1.44	—	4,040	4,040	0.13	0.33	2.41	4,144
2025	0.73	0.70	10.5	15.1	0.02	0.46	0.56	1.02	0.42	0.14	0.56	—	2,580	2,580	0.10	0.09	1.26	2,610
2026	0.59	3.98	9.04	12.8	0.02	0.40	0.44	0.84	0.37	0.11	0.47	—	2,156	2,156	0.08	0.07	0.88	2,179
2027	0.02	9.76	0.21	0.29	< 0.005	0.01	0.02	0.04	0.01	0.01	0.02	—	47.9	47.9	< 0.005	< 0.005	0.04	48.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.11	0.10	2.19	2.40	0.01	0.08	0.45	0.53	0.07	0.19	0.26	—	669	669	0.02	0.05	0.40	686
2025	0.13	0.13	1.91	2.76	< 0.005	0.08	0.10	0.19	0.08	0.02	0.10	—	427	427	0.02	0.01	0.21	432
2026	0.11	0.73	1.65	2.33	< 0.005	0.07	0.08	0.15	0.07	0.02	0.09	—	357	357	0.01	0.01	0.15	361
2027	< 0.005	1.78	0.04	0.05	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	7.92	7.92	< 0.005	< 0.005	0.01	8.00

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.24	1.08	29.8	29.0	0.09	0.28	8.59	8.73	0.27	4.05	4.18	—	12,598	12,598	0.36	1.36	20.4	13,031
2025	1.09	1.04	14.6	21.9	0.03	0.10	0.80	0.90	0.09	0.19	0.29	—	3,672	3,672	0.13	0.12	4.08	3,716

2026	1.05	1.00	14.5	21.6	0.03	0.10	0.80	0.90	0.09	0.19	0.29	—	3,647	3,647	0.13	0.12	3.68	3,691
2027	0.15	54.2	1.13	1.75	< 0.005	0.01	0.13	0.14	0.01	0.03	0.04	—	277	277	0.01	0.01	0.46	280
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.06	1.00	14.8	21.4	0.03	0.10	0.80	0.90	0.09	0.19	0.29	—	3,611	3,611	0.14	0.12	0.11	3,652
2025	1.02	0.97	14.7	21.1	0.03	0.10	0.80	0.90	0.09	0.19	0.29	—	3,589	3,589	0.14	0.12	0.11	3,629
2026	0.97	54.2	14.7	20.8	0.03	0.10	0.80	0.90	0.09	0.19	0.29	—	3,566	3,566	0.14	0.12	0.10	3,606
2027	0.14	54.2	1.14	1.60	< 0.005	0.01	0.13	0.14	0.01	0.03	0.04	—	261	261	0.01	0.01	0.01	264
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.60	0.55	12.0	13.2	0.03	0.10	2.44	2.54	0.09	1.04	1.13	—	4,040	4,040	0.13	0.33	2.41	4,144
2025	0.73	0.70	10.5	15.1	0.02	0.07	0.56	0.63	0.07	0.14	0.20	—	2,580	2,580	0.10	0.09	1.26	2,610
2026	0.59	3.98	9.04	12.8	0.02	0.06	0.44	0.50	0.06	0.11	0.16	—	2,156	2,156	0.08	0.07	0.88	2,179
2027	0.02	9.76	0.21	0.29	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	47.9	47.9	< 0.005	< 0.005	0.04	48.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.11	0.10	2.19	2.40	0.01	0.02	0.45	0.46	0.02	0.19	0.21	—	669	669	0.02	0.05	0.40	686
2025	0.13	0.13	1.91	2.76	< 0.005	0.01	0.10	0.12	0.01	0.02	0.04	—	427	427	0.02	0.01	0.21	432
2026	0.11	0.73	1.65	2.33	< 0.005	0.01	0.08	0.09	0.01	0.02	0.03	—	357	357	0.01	0.01	0.15	361
2027	< 0.005	1.78	0.04	0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.92	7.92	< 0.005	< 0.005	0.01	8.00

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.	11.7	28.8	10.9	70.4	0.18	0.34	13.4	13.8	0.33	3.41	3.74	73.7	21,868	21,942	8.52	0.94	56.8	22,491
Mit.	11.7	28.8	10.9	70.4	0.18	0.34	13.4	13.8	0.33	3.41	3.74	70.0	21,762	21,832	8.12	0.93	56.8	22,368

% Reduced	—	—	—	—	—	—	—	—	—	—	—	5%	< 0.5%	1%	5%	1%	—	1%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.6	27.6	12.1	62.8	0.17	0.34	13.4	13.8	0.33	3.41	3.74	73.7	20,508	20,582	8.64	1.00	6.92	21,101
Mit.	10.6	27.6	12.1	62.8	0.17	0.34	13.4	13.8	0.33	3.41	3.74	70.0	20,402	20,472	8.25	0.98	6.92	20,978
% Reduced	—	—	—	—	—	—	—	—	—	—	—	5%	1%	1%	5%	1%	—	1%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.4	27.6	9.43	61.1	0.16	0.17	13.2	13.4	0.16	3.35	3.52	73.7	18,230	18,304	8.53	0.96	27.7	18,831
Mit.	10.4	27.6	9.43	61.1	0.16	0.17	13.2	13.4	0.16	3.35	3.52	70.0	18,124	18,194	8.13	0.95	27.7	18,708
% Reduced	—	—	—	—	—	—	—	—	—	—	—	5%	1%	1%	5%	1%	—	1%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.90	5.04	1.72	11.2	0.03	0.03	2.41	2.44	0.03	0.61	0.64	12.2	3,018	3,030	1.41	0.16	4.59	3,118
Mit.	1.90	5.04	1.72	11.2	0.03	0.03	2.41	2.44	0.03	0.61	0.64	11.6	3,001	3,012	1.35	0.16	4.59	3,097
% Reduced	—	—	—	—	—	—	—	—	—	—	—	5%	1%	1%	5%	1%	—	1%

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	11.4	10.8	8.23	69.2	0.16	0.12	13.4	13.6	0.12	3.41	3.52	—	16,539	16,539	0.72	0.83	51.2	16,854
Area	0.32	18.0	2.70	1.15	0.02	0.22	—	0.22	0.22	—	0.22	0.00	3,432	3,432	0.06	0.01	—	3,436

Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,777	1,777	0.29	0.03	—	1,795
Water	—	—	—	—	—	—	—	—	—	—	—	26.9	120	147	2.78	0.07	—	236
Waste	—	—	—	—	—	—	—	—	—	—	—	46.8	0.00	46.8	4.67	0.00	—	164
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.59	5.59
Total	11.7	28.8	10.9	70.4	0.18	0.34	13.4	13.8	0.33	3.41	3.74	73.7	21,868	21,942	8.52	0.94	56.8	22,491
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.2	9.54	9.37	61.6	0.15	0.12	13.4	13.6	0.12	3.41	3.52	—	15,178	15,178	0.84	0.89	1.33	15,465
Area	0.32	18.0	2.70	1.15	0.02	0.22	—	0.22	0.22	—	0.22	0.00	3,432	3,432	0.06	0.01	—	3,436
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,777	1,777	0.29	0.03	—	1,795
Water	—	—	—	—	—	—	—	—	—	—	—	26.9	120	147	2.78	0.07	—	236
Waste	—	—	—	—	—	—	—	—	—	—	—	46.8	0.00	46.8	4.67	0.00	—	164
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.59	5.59
Total	10.6	27.6	12.1	62.8	0.17	0.34	13.4	13.8	0.33	3.41	3.74	73.7	20,508	20,582	8.64	1.00	6.92	21,101
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.4	9.70	8.82	60.9	0.15	0.12	13.2	13.3	0.12	3.35	3.47	—	15,562	15,562	0.77	0.85	22.1	15,858
Area	0.07	17.9	0.61	0.26	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	771	771	0.01	< 0.005	—	772
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,777	1,777	0.29	0.03	—	1,795
Water	—	—	—	—	—	—	—	—	—	—	—	26.9	120	147	2.78	0.07	—	236
Waste	—	—	—	—	—	—	—	—	—	—	—	46.8	0.00	46.8	4.67	0.00	—	164
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.59	5.59
Total	10.4	27.6	9.43	61.1	0.16	0.17	13.2	13.4	0.16	3.35	3.52	73.7	18,230	18,304	8.53	0.96	27.7	18,831
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.89	1.77	1.61	11.1	0.03	0.02	2.41	2.43	0.02	0.61	0.63	—	2,576	2,576	0.13	0.14	3.66	2,626
Area	0.01	3.27	0.11	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	128	128	< 0.005	< 0.005	—	128
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	294	294	0.05	0.01	—	297
Water	—	—	—	—	—	—	—	—	—	—	—	4.45	19.9	24.3	0.46	0.01	—	39.2

Waste	—	—	—	—	—	—	—	—	—	—	—	7.74	0.00	7.74	0.77	0.00	—	27.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.93	0.93
Total	1.90	5.04	1.72	11.2	0.03	0.03	2.41	2.44	0.03	0.61	0.64	12.2	3,018	3,030	1.41	0.16	4.59	3,118

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	11.4	10.8	8.23	69.2	0.16	0.12	13.4	13.6	0.12	3.41	3.52	—	16,539	16,539	0.72	0.83	51.2	16,854
Area	0.32	18.0	2.70	1.15	0.02	0.22	—	0.22	0.22	—	0.22	0.00	3,432	3,432	0.06	0.01	—	3,436
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,719	1,719	0.28	0.03	—	1,736
Water	—	—	—	—	—	—	—	—	—	—	—	23.2	72.4	95.6	2.39	0.06	—	173
Waste	—	—	—	—	—	—	—	—	—	—	—	46.8	0.00	46.8	4.67	0.00	—	164
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.59	5.59
Total	11.7	28.8	10.9	70.4	0.18	0.34	13.4	13.8	0.33	3.41	3.74	70.0	21,762	21,832	8.12	0.93	56.8	22,368
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	10.2	9.54	9.37	61.6	0.15	0.12	13.4	13.6	0.12	3.41	3.52	—	15,178	15,178	0.84	0.89	1.33	15,465
Area	0.32	18.0	2.70	1.15	0.02	0.22	—	0.22	0.22	—	0.22	0.00	3,432	3,432	0.06	0.01	—	3,436
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,719	1,719	0.28	0.03	—	1,736
Water	—	—	—	—	—	—	—	—	—	—	—	23.2	72.4	95.6	2.39	0.06	—	173
Waste	—	—	—	—	—	—	—	—	—	—	—	46.8	0.00	46.8	4.67	0.00	—	164
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.59	5.59
Total	10.6	27.6	12.1	62.8	0.17	0.34	13.4	13.8	0.33	3.41	3.74	70.0	20,402	20,472	8.25	0.98	6.92	20,978
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	10.4	9.70	8.82	60.9	0.15	0.12	13.2	13.3	0.12	3.35	3.47	—	15,562	15,562	0.77	0.85	22.1	15,858
Area	0.07	17.9	0.61	0.26	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	771	771	0.01	< 0.005	—	772
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	1,719	1,719	0.28	0.03	—	1,736
Water	—	—	—	—	—	—	—	—	—	—	—	23.2	72.4	95.6	2.39	0.06	—	173
Waste	—	—	—	—	—	—	—	—	—	—	—	46.8	0.00	46.8	4.67	0.00	—	164
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.59	5.59
Total	10.4	27.6	9.43	61.1	0.16	0.17	13.2	13.4	0.16	3.35	3.52	70.0	18,124	18,194	8.13	0.95	27.7	18,708
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.89	1.77	1.61	11.1	0.03	0.02	2.41	2.43	0.02	0.61	0.63	—	2,576	2,576	0.13	0.14	3.66	2,626
Area	0.01	3.27	0.11	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	128	128	< 0.005	< 0.005	—	128
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	285	285	0.05	0.01	—	287
Water	—	—	—	—	—	—	—	—	—	—	—	3.85	12.0	15.8	0.40	0.01	—	28.6
Waste	—	—	—	—	—	—	—	—	—	—	—	7.74	0.00	7.74	0.77	0.00	—	27.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.93	0.93
Total	1.90	5.04	1.72	11.2	0.03	0.03	2.41	2.44	0.03	0.61	0.64	11.6	3,001	3,012	1.35	0.16	4.59	3,097

3. Construction Emissions Details

3.1. Site Preparation (2024) - 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	0.90	0.90	24.0	28.3	0.05	0.94	—	0.94	0.84	—	0.84	—	5,293	5,293	0.21	0.04	—	5,311

Dust From Material Movement	—	—	—	—	—	—	8.49	8.49	—	4.03	4.03	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	1.65	1.94	< 0.005	0.06	—	0.06	0.06	—	0.06	—	363	363	0.01	< 0.005	—	364
Dust From Material Movement	—	—	—	—	—	—	0.58	0.58	—	0.28	0.28	—	—	—	—	—	—	—
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	0.30	0.35	< 0.005	0.01	—	0.01	0.01	—	0.01	—	60.0	60.0	< 0.005	< 0.005	—	60.2
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.05	0.05	—	—	—	—	—	—	—
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	0.08	0.08	0.04	0.71	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	108	108	0.01	< 0.005	0.43	110
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	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.82	6.82	< 0.005	< 0.005	0.01	6.94
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	—	1.13	1.13	< 0.005	< 0.005	< 0.005	1.15
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 (2024) - 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	0.90	0.90	24.0	28.3	0.05	0.14	—	0.14	0.13	—	0.13	—	5,293	5,293	0.21	0.04	—	5,311
Dust From Material Movement	—	—	—	—	—	—	8.49	8.49	—	4.03	4.03	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	1.65	1.94	< 0.005	0.01	—	0.01	0.01	—	0.01	—	363	363	0.01	< 0.005	—	364
Dust From Material Movement	—	—	—	—	—	—	0.58	0.58	—	0.28	0.28	—	—	—	—	—	—	—
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	0.30	0.35	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	60.0	60.0	< 0.005	< 0.005	—	60.2
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.05	0.05	—	—	—	—	—	—	—
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	0.08	0.08	0.04	0.71	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	108	108	0.01	< 0.005	0.43	110
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	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.82	6.82	< 0.005	< 0.005	0.01	6.94
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	—	1.13	1.13	< 0.005	< 0.005	< 0.005	1.15
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 (2024) - 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	0.77	0.77	19.7	23.5	0.04	0.84	—	0.84	0.76	—	0.76	—	4,188	4,188	0.17	0.03	—	4,202
Dust From Material Movement	—	—	—	—	—	—	5.34	5.34	—	2.65	2.65	—	—	—	—	—	—	—
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	0.17	0.17	4.33	5.14	0.01	0.18	—	0.18	0.17	—	0.17	—	918	918	0.04	0.01	—	921
Dust From Material Movement	—	—	—	—	—	—	1.17	1.17	—	0.58	0.58	—	—	—	—	—	—	—

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	0.03	0.03	0.79	0.94	< 0.005	0.03	—	0.03	0.03	—	0.03	—	152	152	0.01	< 0.005	—	152
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.04	0.71	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	108	108	0.01	< 0.005	0.43	110
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	0.38	0.20	10.1	2.39	0.05	0.15	2.16	2.31	0.15	0.59	0.74	—	8,302	8,302	0.18	1.32	20.0	8,718
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.13	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.8	21.8	< 0.005	< 0.005	0.04	22.2
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	0.08	0.04	2.30	0.53	0.01	0.03	0.47	0.50	0.03	0.13	0.16	—	1,820	1,820	0.04	0.29	1.88	1,909
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.62	3.62	< 0.005	< 0.005	0.01	3.68
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	0.02	0.01	0.42	0.10	< 0.005	0.01	0.09	0.09	0.01	0.02	0.03	—	301	301	0.01	0.05	0.31	316

3.4. Grading (2024) - 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	0.77	0.77	19.7	23.5	0.04	0.13	—	0.13	0.11	—	0.11	—	4,188	4,188	0.17	0.03	—	4,202
Dust From Material Movement	—	—	—	—	—	—	5.34	5.34	—	2.65	2.65	—	—	—	—	—	—	—
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	0.17	0.17	4.33	5.14	0.01	0.03	—	0.03	0.02	—	0.02	—	918	918	0.04	0.01	—	921
Dust From Material Movement	—	—	—	—	—	—	1.17	1.17	—	0.58	0.58	—	—	—	—	—	—	—
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	0.03	0.03	0.79	0.94	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	152	152	0.01	< 0.005	—	152

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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.04	0.71	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	108	108	0.01	< 0.005	0.43	110
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	0.38	0.20	10.1	2.39	0.05	0.15	2.16	2.31	0.15	0.59	0.74	—	8,302	8,302	0.18	1.32	20.0	8,718
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.13	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.8	21.8	< 0.005	< 0.005	0.04	22.2
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	0.08	0.04	2.30	0.53	0.01	0.03	0.47	0.50	0.03	0.13	0.16	—	1,820	1,820	0.04	0.29	1.88	1,909
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.62	3.62	< 0.005	< 0.005	0.01	3.68
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	0.02	0.01	0.42	0.10	< 0.005	0.01	0.09	0.09	0.01	0.02	0.03	—	301	301	0.01	0.05	0.31	316

3.5. Building Construction (2024) - 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	0.48	0.48	13.5	17.0	0.02	0.64	—	0.64	0.58	—	0.58	—	2,430	2,430	0.10	0.02	—	2,438
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	0.48	0.48	13.5	17.0	0.02	0.64	—	0.64	0.58	—	0.58	—	2,430	2,430	0.10	0.02	—	2,438
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	0.12	0.12	3.39	4.26	0.01	0.16	—	0.16	0.15	—	0.15	—	609	609	0.02	< 0.005	—	611
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	0.62	0.78	< 0.005	0.03	—	0.03	0.03	—	0.03	—	101	101	< 0.005	< 0.005	—	101
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	0.60	0.57	0.31	5.02	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	767	767	0.05	0.03	3.06	780
Vendor	0.04	0.03	0.82	0.37	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	500	500	0.01	0.07	1.28	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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.53	0.49	0.39	4.07	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	680	680	0.03	0.03	0.08	690
Vendor	0.04	0.02	0.87	0.38	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	501	501	0.01	0.07	0.03	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.13	0.08	1.03	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	176	176	0.01	0.01	0.33	179
Vendor	0.01	0.01	0.21	0.09	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	125	125	< 0.005	0.02	0.14	131
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	0.02	0.02	0.02	0.19	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	29.2	29.2	< 0.005	< 0.005	0.06	29.7
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.8	20.8	< 0.005	< 0.005	0.02	21.7
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 (2024) - 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	0.48	0.48	13.5	17.0	0.02	0.10	—	0.10	0.09	—	0.09	—	2,430	2,430	0.10	0.02	—	2,438
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	0.48	0.48	13.5	17.0	0.02	0.10	—	0.10	0.09	—	0.09	—	2,430	2,430	0.10	0.02	—	2,438
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	0.12	0.12	3.39	4.26	0.01	0.02	—	0.02	0.02	—	0.02	—	609	609	0.02	< 0.005	—	611
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	0.62	0.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	101	101	< 0.005	< 0.005	—	101
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	0.60	0.57	0.31	5.02	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	767	767	0.05	0.03	3.06	780
Vendor	0.04	0.03	0.82	0.37	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	500	500	0.01	0.07	1.28	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.53	0.49	0.39	4.07	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	680	680	0.03	0.03	0.08	690
Vendor	0.04	0.02	0.87	0.38	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	501	501	0.01	0.07	0.03	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.13	0.08	1.03	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	176	176	0.01	0.01	0.33	179
Vendor	0.01	0.01	0.21	0.09	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	125	125	< 0.005	0.02	0.14	131

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	0.02	0.02	0.02	0.19	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	29.2	29.2	< 0.005	< 0.005	0.06	29.7
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	20.8	20.8	< 0.005	< 0.005	0.02	21.7
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 (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	0.48	0.48	13.5	17.0	0.02	0.64	—	0.64	0.58	—	0.58	—	2,431	2,431	0.10	0.02	—	2,439
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	0.48	0.48	13.5	17.0	0.02	0.64	—	0.64	0.58	—	0.58	—	2,431	2,431	0.10	0.02	—	2,439
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	0.35	0.35	9.66	12.1	0.02	0.45	—	0.45	0.42	—	0.42	—	1,736	1,736	0.07	0.01	—	1,742
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	0.06	0.06	1.76	2.21	< 0.005	0.08	—	0.08	0.08	—	0.08	—	287	287	0.01	< 0.005	—	288
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	0.56	0.53	0.28	4.61	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	750	750	0.02	0.03	2.81	763
Vendor	0.04	0.03	0.79	0.35	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	491	491	0.01	0.07	1.28	514
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	0.50	0.46	0.34	3.73	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	666	666	0.03	0.03	0.07	676
Vendor	0.04	0.02	0.84	0.37	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	492	492	0.01	0.07	0.03	514
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	0.36	0.34	0.22	2.71	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	493	493	0.02	0.02	0.87	501
Vendor	0.03	0.02	0.59	0.26	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	351	351	0.01	0.05	0.39	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	0.07	0.06	0.04	0.49	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	81.6	81.6	< 0.005	< 0.005	0.14	82.9
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	0.07	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 (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	0.48	0.48	13.5	17.0	0.02	0.10	—	0.10	0.09	—	0.09	—	2,431	2,431	0.10	0.02	—	2,439
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	0.48	0.48	13.5	17.0	0.02	0.10	—	0.10	0.09	—	0.09	—	2,431	2,431	0.10	0.02	—	2,439
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	0.35	0.35	9.66	12.1	0.02	0.07	—	0.07	0.06	—	0.06	—	1,736	1,736	0.07	0.01	—	1,742
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	0.06	0.06	1.76	2.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	287	287	0.01	< 0.005	—	288
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	0.56	0.53	0.28	4.61	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	750	750	0.02	0.03	2.81	763
Vendor	0.04	0.03	0.79	0.35	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	491	491	0.01	0.07	1.28	514
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	0.50	0.46	0.34	3.73	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	666	666	0.03	0.03	0.07	676
Vendor	0.04	0.02	0.84	0.37	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	492	492	0.01	0.07	0.03	514
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	0.36	0.34	0.22	2.71	0.00	0.00	0.47	0.47	0.00	0.11	0.11	—	493	493	0.02	0.02	0.87	501
Vendor	0.03	0.02	0.59	0.26	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	351	351	0.01	0.05	0.39	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	0.07	0.06	0.04	0.49	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	81.6	81.6	< 0.005	< 0.005	0.14	82.9
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	0.07	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. 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	0.48	0.48	13.5	17.0	0.02	0.64	—	0.64	0.58	—	0.58	—	2,431	2,431	0.10	0.02	—	2,439
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	0.48	0.48	13.5	17.0	0.02	0.64	—	0.64	0.58	—	0.58	—	2,431	2,431	0.10	0.02	—	2,439
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	0.26	0.26	7.28	9.14	0.01	0.34	—	0.34	0.31	—	0.31	—	1,308	1,308	0.05	0.01	—	1,313
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	0.05	0.05	1.33	1.67	< 0.005	0.06	—	0.06	0.06	—	0.06	—	217	217	0.01	< 0.005	—	217
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	0.52	0.49	0.26	4.24	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	735	735	0.02	0.03	2.55	747
Vendor	0.04	0.03	0.76	0.34	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	482	482	0.01	0.07	1.13	505
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	0.45	0.44	0.31	3.43	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	652	652	0.03	0.03	0.07	662
Vendor	0.04	0.02	0.82	0.36	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	483	483	0.01	0.07	0.03	505
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	0.26	0.24	0.15	1.88	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	364	364	0.01	0.02	0.59	370
Vendor	0.02	0.01	0.43	0.19	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	260	260	0.01	0.04	0.26	272

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	0.04	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	60.2	60.2	< 0.005	< 0.005	0.10	61.2
Vendor	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	0.04	45.0
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. 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	0.48	0.48	13.5	17.0	0.02	0.10	—	0.10	0.09	—	0.09	—	2,431	2,431	0.10	0.02	—	2,439
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	0.48	0.48	13.5	17.0	0.02	0.10	—	0.10	0.09	—	0.09	—	2,431	2,431	0.10	0.02	—	2,439
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	0.26	0.26	7.28	9.14	0.01	0.05	—	0.05	0.05	—	0.05	—	1,308	1,308	0.05	0.01	—	1,313
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	0.05	0.05	1.33	1.67	< 0.005	0.01	—	0.01	0.01	—	0.01	—	217	217	0.01	< 0.005	—	217
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	0.52	0.49	0.26	4.24	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	735	735	0.02	0.03	2.55	747
Vendor	0.04	0.03	0.76	0.34	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	482	482	0.01	0.07	1.13	505
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	0.45	0.44	0.31	3.43	0.00	0.00	0.67	0.67	0.00	0.16	0.16	—	652	652	0.03	0.03	0.07	662
Vendor	0.04	0.02	0.82	0.36	< 0.005	0.01	0.13	0.13	0.01	0.03	0.04	—	483	483	0.01	0.07	0.03	505
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	0.26	0.24	0.15	1.88	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	364	364	0.01	0.02	0.59	370
Vendor	0.02	0.01	0.43	0.19	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	260	260	0.01	0.04	0.26	272
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	0.04	0.03	0.34	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	60.2	60.2	< 0.005	< 0.005	0.10	61.2
Vendor	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.0	43.0	< 0.005	0.01	0.04	45.0
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. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.37	10.1	12.6	0.02	0.45	—	0.45	0.41	—	0.41	—	1,801	1,801	0.07	0.01	—	1,807
Paving	—	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.04	0.04	1.11	1.38	< 0.005	0.05	—	0.05	0.05	—	0.05	—	197	197	0.01	< 0.005	—	198
Paving	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.20	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	32.7	32.7	< 0.005	< 0.005	—	32.8
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.06	0.06	0.04	0.48	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	92.2	92.2	< 0.005	< 0.005	0.01	93.7

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	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.02	10.6
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.73	1.73	< 0.005	< 0.005	< 0.005	1.76
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

3.12. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.37	10.1	12.6	0.02	0.07	—	0.07	0.06	—	0.06	—	1,801	1,801	0.07	0.01	—	1,807
Paving	—	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.04	0.04	1.11	1.38	< 0.005	0.01	—	0.01	0.01	—	0.01	—	197	197	0.01	< 0.005	—	198
Paving	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.20	0.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	32.7	32.7	< 0.005	< 0.005	—	32.8
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.06	0.06	0.04	0.48	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	92.2	92.2	< 0.005	< 0.005	0.01	93.7
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	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.5	10.5	< 0.005	< 0.005	0.02	10.6
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.73	1.73	< 0.005	< 0.005	< 0.005	1.76
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

3.13. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	1.09	0.96	< 0.005	0.07	—	0.07	0.06	—	0.06	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	54.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	< 0.005	< 0.005	0.07	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.36	8.36	< 0.005	< 0.005	—	8.39
Architectural Coatings	—	3.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	1.38	1.38	< 0.005	< 0.005	—	1.39
Architectural Coatings	—	0.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	0.09	0.09	0.06	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	0.01	0.01	0.01	132
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	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.46	8.46	< 0.005	< 0.005	0.01	8.60
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	—	1.40	1.40	< 0.005	< 0.005	< 0.005	1.42
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

3.14. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	1.09	0.96	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	54.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	< 0.005	< 0.005	0.07	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.36	8.36	< 0.005	< 0.005	—	8.39
Architectural Coatings	—	3.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	1.38	1.38	< 0.005	< 0.005	—	1.39
Architectural Coatings	—	0.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.09	0.09	0.06	0.69	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	130	130	0.01	0.01	0.01	132

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	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	8.46	8.46	< 0.005	< 0.005	0.01	8.60
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	—	1.40	1.40	< 0.005	< 0.005	< 0.005	1.42
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

3.15. Architectural Coating (2027) - 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	0.05	0.05	1.09	0.96	< 0.005	0.07	—	0.07	0.06	—	0.06	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	54.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.05	0.05	1.09	0.96	< 0.005	0.07	—	0.07	0.06	—	0.06	—	134	134	0.01	< 0.005	—	134

Architect Coatings	—	54.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.01	0.01	0.20	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Architect ural Coatings	—	9.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.98	3.98	< 0.005	< 0.005	—	3.99
Architect ural Coatings	—	1.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.10	0.09	0.05	0.78	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	144	144	< 0.005	0.01	0.46	146
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.06	0.64	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	128	128	0.01	0.01	0.01	130
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	0.02	0.02	0.01	0.12	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.8	23.8	< 0.005	< 0.005	0.04	24.2
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	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.94	3.94	< 0.005	< 0.005	0.01	4.01
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

3.16. Architectural Coating (2027) - 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	0.05	0.05	1.09	0.96	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	54.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.05	0.05	1.09	0.96	< 0.005	0.01	—	0.01	0.01	—	0.01	—	134	134	0.01	< 0.005	—	134

Architect ural	—	54.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.01	0.01	0.20	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Architect ural Coatings	—	9.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.98	3.98	< 0.005	< 0.005	—	3.99
Architect ural Coatings	—	1.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.10	0.09	0.05	0.78	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	144	144	< 0.005	0.01	0.46	146
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.06	0.64	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	128	128	0.01	0.01	0.01	130
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	0.02	0.02	0.01	0.12	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	23.8	23.8	< 0.005	< 0.005	0.04	24.2
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	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.94	3.94	< 0.005	< 0.005	0.01	4.01
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	11.4	10.8	8.23	69.2	0.16	0.12	13.4	13.6	0.12	3.41	3.52	—	16,539	16,539	0.72	0.83	51.2	16,854
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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	11.4	10.8	8.23	69.2	0.16	0.12	13.4	13.6	0.12	3.41	3.52	—	16,539	16,539	0.72	0.83	51.2	16,854
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	10.2	9.54	9.37	61.6	0.15	0.12	13.4	13.6	0.12	3.41	3.52	—	15,178	15,178	0.84	0.89	1.33	15,465
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	10.2	9.54	9.37	61.6	0.15	0.12	13.4	13.6	0.12	3.41	3.52	—	15,178	15,178	0.84	0.89	1.33	15,465
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	1.89	1.77	1.61	11.1	0.03	0.02	2.41	2.43	0.02	0.61	0.63	—	2,576	2,576	0.13	0.14	3.66	2,626
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	1.89	1.77	1.61	11.1	0.03	0.02	2.41	2.43	0.02	0.61	0.63	—	2,576	2,576	0.13	0.14	3.66	2,626

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	11.4	10.8	8.23	69.2	0.16	0.12	13.4	13.6	0.12	3.41	3.52	—	16,539	16,539	0.72	0.83	51.2	16,854
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	11.4	10.8	8.23	69.2	0.16	0.12	13.4	13.6	0.12	3.41	3.52	—	16,539	16,539	0.72	0.83	51.2	16,854
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	10.2	9.54	9.37	61.6	0.15	0.12	13.4	13.6	0.12	3.41	3.52	—	15,178	15,178	0.84	0.89	1.33	15,465
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	10.2	9.54	9.37	61.6	0.15	0.12	13.4	13.6	0.12	3.41	3.52	—	15,178	15,178	0.84	0.89	1.33	15,465
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	1.89	1.77	1.61	11.1	0.03	0.02	2.41	2.43	0.02	0.61	0.63	—	2,576	2,576	0.13	0.14	3.66	2,626
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	1.89	1.77	1.61	11.1	0.03	0.02	2.41	2.43	0.02	0.61	0.63	—	2,576	2,576	0.13	0.14	3.66	2,626

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,703	1,703	0.28	0.03	—	1,720
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	74.6	74.6	0.01	< 0.005	—	75.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,777	1,777	0.29	0.03	—	1,795

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,703	1,703	0.28	0.03	—	1,720
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	74.6	74.6	0.01	< 0.005	—	75.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,777	1,777	0.29	0.03	—	1,795
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	282	282	0.05	0.01	—	285
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.4	12.4	< 0.005	< 0.005	—	12.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	294	294	0.05	0.01	—	297

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,644	1,644	0.27	0.03	—	1,660
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	74.6	74.6	0.01	< 0.005	—	75.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,719	1,719	0.28	0.03	—	1,736
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,644	1,644	0.27	0.03	—	1,660
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	74.6	74.6	0.01	< 0.005	—	75.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,719	1,719	0.28	0.03	—	1,736
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	272	272	0.04	0.01	—	275
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.4	12.4	< 0.005	< 0.005	—	12.5
Total	—	—	—	—	—	—	—	—	—	—	—	—	285	285	0.05	0.01	—	287

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
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	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Recreational	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
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	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.2.4. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
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	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
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	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.32	0.16	2.70	1.15	0.02	0.22	—	0.22	0.22	—	0.22	0.00	3,432	3,432	0.06	0.01	—	3,436
Consumer Products	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	1.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.32	18.0	2.70	1.15	0.02	0.22	—	0.22	0.22	—	0.22	0.00	3,432	3,432	0.06	0.01	—	3,436
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.32	0.16	2.70	1.15	0.02	0.22	—	0.22	0.22	—	0.22	0.00	3,432	3,432	0.06	0.01	—	3,436
Consumer Products	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	1.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.32	18.0	2.70	1.15	0.02	0.22	—	0.22	0.22	—	0.22	0.00	3,432	3,432	0.06	0.01	—	3,436
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01	0.01	0.11	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	128	128	< 0.005	< 0.005	—	128

Consum er	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.01	3.27	0.11	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	128	128	< 0.005	< 0.005	—	128

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.32	0.16	2.70	1.15	0.02	0.22	—	0.22	0.22	—	0.22	0.00	3,432	3,432	0.06	0.01	—	3,436
Consum er Products	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	1.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.32	18.0	2.70	1.15	0.02	0.22	—	0.22	0.22	—	0.22	0.00	3,432	3,432	0.06	0.01	—	3,436
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.32	0.16	2.70	1.15	0.02	0.22	—	0.22	0.22	—	0.22	0.00	3,432	3,432	0.06	0.01	—	3,436
Consum er Products	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	1.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.32	18.0	2.70	1.15	0.02	0.22	—	0.22	0.22	—	0.22	0.00	3,432	3,432	0.06	0.01	—	3,436
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	0.01	0.01	0.11	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	128	128	< 0.005	< 0.005	—	128
Consumer Products	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.01	3.27	0.11	0.05	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	128	128	< 0.005	< 0.005	—	128

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	25.2	116	141	2.60	0.06	—	225
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	1.56	1.56	< 0.005	< 0.005	—	1.58
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	1.72	1.98	3.70	0.18	< 0.005	—	9.39
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.84	0.84	< 0.005	< 0.005	—	0.85
Total	—	—	—	—	—	—	—	—	—	—	—	26.9	120	147	2.78	0.07	—	236
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	25.2	116	141	2.60	0.06	—	225
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	1.56	1.56	< 0.005	< 0.005	—	1.58
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	1.72	1.98	3.70	0.18	< 0.005	—	9.39
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.84	0.84	< 0.005	< 0.005	—	0.85
Total	—	—	—	—	—	—	—	—	—	—	—	26.9	120	147	2.78	0.07	—	236
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	4.17	19.1	23.3	0.43	0.01	—	37.2
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.26	0.26	< 0.005	< 0.005	—	0.26
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	0.29	0.33	0.61	0.03	< 0.005	—	1.55
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.14	0.14	< 0.005	< 0.005	—	0.14
Total	—	—	—	—	—	—	—	—	—	—	—	4.45	19.9	24.3	0.46	0.01	—	39.2

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	21.5	70.4	91.9	2.22	0.05	—	163
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	-0.36	-0.36	> -0.005	> -0.005	—	-0.37
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	1.72	1.98	3.70	0.18	< 0.005	—	9.39
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.36	0.36	< 0.005	< 0.005	—	0.36
Total	—	—	—	—	—	—	—	—	—	—	—	23.2	72.4	95.6	2.39	0.06	—	173
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	21.5	70.4	91.9	2.22	0.05	—	163
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	-0.36	-0.36	> -0.005	> -0.005	—	-0.37
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	1.72	1.98	3.70	0.18	< 0.005	—	9.39
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.36	0.36	< 0.005	< 0.005	—	0.36
Total	—	—	—	—	—	—	—	—	—	—	—	23.2	72.4	95.6	2.39	0.06	—	173
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	3.56	11.7	15.2	0.37	0.01	—	27.1
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	-0.06	-0.06	> -0.005	> -0.005	—	-0.06

Recreational Swimming	—	—	—	—	—	—	—	—	—	—	—	0.29	0.33	0.61	0.03	< 0.005	—	1.55
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.06	0.06	< 0.005	< 0.005	—	0.06
Total	—	—	—	—	—	—	—	—	—	—	—	3.85	12.0	15.8	0.40	0.01	—	28.6

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.15
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	46.7	0.00	46.7	4.67	0.00	—	163
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	46.8	0.00	46.8	4.67	0.00	—	164
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.15
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	46.7	0.00	46.7	4.67	0.00	—	163
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	46.8	0.00	46.8	4.67	0.00	—	164
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.02
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	7.73	0.00	7.73	0.77	0.00	—	27.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	7.74	0.00	7.74	0.77	0.00	—	27.1

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.15
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	46.7	0.00	46.7	4.67	0.00	—	163
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	46.8	0.00	46.8	4.67	0.00	—	164
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.15
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	46.7	0.00	46.7	4.67	0.00	—	163
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	46.8	0.00	46.8	4.67	0.00	—	164
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.02

Recreational Swimming	—	—	—	—	—	—	—	—	—	—	—	7.73	0.00	7.73	0.77	0.00	—	27.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	7.74	0.00	7.74	0.77	0.00	—	27.1

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.52	5.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.59	5.59
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.52	5.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

Recreati Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.59	5.59
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.91	0.91
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.93	0.93

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.52	5.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.59	5.59

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.52	5.52
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.07	0.07
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.59	5.59
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.91	0.91
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Recreational Swimming Pool	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.93	0.93

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. 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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. 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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. 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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. 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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

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

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	4/1/2024	5/3/2024	5.00	25.0	—
Grading	Grading	5/6/2024	8/23/2024	5.00	80.0	—
Building Construction	Building Construction	8/26/2024	10/2/2026	5.00	550	—
Paving	Paving	10/5/2026	11/27/2026	5.00	40.0	—
Architectural Coating	Architectural Coating	11/30/2026	4/2/2027	5.00	90.0	—

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	Tier 3	3.00	8.00	367	0.40
Site Preparation	Crawler Tractors	Diesel	Tier 3	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 3	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 3	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 3	2.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 3	2.00	8.00	84.0	0.37
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 3	3.00	7.00	84.0	0.37
Building Construction	Excavators	Diesel	Tier 3	1.00	8.00	36.0	0.38
Building Construction	Rough Terrain Forklifts	Diesel	Tier 3	3.00	8.00	96.0	0.40
Building Construction	Skid Steer Loaders	Diesel	Tier 3	1.00	8.00	71.0	0.37
Building Construction	Trenchers	Diesel	Tier 3	1.00	8.00	40.0	0.50
Paving	Pavers	Diesel	Tier 3	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 3	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 3	2.00	8.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 3	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Tier 3	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	Tier 3	3.00	8.00	367	0.40
Site Preparation	Crawler Tractors	Diesel	Tier 3	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 3	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 3	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 3	2.00	8.00	367	0.40

Grading	Tractors/Loaders/Backh	Diesel	Tier 3	2.00	8.00	84.0	0.37
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 3	3.00	7.00	84.0	0.37
Building Construction	Excavators	Diesel	Tier 3	1.00	8.00	36.0	0.38
Building Construction	Rough Terrain Forklifts	Diesel	Tier 3	3.00	8.00	96.0	0.40
Building Construction	Skid Steer Loaders	Diesel	Tier 3	1.00	8.00	71.0	0.37
Building Construction	Trenchers	Diesel	Tier 3	1.00	8.00	40.0	0.50
Paving	Pavers	Diesel	Tier 3	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 3	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 3	2.00	8.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 3	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Tier 3	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	—	4.00	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	17.5	7.70	LDA,LDT1,LDT2
Grading	Vendor	—	4.00	HHDT,MHDT
Grading	Hauling	116	20.0	HHDT
Grading	Onsite truck	—	—	HHDT

Building Construction	—	—	—	—
Building Construction	Worker	124	7.70	LDA,LDT1,LDT2
Building Construction	Vendor	37.3	4.00	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	7.70	LDA,LDT1,LDT2
Paving	Vendor	—	4.00	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	24.7	7.70	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	4.00	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	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	—	4.00	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	17.5	7.70	LDA,LDT1,LDT2
Grading	Vendor	—	4.00	HHDT,MHDT
Grading	Hauling	116	20.0	HHDT

Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	124	7.70	LDA,LDT1,LDT2
Building Construction	Vendor	37.3	4.00	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	7.70	LDA,LDT1,LDT2
Paving	Vendor	—	4.00	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	24.7	7.70	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	4.00	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%
Sweep paved roads once per month	9%	9%

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	1,561,255	520,418	0.00	0.00	9,148

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	—	—	87.5	0.00	—
Grading	74,500	—	165	0.00	—
Paving	0.00	0.00	0.00	0.00	7.09

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
Single Family Housing	3.59	0%
City Park	0.00	0%
Recreational Swimming Pool	0.00	0%
Parking Lot	3.50	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O

2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005
2027	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
Single Family Housing	3,074	3,074	3,074	1,122,076	18,999	18,999	18,999	6,934,713
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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
Single Family Housing	3,074	3,074	3,074	1,122,076	18,999	18,999	18,999	6,934,713
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Recreational Swimming Pool	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	163
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	163
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	163
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	163
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

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)
1561254.75	520,418	0.00	0.00	9,148

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)
Single Family Housing	3,046,986	204	0.0330	0.0040	0.00
City Park	0.00	204	0.0330	0.0040	0.00
Recreational Swimming Pool	0.00	204	0.0330	0.0040	0.00
Parking Lot	133,555	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)
Single Family Housing	2,942,030	204	0.0330	0.0040	0.00
City Park	0.00	204	0.0330	0.0040	0.00
Recreational Swimming Pool	0.00	204	0.0330	0.0040	0.00
Parking Lot	133,555	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)
Single Family Housing	13,136,496	64,063,828
City Park	0.00	1,153,360
Recreational Swimming Pool	899,390	0.00

Parking Lot	0.00	621,870

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	11,222,509	33,823,909
City Park	0.00	-268,933
Recreational Swimming Pool	899,390	0.00
Parking Lot	0.00	263,099

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	0.00	—
City Park	0.08	—
Recreational Swimming Pool	86.7	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	0.00	—
City Park	0.08	—
Recreational Swimming Pool	86.7	—
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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Recreational Swimming Pool	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Recreational Swimming Pool	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Recreational Swimming Pool	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

Recreational Swimming Pool	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Land Use	The total project site is 31.29 acres and would include 326 residential lots and approximately 53,016 square feet of open space, including a 11,777 square-foot park, a 15,207 square-foot pool and recreation area, and a 26,032 square-foot area across East McKinley Avenue that would be deeded to the City of Fresno for open space uses. The proposed project would include approximately 157,367 square feet of parking space.
Construction: Construction Phases	Construction of the proposed project is expected to occur over a period of 36 months, beginning April 2024 and ending April 2027.
Construction: Off-Road Equipment	Construction equipment list was provided by the Project Applicant and assumes the use of Tier 3 construction equipment.
Operations: Vehicle Data	The proposed project would generate approximately 3,074 average daily trips.
Operations: Hearths	No woodstoves.
Construction: Dust From Material Movement	The proposed project would have a net import of 74,500 cubic yards of soil.
Operations: Energy Use	The proposed project would be all-electric.

APPENDIX D

HEALTH RISK ASSESSMENT

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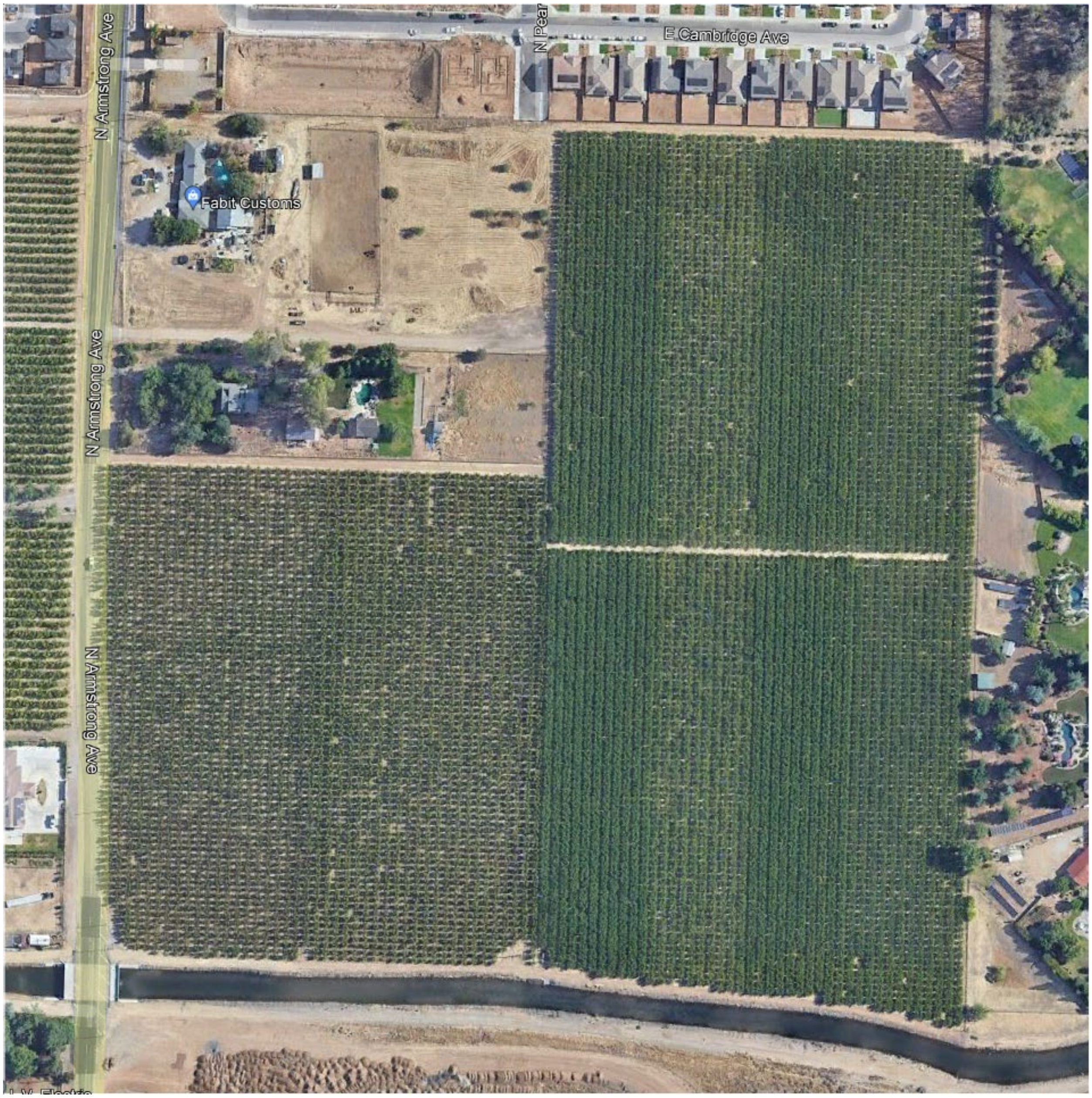
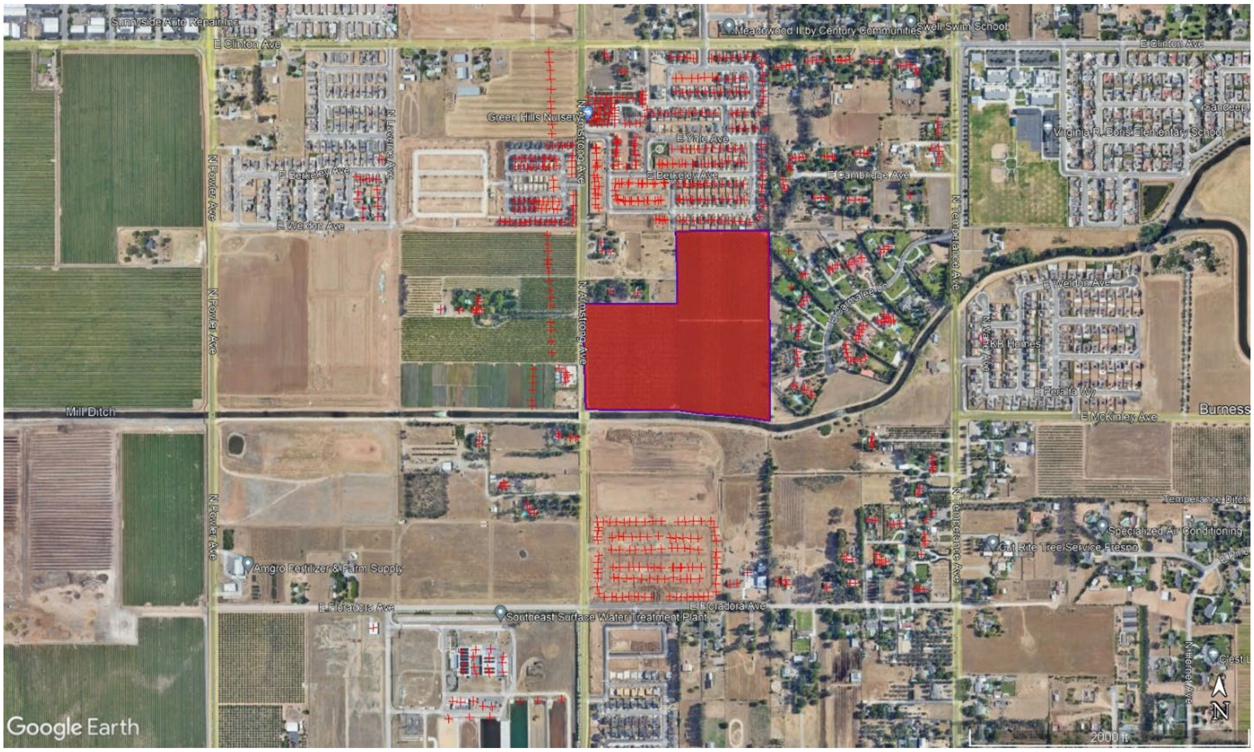
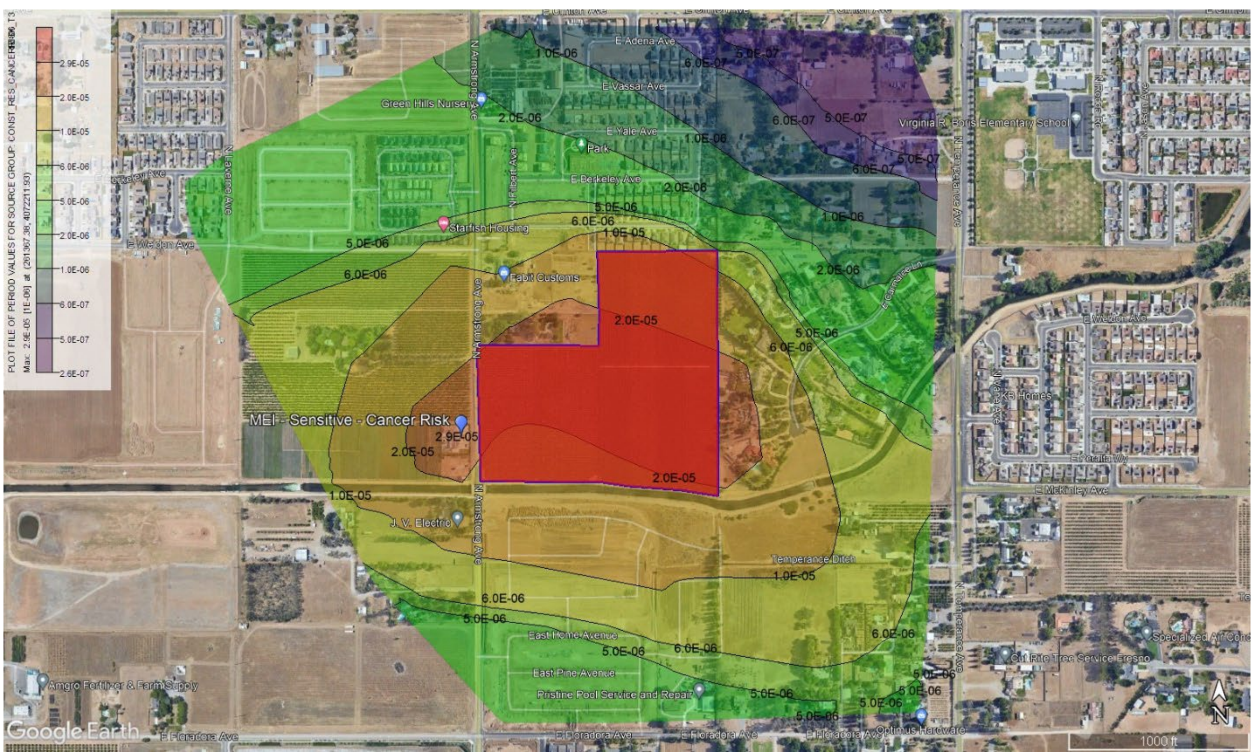
Project Location



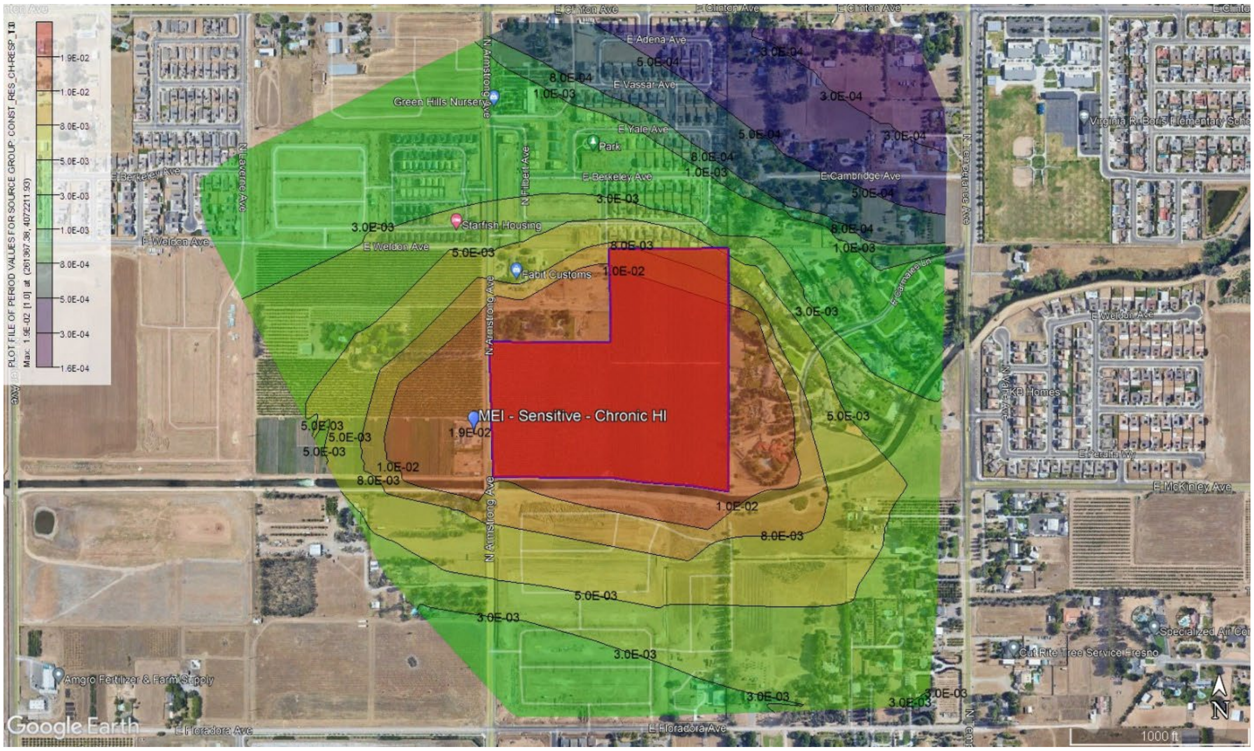
Receptor Grid



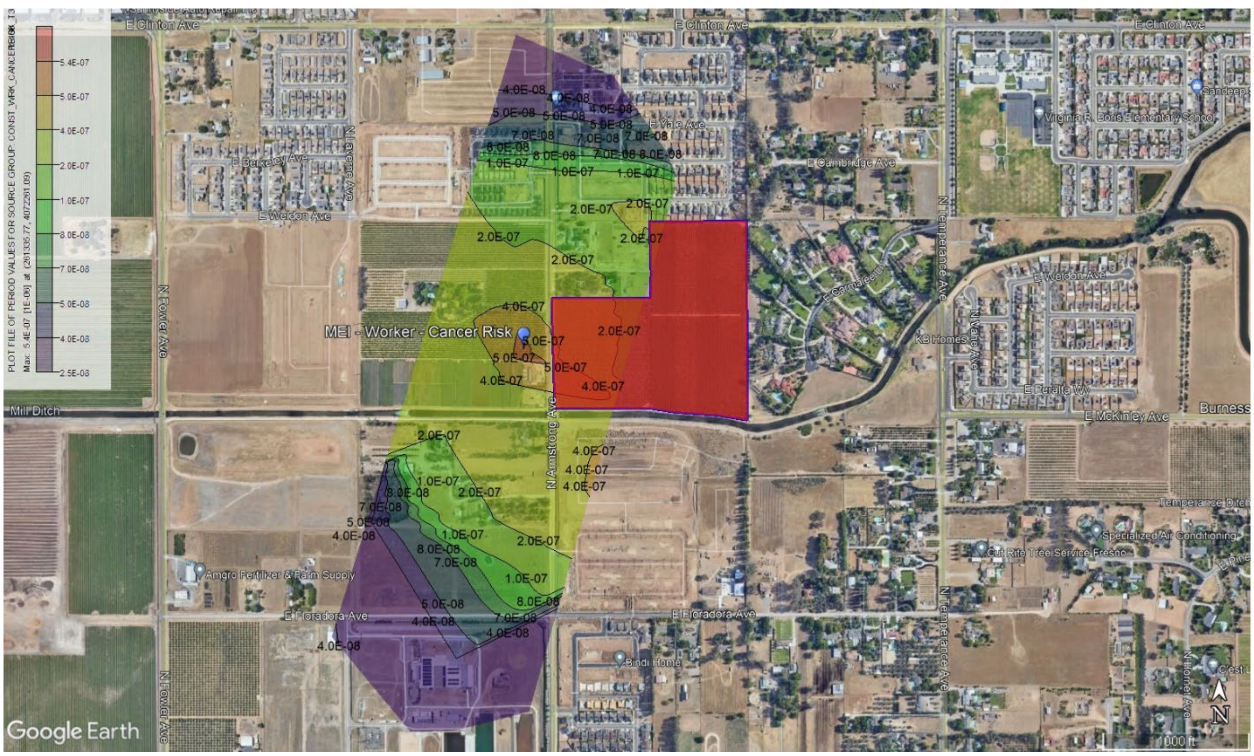
Unmitigated Construction Cancer Risk – Sensitive Receptor



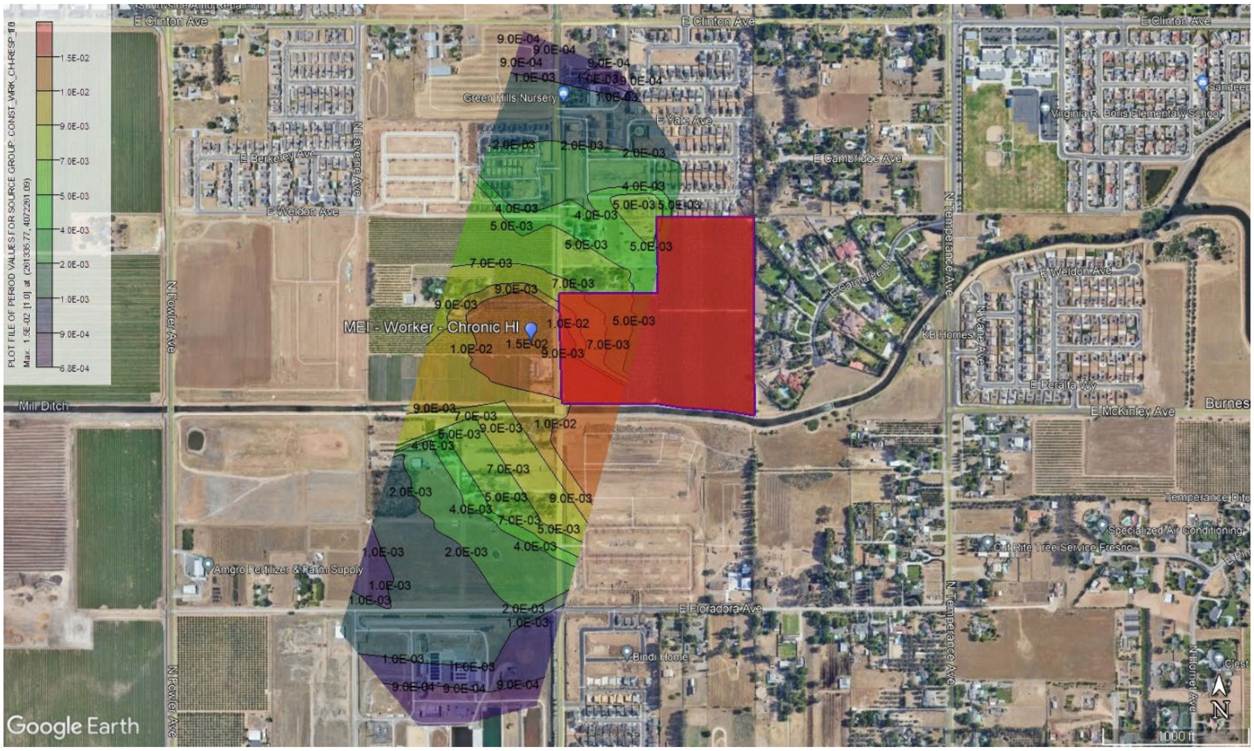
Unmitigated Construction Chronic Hazard Index – Sensitive Receptor



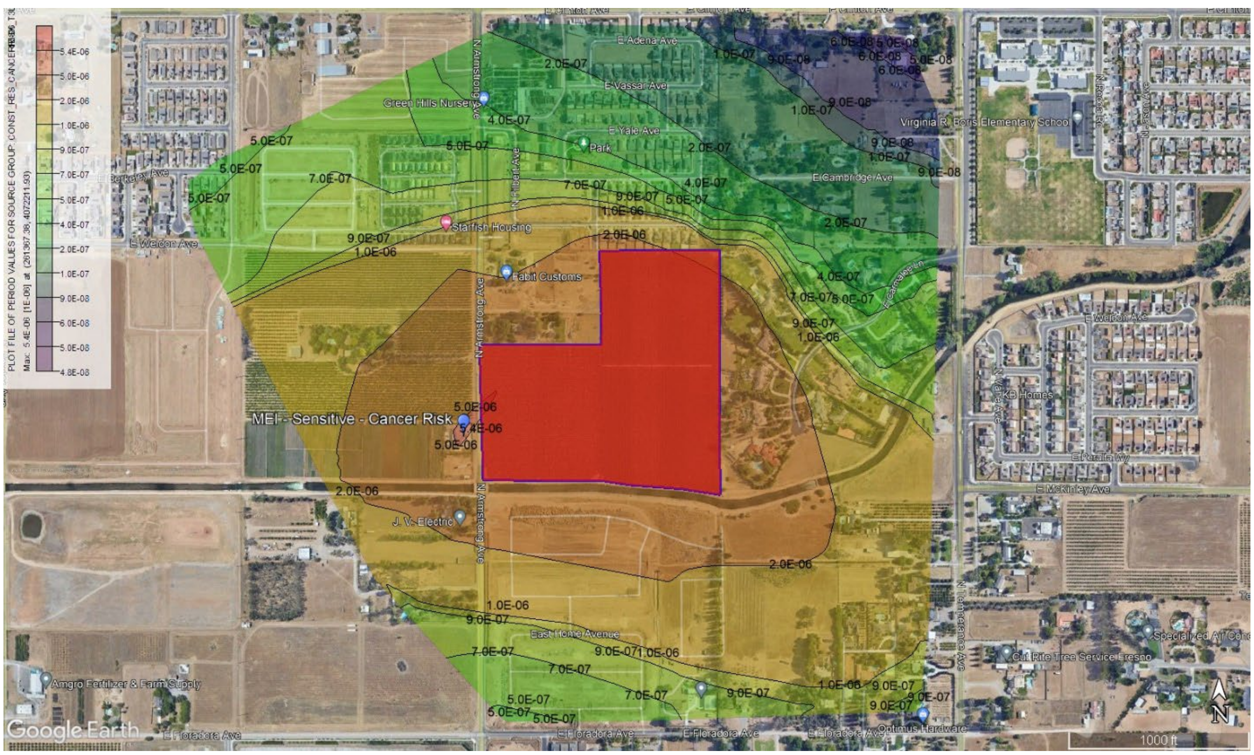
Unmitigated Construction Cancer Risk – Worker Receptor



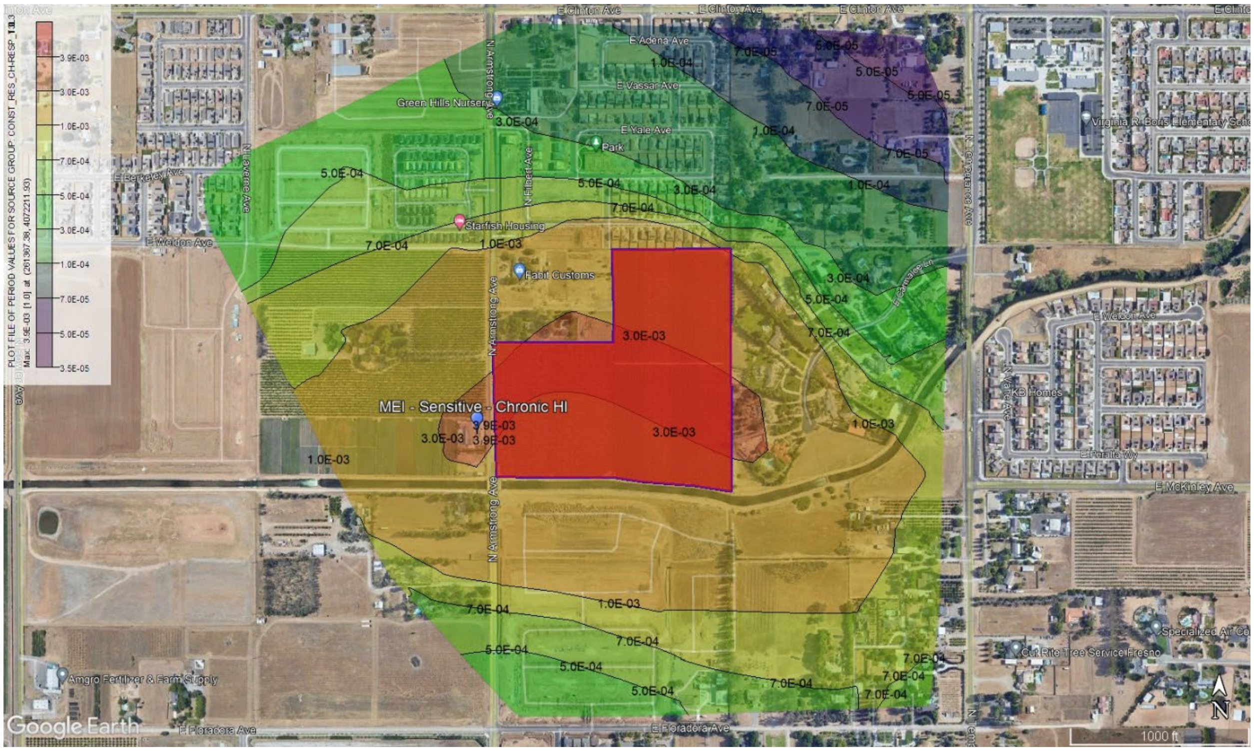
Unmitigated Construction Chronic Hazard Index – Worker Receptor



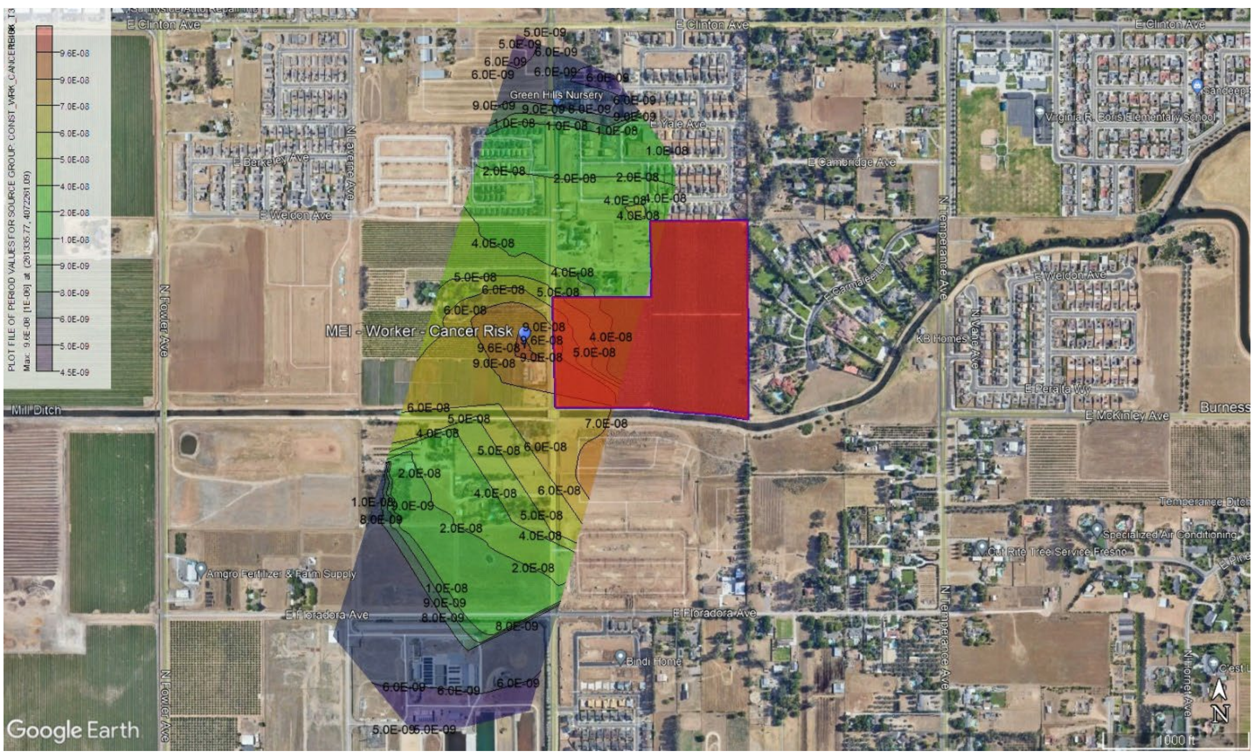
Mitigated Construction Cancer Risk – Sensitive Receptor



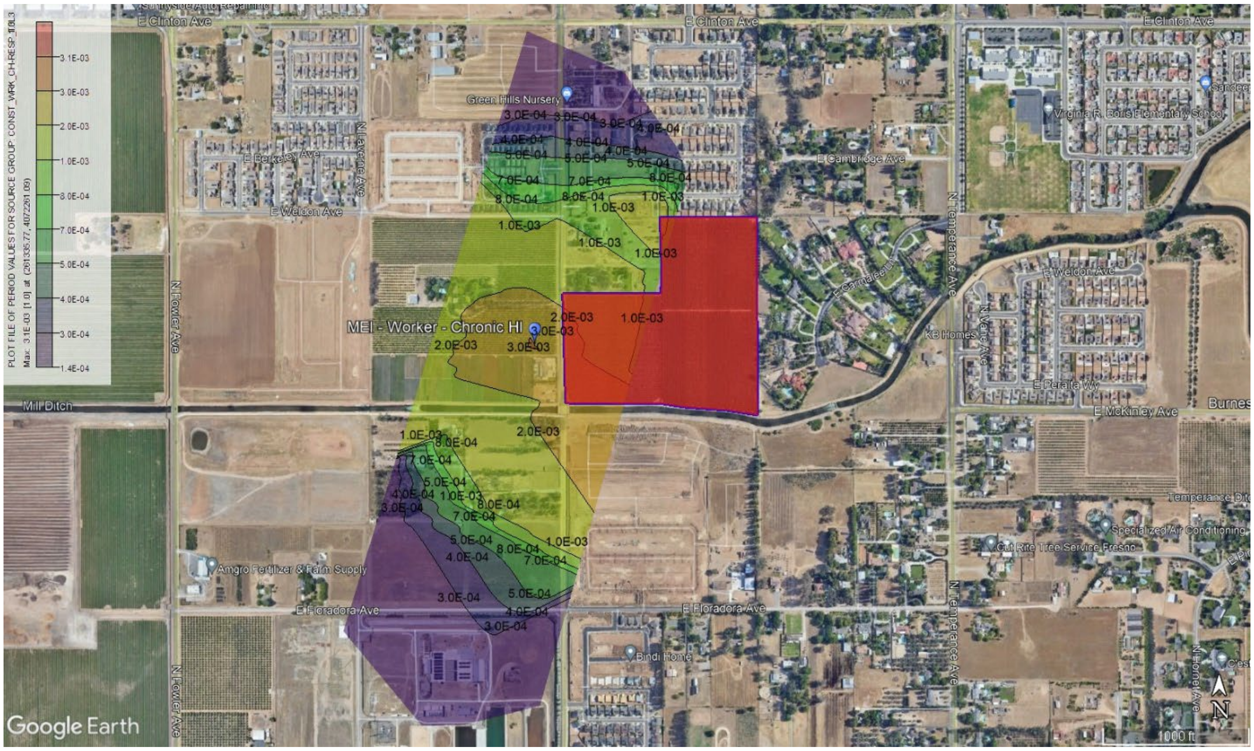
Mitigated Construction Chronic Hazard Index – Sensitive Receptor



Mitigated Construction Cancer Risk – Worker Receptor



Mitigated Construction Chronic Hazard Index – Worker Receptor



APPENDIX E

FRESNO GREENHOUSE GAS REDUCTION PLAN UPDATE CEQA PROJECT CONSISTENCY CHECKLIST

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Fresno Greenhouse Gas (GHG) Reduction Plan Update – CEQA Project Consistency Checklist

INTRODUCTION

The City of Fresno updated its 2014 Greenhouse Gas (GHG) Reduction Plan (the Plan) in the year 2021 to conform with existing applicable State climate change policies and regulations. The GHG Plan Update outlines strategies that the City will undertake to achieve its proportional share of GHG emission reductions. The purpose of this GHG Reduction Plan Update Consistency Checklist (Checklist) is to help the City provide a streamlined review process for new development projects that are subject to discretionary review pursuant to the California Environmental Quality Act (CEQA) Guidelines Section 15183.5.

This Checklist has been developed as part of the GHG Plan Update implementation and monitoring process and will support the achievement of individual GHG reduction strategies as well as the City's overall GHG reduction goals. In addition, this Checklist will further the City's sustainability goals and policies that encourage sustainable development and aim to conserve and reduce the consumption of resources, such as energy and water. Projects that meet the requirements of this Checklist will be deemed to be consistent with the Fresno GHG Reduction Plan Update and will be found to have a less than significant contribution to cumulative GHG (i.e., the project's incremental contribution to cumulative GHG effects is not cumulatively considerable), pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b). Projects that do not meet the requirements in this Checklist will be deemed to be inconsistent with the Fresno GHG Reduction Plan Update and must prepare a project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and incorporation of the measures in this Checklist to the extent feasible. This GHG Checklist can be updated to reflect adoption of new GHG reduction strategies or to comply with any changes and updates in the Plan or local, State or federal regulations. Note that not all the measures in the checklist are applicable to all projects. The projects should comply with applicable measures from the checklist.

1. Project Information

Contact Information	
Project No./Name:	Vesting Tentative Map No.6360 (TM6360) Project
Address:	North Armstrong Avenue and East McKinley Avenue
Applicant Name/Co:	Chris Lang, Planner III
Contact Information:	City of Fresno
	Development and Resource Management Dept.
	559-621-8023
Project Information	
1. What is the Site acreage of the Project?	31.29
2. Identify all Applicable Proposed Land uses:	Single-Family Residential
a. Residential (Indicate number of single-family units)	326 Residential lots
b. Residential (Indicate number of multi-family units)	
c. Commercial (total square footage)	
d. Industrial (total square footage)	
e. Other (describe)	39 out-lot spaces would be included in the project. Potential uses for the out-lots would be landscaping, private pool, private road, private park, private parking, public pedestrian and public utility uses.
3. Is the project or a portion of the project located in a transit priority area? (Y/N)	No
4. Provide a brief description of the project proposed:	The project would consist of the development of 326 residential lots ranging in sizes between 1,979 and 8,474 square feet (sf), with the average lot size being 2,365 sf. In addition, 39 out-lot spaces will be included as part of the project as mentioned above. The proposed project would also include 53,016 sf of open space, including a 11,777 sf park, a 15,207 sf pool and recreation area. The project would also include 157,367 sf of parking space.

2. Determining Land Use Consistency

Checklist Item		
As the first step in determining the consistency with the GHG Reduction Plan for discretionary development projects, this section allows the City to determine the project's consistency with the land use assumptions used in the GHG Reduction Plan.		
	Yes	**No**
1. Is the proposed project consistent with the approved General Plan, Specific Plan, and Community Plan planned land use and zoning designations? If the answer is **Yes**, then proceed to the GHG Plan Update Consistency Checklist. If the answer is **No**, then proceed to question 2.		X
2. If the proposed project is not consistent with the approved planned land use and zoning designation(s), then provide estimated GHG project emissions under both existing and proposed designation(s) for comparison. Compare the maximum buildout of the existing designation with the maximum buildout of the proposed designation. If the estimated project emissions at maximum buildout of the proposed designation(s) **is equivalent to or less than** the estimated project emissions at maximum buildout of the existing designation(s), then in accordance with the City's Significance Determination Thresholds, the project's GHG impact is less than significant. If there is a proposed development project associated with this plan amendment and or rezone then complete the GHG Plan Update Consistency Checklist and incorporate applicable measures, otherwise there is no further step required. If the estimated project emission at maximum buildout of the proposed designation(s) is **greater than** the estimated project emissions at maximum buildout of the existing designation(s), then in accordance with the City's Significance Determination Thresholds, the project's GHG impact is significant. The project must either show consistency with applicable GP objectives and policies (provide applicable GP objectives and policies here) or provide analysis and measures to incorporate into the project to bring the GHG emissions to a level that is less than or equal to the estimated project emission at maximum buildout of the existing designation(s) unless the decision-maker finds that a measure is infeasible in accordance with CEQA Guidelines Section 15091. If there is a proposed development project associated with this plan amendment and or rezone then complete the GHG Plan Update Consistency Checklist and incorporate applicable measures, otherwise there is no further step required.	The project site is currently designated Low-Density Residential in the General Plan and zoned within the Residential Single-Family District (RS-3). The proposed project would require a General Plan Amendment and Rezone to Medium Density Residential and Residential Single-Family, Medium Density (RS-5) respectively. Based on the existing Low-Density Residential designation, the maximum buildout of the existing designation would be 109 single-family residential units. Based on the California Emissions Estimator Model (CalEEMod), the the estimated annual GHG emissions associated with the maximum buildout of the existing designation are approximately 1,300.3 metric tons of CO2e and the proposed project's estimated annual GHG emissions are approximately 3,096.4 metric tons of CO2e. GHG emissions associated with proposed project would be greater than the estimated emissions associated with maximum buildout of the existing designation due to the increase in density and residential units.	

3. Greenhouse Gas (GHG) Reduction Plan Update - CEQA Project Consistency Checklist

GHG Reduction Plan Update consistency review involves the evaluation of project consistency with the applicable strategies of the GHG Reduction Plan Update. The GHG reduction strategies identified in the GHG Reduction Plan Update relies upon the General Plan and additional local measures as the basis of the development related strategies to reduce GHG emissions. This checklist is developed based on the key local GHG reduction strategies and actions identified in the GHG Reduction Plan Update that are applicable to proposed development projects. Note that not all strategies listed below will apply to all projects. For example, not all projects will meet mixed-use related policies of the General Plan, because not all projects are required to be mixed use.

Checklist Item (Check the appropriate box and provide an explanation for your answer)	Relevant General Plan Policy	Yes	No	Not Applicable (NA)	Explanation
1: Land Use and Transportation Demand Strategies					
a. Does the project include mixed-use, development? For GHG Reduction Plan consistency, mixed-use development is defined as pedestrian-friendly development that blends two or more residential, commercial, cultural, or institutional, uses, one of which must be residential	Policy UF-1-c, LU-3-b, Objective-UF 12, UF-12-a, UF-12-b, UF-12-d, Policy RC-2-a			X	The proposed project includes residential uses. The proposed project would not include mixed-use development.
b. Is the project high density? For GHG Reduction Plan consistency, is the project developed at 12 units per acre or higher?	LU-5-f		X		The proposed project would consist of low-density residential.
c. Is the project infill development, pursuant to the General Plan definition of location within the City limits as of December 31, 2012?	LU-2-a, Objective-12, UF-12-a, UF-12-b, UF-12-d	X			The project site is located within City limits and is surrounded by residential and agricultural uses.
d. Does the project implement pedestrian bicycle, and transit linkages with surrounding land uses and neighborhoods? For GHG Reduction Plan consistency, the project must include all sidewalks, paths, trails, and facilities required by the General Plan and Active Transportation Plan, as implemented through the Fresno Municipal Code and project conditions of approval.	Policy UF-1-c, UF-12-e, Policy RC-2-a, Objective MT-4,5,6, Policy MT-4-c, Policy MT-6-a, Policy POSS-7-h Objective MT 8, Policies MT-8-a, MT-8-b	X			The project would provide complete streets for all roadway improvements. In addition, the proposed project would include open space and pedestrian-friendly areas.
e. If the project includes mixed-use or high density development, is it located within ½ mile of a High Quality Transit Area as defined in the City's CEQA Guidelines for Vehicle Miles Traveled? Or, is the project located within 500 feet of an existing or planned transit stop?	Policy UF-12-a, UF-12-b, LU-3-b, Objective MT 8, Policies MT-8-a, MT-8-b			X	The proposed project does not include mixed-use or high density development.
f. Will the project accommodate a large employer (over 100 employees) and will it implement trip reduction programs such as increasing transit use, carpooling, vanpooling, bicycling, or other measures to reduce vehicle miles traveled pursuant to San Joaquin Valley Air Pollution Control District Rule 9410? See the SJVAPCD website for details: https://www.valleyair.org/rules/currntrules/r9410.pdf	Policy MT-8-b, Objective MT-9, Policy MT-10-c, San Joaquin Valley Air Pollution Control District Rule 9410			X	The proposed project would include residential uses.

Checklist Item (Check the appropriate box and provide an explanation for your answer)	Relevant General Plan Policy	Yes	No	Not Applicable (NA)	Explanation
g. If the project includes modifications to the transportation network, do those improvements meet the requirements of the City of Fresno's Complete Streets Policy, adopted in October 2019? According to the policy, a complete street is a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users - including bicyclists, pedestrians, transit vehicles, trucks, and motorists - appropriate to the function and context of the facility while connecting to a larger transportation network. See City of Fresno website for details: https://www.fresno.gov/publicworks/wp-content/uploads/sites/17/2019/10/Complete-Streets-091119.pdf	MT-1-g, MT-1-h	X			The project would provide complete streets for all roadway improvements.
h. Does the project have a less than significant VMT impact, either through satisfying screening criteria or mitigating VMT impacts, pursuant to the City's adopted VMT thresholds? See City of Fresno website for details: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2021/01/CEQA-Guidelines-for-Vehicle-Miles-Traveled-Final-Adopted-Version.pdf	MT-2-b, MT-2-c		X		As described in Section 4.3 Transportation, the proposed project would have a significant and unavoidable VMT impact.
2: Electric Vehicle Strategies					
a. For new multi-family dwelling units with parking, does the project provide EV charging spaces capable of supporting future EV supply equipment (EV capable) at 10% of the parking spaces per 2019 California Green Building Standards Code (CALGREEN, Title 24, Part 11), Section 4.106.4	Policy RC-8-j	X			The proposed project would be required to comply with the latest CALGreen standards
b. For new commercial buildings, does project provide EV charging spaces capable of supporting EV capable spaces at 4% to 10% of the parking spaces per 2019 California Green Building Standards Code (CALGREEN, Title 24, Part 11), Section 5.106.5.3	Policy RC-8-j			X	The proposed project would not include commercial uses.
3: Energy Conservation Strategies					
a. Does the project meet or exceed mandatory state building energy codes? If yes, does the project follow any other GreenPoint ratings such as LEED, Energy Star or others? If yes, indicate level of certification-Silver, gold, platinum if applicable?	Policy RC-5-c, Objective RC-8, Policy RC 8-a	X			The project would exceed CALGreen standards by 3.7% and include energy reduction measures but would not follow other GreenPoint ratings.
b. For commercial projects, does the project achieve net zero emissions electricity? Mark NA if project will be permitted before 2030. Mark Yes if voluntary. Add source and capacity in explanation.	Additional Recommended GHG Plan Measure, supports Objective RC-8			X	The project does not include commercial uses and would be permitted before 2030.

Checklist Item (Check the appropriate box and provide an explanation for your answer)	Relevant General Plan Policy	Yes	No	Not Applicable (NA)	Explanation
4: Water Conservation Strategies					
a. Does the project meet or exceed the mandatory outdoor water use measures of the 2019 California Green Building Standards Code (CALGREEN, Title 24, Part 11), Section 4.304? If the project exceeds CalGreen Code mandatory measures provide methods in excess of requirements in the explanation. Examples include outdoor water conservation measures such as; drought tolerant landscaping plants, compliant irrigation systems, xeriscape, replacing turf etc. Provide the conservation measure that the project will include in the explanation.	Objective RC-7, Policy RC-7-a, RC-7-h	X			The project would exceed CALGreen standards by 3.7% and would install water-wise landscaping and drought tolerant native California and/ or Mediterranean plant species and install Intellisense Environmental sensitive landscape controllers.
b. Does the project meet or exceed the mandatory indoor water use measures of the 2019 California Green Building Standards Code (CALGREEN, Title 24, Part 11), Section 4.303? If the project exceeds CalGreen Code, mandatory measures provide methods in excess of requirements in the explanation. Examples may include water conserving devices and systems such as water leak detection system, hot water pipe insulation, pressure reducing valves, energy efficient appliances such as Energy Star Certified dishwashers, washing machines, dual flush toilets, point of use and/or tankless water heaters.	Objective RC-7, Policy RC-7-a, RC-7-e	X			The project would exceed CALGreen standards by 3.7% and would install all lead-free plumbing fixtures including water-saving shower heads rated 1.75 gallons per minute (gpm) and sink faucets rated to 1.5 gpm and install water conservation toilets with a flush rate of 1.228 gpm.
5: Waste Diversion and Recycling Strategies					
a. Does the project implement techniques of solid waste segregation, disposal and reduction, such as recycling, composting, waste to energy technology, and/or waste separation, to reduce the volume of solid wastes that must be sent to landfill facilities?	Policy PU-9-a, RC-11-a	X			The proposed project would be consistent with the CalRecycle Waste Diversion and Recycling Mandate.
b. During construction will the project recycle construction and demolition waste?	Policy RC-11-a	X			The proposed project would recycle construction waste.
c. Does the project provide recycling canisters in public areas where trashcans are also provided?	Policy RC-11-a	X			The proposed project would provide recycling canisters.

Note: The GHG reduction strategies included in this checklist are based on the GHG reduction strategies identified in the Chapter 5 of the GHG Reduction Plan Update.

APPENDIX F

TRAFFIC IMPACT STUDY

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TRAFFIC IMPACT STUDY

TRACT MAP 6360 PROJECT

FRESNO, FRESNO COUNTY, CALIFORNIA

June 2023

TRAFFIC IMPACT STUDY

TRACT MAP 6360 PROJECT

FRESNO, FRESNO COUNTY, CALIFORNIA

Prepared for:

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Project No. HAA2103

June 2023

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LIST OF ABBREVIATIONS AND ACRONYMS

ABM	Activity-Based Model
AWSC	All-Way Stop Control
Caltrans	California Department of Transportation
City	City of Fresno
COG	(Fresno) Council of Governments
CUSD	Clovis Unified School District
FAX	Fresno Area Express
HCM	*Highway Capacity Manual*
HCM 6	*Highway Capacity Manual 6th Edition*
HDM	(Caltrans) *Highway Design Manual*
ITE	Institute of Transportation Engineers
LOS	Level of Service
mph	Miles Per Hour
MUTCD	*Manual of Uniform Traffic Control Devices*
NCHRP	National Cooperative Highway Research Program
RS-3	Residential Single-Family District
SR-180	(State of California) State Route 180
SWITRS	(State of California) Statewide Integrated Traffic Records System
TASAS	(Caltrans) Traffic Accident Surveillance and Analysis System
TIMS	(University of California, Berkeley) Transportation Injury Mapping System
TIS	Traffic Impact Study
TIZ	Traffic Impact Zone
TSMI	(City of Fresno) Traffic Signal Mitigation Impact
TWSC	Two-Way Stop Control
v/c	Volume to Capacity
VMT	Vehicle Miles Traveled

1.0 INTRODUCTION

The Traffic Impact Study (TIS) has been prepared to assess the potential circulation impacts associated with the proposed Tract Map 6360 Project (project) in Fresno, Fresno County. The project site is located at the northeast corner of the intersection between Armstrong Avenue and the future extension of McKinley Avenue in the City. The project site is currently vacant. Figure 1-1 illustrates the regional and project location. (Figures and tables are provided at the end of each chapter.)

This report has been prepared based on the City of Fresno (City) *Traffic Impact Study Report Guidelines* (TIS Guidelines), dated February 2, 2009, the *City of Fresno CEQA Guidelines for Vehicle Miles Traveled Thresholds* (adopted on June 25, 2020), County of Fresno, the California Department of Transportation (Caltrans), as well as the requirements for the disclosure of potential impacts and mitigation measures pursuant to the California Environmental Quality Act (CEQA). The scope of work for this TIS, including trip generation, trip distribution, study area, and analysis methodologies, has been approved by City staff, as well as County of Fresno and Caltrans, via the Scoping Agreement process. A copy of the Scoping Agreement is included as Appendix A.

This study examines traffic operations in the vicinity of the proposed project under the following five scenarios:

- Existing Conditions;
- Existing Plus Project Conditions;
- Near-Term Plus Project Conditions;
- Cumulative Year (2046) No Project Conditions; and
- Cumulative Year (2046) Plus Project Conditions.

Traffic conditions at study intersections and roadway segments were examined for weekday a.m. and p.m. peak-hour conditions. The a.m. peak hour is defined as the 1 hour of highest traffic volumes occurring between 7:00 and 9:00 a.m. The p.m. peak hour is the 1 hour of highest traffic volumes occurring between 4:00 and 6:00 p.m.

1.1 PROJECT DESCRIPTION

The proposed project will include 326 single-family residential units. Access to the project will be provided via two full-access driveways, one located on Armstrong Avenue and the other located on the future extension of McKinley Avenue, between Armstrong Avenue and Temperance Avenue. Based on discussion with City staff, this section of McKinley Avenue along the project frontage from Armstrong Avenue will be completed prior to the completion of the project. As such, the segment of McKinley Avenue, between Fowler Avenue and Temperance Avenue, is planned to be constructed prior to the completion of the project. Additionally, as per the City’s General Plan, McKinley Avenue is planned to be extended west of Fowler Avenue to connect to Sunnyside Avenue. Therefore, for purposes of this analysis, this extension of McKinley Avenue has been considered under cumulative year conditions. Figure 1-2 illustrates the conceptual site plan for the project.

The project site is zoned within the Residential Single-Family District (RS-3). The RS district is intended to provide for a variety of single-family residences built to urban or suburban standards to suit a spectrum of individual lifestyles and needs. This district is also meant to enhance the City's residential neighborhoods while providing new opportunities for the development of a range of housing types throughout the City. The project site is designated Low-Density Residential in the Fresno General Plan (General Plan).

1.2 STUDY AREA

Based on the City's TIS Guidelines, the study intersections for the TIS were identified on a case-by-case basis for each project. Study intersections and roadway segments considered for the analysis were finalized during the TIS scoping agreement process and based on the discussion with City staff.

1.2.1 Study Intersections

Per the Scoping Agreement (Appendix A), intersections analyzed in this study and their jurisdictions are as follows:

1. Fowler Avenue/McKinley Avenue (City of Fresno/Fresno County – future intersection);
2. Fowler Avenue/Floradora Avenue (Fresno County);
3. Fowler Avenue/Olive Avenue (Fresno County);
4. Fowler Avenue/State Route 180 (SR-180) Westbound Ramps (Caltrans);
5. Fowler Avenue/SR-180 Eastbound Ramps (Caltrans);
6. Fowler Avenue/Belmont Avenue (City of Fresno/Fresno County);
7. Armstrong Avenue/McKinley Avenue (City of Fresno/Fresno County – future intersection);
8. Armstrong Avenue/Floradora Avenue (City of Fresno/Fresno County);
9. Armstrong Avenue/Olive Avenue (City of Fresno/Fresno County);
10. Temperance Avenue/McKinley Avenue (City of Fresno/Fresno County);
11. Temperance Avenue/Floradora Avenue (Fresno County);
12. Armstrong Avenue/Project Driveway 1 (City of Fresno); and
13. Project Driveway 2/McKinley Avenue (City of Fresno).

Figure 1-3 illustrates the study area intersections.

1.2.2 Roadway Segments

Per the Scoping Agreement (Appendix A), roadway segments analyzed in this study are as follows:

Fowler Avenue

1. Between McKinley Avenue and Floradora Avenue (Fresno County);
2. Between Floradora Avenue and Olive Avenue (Fresno County);
3. Between Olive Avenue and SR-180 Westbound Ramps (Fresno County);
4. Between SR-180 Eastbound Ramps and Belmont Avenue (Fresno County);

Armstrong Avenue

5. Between Project Driveway 1 and McKinley Avenue (City of Fresno);
6. Between McKinley Avenue and Floradora Avenue (City of Fresno/Fresno County);
7. Between Floradora and Olive Avenue (City of Fresno);

Temperance Avenue

8. Between McKinley Avenue and Floradora Avenue (Fresno County);

McKinley Avenue

9. Between Fowler Avenue and Armstrong Avenue (City of Fresno/Fresno County – future segment);
10. Between Armstrong Avenue and Project Driveway 2 (City of Fresno – future segment);
11. Between Project Driveway 2 and Temperance Avenue (City of Fresno/Fresno County – future segment);

Floradora Avenue

12. Between Fowler Avenue and Armstrong Avenue (City of Fresno/Fresno County); and

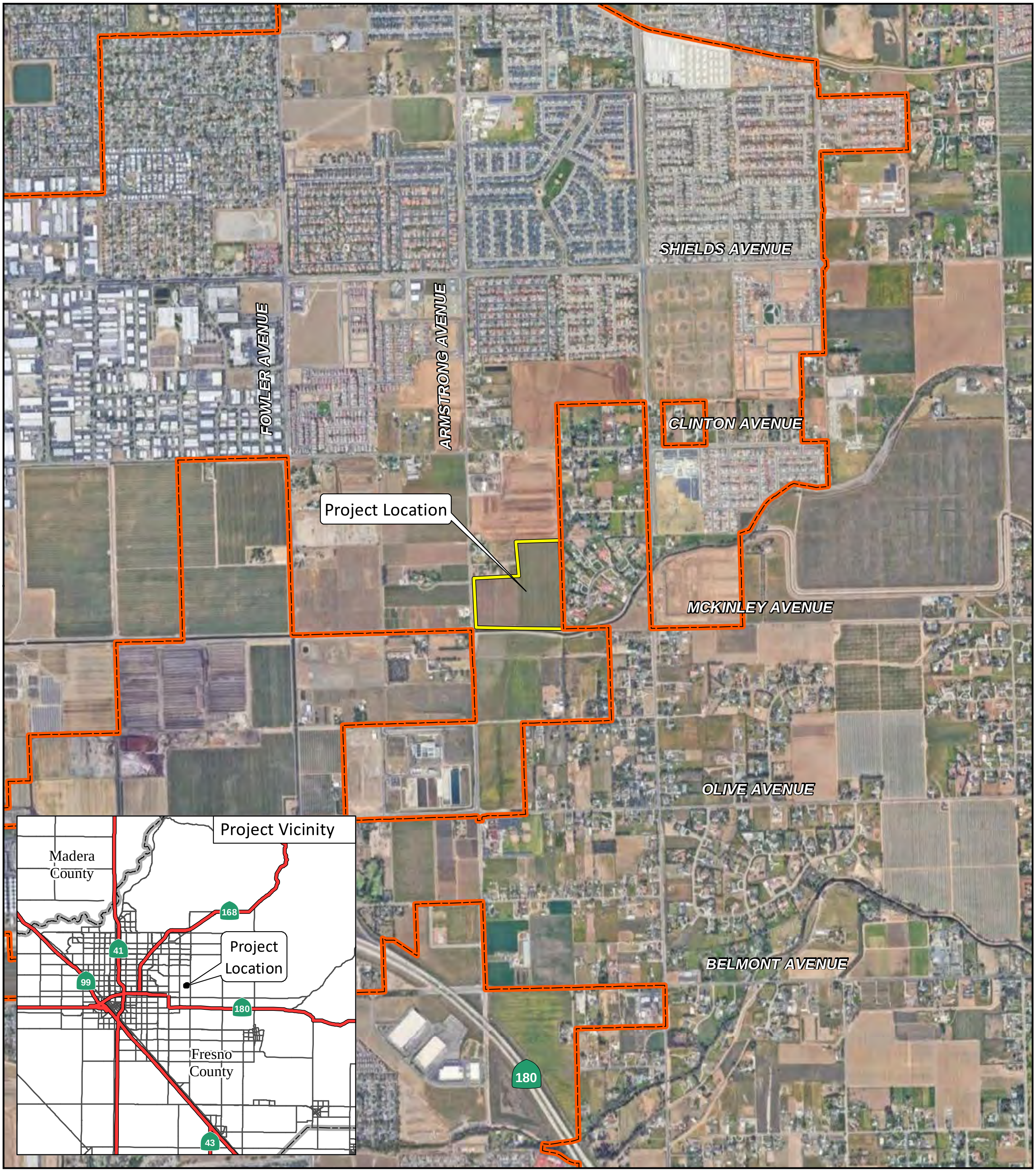
Olive Avenue

13. Between Fowler Avenue and Armstrong Avenue (City of Fresno/Fresno County).

For each roadway segment, the highest volume on any part of the segment will be considered as the analysis volume for the entire segment.

1.3 LIST OF CHAPTER 1.0 FIGURES

- Figure 1-1: Regional and Project Location
- Figure 1-2: Conceptual Site Plan
- Figure 1-3: Study Area Intersections



LSA

FIGURE 1-1

LEGEND

City of Fresno Boundary

Project Location

0 1000 2000
FEET

Tract Map 6360 Project
Traffic Impact Study

Regional and Project Location

SOURCE: Google Earth, 2018; County of Fresno Streets Data, 2021.

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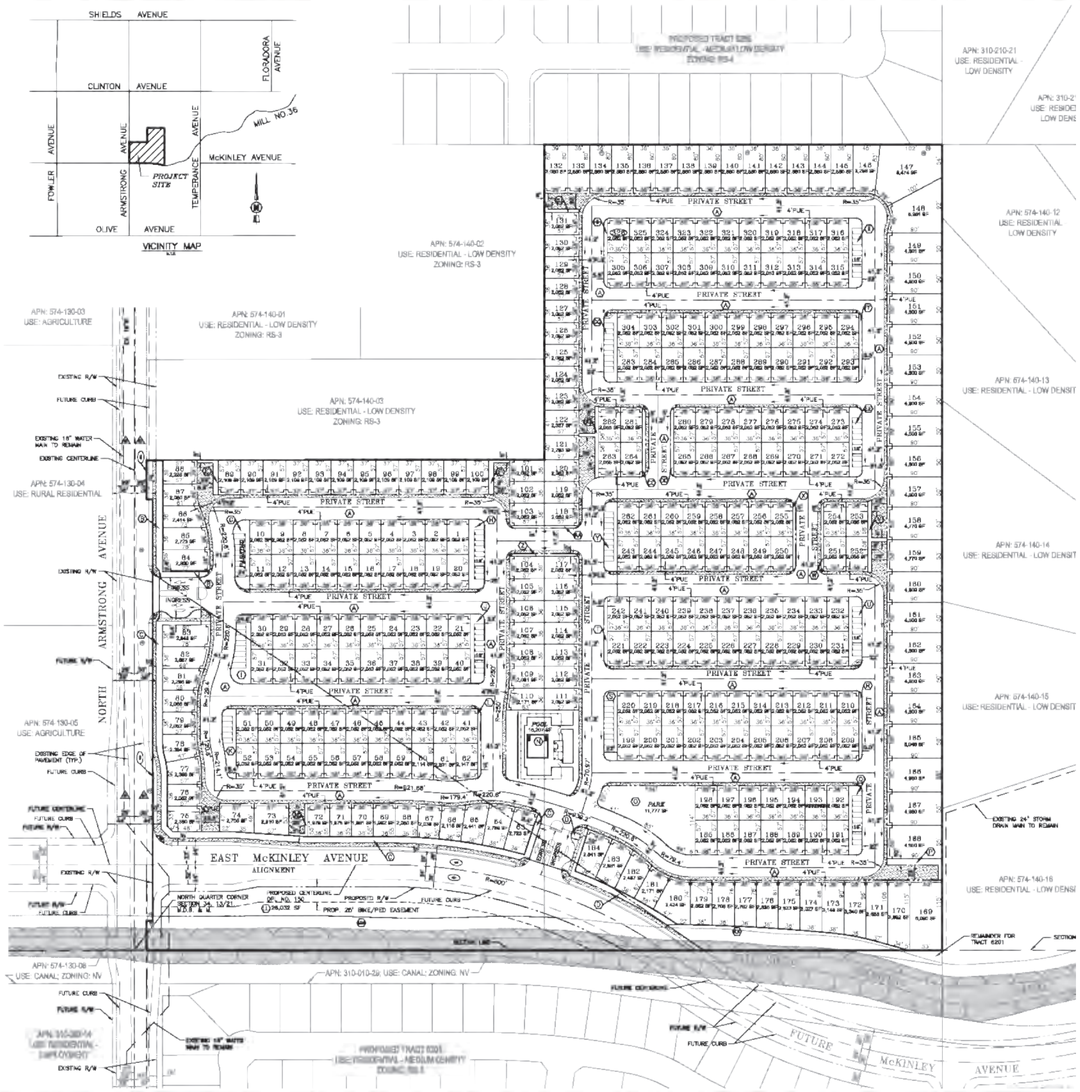
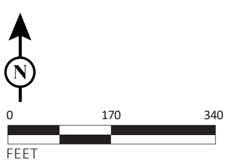


FIGURE 1-2



Tract Map 6360 Project
Traffic Impact Study

Conceptual Site Plan

SOURCE: Harbour & Associates, November 2022
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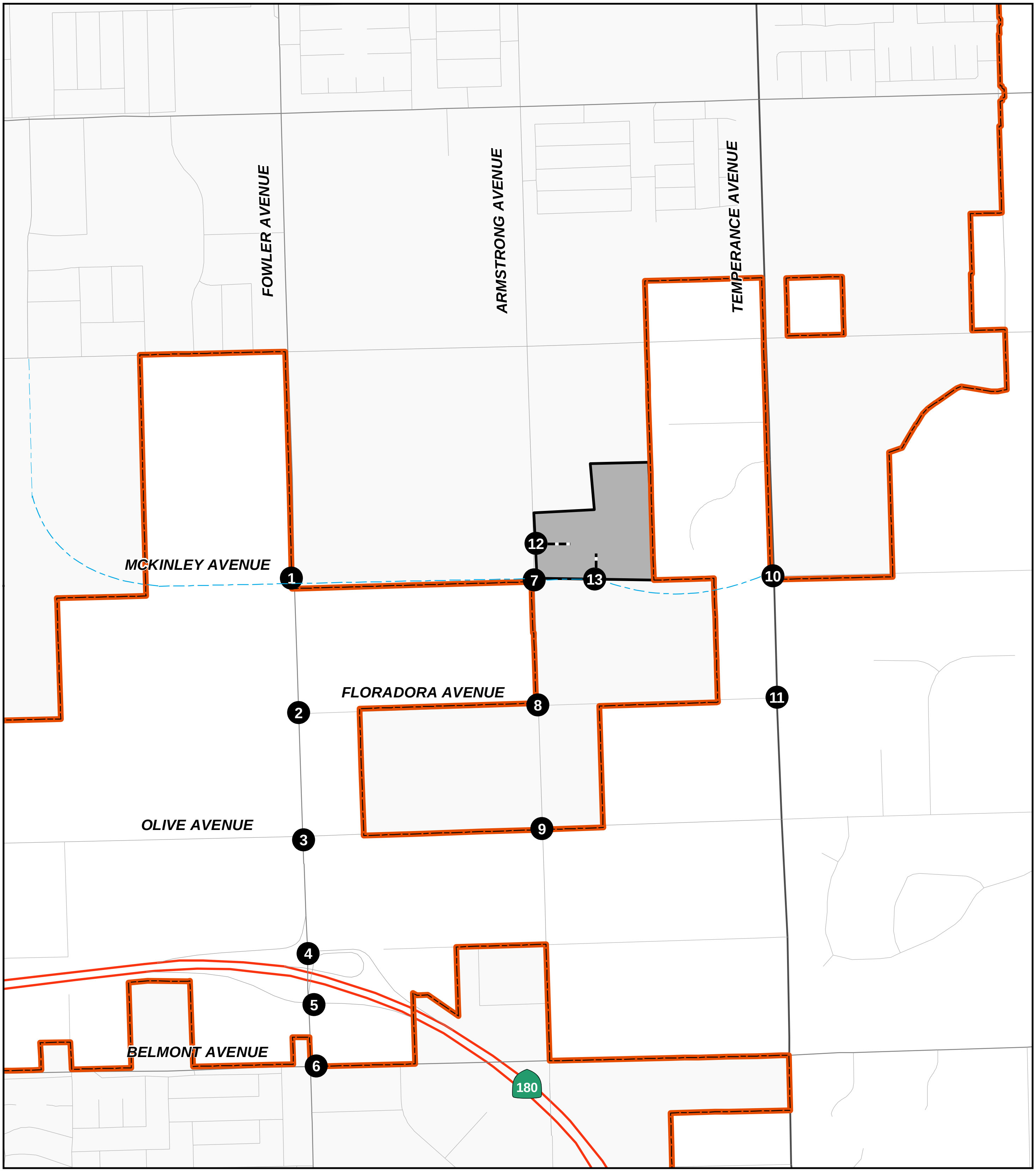

LSA

LEGEND

Project Site

City of Fresno Boundary

Study Intersections

Project Driveway

Future Roadway

0 750 1500

FEET

FIGURE 1-3

Tract Map 6360 Project
Traffic Impact Study

Study Area Intersections

SOURCE: County of Fresno Streets Data, 2021.

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2.0 ANALYSIS METHODOLOGY

2.1 LEVEL OF SERVICE DEFINITIONS

LOS can be characterized for the whole intersection, each intersection approach, and by each lane group. Control delay alone is used to characterize LOS for the entire intersection. Control delay quantifies the increase in travel time due to the traffic signal control and is a surrogate measure of driver discomfort and fuel consumption.

A complete description of the meaning of LOS can be found in the Transportation Research Board Special Report 209, *Highway Capacity Manual* (HCM). The HCM establishes LOS A through F for intersections. A description of LOS for signalized and unsignalized intersections is summarized in Table 2-A. A description of LOS for roadway segments is summarized in Table 2-B.

Table 2-C shows the LOS criteria for unsignalized and signalized intersections. For all study area intersections, the *Highway Capacity Manual 6th Edition* (HCM 6) analysis methodologies were used to determine intersection LOS. Intersection LOS was calculated using the Synchro 11 software, which uses the HCM 6 methodologies.

The TIS Guidelines recommend using Florida LOS tables for roadway segment analysis. Table 2-D summarizes the LOS criteria used to evaluate roadway segments based on the Florida LOS Tables for urbanized areas, which was adapted from Table 1 of the *2020 Quality/Level of Service Handbook*, dated June 2020. The daily traffic volumes represent the total vehicles (both directions) traveling on a roadway segment within 24 hours.

2.2 LEVEL OF SERVICE PROCEDURES AND STANDARDS

Study intersections and roadway segments analyzed in this report are completely under the jurisdiction of the City of Fresno and the County of Fresno. However, intersections located at freeway on-ramps and off-ramps are under the jurisdiction of Caltrans.

Per the City of Fresno *Traffic Impact Study Report Guidelines*, updated February 2009, LOS D is considered as the level of service standard for study intersections and roadway segments under near-term conditions. The same criterion holds for cumulative year conditions, except for roadway segments that are adopted in the City's Master General Plan to operate at LOS E or F. The City's TIS Guidelines do not define an LOS standard under Existing Plus Project conditions.

It should be noted that all City of Fresno study intersections and roadway segments are located within the City of Fresno Traffic Impact Zone (TIZ) III. Per the City of Fresno's General Plan, all intersections and roadway segments within TIZ III should maintain a peak hour LOS standard of D or better. Therefore, a LOS standard of D has been considered for intersections and roadway segments within the City of Fresno for all analysis conditions. The City considers the following operational deficiency criteria for study intersections:

- An operational deficiency is created if the addition of the project traffic results in any one of the following:

a) Causes the intersection LOS to change from acceptable to unacceptable levels; OR
b) Causes the intersection LOS to change from an unacceptable LOS (LOS E) to LOS F; OR
c) Increases the average delay at a study intersection that is already operating at an unacceptable LOS.

The City's TIS Guidelines do not define an operational deficiency criteria for roadway segments. For purposes of this analysis, at intersections under the City of Fresno jurisdiction, an operational deficiency has been considered when the project causes an unsatisfactory condition (deterioration from LOS A through D to E or F) or when the project contributes to an existing or forecast deficiency.

The County of Fresno considers LOS D as the level of service standard on urban roadways within the spheres of influence of the Cities of Fresno and Clovis. The level of service standard on all other roadways in the County is LOS C. The County considers the following operational deficiency criteria for study intersections and roadway segments:

- **Signalized Intersections**

  a) If the project causes an intersection that is operating at an acceptable LOS to deteriorate to an unacceptable LOS; OR

  b) If the project causes the average delay to increase by more than 5.0 seconds at a signalized intersection that is operating at an unacceptable LOS. It is to be noted that a decrease from an unacceptable LOS to a lesser LOS (e.g., from LOS D to LOS E in County areas) is not considered a deficiency unless the corresponding delay increase is greater than 5.0 seconds.

- **Unsignalized Intersections**

  a) If the project causes a movement or approach that is operating at an acceptable LOS to deteriorate to an unacceptable LOS; OR

  b) If the project causes the average delay to increase by more than 5.0 seconds on a movement or approach that is operating at an unacceptable LOS. It is to be noted that a decrease from an unacceptable LOS to a lesser LOS (e.g., from LOS D to LOS E in County areas) is not considered a deficiency unless the corresponding delay increase is greater than 5.0 seconds.

- **Roadway Segments**

  a) If the project causes a roadway that is operating at an acceptable LOS to deteriorate to an unacceptable LOS; OR

  b) If the project causes the V/C ratio (on a directional peak hour basis) to increase by more than 0.05 on a roadway that is already operating at an unacceptable LOS. It is to be noted that a decrease from an unacceptable LOS to a lesser LOS (e.g., from LOS D to LOS E in County areas) is not considered a deficiency unless the corresponding V/C ratio increase is greater than 0.05.

Caltrans considers an acceptable LOS to be between LOS C and D at all intersections under its jurisdiction (delay of 45 seconds at signalized intersections). Caltrans does not have any operational deficiency criteria for study intersections. Therefore, an operational deficiency occurs when the project causes an unsatisfactory condition (deterioration from LOS A through D to E or F) for intersections or when the project contributes to an existing or forecast deficiency. The project needs to identify improvements to improve the intersection LOS to an acceptable level.

2.3 LIST OF CHAPTER 2.0 TABLES

Table 2-A: Intersection Level of Service Definitions

LOS	Description
A	Traffic operations with a control delay of 10 seconds per vehicle or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If LOS A is the result of favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
B	Traffic operations with control delay between 10 seconds per vehicle and 20 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.
C	Traffic operations with control delay between 20 and 35 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of the insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.
D	Traffic operations with control delay between 35 and 55 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.
E	Traffic operations with control delay between 55 and 80 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.
F	Traffic operations with control delay exceeding 80 seconds per vehicle or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Source: *Highway Capacity Manual* (6th Edition)

Table 2-B: Roadway Segment Level of Service Definitions

LOS	Description
A	Describes primarily free-flow operation. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control Delay at the boundary intersection is minimal. The travel speed exceeds 80% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0.
B	Describes reasonably unimpeded operation. The ability to maneuver within the traffic stream is only slightly restricted, and control delay at the boundary is not significant. The travel speed is between 67% and 80% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0.
C	Describes stable operation. The ability to maneuver and change lanes at mid-segment locations may be more restricted than at LOS B. Longer queues at the boundary intersection may contribute to lower travel speeds. The travel speed is between 50% and 67% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0.
D	Indicates a less stable condition in which small increases in flow may cause substantial increases in delay and decreases in travel speed. This operation may be due to adverse signal progression, high volume, or inappropriate signal timing at the boundary intersections. The travel speed is between 40% and 50% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0.
E	Characterized by unstable operation and significant delay. Such operations may be due to some combination of adverse progression, high volume, and inappropriate signal timing at the boundary intersections. The travel speed is between 30% and 40% of the base free-flow speed, and the volume-to-capacity ratio is no greater than 1.0.

Table 2-B: Roadway Segment Level of Service Definitions

LOS	Description
F	Characterized by flow at extremely low speed. Congestion is likely occurring at the boundary intersections, as indicated by high delay and extensive queuing. The travel speed is between 30% or less of the base free-flow speed, and the volume-to-capacity ratio is greater than 1.0.

Source: *Highway Capacity Manual* (6th Edition)

Table 2-C: Level of Service Criteria for Unsignalized and Signalized Intersections

Level of Service	Unsignalized Intersection Average Delay per Vehicle (sec.)	Signalized Intersection Average Delay per Vehicle (sec.)
A	< 10	< 10
B	> 10 and < 15	> 10 and < 20
C	> 15 and < 25	> 20 and < 35
D	> 25 and < 35	> 35 and < 55
E	> 35 and < 50	> 55 and < 80
F	> 50	> 80

Source: *Highway Capacity Manual* (6th Edition)

Table 2-D: Roadway Segment Capacity and Levels of Service

Class I (40 MPH or Higher Posted Speed Limit)					
		Level of Service			
Lanes	Median	B	C	D	E
2	Undivided	*	15,120	15,930	*
4	Divided	*	34,110	35,820	*
6	Divided	*	52,560	53,910	*
8	Divided	*	70,920	72,090	*
Class II (35 MPH or Slower Posted Speed Limit)					
2	Undivided	*	6,570	13,320	14,040
4	Divided	*	13,050	29,160	30,420
6	Divided	*	20,970	45,000	45,810
8	Divided	*	28,800	60,570	61,290

1 The Florida LOS Tables includes the LOS capacities for State Signalized Arterials, and recommends a 10% adjustment for non-state signalized roadway system. Therefore, the roadway capacities have been calculated using a 10% adjustment to the values provided within the Florida LOS Table for urbanized area for State Signalized arterials.

Source: State of Florida *2020 Quality/level of Service Handbook, June 2020*.

3.0 CIRCULATION NETWORK SETTING

3.1 STUDY AREA CIRCULATION NETWORK

The project study area includes the following major roadways as classified based on the roadway classification provided in the Circulation Element of the City's General Plan. Figure 3-1 summarizes the classifications of major roadways within the study area. Following is a brief description of these roadways:

- **Fowler Avenue:** Within the study area, Fowler Avenue is designated as an Arterial in the City's General Plan. Between McKinley Avenue and Olive Avenue, Fowler Avenue is a two-lane, undivided Arterial with a posted speed limit of 50 miles per hour. There are no bike facilities nor provision for on-street parking along either direction of this segment. Between Olive Avenue and Belmont Avenue, Fowler Avenue is mostly a four-lane, divided Arterial with a raised median and a posted speed limit of 45 miles per hour. There are bicycle lanes along both directions of this segment. However, there is no provision for on-street parking along either direction of this segment.
- **Armstrong Avenue:** Within the study area, Armstrong Avenue is designated as a Collector in the City's General Plan. Between Yale Avenue and Floradora Avenue, Armstrong Avenue is a two-lane, undivided Collector with a posted speed limit of 45 miles per hour. There are no bike facilities nor provision for on-street parking along either direction of this segment. Between Floradora Avenue and Olive Avenue, Armstrong Avenue is a two-lane, divided Collector with a painted median and a posted speed limit of 45 miles per hour. There is a bicycle lane along the southbound direction of this segment. There is no provision for on-street parking along either direction of this segment.
- **Temperance Avenue:** Within the study area, Temperance Avenue is designated as a Super Arterial in the City's General Plan. Between McKinley Avenue and Floradora Avenue, Temperance Avenue is a two-lane, undivided Super Arterial with a posted speed limit of 45 miles per hour. There are no bicycle facilities nor provision for on-street parking along either direction of this segment.
- **McKinley Avenue:** Within the study area, McKinley Avenue is designated as a Collector in the City's General Plan. Per discussion with City staff, McKinley Avenue will be constructed as a two-lane, undivided Collector between Fowler Avenue and Temperance Avenue. As previously mentioned, McKinley Avenue does not currently exist between Fowler Avenue and Temperance Avenue. The segment of McKinley Avenue, between Fowler Avenue and Temperance Avenue, is planned to be constructed prior to the completion of the project. Additionally, as per the City's General Plan, McKinley Avenue is planned to be extended west of Fowler Avenue to connect to Sunnyside Avenue. Therefore, for purposes of this analysis, this extension has been considered under cumulative year conditions. Detailed alignment plans for the McKinley Avenue extension are included in Appendix B.
- **Floradora Avenue:** Within the study area, Floradora Avenue is a local street and has no designation in the City's General Plan. Between Fowler Avenue and Temperance Avenue,

Floradora Avenue is a two-lane, undivided road. There are no bicycle facilities nor provision for on-street parking along either direction of this segment.

- **Olive Avenue:** Within the study area, Olive Avenue is designated as a Collector in the City's General Plan. Between Fowler Avenue and Armstrong Avenue, Olive Avenue is mostly a two-lane, divided Collector with a painted median and posted speed limit of 45 miles per hour. There is a bicycle lane on the westbound direction on this segment between the Southeast Surface Water Treatment Plant driveway and Armstrong Avenue. There is no provision for on-street parking on either direction of this segment.

Figure 3-2 illustrates existing study intersection geometrics and traffic control. Figure 3-3 illustrates study intersection geometrics and traffic control under existing plus project and near-term plus project scenarios. Figure 3-4 illustrates study intersection geometrics and traffic control under cumulative year plus project conditions.

3.2 BICYCLE, PEDESTRIAN, AND TRANSIT FACILITIES

3.2.1 Bicycle Network

The City of Fresno is committed to improving non-motorized travel. Bicycling can be a viable alternative to local work commutes and offers children a healthy way to get to school. To facilitate and encourage bicycle trips among other non-motorized modes of travel, the City has adopted its Active Transportation Plan in 2016 that includes a network of proposed facilities and implementation plan for the future. The *City of Fresno Active Transportation Plan* (adopted December 2016) provides an inventory of all existing bicycle infrastructure improvements to be implemented in the future.

According to the *City of Fresno Active Transportation Plan*, the bikeway network within the City is classified into four categories: Class I – Bike Paths, Class II – Bike Lanes, Class III – Bike Routes, and Class IV – Separated Bikeways. Class I bikeways provide bicycle travel on a paved right-of-way completely separated from any street or highway. Class II bikeways provide a stripped and stenciled lane for one-way travel on a street or highway. Class III bikeways provide shared use with motor vehicle traffic and are identified only by signage. Class IV bikeways are physically separated bikeway facilities distinct from the sidewalks and designated for exclusive bicyclist use.

Currently, Class II bikeways exist on parts of Fowler Avenue, Armstrong Avenue, and Olive Avenue within the study area. Proposed Class I bikeways are planned to be added along McKinley Avenue within the study area. Proposed Class II bikeways are planned to be added along Fowler Avenue, Armstrong Avenue, Temperance Avenue, and Olive Avenue within the study area. Figure 3-5 illustrates the existing and proposed bikeway network within the City.

3.2.2 Pedestrian Network

The implementation of enhanced pedestrian linkage with a comprehensive trails system links residential areas, schools, parks, and commercial centers so that residents can travel within the community without driving. Safe and attractive sidewalks and walkways improve the walkability of the City. Sidewalks are generally provided on both sides of the streets throughout the City. Additionally, standard paved trails and non-standard unpaved trails are frequently used by bicyclists and pedestrians in the City. The existence of trails and sidewalks provides accessible facilities, increases safety features, and improves walkability in the City.

Paved sidewalks are present on the southbound direction of Fowler Avenue south of Olive Avenue, on both sides of Armstrong Avenue south of Floradora Avenue, intermittently on the eastbound direction of Floradora Avenue, and intermittently on the westbound direction of Olive Avenue within the study area. Proposed paved sidewalks are planned to be added to the remainder of Fowler Avenue, Armstrong Avenue, Temperance Avenue, and Olive Avenue within the study area. Additionally, the project will be constructing paved sidewalks along the project site frontage on Armstrong Avenue and McKinley Avenue. Figure 3-6 illustrates the existing and proposed sidewalk network within the City.

According to the City's General Plan, the Old Town Clovis Trail currently runs alongside the Mill Ditch canal directly adjacent to the project site. The McKinley Avenue extension between Armstrong Avenue and Temperance Avenue is planned to intersect with the Mill Ditch canal and the Old Town Clovis Trail. The roadway extension is planned to be built over the canal and trail via an overpassing bridge. Therefore, the trail may still be used by pedestrians and bicyclists after the completion of the McKinley Avenue extension. Figure 3-7 illustrates the network of paths and trails within the City.

3.2.3 Transit Network

Fresno Area Express (FAX) is the Transportation Service Agency within the City and is responsible for coordinating transit services within its service area. FAX provides services via Route 1/Q (Bus Rapid Transit) as well as 17 other routes throughout the City and four routes for Clovis Transit. There are currently no transit routes present within the study area.

3.3 LIST OF CHAPTER 3.0 FIGURES

- Figure 3-1: City of Fresno Roadway Classifications
- Figure 3-2: Existing Study Intersection Geometrics and Traffic Control
- Figure 3-3: Existing and Near-Term Plus Project Study Intersection Geometrics and Traffic Control
- Figure 3-4: Cumulative Year (2046) Plus Project Study Intersection Geometrics and Traffic Control
- Figure 3-5: City of Fresno Existing and Proposed Bikeway Network
- Figure 3-6: City of Fresno Existing and Proposed Sidewalks
- Figure 3-7: City of Fresno Network of Paths and Trails

LSA

FIGURE 3-1

N

Tract Map 6360 Project
Traffic Impact Study

City of Fresno Roadway Classification

SOURCE: City of Fresno General Plan, 2014

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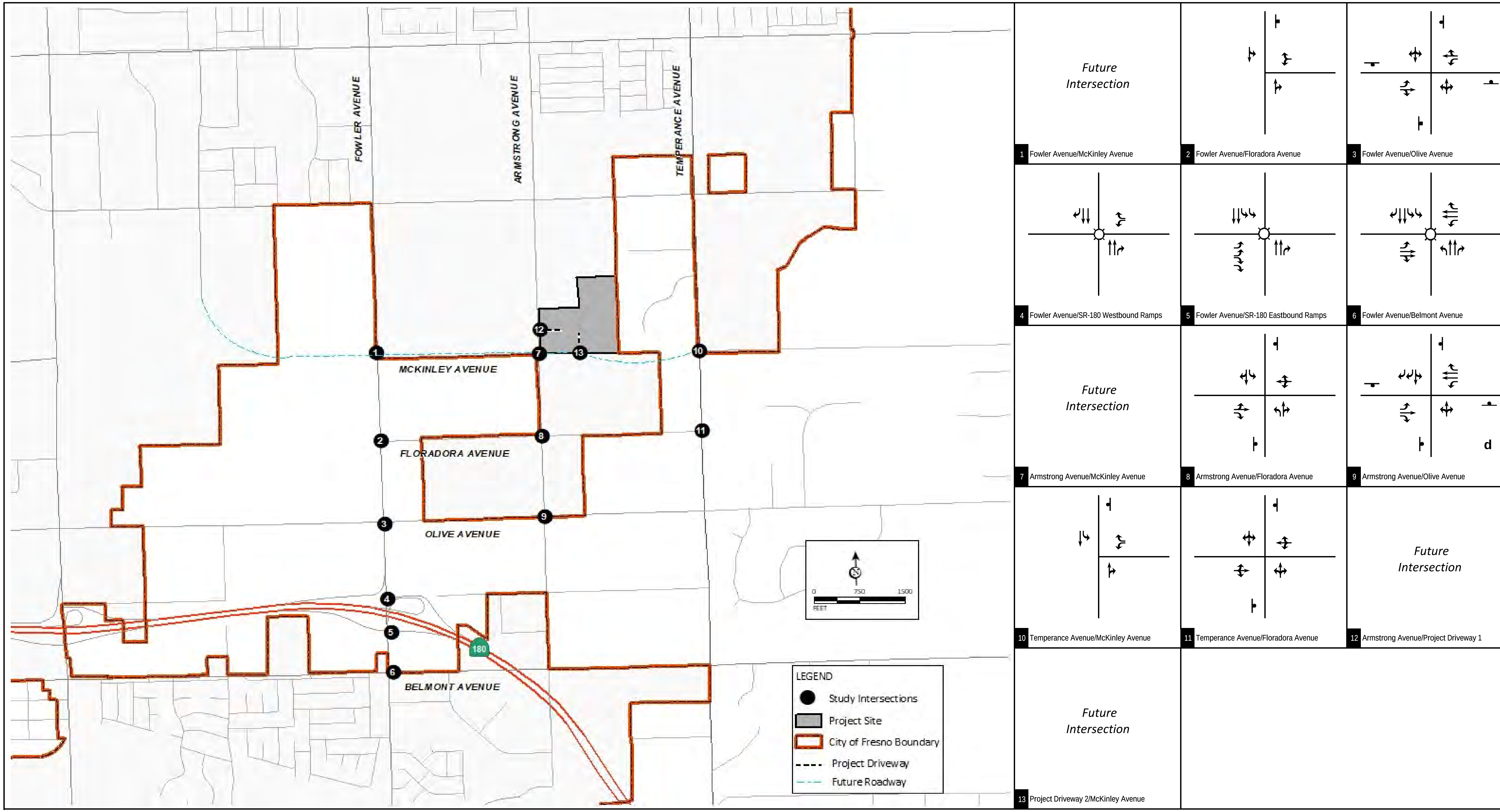

LSA

FIGURE 3-2

Legend
Signal
Stop Sign
d De-facto Right Turn

Tract Map 6360 Project
Traffic Impact Study

Existing Study Intersection Geometrics and Traffic Control

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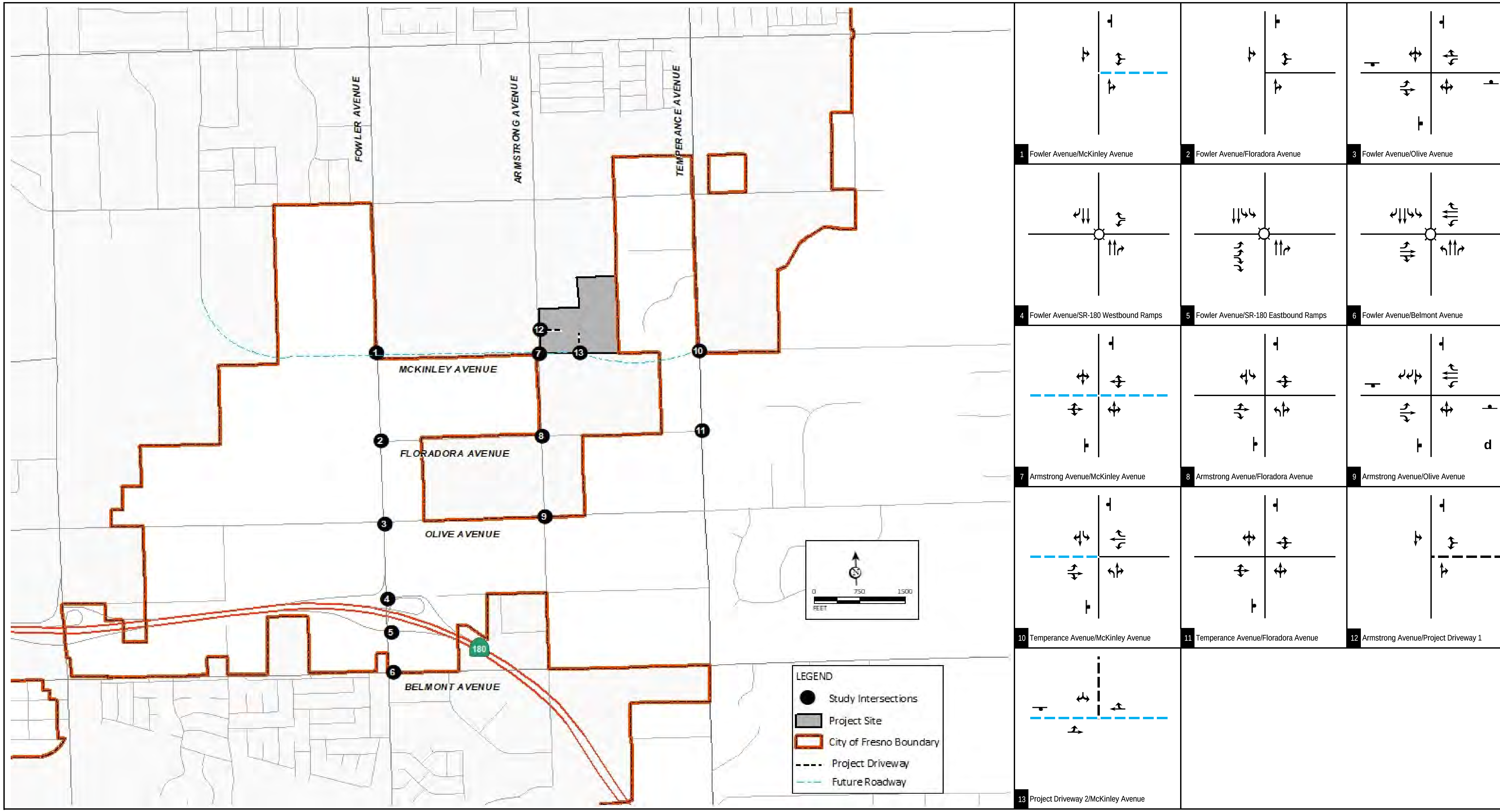

LSA

FIGURE 3-3

Legend
Signal
Stop Sign
d De-facto Right Turn
Project Driveway
Future Segment

Tract Map 6360 Project
Traffic Impact Study

Existing and Near-Term Plus Project Study Intersection Geometrics and Traffic Control

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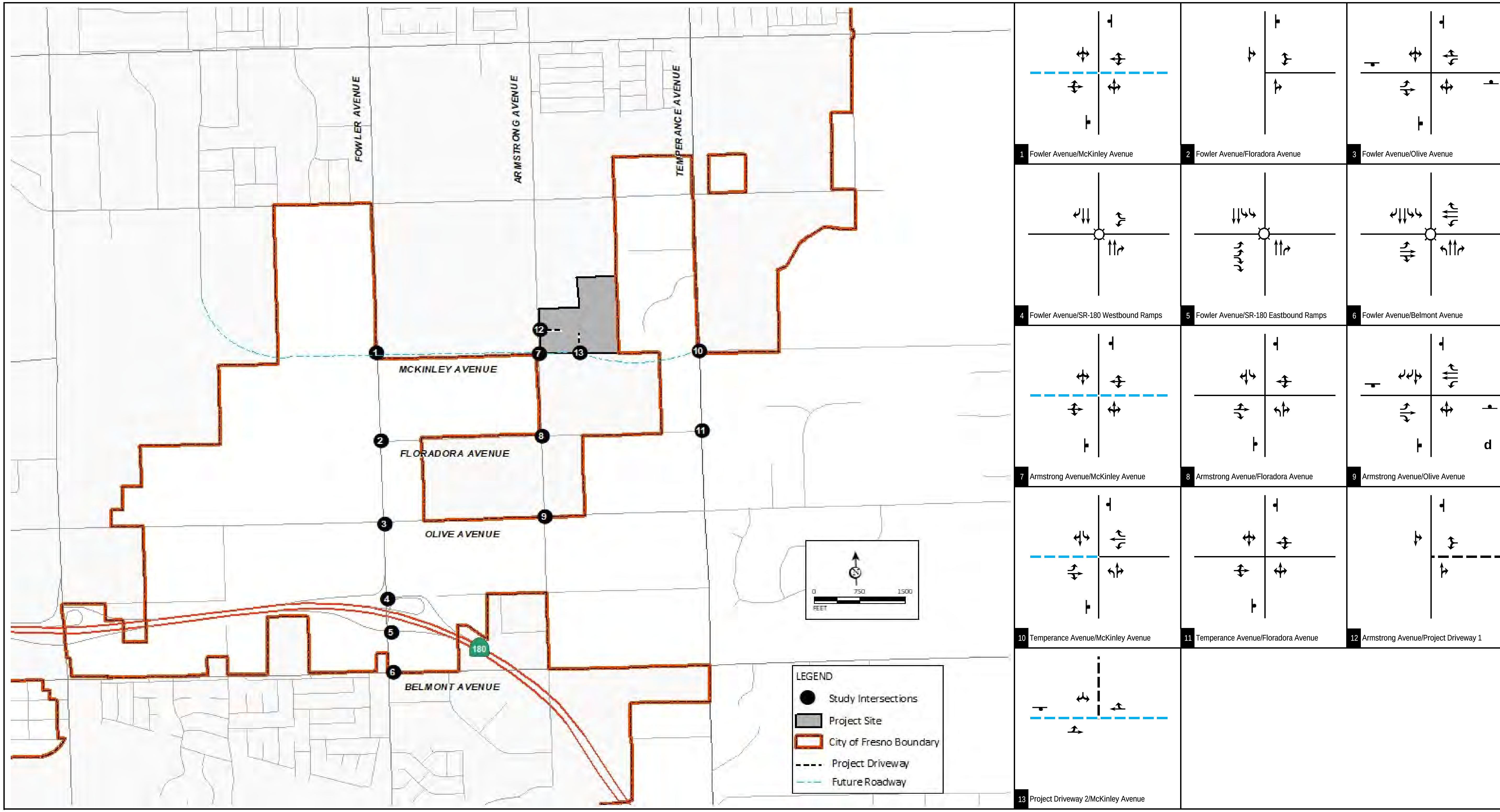

LSA

FIGURE 3-4

Legend

Signal

Stop Sign

d De-facto Right Turn

Project Driveway

Future Segment

Tract Map 6360 Project
Traffic Impact Study

Cumulative Year (2046) Plus Project Study Intersection Geometrics and Traffic Control

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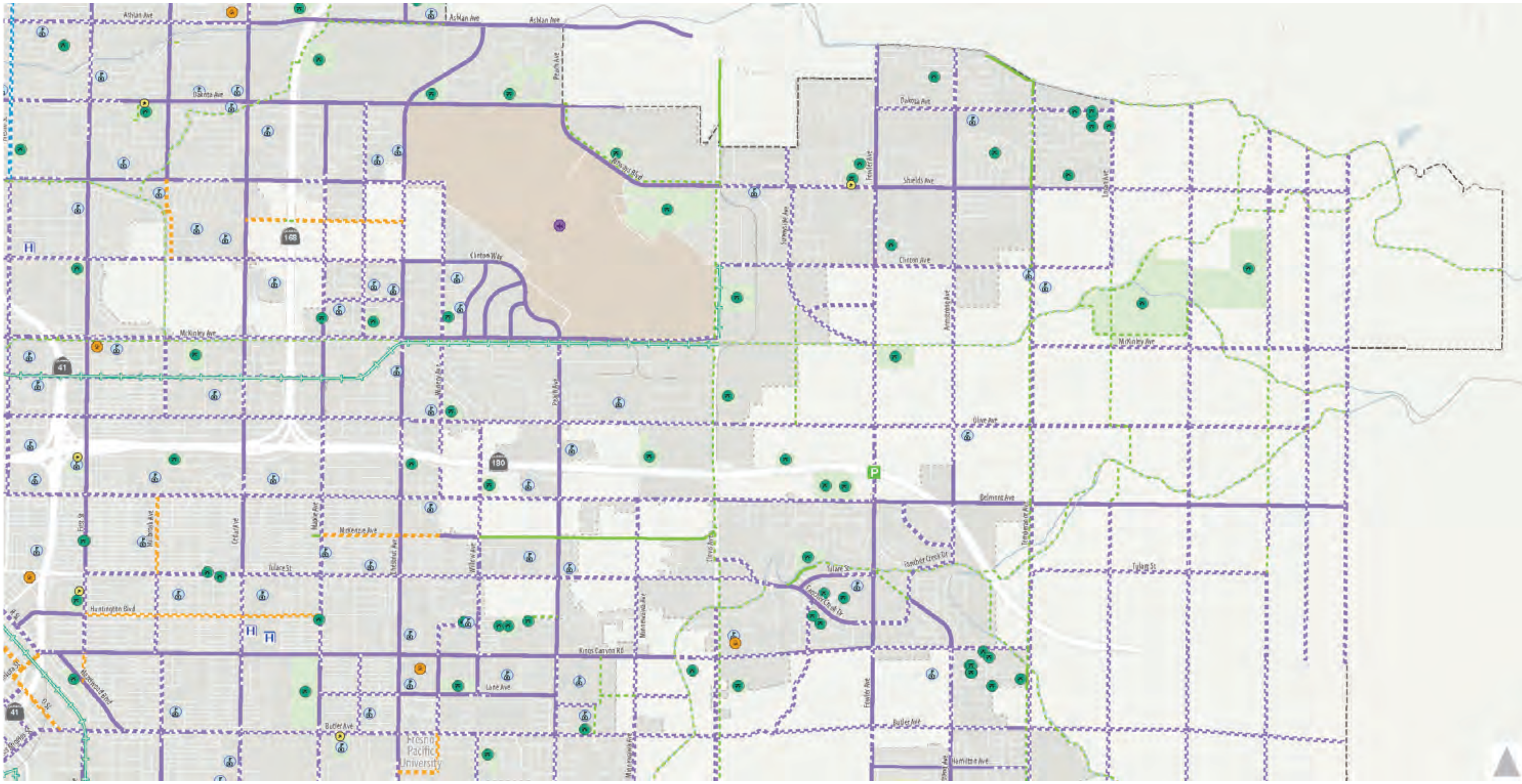

LSA

Legend

Existing Bicycle Facilities
- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route

Planned Bicycle Facilities
- Class I Bike Path
- Class II Bike Lane
- Class III Bike Route
- Class IV Separated Bikeways

FIGURE 3-5

Tract Map 6360 Project
Traffic Impact Study

City of Fresno Existing and Proposed Bikeway Network

SOURCE: Fresno Active Transportation Plan, December 2016

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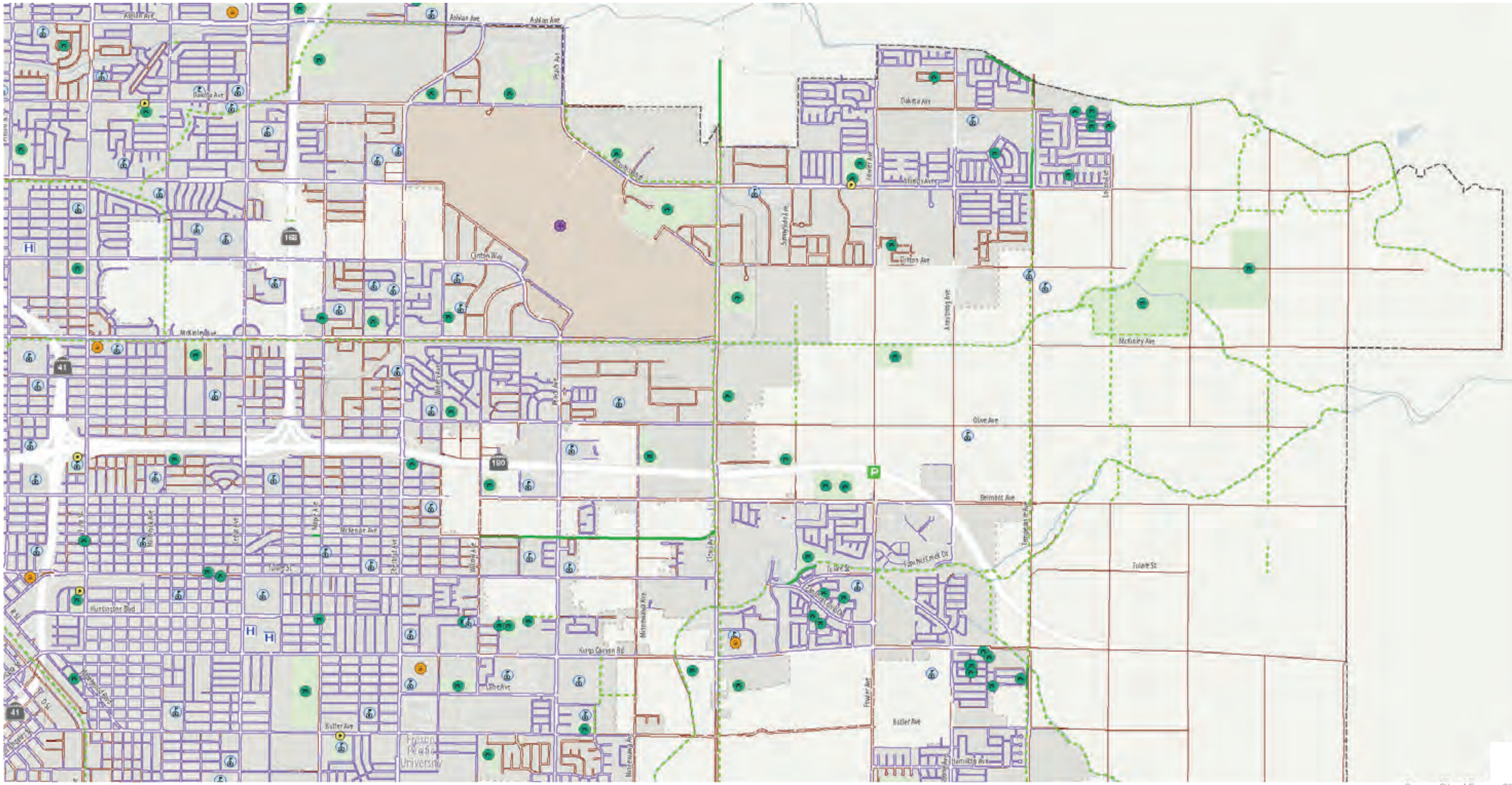

LSA

Legend

- Class I Bike Path
- Class I Bike Path
- Existing Sidewalk
- Planned Sidewalks

FIGURE 3-6

Tract Map 6360 Project
Traffic Impact Study

City of Fresno Existing and Proposed Sidewalks

SOURCE: Fresno Active Transportation Plan, December 2016

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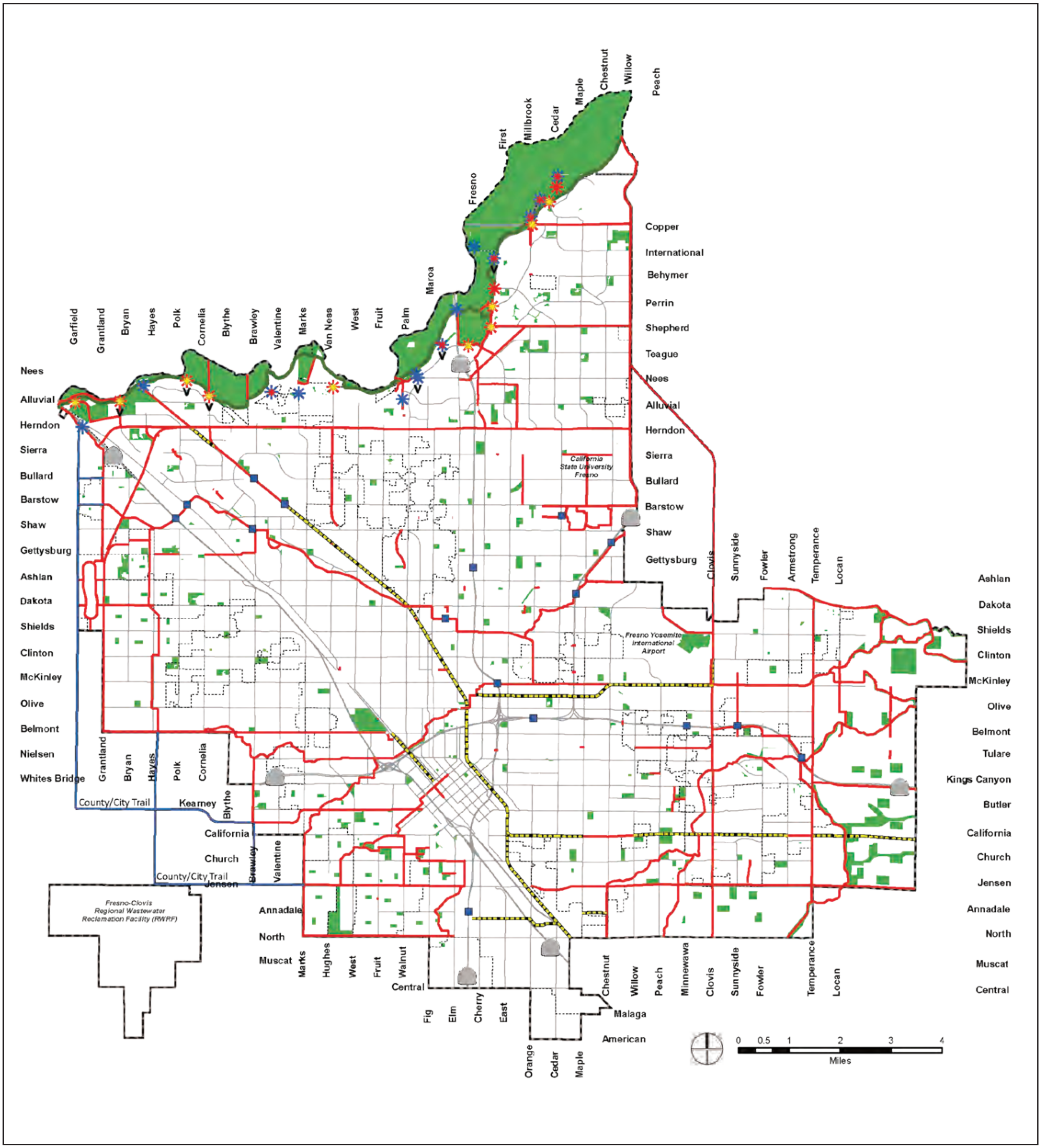

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LEGEND

Old Town Clovis Trail

San Joaquin River Parkway Path and Trail[1]

Rails to Trails[2]

County/City Trail[3]

Class I Bicycle/Pedestrian Path

FIGURE 3-7

Tract Map 6360 Project
Traffic Impact Study

City of Fresno Network of Paths and Trails

SOURCE: Fresno Active Transportation Plan, December 2016

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4.0 TRAFFIC VOLUMES FOR NO PROJECT SCENARIOS

4.1 EXISTING TRAFFIC VOLUMES

Traffic volumes for existing conditions were developed using existing count data collected by Counts Unlimited in November 2022 at study intersections and roadway segments. Daily tube counts were collected for roadway segments while a.m. and p.m. peak hour turning movement counts were collected at study intersections.

However, due to construction activities on Armstrong Avenue north of Floradora Avenue, the roadway segment of Armstrong Avenue, north of Floradora Avenue, was closed for public use. Therefore, the volumes along Armstrong Avenue were adjusted to account for this roadway closure. Following is a brief summary for the adjustment procedure:

- Intersection (8) of Armstrong Avenue/Floradora Avenue – Year 2018 count data for this intersection was obtained from the Tentative Tract 6201 (Single-Family Housing) Traffic Impact Analysis, dated October 2018, by JLB Traffic Engineering, Inc. These traffic counts were further adjusted by applying an annual growth rate to historical count data. The annual growth rate was obtained from the Fresno COG ABM for this intersection.

- Intersection (9) of Armstrong Avenue/Olive Avenue – Traffic volumes for this intersection were developed using count data collected by Counts Unlimited in November 2022, and further adjusted in accordance with the adjusted traffic volumes at Armstrong Avenue/Floradora Avenue.

- Intersection (10) of Temperance Avenue/Floradora Avenue – Traffic volumes for this intersection were developed using count data collected by Counts Unlimited in November 2022, and further adjusted in accordance with the adjusted traffic volumes at Armstrong Avenue/Floradora Avenue.

- Segment of Armstrong Avenue between McKinley Avenue and Floradora Avenue – Year 2018 count data for this segment was obtained from the Tentative Tract 6201 Traffic Impact Analysis, dated October 2018, by JLB Traffic Engineering, Inc. and adjusted by applying an annual growth rate obtained from Fresno COG ABM.

- Segment of Armstrong Avenue between Floradora Avenue and Olive Avenue – Traffic volumes for this segment were developed using count data collected by Counts Unlimited in November 2022, and further adjusted in accordance with the adjusted traffic volumes at the segment of Armstrong Avenue between McKinley Avenue and Floradora Avenue.

Vehicle classification counts were collected at all study area intersections. Truck percentages for every approach at all intersections were obtained from the classification counts.

Figure 4-1 illustrates peak hour traffic volumes at study intersections under existing conditions. Table 4-A shows peak hour traffic volumes at roadway segments under existing conditions.

Detailed count sheets are included in Appendix C.

4.2 NEAR-TERM NO PROJECT TRAFFIC VOLUMES

As approved during the City's scoping agreement process (Appendix A), traffic volumes for near-term conditions were developed by adding trips from cumulative projects in the area to existing traffic volumes. The segment of McKinley Avenue, between Fowler Avenue and Temperance Avenue, is planned to be constructed prior to the completion of the project. Therefore, for purposes of this analysis, this extension has been considered under near-term conditions.

Information concerning cumulative projects in the vicinity of the proposed project was obtained from City staff and from the adjacent jurisdictions of City of Clovis and Fresno County. Figure 4-2 illustrates the cumulative project locations. Trip generations for cumulative projects were either obtained from the respective traffic studies prepared for the projects or developed using trip generation rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11^{th} Edition). Table 4-B summarizes the cumulative project trip generation. As shown in Table 4-C, the cumulative projects are expected to generate 5,107 a.m. peak hour trips, 3,723 p.m. peak hour trips, and 40,266 daily trips.

Cumulative project trips were assigned to the roadway network based on either the distributions provided in the respective traffic studies for these projects or their locations in relation to surrounding land uses and regional arterials. It should be noted that the McKinley Avenue extension between Fowler Avenue and Temperance Avenue was considered completed for the cumulative project trip distribution and assignments. Figure 4-3 illustrates the peak hour cumulative project trip assignment at study area intersections. Figure 4-4 illustrates the peak hour traffic volumes at study intersections under near-term conditions. Table 4-C shows the peak hour traffic volumes at roadway segments under near-term conditions.

It should be noted that traffic volumes for this scenario have been developed as an intermediate step to develop traffic volumes for the near-term plus project scenario. As such, an LOS analysis was not conducted for this scenario.

4.3 CUMULATIVE YEAR (2046) NO PROJECT TRAFFIC VOLUMES

Traffic volumes for cumulative year conditions were developed using the Fresno Council of Governments' (Fresno COG's) Activity-Based Model (ABM). The methodology used to develop cumulative year traffic volumes at all study intersections is consistent with the National Cooperative Highway Research Program (NCHRP) and Fresno COG's procedures for post-processing of modeled traffic volumes. It should be noted that the entire McKinley Avenue extension between Sunnyside Avenue and Temperance Avenue is integrated into the Fresno COG's ABM. Figure 4-5 illustrates the peak hour traffic volumes at study intersections under cumulative year conditions. Table 4-D shows the peak hour traffic volumes at roadway segments under cumulative year conditions.

Detailed volume development worksheets are included in Appendix D.

4.4 LIST OF CHAPTER 4.0 FIGURES AND TABLES

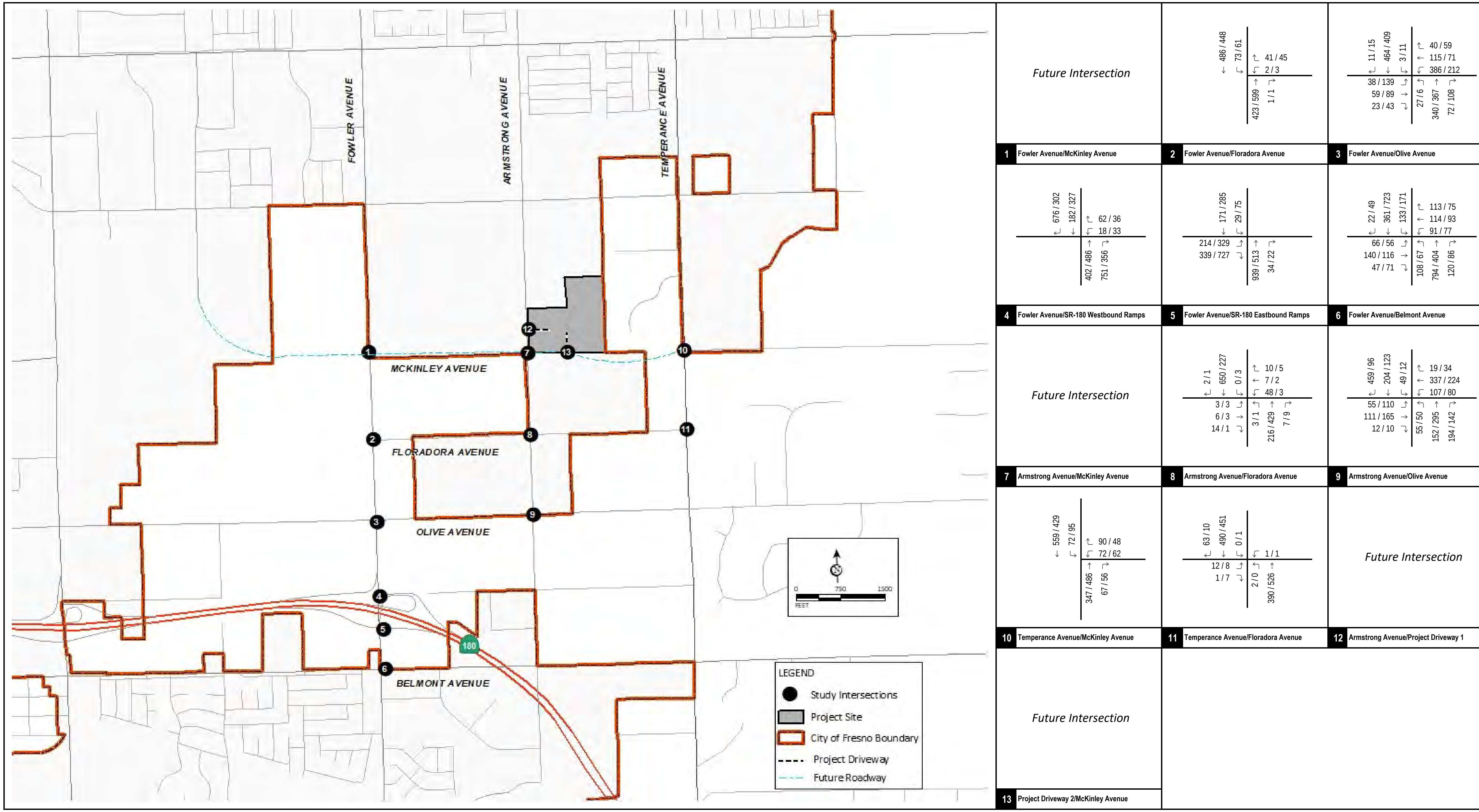

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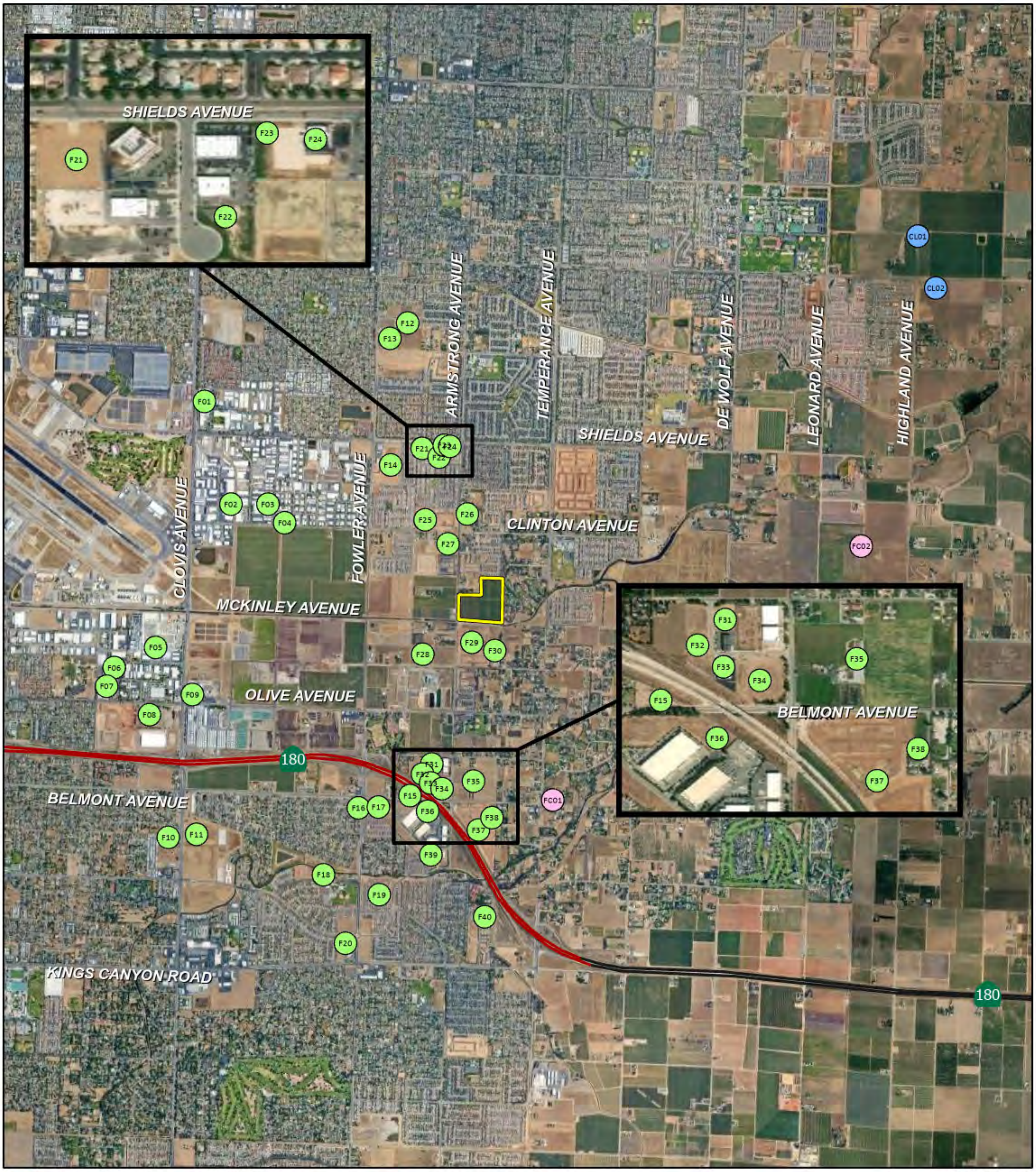
FIGURE 4-1

XXX / YYY
AM / PM Peak Hour Traffic Volumes
--- Project Driveway

Tract Map 6360 Project
Traffic Impact Study
Existing Peak Hour Traffic Volumes



LSA

LEGEND

Project Site

Cumulative Projects

City of Clovis

City of Fresno

Fresno County

0 2000 4000

FEET

FIGURE 4-2

Tract Map 6360 Project

Traffic Impact Study

Cumulative Project Locations

SOURCE: Google Imagery, 2021; ESRI Streetmap, 2021

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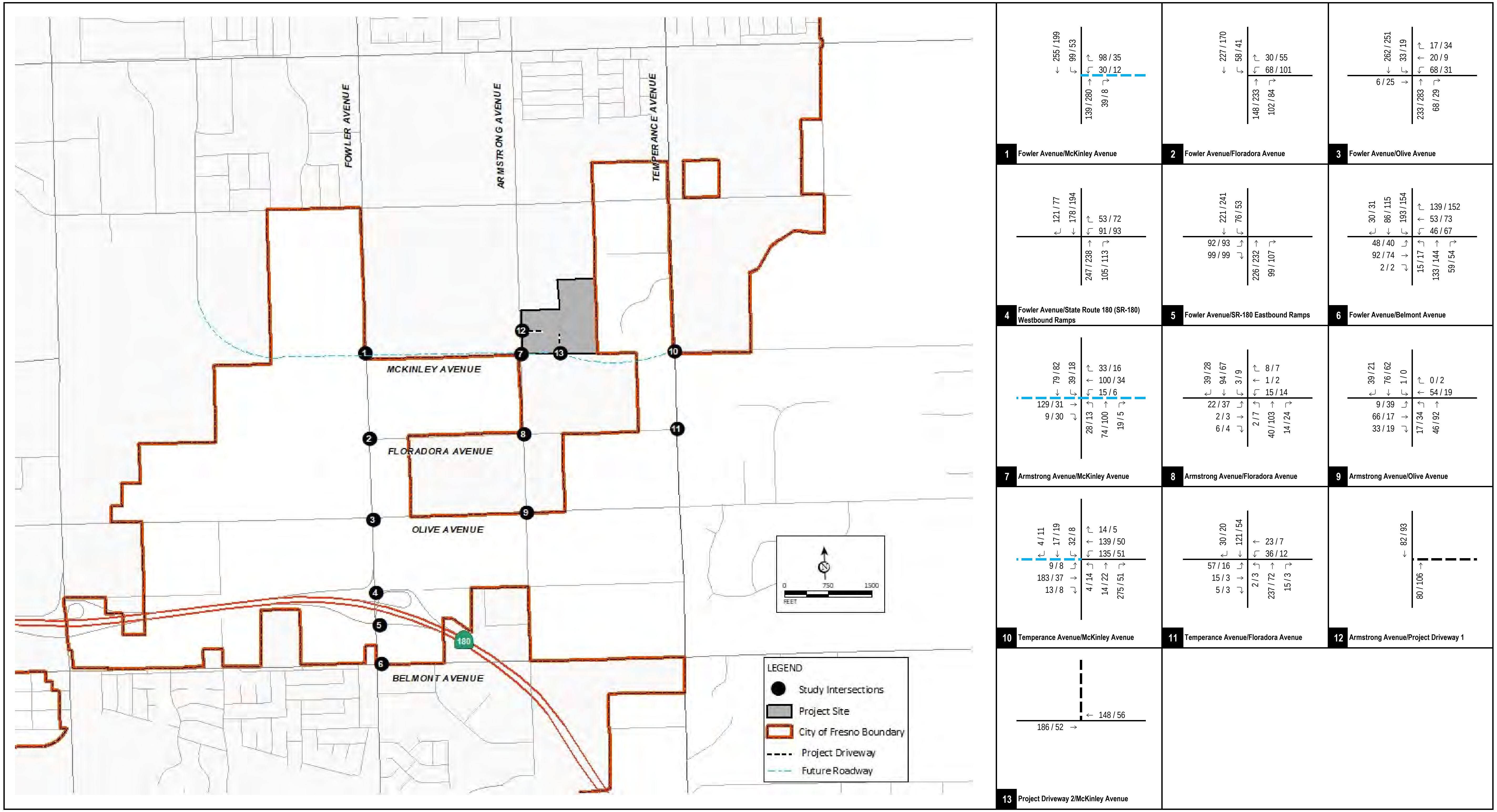

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FIGURE 4-3

XXX / YYY

AM / PM Peak Hour Trips

Project Driveway

Future Segment

Tract Map 6360 Project

Traffic Impact Study

Cumulative Projects Trip Assignment

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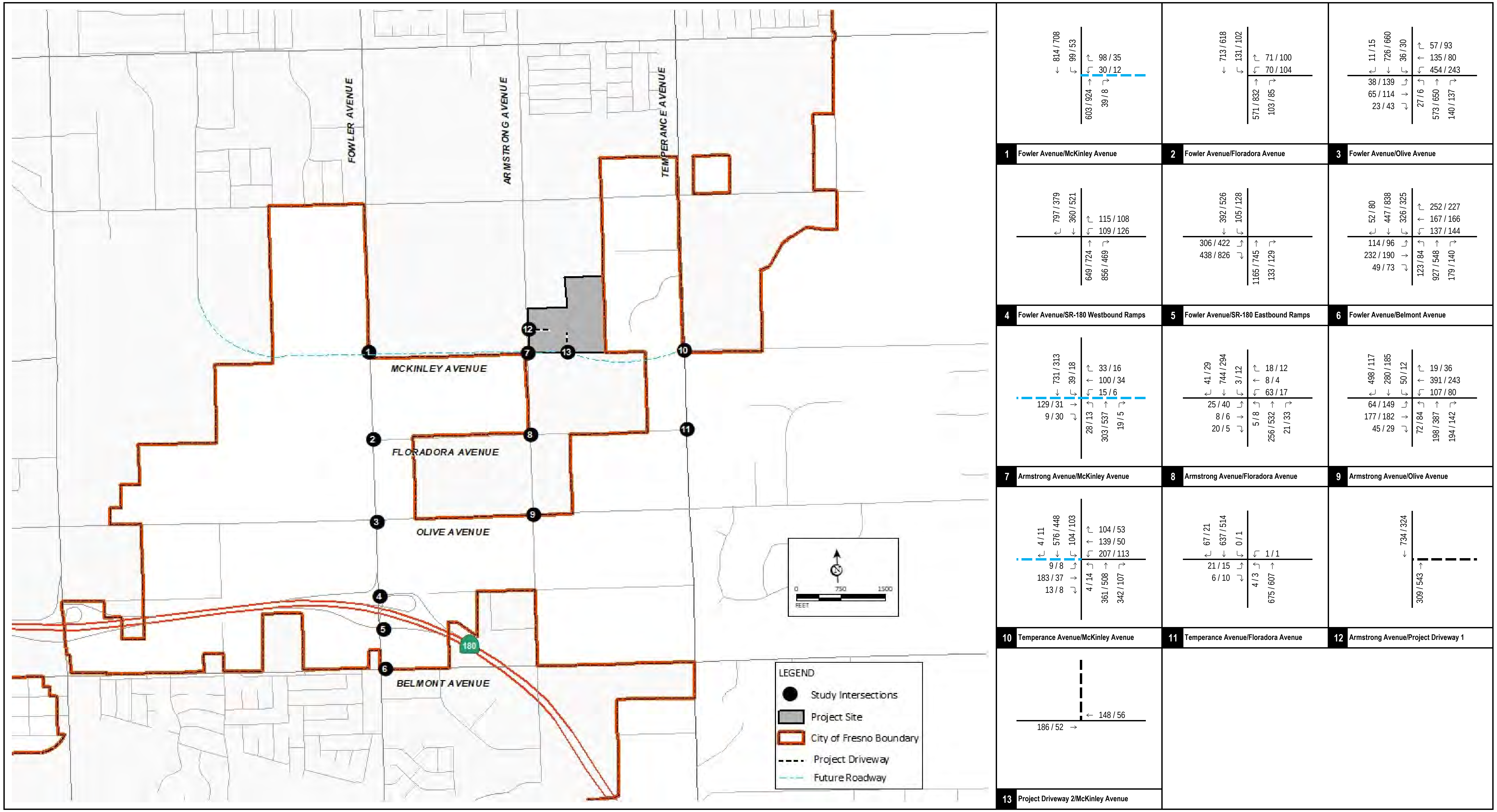

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FIGURE 4-4

XXXX / YYYY
AM / PM Peak Hour Traffic Volumes
Project Driveway
Future Segment

Tract Map 6360 Project
Traffic Impact Study

Near-Term No Project Peak Hour Traffic Volumes

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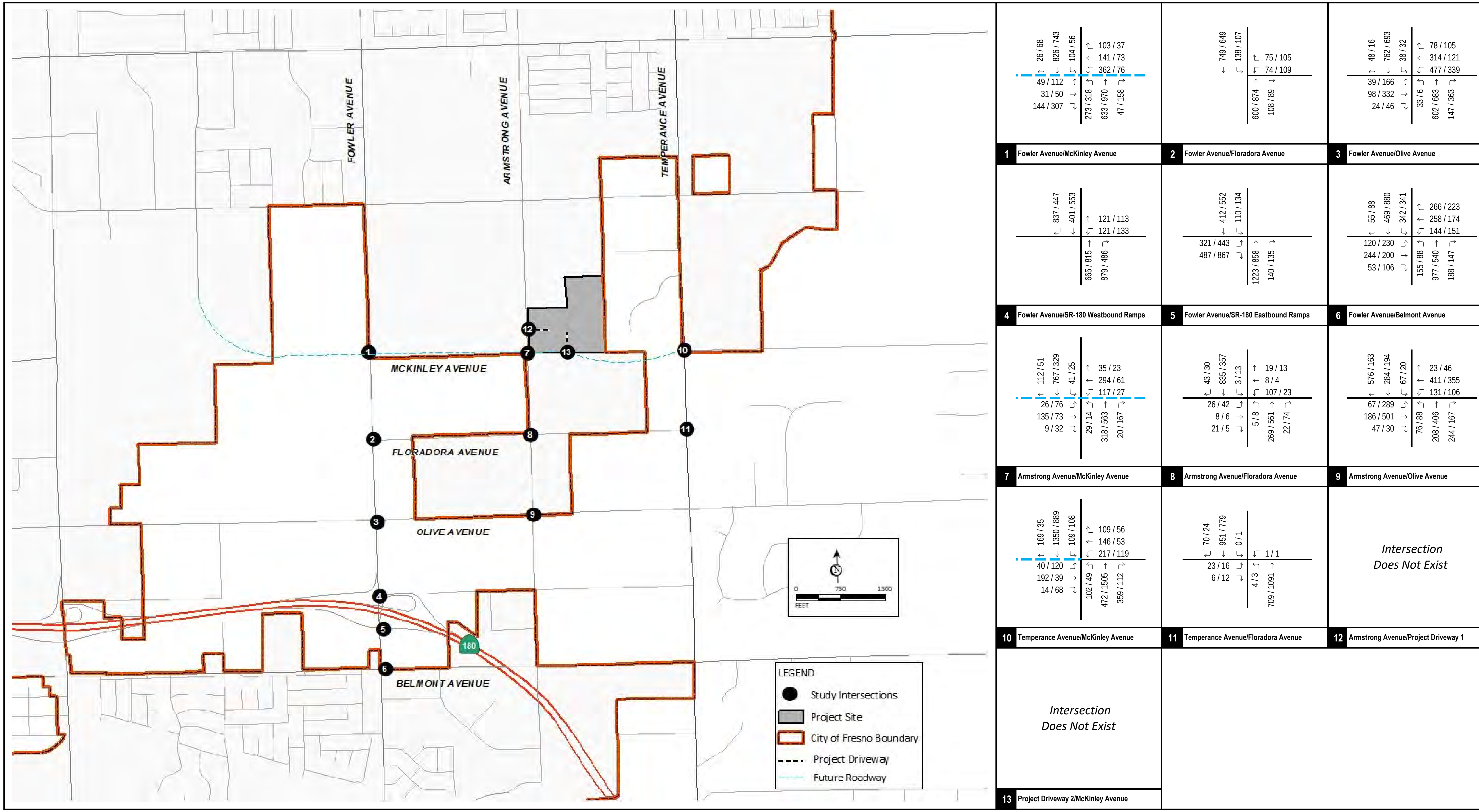

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FIGURE 4-5

XXXX / YYYY

AM / PM Peak Hour Traffic Volumes

Project Driveway

Future Segment

Tract Map 6360 Project

Traffic Impact Study

Cumulative Year (2046) No Project Peak Hour Traffic Volumes

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Table 4-A - Existing Roadway Segment Daily Traffic Volumes

Roadway	#	Segment	Existing ADT	Project Trips	Existing With Project ADT
Fowler Avenue	1	between McKinley Avenue and Floradora Avenue	15,111	30	15,141
	2	between Floradora Avenue and Olive Avenue	14,452	30	14,482
	3	between Olive Avenue and SR-180 Westbound Ramps	17,454	830	18,284
	4	between SR-180 Eastbound Ramps and Belmont Avenue	17,660	338	17,998
Armstrong Avenue	5	between Project Driveway 1 and McKinley Avenue	6,282	1,260	7,542
	6	between McKinley Avenue and Floradora Avenue	6,282	1,290	7,572
	7	between Floradora Avenue and Olive Avenue	6,507	1,260	7,767
Temperance Avenue	8	between McKinley Avenue and Floradora Avenue	11,543	154	11,697
McKinley Avenue	9	between Fowler Avenue and Armstrong Avenue	*Future Segment*	30	30
	10	between Armstrong Avenue and Project Driveway 2	*Future Segment*	1,230	1,230
	11	between Project Driveway 2 and Temperance Avenue	*Future Segment*	276	276
Floradora Avenue	12	between Fowler Avenue and Armstrong Avenue	793	30	823
Olive Avenue	13	between Fowler Avenue and Armstrong Avenue	5,755	1,014	6,769

LSA

Table 4-B - Cumulative Projects Trip Generation

Project No.	Land Use/Builder/Applicant/Project Name	Units		A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
F01 .	**P21-01732**									
	3515 Sabre Drive									
	Church[1]	30.760	TSF							
	Trips/Unit			0.20	0.12	0.32	0.22	0.27	0.49	7.60
	Trip Generation			6	4	10	7	8	15	234
F02 .	**P21-00627**									
	2636 North Larkin Avenue									
	Strip Retail Plaza (<40k)[2]	0.733	TSF							
	Trips/Unit			1.42	0.94	2.36	3.30	3.29	6.59	54.45
	Trip Generation			1	1	2	2	2	4	40
	Pass-by Trips[3]			0	0	0	(1)	(1)	(2)	(16)
	Net New Trips			1	1	2	1	1	2	24
F03 .	**P21-02820**									
	2587 North Sunnyside Avenue									
	General Light Industrial[4,5]	15.360	TSF							
	Truck Trips			1	1	2	1	1	2	16
	Auto Trips			8	1	9	1	7	8	59
	Total Net Trip Generation			9	2	11	2	8	10	75
F04 .	**P22-03086**									
	North of Clinton Avenue and East of Sunnyside Avenue									
	Warehousing[6,7]	8.500	TSF							
	Truck Trips			0	0	0	0	0	0	5
	Auto Trips			1	0	1	0	1	1	10
	Total Net Trip Generation			1	0	1	0	1	1	15
F05 .	**P22-01905**									
	1441 North Clovis Avenue									
	Mini Warehouse[8]	146.875	TSF							
	Trips/Unit			0.05	0.04	0.09	0.07	0.08	0.15	1.45
	Trip Generation			7	6	13	10	12	22	213
F06 .	**P21-03610**									
	5434 East Lamona Avenue									
	General Office Building[9]	12.115	TSF							
	Trips/Unit			1.34	0.18	1.52	0.24	1.20	1.44	10.84
	Trip Generation			16	2	18	3	15	18	131
F07 .	**P22-01573**									
	5420 East Hedges Avenue									
	General Office Building[9]	3.496	TSF							
	Trips/Unit			1.34	0.18	1.52	0.24	1.20	1.44	10.84
	Trip Generation			5	1	6	1	4	5	38
F08 .	**P21-01082**									
	5400 East Olive Avenue									
	Warehousing[6,7]	184.000	TSF							
	Truck Trips			5	5	10	5	5	10	97
	Auto Trips			17	5	22	6	17	23	217
	Total Net Trip Generation			22	10	32	11	22	33	314
F09 .	**P21-06100**									
	Northeast quadrant of Olive Avenue and Clovis Avenue									
	Manufacturing[10,11]	8.804	TSF							
	Truck Trips			0	1	1	0	1	1	9
	Auto Trips			4	1	5	2	3	5	33
	Total Net Trip Generation			4	2	6	2	4	6	42
F10 .	**P21-06497**									
	295 North Clovis Avenue									
	Multifamily Housing (Low-Rise) Not Close to Rail Transit[12]	59	DU							
	Trips/Unit			0.10	0.30	0.40	0.32	0.19	0.51	6.74
	Trip Generation			6	18	24	19	11	30	398

Table 4-B - Cumulative Projects Trip Generation

Project No.	Land Use/Builder/Applicant/Project Name	Units		A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
F11 .	**P21-00561**									
	North of Tulare Avenue and East of Clovis Avenue									
	Affordable Housing[13]	240	Bedrooms							
	Trips/Unit			0.12	0.33	0.45	0.16	0.11	0.27	3.60
	Trip Generation			29	79	108	38	26	64	864
F12 .	**P22-02309**									
	3600 North Fowler Avenue									
	Church[1]	47.500	TSF							
	Trips/Unit			0.20	0.12	0.32	0.22	0.27	0.49	7.60
	Trip Generation			10	6	16	10	13	23	361
F13 .	**P21-04848**									
	North of Dakota Avenue and East of Fowler Avenue									
	Single-Family Detached Housing[14]	145	DU							
	Trips/Unit			0.18	0.52	0.70	0.59	0.35	0.94	9.43
	Trip Generation			26	75	101	86	51	137	1,367
F14 .	**P21-02308**									
	West side of North Bliss Avenue between Princeton Avenue and Shields Avenue									
	Single-Family Detached Housing[14]	49	DU							
	Trips/Unit			0.18	0.52	0.70	0.59	0.35	0.94	9.43
	Trip Generation			9	25	34	29	17	46	462
F15 .	**P20-04866**									
	North of Belmont Avenue and East of Laverne Avenue									
	Business Park[15]	18.940	TSF							
	Trips/Unit			1.15	0.20	1.35	0.32	0.90	1.22	12.44
	Trip Generation			22	4	26	6	17	23	236
F16 .	**P21-02155**									
	979 North Fowler Avenue									
	Fast-Food Restaurant with Drive-Through Window[16]	1.800	TSF							
	Trips/Unit			22.75	21.86	44.61	17.18	15.85	33.03	467.48
	Trip Generation			41	39	80	31	29	60	841
	Pass-by Trips[17]			(21)	(20)	(40)	(17)	(16)	(33)	(442)
	Net New Trips			21	20	40	14	13	27	399
	Strip Retail Plaza (<40k)[2]	1.458	TSF							
	Trips/Unit			1.42	0.94	2.36	3.30	3.29	6.59	54.45
	Trip Generation			2	1	3	5	5	10	79
	Pass-by Trips[3]			0	0	0	(2)	(2)	(4)	(32)
	Net New Trips			2	1	3	3	3	6	47
	Total Trip Generation			43	40	83	36	34	70	920
	Total Pass-By Reduction			(21)	(20)	(40)	(19)	(18)	(37)	(473)
	Total Net Trip Generation			23	21	43	17	16	33	447

LSA

Table 4-B - Cumulative Projects Trip Generation

Project No.	Land Use/Builder/Applicant/Project Name	Units		A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
F17 .	**P22-03022**									
	960 North Fowler Avenue									
	Fast-Food Restaurant with Drive-Through Window[16]	7.865	TSF							
	Trips/Unit			22.75	21.86	44.61	17.18	15.85	33.03	467.48
	Trip Generation			179	172	351	135	125	260	3,677
	Pass-by Trips[17]			(90)	(86)	(176)	(74)	(69)	(143)	(1,930)
	Net New Trips			90	86	176	61	56	117	1,747
	General Office Building[9]	22.185	TSF							
	Trips/Unit			1.34	0.18	1.52	0.24	1.20	1.44	10.84
	Trip Generation			30	4	34	5	27	32	240
	Business Park[15]	42.000	TSF							
	Trips/Unit			1.15	0.20	1.35	0.32	0.90	1.22	12.44
	Trip Generation			48	8	56	13	38	51	522
	Total Trip Generation			257	184	441	153	190	343	4,439
	Total Pass-By Reduction			(90)	(86)	(176)	(74)	(69)	(143)	(1,930)
	Total Net Trip Generation			168	98	266	79	121	200	2,509
F18 .	**P20-04902**									
	5925 East Tulare Street									
	Single-Family Detached Housing[14]	42	DU							
	Trips/Unit			0.18	0.52	0.70	0.59	0.35	0.94	9.43
	Trip Generation			8	22	30	25	15	40	396
F19 .	**P21-00079**									
	460 North Fowler Avenue									
	Single-Family Detached Housing[14]	20	DU							
	Trips/Unit			0.18	0.52	0.70	0.59	0.35	0.94	9.43
	Trip Generation			4	10	14	12	7	19	189
F20 .	**P21-04613**									
	South of Fancher Creek Drive and West of Fowler Avenue									
	Automated Car Wash[18]	5.490	TSF							
	Trips/Unit			5.66	3.32	8.98	7.10	7.10	14.20	163.09
	Trip Generation			31	18	49	39	39	78	895
F21 .	**P21-02587**									
	6249 East Shield Avenue									
	Warehousing[6,7]	19.800	TSF							
	Truck Trips			0	1	1	0	1	1	10
	Auto Trips			2	0	2	1	1	2	23
	Total Net Trip Generation			2	1	3	1	2	3	33
F22 .	**P22-01091**									
	2920 North Burl Avenue									
	Health/Fitness Club[19]	10.094	TSF							
	Trips/Unit			0.67	0.64	1.31	1.97	1.48	3.45	23.80
	Trip Generation			7	6	13	20	15	35	240
F23 .	**P20-03480**									
	6383 East Shield Avenue									
	Recreational Community Center[20]	9.500	TSF							
	Trips/Unit			1.26	0.65	1.91	1.18	1.32	2.50	28.82
	Trip Generation			12	6	18	11	13	24	274
	Strip Retail Plaza (<40k)[2]	11.250	TSF							
	Trips/Unit			1.42	0.94	2.36	3.30	3.29	6.59	54.45
	Trip Generation			16	11	27	37	37	74	613
	Pass-by Trips[3]			0	0	0	(15)	(15)	(30)	(245)
	Net New Trips			16	11	27	22	22	44	368
	Total Trip Generation			28	17	45	48	50	98	887
	Total Pass-By Reduction			0	0	0	(15)	(15)	(30)	(245)
	Total Net Trip Generation			28	17	45	33	35	68	642

Table 4-B - Cumulative Projects Trip Generation

Project No.	Land Use/Builder/Applicant/Project Name	Units		A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
F24 .	**P21-04317**									
	6407 East Shield Avenue									
	High-Turnover (Sit-Down) Restaurant[21]	0.511	TSF							
	Trips/Unit			5.26	4.31	9.57	5.52	3.53	9.05	107.20
	Trip Generation			3	2	5	3	2	5	55
	Pass-by Trips[22]			0	0	0	(1)	(1)	(2)	(24)
	Net New Trips			3	2	5	2	1	3	31
F25 .	**P21-02805**									
	North of Clinton Avenue and East of Laverna Avenue									
	Single-Family Detached Housing[14]	90	DU							
	Trips/Unit			0.18	0.52	0.70	0.59	0.35	0.94	9.43
	Trip Generation			16	47	63	53	32	85	849
F26 .	**P22-02376**									
	2594 North Armstrong Avenue									
	Multifamily Housing (Low-Rise) Not Close to Rail Transit[12]	64	DU							
	Trips/Unit			0.10	0.30	0.40	0.32	0.19	0.51	6.74
	Trip Generation			6	19	25	20	12	32	431
F27 .	**P21-03484**									
	Southwest quadrant of Clinton Avenue and Armstrong Avenue									
	Single-Family Detached Housing[14]	102	DU							
	Trips/Unit			0.18	0.52	0.70	0.59	0.35	0.94	9.43
	Trip Generation			18	53	71	60	36	96	962
F28 .	**P22-02424**									
	North of Floradora Avenue and West of Armstrong Avenue									
	Single-Family Detached Housing[14]	206	DU							
	Trips/Unit			0.18	0.52	0.70	0.59	0.35	0.94	9.43
	Trip Generation			37	107	144	122	72	194	1,943
	Business Park[15]	142.255	TSF							
	Trips/Unit			1.15	0.20	1.35	0.32	0.90	1.22	12.44
	Trip Generation			164	28	192	46	128	174	1,770
	Total Trip Generation			201	135	336	168	200	368	3,713
F29 .	**Tentative Tract 6201[23]**									
	North of Floradora Avenue and East of Armstrong Avenue									
	Single-Family Detached Housing	257	DU							
	Trips/Unit			0.19	0.56	0.74	0.62	0.37	0.99	9.44
	Trip Generation			48	143	190	160	94	254	2,426
F30 .	**P22-00417**									
	North of Floradora Avenue and West of Temperance Avenue									
	Single-Family Detached Housing[14]	27	DU							
	Trips/Unit			0.18	0.52	0.70	0.59	0.35	0.94	9.43
	Trip Generation			5	14	19	16	9	25	255
F31 .	**P22-03496**									
	1190 North Cypress Avenue									
	Warehousing[6,7]	15.150	TSF							
	Truck Trips			0	0	0	0	1	1	8
	Auto Trips			1	1	2	1	1	2	18
	Total Net Trip Generation			1	1	2	1	2	3	26
F32 .	**P21-02767**									
	1143 North Cypress Avenue									
	Warehousing[6,7]	15.520	TSF							
	Truck Trips			0	0	0	0	1	1	8
	Auto Trips			1	1	2	1	1	2	18
	Total Net Trip Generation			1	1	2	1	2	3	26

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Table 4-B - Cumulative Projects Trip Generation

Project No.	Land Use/Builder/Applicant/Project Name	Units		A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
F33 .	**P21-01573**									
	6373 East Turner Avenue									
	Warehousing[6,7]	29.000	TSF							
	Truck Trips			0	1	1	1	0	1	15
	Auto Trips			3	0	3	1	3	4	34
	Total Net Trip Generation			3	1	4	2	3	5	49
F34 .	**P21-06620**									
	6427 East Turner Avenue									
	General Light Industrial[4,5]	100.000	TSF							
	Truck Trips			10	6	16	6	8	14	104
	Auto Trips			51	7	58	7	44	51	383
	Total Net Trip Generation			61	13	74	13	52	65	487
F35 .	**P21-05723**									
	North of Belmont Avenue and East of Armstrong Avenue									
	Single-Family Detached Housing[14]	105	DU							
	Trips/Unit			0.18	0.52	0.70	0.59	0.35	0.94	9.43
	Trip Generation			19	55	74	62	37	99	990
	Industrial Park[24,25]	605.484	TSF							
	Truck Trips			43	55	98	37	61	98	963
	Auto Trips			88	21	109	24	85	109	1,077
	Total Net Trip Generation			131	76	207	61	146	207	2,040
	Total Net PCE Trip Generation			229	230	459	190	294	484	4,766
F36 .	**P21-06621**									
	6362 East Washington Avenue									
	General Light Industrial[4,5]	35.000	TSF							
	Truck Trips			4	2	6	2	3	5	37
	Auto Trips			18	2	20	3	15	18	134
	Total Net Trip Generation			22	4	26	5	18	23	171
F37 .	**P20-00577/P20-00845**									
	South of Belmont Avenue and East of Armstrong Avenue									
	Single-Family Detached Housing[14]	218	DU							
	Trips/Unit			0.18	0.52	0.70	0.59	0.35	0.94	9.43
	Trip Generation			39	113	152	129	76	205	2,056
F38 .	**P22-01349**									
	6709 East Belmont Avenue									
	Single-Family Detached Housing[14]	30	DU							
	Trips/Unit			0.18	0.52	0.70	0.59	0.35	0.94	9.43
	Trip Generation			5	16	21	18	11	29	283
F39 .	**P21-02781**									
	691 North Laverne Avenue									
	Warehousing[6,7]	52.000	TSF							
	Truck Trips			1	2	3	1	3	4	28
	Auto Trips			5	1	6	2	4	6	61
	Total Net Trip Generation			6	3	9	3	7	10	89
F40 .	**P21-03504**									
	North of Kings Canyon Road and East of Armstrong Avenue									
	Assisted Living[26]	9.785	TSF							
	Trips/Unit			0.29	0.09	0.38	0.15	0.33	0.48	4.19
	Trip Generation			3	1	4	1	3	4	41
FC01 .	**CUP 3716**									
	7064 Belmont Avenue									
	Gasoline/Service Station[27]	4	VFP							
	Trips/Unit			5.14	5.14	10.28	6.96	6.95	13.91	172.01
	Trip Generation			21	21	42	28	28	56	688
	Pass-by Trips[28]			(13)	(13)	(26)	(16)	(16)	(32)	(413)
	Net New Trips			8	8	16	12	12	24	275

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Table 4-B - Cumulative Projects Trip Generation

Project No.	Land Use/Builder/Applicant/Project Name	Units		A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
FC02 .	**Clovis Unified's Bradley Education Center**[29]									
	Southeast quadrant of Leonard Avenue and Shields Avenue									
	Middle School/Junior High School Trip Generation	1,400	Students	507	431	938	101	109	210	2,940
	High School Trip Generation	2,900	Students	1,025	483	1,508	195	211	406	5,625
	Total Trip Generation			1,532	914	2,446	296	320	616	8,565
CL01 .	**TM 6364**									
	West side of Leonard Avenue, South of Gettysburg Avenue, East of Thompson Avenue, and North of Ashlan Avenue									
	Single-Family Detached Housing[14]	294	DU							
	Trips/Unit			0.18	0.52	0.70	0.59	0.35	0.94	9.43
	Trip Generation			53	153	206	173	103	276	2,768
CL02 .	**TM 6023**[30]	379	DU							
	Southeast corner of Ashlan Avenue and Highland Avenue									
	Trip Generation			71	214	285	239	140	379	3,608
	Gross Trip Generation			**2,818**	**2,532**	**5,349**	**2,072**	**1,896**	**3,968**	**43,367**
	Pass-By Trips Reduction			**(123)**	**(119)**	**(242)**	**(126)**	**(119)**	**(245)**	**(3,101)**
	Total Net Trip Generation			**2,695**	**2,413**	**5,107**	**1,946**	**1,777**	**3,723**	**40,266**

Notes:

DU = Dwelling Units; TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions

1 Rates from Institute of Transportation Engineers (ITE) Trip Generation Manual, (11th Edition) Land Use 560 - "Church" , Setting/Location - 'General Urban/Suburban'.

2 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 822 - "Strip Retail Plaza (<40k)" , Setting/Location - 'General Urban/Suburban'.

3 Since pass-by rates from the ITE *Trip Generation Manual* (11th Edition) for Land Use 822 - 'Strip Retail Plaza (<40k)' do not exist. Pass-by rates were taken from Land Use 821 - 'Shopping Plaza (40-150k).' A pass-by rate of 40% was used for the p.m. peak hour. Since daily pass-by rates are not available for this land use in the ITE *Trip Generation Manual* , the p.m. pass-by rate was used as the daily pass-by rate.

4 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 110 - "General Light Industrial" , Setting/Location - 'General Urban/Suburban'.

5 The resulting trips were converted to passenger vehicles and trucks based on the City of Fontana Truck Trip Generation Study, dated August 2003. As such, 21.4 percent of the traffic will be trucks.

6 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 150 - "Warehousing" , Setting/Location - 'General Urban/Suburban'.

7 The truck mix percentages were obtained from South Coast Air Quality Management District (SCAQMD) recommendations for warehousing projects. As such, The truck mix was considered as 6.8% 2-axle trucks, 5.5% 3-axle trucks, and 18.7% 4 or more axle trucks.

8 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 151 - "Mini Warehouse" , Setting/Location - 'General Urban/Suburban'.

9 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 710 - "General Office Building" , Setting/Location - 'General Urban/Suburban'.

10 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 140 - "Manufacturing" , Setting/Location - 'General Urban/Suburban'.

11 The resulting trips were converted to passenger vehicles and trucks based on the City of Fontana Truck Trip Generation Study, dated August 2003. As such, 21.4 percent of the traffic will be trucks.

12 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 220 - "Multifamily Housing (Low-Rise) Not Close to Rail Transit" , Setting/Location - 'General Urban/Suburban'.

13 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 223 - "Affordable Housing" , Setting/Location - 'General Urban/Suburban'.

14 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 210 - "Single-Family Detached Housing " , Setting/Location - 'General Urban/Suburban'.

15 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 770 - "Business Park" , Setting/Location - 'General Urban/Suburban'.

16 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 934 - "Fast-Food Restaurant with Drive-Through Window" , Setting/Location - 'General Urban/Suburban'.

17 Pass-by rates from the ITE *Trip Generation Manual* (11th Edition) for Land Use 934 - 'Fast-Food Restaurant with Drive-Through Window.' A pass-by rate of 50% was used for the a.m. peak hour and a pass-by rate of 55% was used for the p.m. peak hour. Since daily pass-by rates are not available for this land use in the ITE *Trip Generation Manual* , the average of a.m and p.m. pass-by rate was used as the daily pass-by rate.

18 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 948 - "Automated Car Wash" , Setting/Location - 'General Urban/Suburban'.

19 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 492 - "Health/Fitness Club" , Setting/Location - 'General Urban/Suburban'.

20 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 495 - "Recreational Community Center" , Setting/Location - 'General Urban/Suburban'.

21 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 932 - "High-Turnover (Sit-Down) Restaurant" , Setting/Location - 'General Urban/Suburban'.

22 Pass-by rates from the ITE *Trip Generation Manual* (11th Edition) for Land Use 932 - 'High-Turnover (Sit-Down) Restaurant.' A pass-by rate of 43% was used for the p.m. peak hour. Since daily pass-by rates are not available for this land use in the ITE *Trip Generation Manual* , the p.m. pass-by rate was used as the daily pass-by rate.

23 Trip generation taken from "Tentative Tract 6201" Traffic Impact Analysis by JLB Traffic Engineering, Inc (October 2018).

24 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 130 - "Industrial Park" , Setting/Location - 'General Urban/Suburban'.

25 The resulting trips were converted to passenger vehicles and trucks based on the City of Fontana Truck Trip Generation Study, dated August 2003. As such, 21.4 percent of the traffic will be trucks.

26 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 254 - "Assisted Living" , Setting/Location - 'General Urban/Suburban'.

27 Rates from ITE *Trip Generation Manual* , (11th Edition), Land Use 944 - "Gasoline/Service Station" , Setting/Location - 'General Urban/Suburban'.

28 Pass-by rates from the ITE *Trip Generation Manual* (11th Edition) for Land Use 944 - 'Gasoline/Service Station.' A pass-by rate of 63% was used for the a.m. peak hour and a pass-by rate of 57% was used for the p.m. peak hour. Since daily pass-by rates are not available for this land use in the ITE *Trip Generation Manual* , the average of a.m and p.m. pass-by rate was used as the daily pass-by rate.

29 Trip generation taken from "Terry Bradley Educational Center" traffic study by JLB Traffic Engineering, Inc (August 2022).

30 Trip generation taken from "Proposed Tentative Tract No. 6023" revised traffic study by Peters Engineering Group (July 2016).

Table 4-C - Near-Term Roadway Segment Daily Traffic Volumes

Roadway	#	Segment	Existing ADT	Cumulative Projects Trips	Near-term ADT	Project Trips	Near-term With Project ADT
Fowler Avenue	1	between McKinley Avenue and Floradora Avenue	15,111	5,216	20,327	30	20,357
	2	between Floradora Avenue and Olive Avenue	14,452	6,144	20,596	30	20,626
	3	between Olive Avenue and SR-180 Westbound Ramps	17,454	6,421	23,875	830	24,705
	4	between SR-180 Eastbound Ramps and Belmont Avenue	17,660	6,892	24,552	338	24,890
Armstrong Avenue	5	between Project Driveway 1 and McKinley Avenue	6,282	1,907	8,189	1,260	9,449
	6	between McKinley Avenue and Floradora Avenue	6,282	1,896	8,178	1,290	9,468
	7	between Floradora Avenue and Olive Avenue	6,507	1,064	7,571	1,260	8,831
Temperance Avenue	8	between McKinley Avenue and Floradora Avenue	11,543	2,914	14,457	154	14,611
McKinley Avenue	9	between Fowler Avenue and Armstrong Avenue	*Future Segment*	1,594	1,594	30	1,624
	10	between Armstrong Avenue and Project Driveway 2	*Future Segment*	1,995	1,995	1,230	3,225
	11	between Project Driveway 2 and Temperance Avenue	*Future Segment*	1,995	1,995	276	2,271
Floradora Avenue	12	between Fowler Avenue and Armstrong Avenue	793	2,812	3,605	30	3,635
Olive Avenue	13	between Fowler Avenue and Armstrong Avenue	5,755	1,369	7,124	1,014	8,138

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Table 4-D - Cumulative Year (2046) Roadway Segment Daily Traffic Volumes

Roadway	#	Segment	Cumulative Year (2046) ADT	Project Trips	Cumulative Year (2046) With Project ADT
Fowler Avenue	1	between McKinley Avenue and Floradora Avenue	21,343	30	21,373
	2	between Floradora Avenue and Olive Avenue	21,626	30	21,656
	3	between Olive Avenue and SR-180 Westbound Ramps	25,069	830	25,899
	4	between SR-180 Eastbound Ramps and Belmont Avenue	25,780	338	26,118
Armstrong Avenue	5	between Project Driveway 1 and McKinley Avenue	8,598	1,260	9,858
	6	between McKinley Avenue and Floradora Avenue	8,587	1,290	9,877
	7	between Floradora Avenue and Olive Avenue	8,359	1,260	9,619
Temperance Avenue	8	between McKinley Avenue and Floradora Avenue	15,246	154	15,400
McKinley Avenue	9	between Fowler Avenue and Armstrong Avenue	1,737	30	1,767
	10	between Armstrong Avenue and Project Driveway 2	2,095	1,230	3,325
	11	between Project Driveway 2 and Temperance Avenue	2,095	276	2,371
Floradora Avenue	12	between Fowler Avenue and Armstrong Avenue	3,785	30	3,815
Olive Avenue	13	between Fowler Avenue and Armstrong Avenue	8,269	1,014	9,283

5.0 PROJECT TRAFFIC

5.1 PROJECT TRIP GENERATION

The trip generation for the proposed project was developed using rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition) for Land Use 210 – "Single-Family Detached Housing". Table 5-A summarizes the project trip generation. As shown in Table 5-A, the proposed project is anticipated to generate 3,074 daily trips, with 229 trips occurring during the a.m. peak hour and 306 trips occurring during the p.m. peak hour.

5.2 PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

The project trip distribution was developed using the select zone model run obtained from the Fresno Council of Governments' (COG) Activity-Based Model (ABM). As previously mentioned in Section 4.3, the Fresno COG's ABM includes the McKinley Avenue extension under future conditions. As such, distributions were developed to include the McKinley Avenue extension from Fowler Avenue to Temperance Avenue and from Sunnyside Avenue to Temperance Avenue for near-term and cumulative year conditions, respectively. The select zone distribution plot is included in Appendix A. Figure 5-1 illustrates the project trip distribution. The project trip assignment at the study intersections is the product of the project trip generation and the corresponding trip distribution percentages. Figure 5-2 illustrates the project trip assignment.

5.3 LIST OF CHAPTER 5.0 FIGURES AND TABLES

- Figure 5-1: Project Trip Distribution
- Figure 5-2: Project Trip Assignment
- Table 5-A: Project Trip Generation

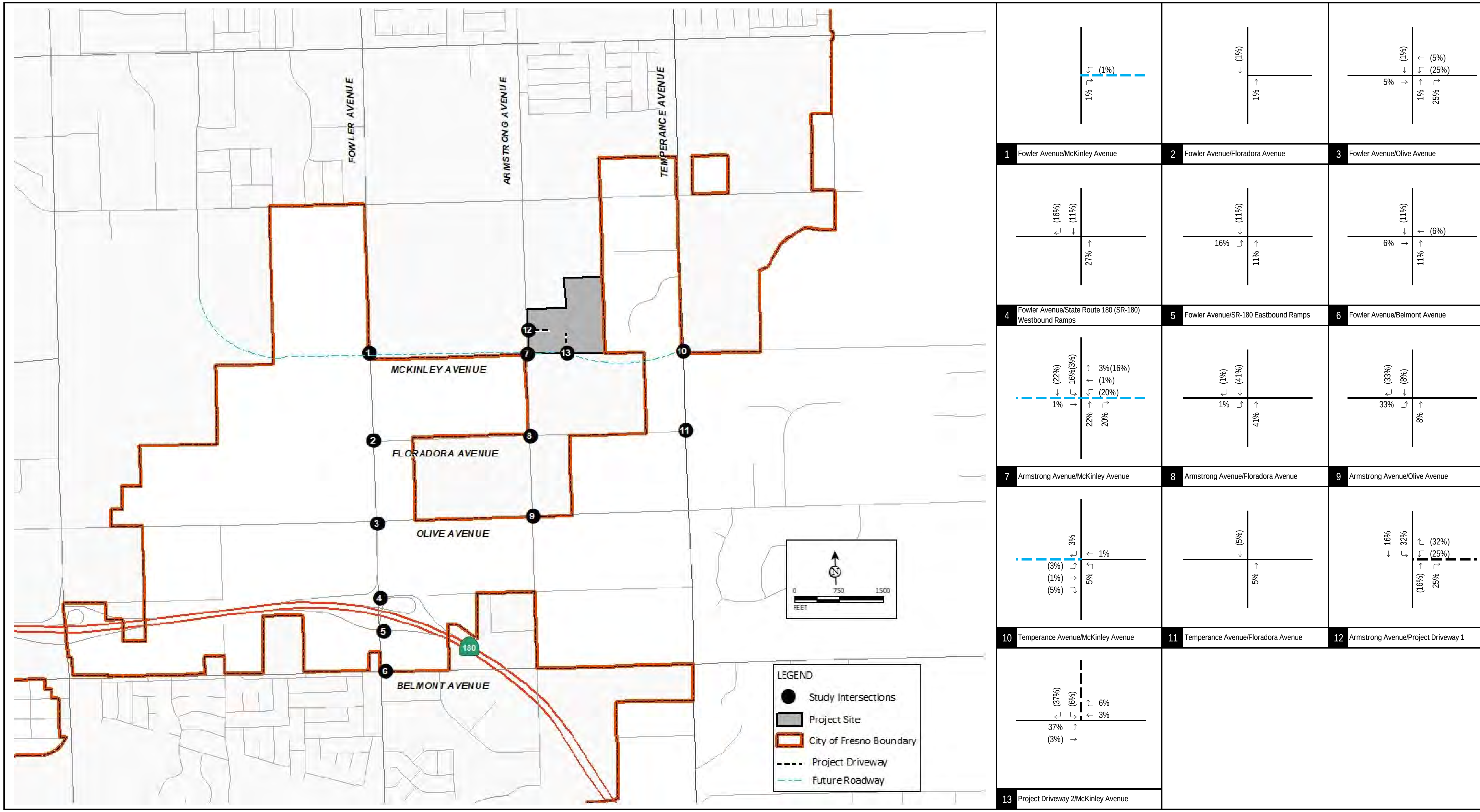

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FIGURE 5-1

XX% (YY%)

Inbound (Outbound) Trip Distribution

Project Driveway

Future Segment

Tract Map 6360 Project

Traffic Impact Study

Project Trip Distribution

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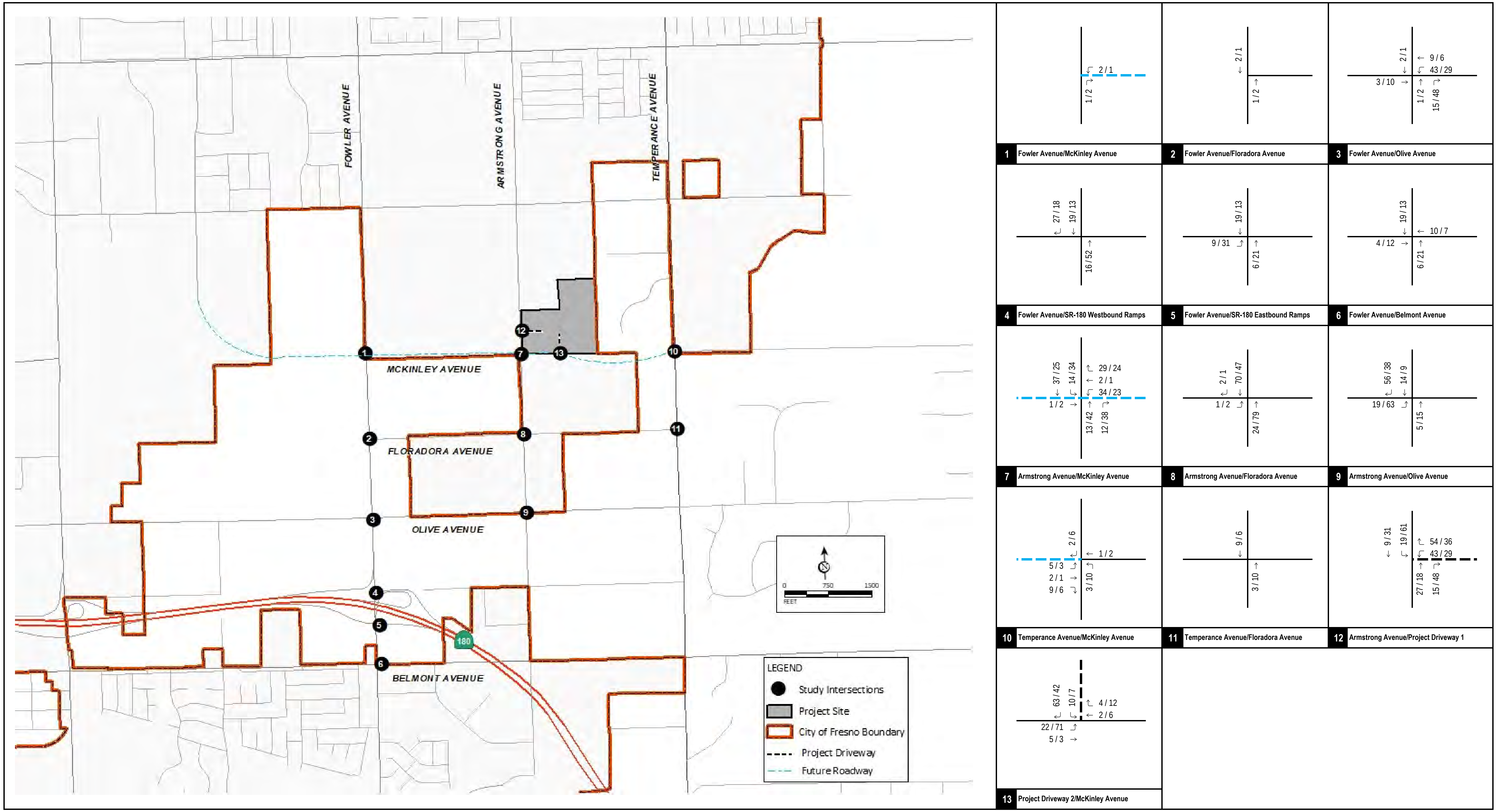

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FIGURE 5-2

XX / YY
AM / PM Peak Hour Trips
Project Driveway
Future Segment

Tract Map 6360 Project
Traffic Impact Study
Project Trip Assignment

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Table 5-A - Project Trip Generation

Land Use		Units	A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
Single-Family Detached Housing	326	DU							
Trips/Unit[1]			0.18	0.52	0.70	0.59	0.35	0.94	9.43
Trip Generation			59	170	229	192	114	306	3,074

Note:

DU = Dwelling Units

[1] Rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition), Land Use 210 - "Single-Family Detached Housing", Setting/Location - "General Urban/Suburban."

6.0 TRAFFIC VOLUMES FOR PLUS PROJECT SCENARIOS

Existing, near-term, and cumulative year plus project traffic volumes were developed by adding project traffic to the traffic for the corresponding no project scenarios. Figures 6-1, 6-2 and 6-3 illustrate "plus project" peak hour traffic volumes at study intersections under existing, near-term, and cumulative year conditions, respectively.

Detailed volume development worksheets are included in Appendix D.

6.1 LIST OF CHAPTER 6.0 FIGURES

- Figure 6-1: Existing Plus Project Peak Hour Traffic Volumes
- Figure 6-2: Near-Term Plus Project Peak Hour Traffic Volumes
- Figure 6-3: Cumulative Year (2046) Plus Project Peak Hour Traffic Volumes

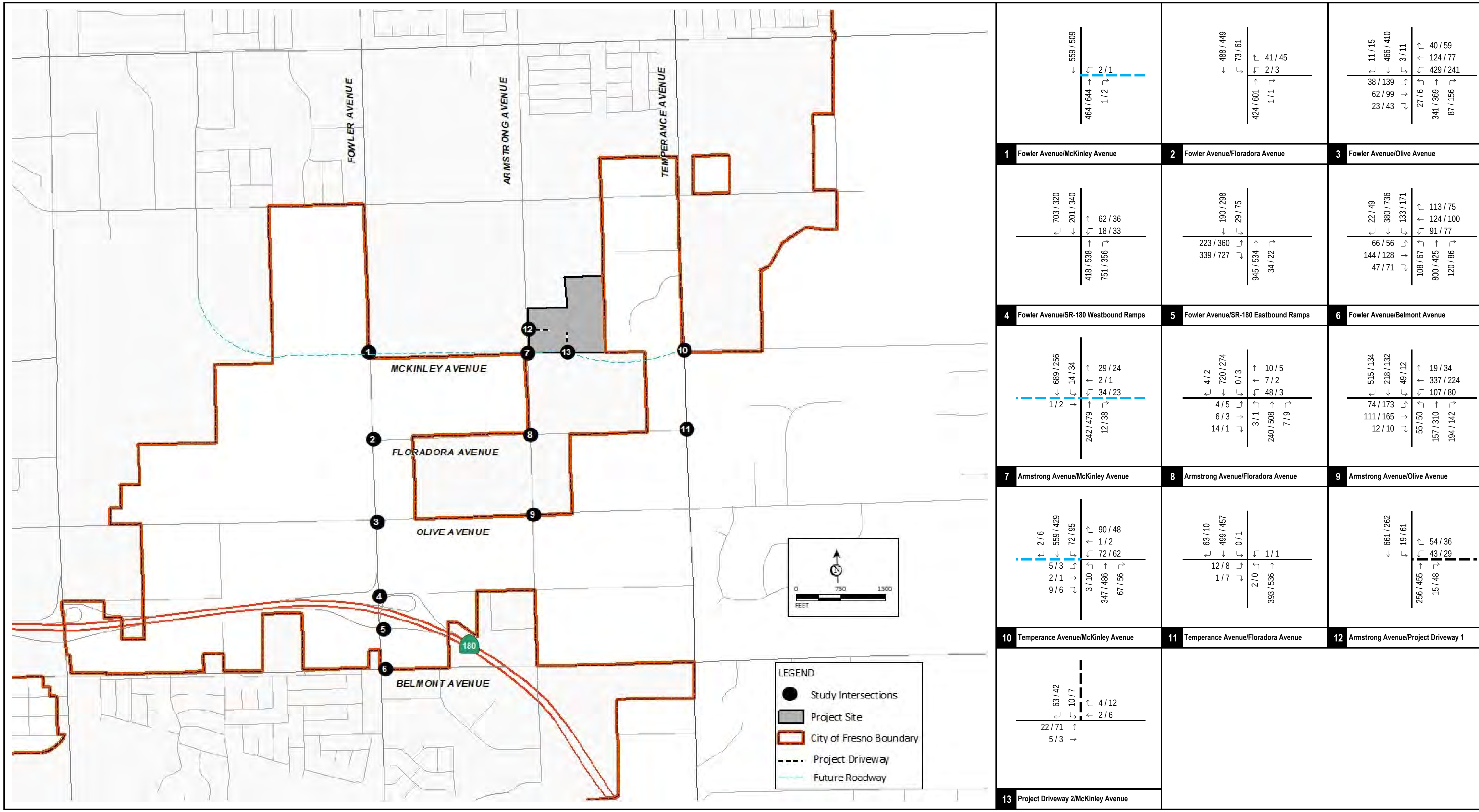

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FIGURE 6-1

XXX / YYY
AM / PM Peak Hour Traffic Volumes
Project Driveway
Future Segment

Tract Map 6360 Project
Traffic Impact Study

Existing Plus Project Peak Hour Traffic Volumes

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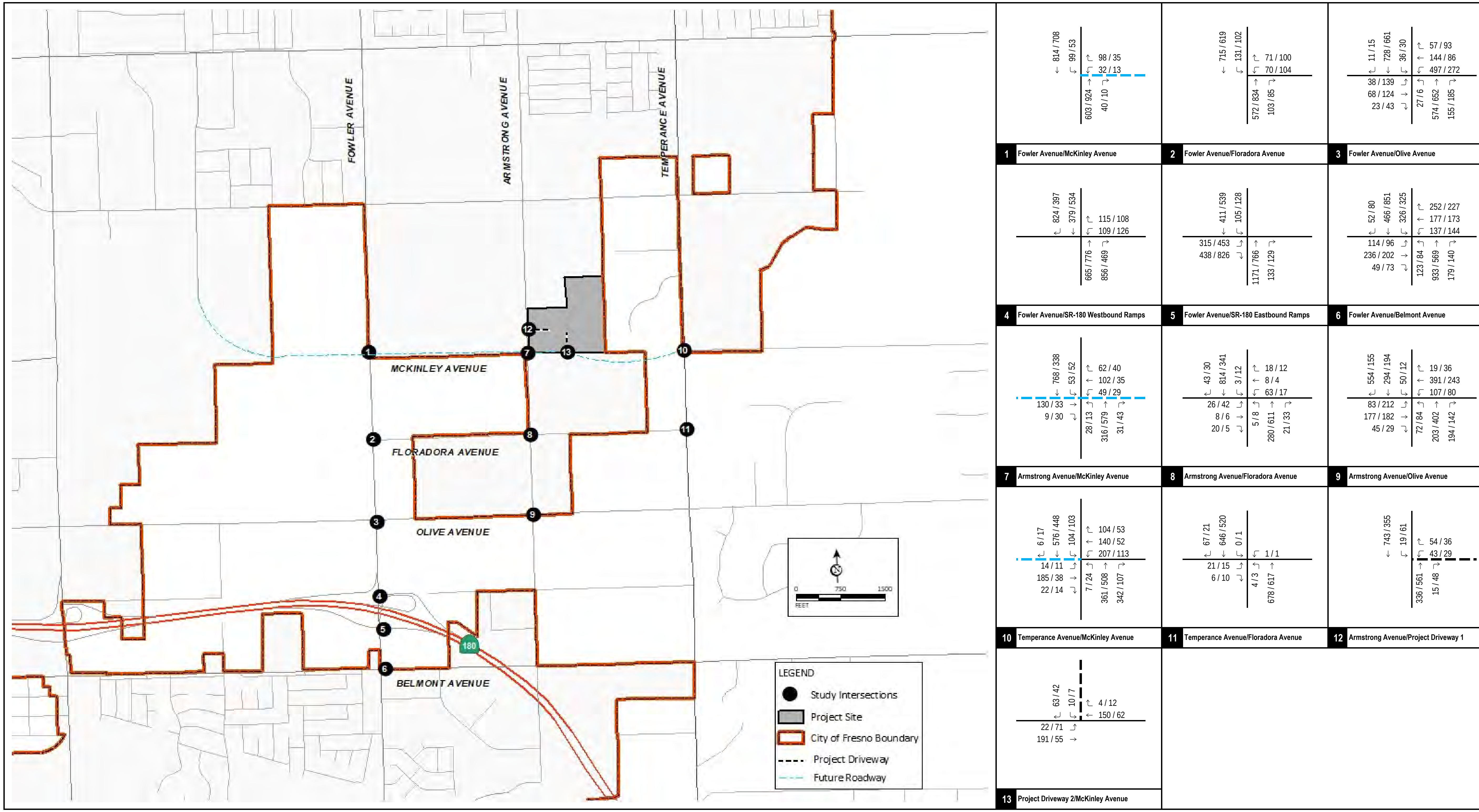

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FIGURE 6-2

XXXX / YYYY

AM / PM Peak Hour Traffic Volumes

Project Driveway

Future Segment

Tract Map 6360 Project

Traffic Impact Study

Near-Term Plus Project Peak Hour Traffic Volumes

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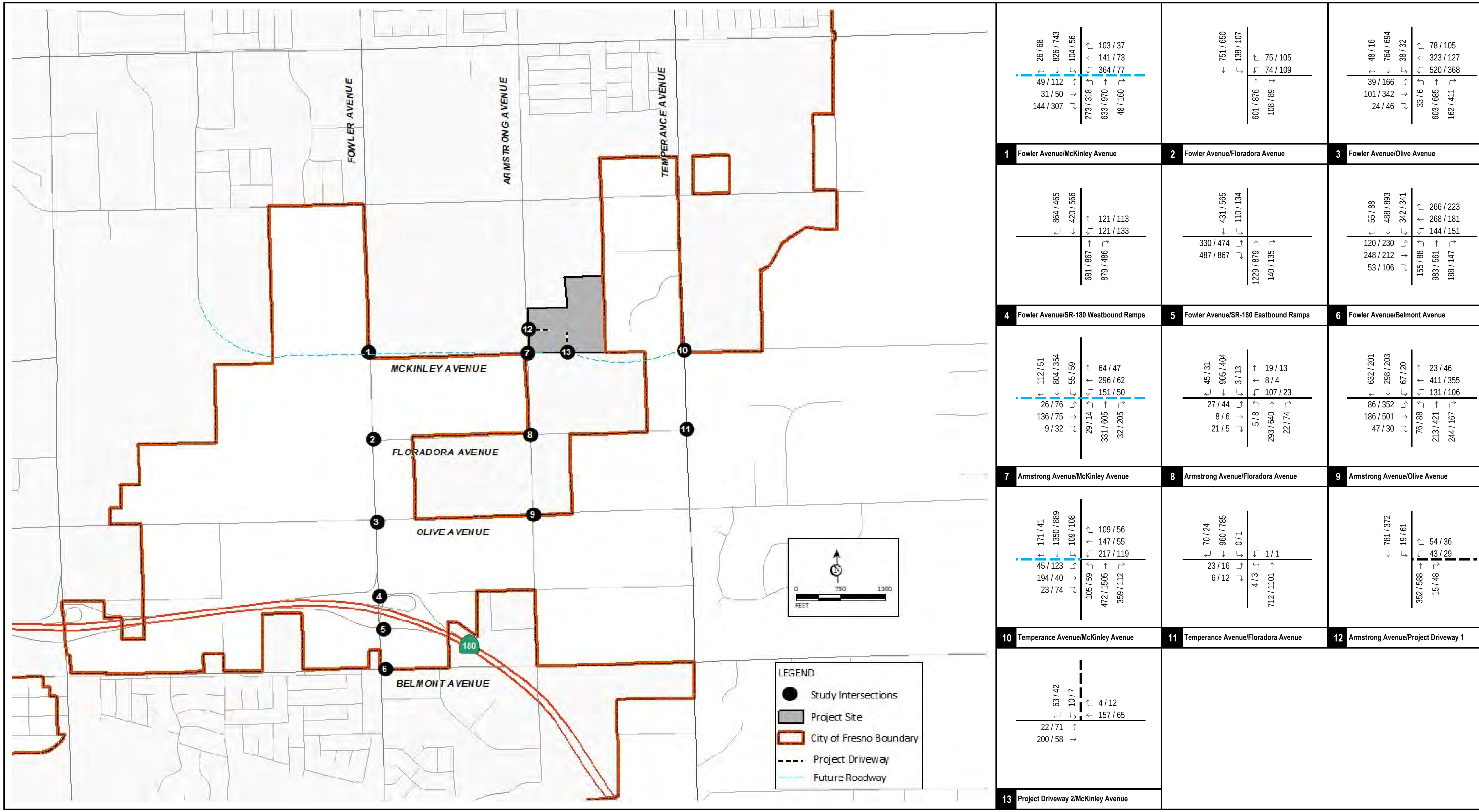

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FIGURE 6-3

XXXX / YYYY
AM / PM Peak Hour Traffic Volumes
Project Driveway
Future Segment

Tract Map 6360 Project
Traffic Impact Study

Cumulative Year (2046) Plus Project Peak Hour Traffic Volumes

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7.0 INTERSECTION LEVELS OF SERVICE

7.1 EXISTING LEVELS OF SERVICE

Figure 3-1 illustrates existing study intersection geometrics and traffic control.

7.1.1 Study Intersections

An intersection LOS analysis was conducted for existing conditions using the methodologies previously discussed. Table 7-A summarizes the results of this analysis and shows that the following intersections are forecast to operate at a deficient LOS under existing conditions:

- Fowler Avenue/Olive Avenue (a.m. and p.m. peak hours);
- Fowler Avenue/SR-180 Eastbound Ramps (p.m. peak hour only); and
- Temperance Avenue/McKinley Avenue (a.m. and p.m. peak hours).

All other study intersections currently operate at a satisfactory LOS under existing conditions.

7.1.2 Roadway Segments

A roadway segment LOS analysis was conducted for existing conditions using the methodologies previously discussed. Table 7-B summarizes the results of this analysis and shows that the following roadway segment is forecast to operate at a deficient LOS under existing conditions:

- Fowler Avenue, between Olive Avenue and SR-180 Westbound Ramps.

All other roadway segments currently operate at a satisfactory LOS under existing conditions.

7.2 EXISTING PLUS PROJECT LEVELS OF SERVICE

Analysis of the existing with project scenario is provided to identify direct project-related operational deficiency if the project were to be built and in operation today. This scenario eliminates the effects of ambient growth and other cumulative projects and deals specifically with operational deficiencies only due to the project traffic. Figure 3-3 illustrates the study intersection geometrics and traffic control under existing plus project conditions.

7.2.1 Study Intersections

An intersection LOS analysis was conducted for existing plus project conditions using the methodologies previously discussed. Table 7-A summarizes the results of this analysis and shows that the following intersection is forecast to operate at a deficient LOS under existing plus project conditions:

- Fowler Avenue/Olive Avenue (a.m. and p.m. peak hours);
- Fowler Avenue/SR-180 Eastbound Ramps (p.m. peak hour only); and
- Temperance Avenue/McKinley Avenue (a.m. and p.m. peak hours).

All these intersections are currently operating at a deficient LOS. As such, the project is forecast to add to the existing deficiencies at these locations. All other study intersections are forecast to operate at a satisfactory LOS under existing plus project conditions.

7.2.2 Roadway Segments

A roadway segment LOS analysis was conducted for existing plus project conditions using the methodologies previously discussed. Table 7-B summarizes the results of this analysis and shows that the following roadway segment is forecast to operate at a deficient LOS under existing plus project conditions:

- Fowler Avenue, between Olive Avenue and SR-180 Westbound Ramps.

This study segment is currently operating at a deficient LOS. As such, the project is forecast to add to the existing deficiency at this segment. All other roadway segments are forecast to operate at a satisfactory LOS under existing plus project conditions.

7.3 NEAR-TERM PLUS PROJECT LEVELS OF SERVICE

7.3.1 Study Intersections

An intersection LOS analysis was conducted for near-term plus project conditions using the methodologies previously discussed. Table 7-C summarizes the results of this analysis and shows that the following intersection is forecast to operate at a deficient LOS under near-term plus project conditions:

- Fowler Avenue/McKinley Avenue (a.m. and p.m. peak hours);
- Fowler Avenue/Floradora Avenue (a.m. and p.m. peak hours);
- Fowler Avenue/Olive Avenue (a.m. and p.m. peak hours);
- Fowler Avenue/SR-180 Eastbound Ramps (p.m. peak hour only)
- Armstrong Avenue/McKinley Avenue (a.m. and p.m. peak hours);
- Armstrong Avenue/Floradora Avenue (a.m. peak hour only)
- Armstrong Avenue/Olive Avenue (a.m. and p.m. peak hours);
- Temperance Avenue/McKinley Avenue (a.m. and p.m. peak hours); and
- Temperance Avenue/Floradora Avenue (a.m. peak hour only).

All other study intersections are forecast to operate at a satisfactory LOS under near-term plus project conditions.

7.3.2 Roadway Segments

A roadway segment LOS analysis was conducted for near-term plus project conditions using the methodologies previously discussed. Table 7-D summarizes the results of this analysis and shows that the following roadway segments are forecast to operate at a deficient LOS under near-term plus project conditions:

- Fowler Avenue, between McKinley Avenue and Floradora Avenue;
- Fowler Avenue, between Floradora Avenue and Olive Avenue; and

- Fowler Avenue, between Olive Avenue and SR-180 Westbound Ramps.

All other roadway segments are forecast to operate at a satisfactory LOS under near-term plus project conditions.

7.4 CUMULATIVE YEAR (2046) NO PROJECT LEVELS OF SERVICE

7.4.1 Study Intersections

An intersection LOS analysis was conducted for cumulative year no project conditions using the methodologies previously discussed. Table 7-E summarizes the results of this analysis and shows that the following intersections are forecast to operate at a deficient LOS under cumulative year no project conditions:

- Fowler Avenue/McKinley Avenue (a.m. and p.m. peak hours);
- Fowler Avenue/Floradora Avenue (a.m. and p.m. peak hours);
- Fowler Avenue/Olive Avenue (a.m. and p.m. peak hours);
- Fowler Avenue/SR-180 Eastbound Ramps (p.m. peak hour only)
- Armstrong Avenue/McKinley Avenue (a.m. and p.m. peak hours);
- Armstrong Avenue/Floradora Avenue (a.m. peak hour only);
- Armstrong Avenue/Olive Avenue (a.m. and p.m. peak hours);
- Temperance Avenue/McKinley Avenue (a.m. and p.m. peak hours); and
- Temperance Avenue/Floradora Avenue (a.m. and p.m. peak hours).

All other study intersections are forecast to operate at a satisfactory LOS under cumulative year no project conditions.

7.4.2 Roadway Segments

A roadway segment LOS analysis was conducted for cumulative year no project conditions using the methodologies previously discussed. Table 7-F summarizes the results of this analysis and shows that the following roadway segments are forecast to operate at a deficient LOS under cumulative year no project conditions:

- Fowler Avenue, between McKinley Avenue and Floradora Avenue;
- Fowler Avenue, between Floradora Avenue and Olive Avenue; and
- Fowler Avenue, between Olive Avenue and SR-180 Westbound Ramps.

All other roadway segments are forecast to operate at a satisfactory LOS under cumulative year no project conditions.

7.5 CUMULATIVE YEAR (2046) PLUS PROJECT LEVELS OF SERVICE

7.5.1 Study Intersections

An intersection LOS analysis was conducted for cumulative year plus project conditions using the methodologies previously discussed. Table 7-E summarizes the results of this analysis and shows that the following intersection is forecast to operate at a deficient LOS under cumulative year plus project conditions:

- Fowler Avenue/McKinley Avenue (a.m. and p.m. peak hours);
- Fowler Avenue/Floradora Avenue (a.m. and p.m. peak hours);
- Fowler Avenue/Olive Avenue (a.m. and p.m. peak hours);
- Fowler Avenue/SR-180 Eastbound Ramps (p.m. peak hour only)
- Armstrong Avenue/McKinley Avenue (a.m. and p.m. peak hours);
- Armstrong Avenue/Floradora Avenue (a.m. and p.m. peak hours);
- Armstrong Avenue/Olive Avenue (a.m. and p.m. peak hours);
- Temperance Avenue/McKinley Avenue (a.m. and p.m. peak hours); and
- Temperance Avenue/Floradora Avenue (a.m. and p.m. peak hours).

All these intersections are forecast to operate at a deficient LOS under cumulative no project conditions. As such, the project is forecast to add to the forecasted deficiencies at these locations. All other study intersections are forecast to operate at a satisfactory LOS under cumulative year plus project conditions.

7.5.2 Roadway Segments

A roadway segment LOS analysis was conducted for cumulative year plus project conditions using the methodologies previously discussed. Table 7-F summarizes the results of this analysis and shows that the following roadway segments are forecast to operate at a deficient LOS under cumulative year plus project conditions:

- Fowler Avenue, between McKinley Avenue and Floradora Avenue;
- Fowler Avenue, between Floradora Avenue and Olive Avenue; and
- Fowler Avenue, between Olive Avenue and SR-180 Westbound Ramps.

All these roadway segments are forecast to operate at a deficient LOS under cumulative no project conditions. As such, the project is forecast to add to the forecasted deficiencies at these segments. All other roadway segments are forecast to operate at a satisfactory LOS under cumulative year plus project conditions.

Detailed intersection level of service worksheets are included in Appendix E.

7.6 LIST OF CHAPTER 7.0 TABLES

- Table 7-A: Existing Intersection Levels of Service
- Table 7-B: Existing Roadway Segment Levels of Service
- Table 7-C: Near-Term Intersection Levels of Service
- Table 7-D: Near-Term Roadway Segment Levels of Service
- Table 7-E: Cumulative Year (2046) Intersection Levels of Service
- Table 7-F: Cumulative Year (2046) Roadway Segment Levels of Service

LSA

Table 7-A - Existing Intersection Levels of Service

			No Project					Plus Project					
				A.M. Peak Hour		P.M. Peak Hour			A.M. Peak Hour		P.M. Peak Hour		
Intersection	**Jurisdiction**	**LOS Standard**	**Control**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Control**	**Delay (sec.)**	**LOS**	**Delay (sec.)**	**LOS**	**Improvement Required?**
1 . Fowler Avenue/McKinley Avenue	Fresno/Fresno County	D	-	*Future Intersection*		*Future Intersection*		OWSC	20.7	C	24.1	C	No
2 . Fowler Avenue/Floradora Avenue	Fresno County	D	OWSC	11.9	B	14.2	B	OWSC	11.9	B	14.2	B	No
3 . Fowler Avenue/Olive Avenue	Fresno County	D	AWSC	59.2	**F** *	49.5	**E** *	AWSC	69.8	**F** *	67.1	**F** *	**Yes**
4 . Fowler Avenue/SR-180 Westbound Ramps	Caltrans	45 sec	Signal	6.5	A	5.3	A	Signal	6.6	A	5.8	A	No
5 . Fowler Avenue/SR-180 Eastbound Ramps	Caltrans	45 sec	Signal	20.4	C	66.0	**E** *	Signal	20.4	C	69.5	**E** *	**Yes**
6 . Fowler Avenue/Belmont Avenue	Fresno/Fresno County	D	Signal	34.1	C	31.9	C	Signal	34.1	C	32.0	C	No
7 . Armstrong Avenue/McKinley Avenue	Fresno/Fresno County	D	-	*Future Intersection*		*Future Intersection*		TWSC	21.4	C	18.9	C	No
8 . Armstrong Avenue/Floradora Avenue	Fresno	D	TWSC	24.1	C	15.6	C	TWSC	28.6	D	18.2	C	No
9 . Armstrong Avenue/Olive Avenue[1]	Fresno	D	AWSC	11.3	B	28.7	D	AWSC	14.2	B	14.1	B	No
10 . Temperance Avenue/McKinley Avenue	Fresno/Fresno County	D	OWSC	40.0	**E** *	43.3	**E** *	TWSC	63.4	**F** *	70.8	**F** *	**Yes**
11 . Temperance Avenue/Floradora Avenue	Fresno County	D	TWSC	20.4	C	22.5	C	TWSC	20.7	C	22.9	C	No
12 . Armstrong Avenue/Project Driveway 1	Fresno	D	-	*Future Intersection*		*Future Intersection*		OWSC	17.3	C	16.6	C	No
13 . Project Driveway 2/McKinley Avenue	Fresno	D	-	*Future Intersection*		*Future Intersection*		OWSC	8.7	A	8.7	A	No

Notes:

AWSC= All-Way Stop Control; OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; LOS = Level of Service

Delay = Average control delay in seconds (For OWSC/TWSC intersections, reported delay is for worst-case movement).

[1] Due to the road configuration at this intersection, Synchro does not report an LOS using HCM metholodigies for this intersection. Therefore, the LOS was determined using SimTraffic simulation.

* Exceeds LOS Standard

LSA

Table 7-B - Existing Roadway Segment Levels of Service

Roadway Segment	Jurisdiction	Functional Classification[1]	Roadway Capacity[2]	No Project		Plus Project	
				Daily Volume	LOS	Daily Volume	LOS
Segments on Fowler Avenue							
1 . between McKinley Avenue and Floradora Avenue	Fresno County	2-Lane Undivided Arterial	15,930	15,111	C	15,141	D
2 . between Floradora Avenue and Olive Avenue	Fresno County	2-Lane Undivided Arterial	15,930	14,452	C	14,482	C
3 . between Olive Avenue and SR-180 Westbound Ramps	Fresno County	2-Lane Undivided Arterial	15,930	17,454	E *	18,284	E *
4 . between SR-180 Eastbound Ramps and Belmont Avenue	Fresno/Fresno County	4-Lane Divided Arterial	35,820	17,660	C	17,998	C
Segments on Armstrong Avenue							
5 . between Project Driveway 1 and McKinley Avenue	Fresno	2-Lane Undivided Collector	15,930	6,282	C	7,542	C
6 . between McKinley Avenue and Floradora Avenue	Fresno/Fresno County	2-Lane Undivided Collector	15,930	6,282	C	7,572	C
7 . between Floradora Avenue and Olive Avenue	Fresno	2-Lane Divided Collector[3]	17,910	6,507	C	7,767	C
Segments on Temperance Avenue							
8 . between McKinley Avenue and Floradora Avenue	Fresno/Fresno County	2-Lane Undivided Super Arterial	15,930	11,543	C	11,697	C
Segments on McKinley Avenue							
9 . between Fowler Avenue and Armstrong Avenue	Fresno/Fresno County	2-Lane Undivided Collector	15,930	*Future Segment*		30	C
10 . between Armstrong Avenue and Project Driveway 2	Fresno/Fresno County	2-Lane Undivided Collector	15,930	*Future Segment*		1,230	C
11 . between Project Driveway 2 and Temperance Avenue	Fresno/Fresno County	2-Lane Undivided Collector	15,930	*Future Segment*		276	C
Segments on Floradora Avenue							
12 . between Fowler Avenue and Armstrong Avenue	Fresno/Fresno County	2-Lane Undivided Collector	14,040	793	C	823	C
Segments on Olive Avenue							
13 . between Fowler Avenue and Armstrong Avenue	Fresno/Fresno County	2-Lane Undivided Collector	15,930	5,755	C	6,769	C

Notes:

LOS = Level of Service.

1 Classification obtained from the Figure MT-1 Major Street Circulation Diagram, City of Fresno 2014 General Plan.

2 Roadway Capacity obtained from Table 1, Generalized Annual Average Daily Volumes for Florida's Urbanized Areas. Since the facilities ate Non-State, a 10% reduction factor was applied for the roadway capacities.

3 This classification is not listed in Table 1, Generalized Annual Average Daily Volumes for Florida's Urbanized Areas. Roadway Capacity for this classification are interpolated from capacities of similar classifications.

* Exceeds LOS Standard

LSA

Table 7-C - Near-Term Intersection Levels of Service

			Plus Project							
				A.M. Peak Hour			P.M. Peak Hour			
Intersection	Jurisdiction	LOS Standard	Control	Delay (sec.)	LOS		Delay (sec.)	LOS		Improvement Required?
1 . Fowler Avenue/McKinley Avenue	Fresno/Fresno County	D	OWSC	62.3	**F**	*	41.3	**E**	*	**Yes**
2 . Fowler Avenue/Floradora Avenue	Fresno County	D	OWSC	157.9	**F**	*	>200	**F**	*	**Yes**
3 . Fowler Avenue/Olive Avenue	Fresno County	D	AWSC	>200	**F**	*	>200	**F**	*	**Yes**
4 . Fowler Avenue/SR-180 Westbound Ramps	Caltrans	45 sec	Signal	9.0	A		8.7	A		No
5 . Fowler Avenue/SR-180 Eastbound Ramps	Caltrans	45 sec	Signal	23.0	C		76.8	**E**	*	**Yes**
6 . Fowler Avenue/Belmont Avenue	Fresno/Fresno County	D	Signal	47.5	D		41.3	D		No
7 . Armstrong Avenue/McKinley Avenue	Fresno/Fresno County	D	TWSC	194.9	**F**	*	44.9	**E**	*	**Yes**
8 . Armstrong Avenue/Floradora Avenue	Fresno	D	TWSC	58.4	**F**	*	33.1	D		**Yes**
9 . Armstrong Avenue/Olive Avenue[2]	Fresno	D	AWSC	76.1	**F**	*	188.9	**F**	*	**Yes**
10 . Temperance Avenue/McKinley Avenue	Fresno/Fresno County	D	TWSC	-	**F**	*	>200	**F**	*	**Yes**
11 . Temperance Avenue/Floradora Avenue	Fresno County	D	TWSC	53.1	**F**	*	28.5	D		**Yes**
12 . Armstrong Avenue/Project Driveway 1	Fresno	D	OWSC	21.5	C		20.9	C		No
13 . Project Driveway 2/McKinley Avenue	Fresno	D	OWSC	9.8	A		9.1	A		No

Notes:

AWSC= All-Way Stop Control; OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; LOS = Level of Service

Delay = Average control delay in seconds (For OWSC/TWSC intersections, reported delay is for worst-case movement).

1 Based on Synchro results, intersections where the delay is represented with a dash (-) has through volumes that block the turn movements throughout the peak hour. As such, Synchro does not report a delay at these intersections for the blocked turn movements. Therefore, the worst-case movements at these intersections operate at LOS F.

2 Due to the road configuration at this intersection, Synchro does not report an LOS using HCM metholodiges for this intersection. Therefore, the LOS was determined using SimTraffic simulation.

* Exceeds LOS Standard

Table 7-D - Near-Term Roadway Segment Levels of Service

Roadway Segment	Jurisdiction	Functional Classification[1]	Roadway Capacity[2]	Plus Project	
				Daily Volume	LOS
Segments on Fowler Avenue					
1 . between McKinley Avenue and Floradora Avenue	Fresno County	2-Lane Undivided Arterial	15,930	20,357	E *
2 . between Floradora Avenue and Olive Avenue	Fresno County	2-Lane Undivided Arterial	15,930	20,626	E *
3 . between Olive Avenue and SR-180 Westbound Ramps	Fresno County	2-Lane Undivided Arterial	15,930	24,705	E *
4 . between SR-180 Eastbound Ramps and Belmont Avenue	Fresno/Fresno County	4-Lane Divided Arterial	35,820	24,890	C
Segments on Armstrong Avenue					
5 . between Project Driveway 1 and McKinley Avenue	Fresno	2-Lane Undivided Collector	15,930	9,449	C
6 . between McKinley Avenue and Floradora Avenue	Fresno/Fresno County	2-Lane Undivided Collector	15,930	9,468	C
7 . between Floradora Avenue and Olive Avenue	Fresno	2-Lane Divided Collector[3]	17,910	8,831	C
Segments on Temperance Avenue					
8 . between McKinley Avenue and Floradora Avenue	Fresno/Fresno County	2-Lane Undivided Super Arterial	15,930	14,611	C
Segments on McKinley Avenue					
9 . between Fowler Avenue and Armstrong Avenue	Fresno/Fresno County	2-Lane Undivided Collector	15,930	1,624	C
10 . between Armstrong Avenue and Project Driveway 2	Fresno/Fresno County	2-Lane Undivided Collector	15,930	3,225	C
11 . between Project Driveway 2 and Temperance Avenue	Fresno/Fresno County	2-Lane Undivided Collector	15,930	2,271	C
Segments on Floradora Avenue					
12 . between Fowler Avenue and Armstrong Avenue	Fresno/Fresno County	2-Lane Undivided Collector	14,040	3,635	C
Segments on Olive Avenue					
13 . between Fowler Avenue and Armstrong Avenue	Fresno/Fresno County	2-Lane Undivided Collector	15,930	8,138	C

Notes:

LOS = Level of Service.

1 Classification obtained from the Figure MT-1 Major Street Circulation Diagram, City of Fresno 2014 General Plan.

2 Roadway Capacity obtained from Table 1, Generalized Annual Average Daily Volumes for Florida's Urbanized Areas. Since the facilities ate Non-State, a 10% reduction factor was applied for the roadway capacities.

3 This classification is not listed in Table 1, Generalized Annual Average Daily Volumes for Florida's Urbanized Areas. Roadway Capacity for this classification are interpolated from capacities of similar classifications.

* Exceeds LOS Standard

LSA

Table 7-E - Cumulative Year (2046) Intersection Levels of Service

Intersection	Jurisdiction	LOS Standard	No Project Control	No Project A.M. Peak Hour Delay (sec.)	No Project A.M. Peak Hour LOS	No Project P.M. Peak Hour Delay (sec.)	No Project P.M. Peak Hour LOS	Plus Project Control	Plus Project A.M. Peak Hour Delay (sec.)	Plus Project A.M. Peak Hour LOS	Plus Project P.M. Peak Hour Delay (sec.)	Plus Project P.M. Peak Hour LOS	Improvement Required?
1. Fowler Avenue/McKinley Avenue	Fresno/Fresno County	D	TWSC	-	**F** *	-	**F** *	TWSC	-	**F** *	-	**F** *	**Yes**
2. Fowler Avenue/Floradora Avenue	Fresno County	D	OWSC	>200	**F** *	>200	**F** *	OWSC	>200	**F** *	>200	**F** *	**Yes**
3. Fowler Avenue/Olive Avenue	Fresno County	D	AWSC	>200	**F** *	>200	**F** *	AWSC	>200	**F** *	>200	**F** *	**Yes**
4. Fowler Avenue/SR-180 Westbound Ramps	Caltrans	45 sec	Signal	9.3	A	8.9	A	Signal	12.5	B	9.4	A	No
5. Fowler Avenue/SR-180 Eastbound Ramps	Caltrans	45 sec	Signal	24.6	C	83.2	**F** *	Signal	24.6	C	97.0	**F** *	**Yes**
6. Fowler Avenue/Belmont Avenue	Fresno/Fresno County	D	Signal	47.7	D	47.8	D	Signal	47.7	D	47.8	D	No
7. Armstrong Avenue/McKinley Avenue	Fresno/Fresno County	D	TWSC	-	**F** *	>200	**F** *	TWSC	-	**F** *	>200	**F** *	**Yes**
8. Armstrong Avenue/Floradora Avenue	Fresno	D	TWSC	129.6	**F** *	32.6	D	TWSC	199.4	**F** *	43.8	**E** *	**Yes**
9. Armstrong Avenue/Olive Avenue[2]	Fresno	D	AWSC	>200	**F** *	>200	**F** *	AWSC	108.6	**F** *	>200	**F** *	**Yes**
10. Temperance Avenue/McKinley Avenue	Fresno/Fresno County	D	TWSC	-	**F** *	-	**F** *	TWSC	-	**F** *	-	**F** *	**Yes**
11. Temperance Avenue/Floradora Avenue	Fresno County	D	TWSC	99.5	**F** *	88.8	**F** *	TWSC	101.8	**F** *	92.9	**F** *	**Yes**
12. Armstrong Avenue/Project Driveway 1	Fresno	D	OWSC	*Future Intersection*		*Future Intersection*		OWSC	23.4	C	22.2	C	No
13. Project Driveway 2/McKinley Avenue	Fresno	D	OWSC	*Future Intersection*		*Future Intersection*		OWSC	9.9	A	9.1	A	No

Notes:

AWSC= All-Way Stop Control; OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; LOS = Level of Service

Delay = Average control delay in seconds (For OWSC/TWSC intersections, reported delay is for worst-case movement).

[1] Based on Synchro results, intersections where the delay is represented with a dash (-) has through volumes that block the turn movements throughout the peak hour. As such, Synchro does not report a delay at these intersections for the blocked turn movements. Therefore, the worst-case movements at these intersections operate at LOS F.

[2] Due to the road configuration at this intersection, Synchro does not report an LOS using HCM metholodiges for this intersection. Therefore, the LOS was determined using SimTraffic simulation.

* Exceeds LOS Standard

Table 7-F - Cumulative Year (2046) Roadway Segment Levels of Service

Roadway Segment	Jurisdiction	Functional Classification[1]	Roadway Capacity[2]	No Project Daily Volume	No Project LOS	Plus Project Daily Volume	Plus Project LOS
Segments on Fowler Avenue							
1 . between McKinley Avenue and Floradora Avenue	Fresno County	2-Lane Undivided Arterial	15,930	21,343	E *	21,373	E *
2 . between Floradora Avenue and Olive Avenue	Fresno County	2-Lane Undivided Arterial	15,930	21,626	E *	21,656	E *
3 . between Olive Avenue and SR-180 Westbound Ramps	Fresno County	2-Lane Undivided Arterial	15,930	25,069	E *	25,899	E *
4 . between SR-180 Eastbound Ramps and Belmont Avenue	Fresno/Fresno County	4-Lane Divided Arterial	35,820	25,780	C	26,118	C
Segments on Armstrong Avenue							
5 . between Project Driveway 1 and McKinley Avenue	Fresno	2-Lane Undivided Collector	15,930	8,598	C	9,858	C
6 . between McKinley Avenue and Floradora Avenue	Fresno/Fresno County	2-Lane Undivided Collector	15,930	8,587	C	9,877	C
7 . between Floradora Avenue and Olive Avenue	Fresno	2-Lane Divided Collector[3]	17,910	8,359	C	9,619	C
Segments on Temperance Avenue							
8 . between McKinley Avenue and Floradora Avenue	Fresno/Fresno County	2-Lane Undivided Super Arterial	15,930	15,246	D	15,400	D
Segments on McKinley Avenue							
9 . between Fowler Avenue and Armstrong Avenue	Fresno/Fresno County	2-Lane Undivided Collector	15,930	1,737	C	1,767	C
10 . between Armstrong Avenue and Project Driveway 2	Fresno/Fresno County	2-Lane Undivided Collector	15,930	2,095	C	3,325	C
11 . between Project Driveway 2 and Temperance Avenue	Fresno/Fresno County	2-Lane Undivided Collector	15,930	2,095	C	2,371	C
Segments on Floradora Avenue							
12 . between Fowler Avenue and Armstrong Avenue	Fresno/Fresno County	2-Lane Undivided Collector	14,040	3,785	C	3,815	C
Segments on Olive Avenue							
13 . between Fowler Avenue and Armstrong Avenue	Fresno/Fresno County	2-Lane Undivided Collector	15,930	8,269	C	9,283	C

Notes:

LOS = Level of Service.

[1] Classification obtained from the Figure MT-1 Major Street Circulation Diagram, City of Fresno 2014 General Plan.

[2] Roadway Capacity obtained from Table 1, Generalized Annual Average Daily Volumes for Florida's Urbanized Areas. Since the facilities ate Non-State, a 10% reduction factor was applied for the roadway capacities.

[3] This classification is not listed in Table 1, Generalized Annual Average Daily Volumes for Florida's Urbanized Areas. Roadway Capacity for this classification are interpolated from capacities of similar classifications.

* Exceeds LOS Standard

8.0 SIGNAL WARRANT ANALYSIS

As recommended during the scoping agreement process, signal warrant analysis was conducted at all unsignalized study intersections. Intersection approach volumes for the study intersections was examined to determine whether signalization is warranted per the criteria defined in the California supplement of the *Manual on Uniform Traffic Control Devices* (CA-MUTCD). As recommended by City staff, three separate signal warrant analysis was conducted for the unsignalized study intersections as follows:

1. Warrant 1: 8 hour Vehicular Volume
2. Warrant 2: 4 hour Vehicular Volume
3. Warrant 3: Peak Hour

Specifically, warrant 1 and 2 was conducted for all the unsignalized intersections under existing scenario, and an analysis with signal warrant 3 was conducted for the unsignalized intersections under all scenarios. Following is a brief summary of signal warrant analysis for each intersection:

8.1 FOWLER AVENUE/MCKINLEY AVENUE

As mentioned previously in the TIS, the McKinley extension was considered built in the existing plus project, near term and cumulative scenarios. Therefore, this intersection is anticipated to exist in the near term and cumulative scenarios only.

Figures 8-1, and 8-2 illustrate the Warrant 3 (peak hour signal warrant) for this intersection under Near-term and Cumulative Year (2046) scenario. As shown in these figures, the intersection meets the signal warrant under both scenarios.

8.2 FOWLER AVENUE/FLORADORA AVENUE

Based on the traffic volumes for this intersection, a combination of Condition A and Condition B was evaluated for this intersection. Tables 8-A and 8-B shows the Warrant 1 – Eight Hour Vehicular Volume Condition A, and Condition B, respectively for the intersection under existing scenario. As shown in these tables, the intersection does not meet the signal warrant. As such, this intersection does not meet either Condition A or Condition B.

Figure 8-3 illustrates the Warrant 2- 4 hour for the study intersection under existing scenario. As shown in Figure 8-3, the intersection does not meet the signal warrant.

Figures 8-4, 8-5, and 8-6 illustrate the Warrant 3 (peak hour signal warrant) for this intersection under existing, Near-term and Cumulative Year (2046) scenario. As shown in these figures, the intersection meets the signal warrant under Near-term and Cumulative Year (2046) conditions.

8.3 FOWLER AVENUE/OLIVE AVENUE

Table 8-C shows the Warrant 1 – Eight Hour Vehicular Volume Condition A for the intersection under existing scenario. Additionally, since the posted speed limit on Fowler Avenue (Major Street) is 45 mph, the 70% traffic volume condition was used for this analysis. As shown in Table 8-C, the

intersection meets the signal warrant. Since Condition A is already met, Condition B was not analyzed for this intersection.

Figure 8-7 illustrates the Warrant 2- 4 hour for the study intersection. As shown in Figure 8-7, the intersection meets the signal warrant.

Figures 8-8, 8-9, and 8-10 illustrate the Warrant 3 (peak hour signal warrant) for this intersection under existing, Near-term and Cumulative Year (2046) scenario. As shown in these figures, the intersection meets the signal warrant under all scenarios.

8.4 ARMSTRONG AVENUE/MCKINLEY AVENUE

As mentioned previously in the TIS, the McKinley extension was considered built in the existing plus project, near term and cumulative scenarios. Therefore, this intersection is anticipated to exist in the existing plus project, near term and cumulative scenarios.

Figures 8-11, 8-12, and 8-13 illustrate the Warrant 3 (peak hour signal warrant) for this intersection under existing plus project, Near-term and Cumulative Year (2046) scenario. As shown in these figures, the intersection meets the signal warrant under Near-term and Cumulative Year (2046) conditions.

8.5 ARMSTRONG AVENUE/FLORADORA AVENUE

Based on the traffic volumes for this intersection, a combination of Condition A and Condition B was evaluated for this intersection. Tables 8-D and 8-E shows the Warrant 1 – Eight Hour Vehicular Volume Condition A, and Condition B, respectively for the intersection under existing scenario. As shown in these tables, the intersection does not meet the signal warrant. As such, this intersection does not meet either Condition A or Condition B.

Figure 8-14 illustrates the Warrant 2- 4 hour for the study intersection. As shown in Figure 8-14, the intersection does meet the signal warrant.

Figures 8-15, 8-16, and 8-17 illustrate the Warrant 3 (peak hour signal warrant) for this intersection under existing, Near-term and Cumulative Year (2046) scenario. As shown in these figures, the intersection meets the signal warrant under Near-term and Cumulative Year (2046) conditions.

8.6 ARMSTRONG AVENUE/OLIVE AVENUE

Figures 8-18, 8-19, and 8-20 illustrate the Warrant 3 (peak hour signal warrant) for this intersection under existing, Near-term and Cumulative Year (2046) scenario. As shown in these figures, the intersection meets the signal warrant under all scenarios.

8.7 TEMPERANCE AVENUE/MCKINLEY AVENUE

Based on the traffic volumes for this intersection, a combination of Condition A and Condition B was evaluated for this intersection. Tables 8-F and 8-G shows the Warrant 1 – Eight Hour Vehicular Volume Condition A, and Condition B, respectively for the intersection under existing scenario. As shown in these tables, the intersection does not meet Condition A. However, this intersection does meet Condition B and satisfies the criteria for Warrant 1.

Figure 8-21 illustrates the Warrant 2- 4 hour for the study intersection. As shown in Figure 8-21, the intersection meets the signal warrant.

Figures 8-22, 8-23, and 8-24 illustrate the Warrant 3 (peak hour signal warrant) for this intersection under existing, Near-term and Cumulative Year (2046) scenario. As shown in these figures, the intersection meets the signal warrant under all scenarios.

8.8 TEMPERANCE AVENUE/FLORADORA AVENUE

Based on the traffic volumes for this intersection, a combination of Condition A and Condition B was evaluated for this intersection. Tables 8-H and 8-I shows the Warrant 1 – Eight Hour Vehicular Volume Condition A, and Condition B, respectively for the intersection under existing scenario. As shown in these tables, the intersection does not meet the signal warrant. As such, this intersection does not meet either Condition A or Condition B.

Figure 8-25 illustrates the Warrant 2- 4 hour for the study intersection. As shown in Figure 8-25, the intersection does not meet the signal warrant.

Figures 8-26, 8-27, and 8-28 illustrate the Warrant 3 (peak hour signal warrant) for this intersection under existing, Near-term and Cumulative Year (2046) scenario. As shown in these figures, the intersection does not meet the signal warrant under all scenarios.

8.9 LIST OF CHAPTER 8.0 FIGURES AND TABLES

- Figure 8-15: Warrant 3: Peak Hour - Armstrong Avenue/Floradora Avenue - Existing Conditions
- Figure 8-16: Warrant 3: Peak Hour - Armstrong Avenue/Floradora Avenue - Near Term Conditions
- Figure 8-17: Warrant 3: Peak Hour - Armstrong Avenue/Floradora Avenue - Cumulative Year (2046) Conditions
- Figure 8-18: Warrant 3: Peak Hour - Armstrong Avenue/Olive Avenue - Existing Conditions
- Figure 8-19: Warrant 3: Peak Hour - Armstrong Avenue/Olive Avenue - Near Term Conditions
- Figure 8-20: Warrant 3: Peak Hour - Armstrong Avenue/Olive Avenue - Cumulative Year (2046) Conditions
- Figure 8-21: Warrant 2: 4 Hour -Temperance Avenue/McKinley Avenue - Existing Conditions
- Figure 8-22: Warrant 3: Peak Hour - Temperance Avenue/McKinley Avenue - Existing Conditions
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- Figure 8-26: Warrant 3: Peak Hour - Armstrong Avenue/Floradora Avenue - Existing Conditions
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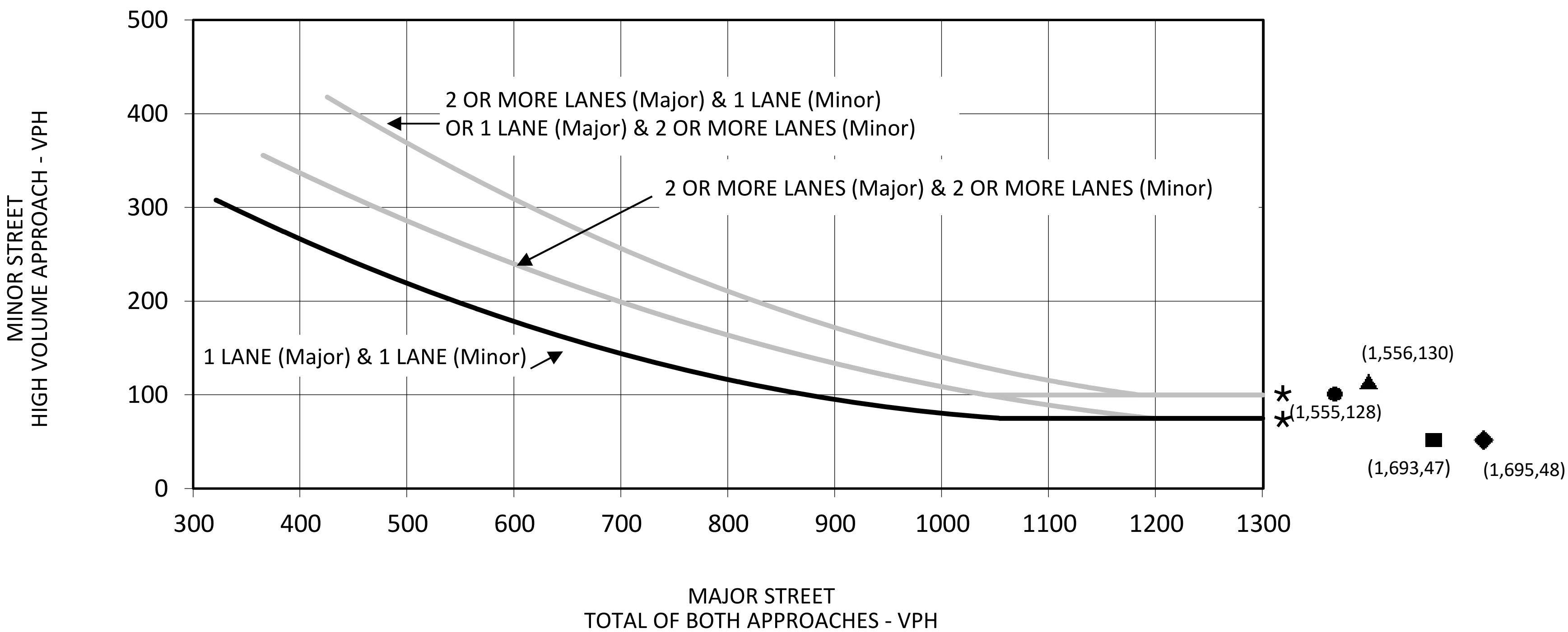
- Figure 8-28: Warrant 3: Peak Hour - Temperance Avenue/Floradora Avenue - Cumulative Year (2046) Conditions
- Table 8-A: Eight-Hour Warrant Analysis - Condition A (70%) - Fowler Avenue/Floradora Avenue
- Table 8-B: Eight-Hour Warrant Analysis - Condition B (80%) - Fowler Avenue/Floradora Avenue
- Table 8-C: Eight-Hour Warrant Analysis - Condition A (70%) - Fowler Avenue/Olive Avenue
- Table 8-D: Eight-Hour Warrant Analysis - Condition A (70%) - Armstrong Avenue/Floradora Avenue
- Table 8-E: Eight-Hour Warrant Analysis - Condition B (80%) - Armstrong Avenue/Floradora Avenue
- Table 8-F: Eight-Hour Warrant Analysis - Condition A (70%) - Temperance Avenue/McKinley Avenue
- Table 8-G: Eight-Hour Warrant Analysis - Condition B (80%) - Temperance Avenue/McKinley Avenue
- Table 8-H: Eight-Hour Warrant Analysis - Condition A (70%) - Temperance Avenue/Floradora Avenue
- Table 8-I: Eight-Hour Warrant Analysis - Condition B (80%) - Temperance Avenue/Floradora Avenue

WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

FIGURE 8-1

LSA

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Tract Map 6360 Project
Traffic Impact Study

Warrant 3: Peak Hour - Fowler Avenue/McKinley Avenue - Near Term Conditions

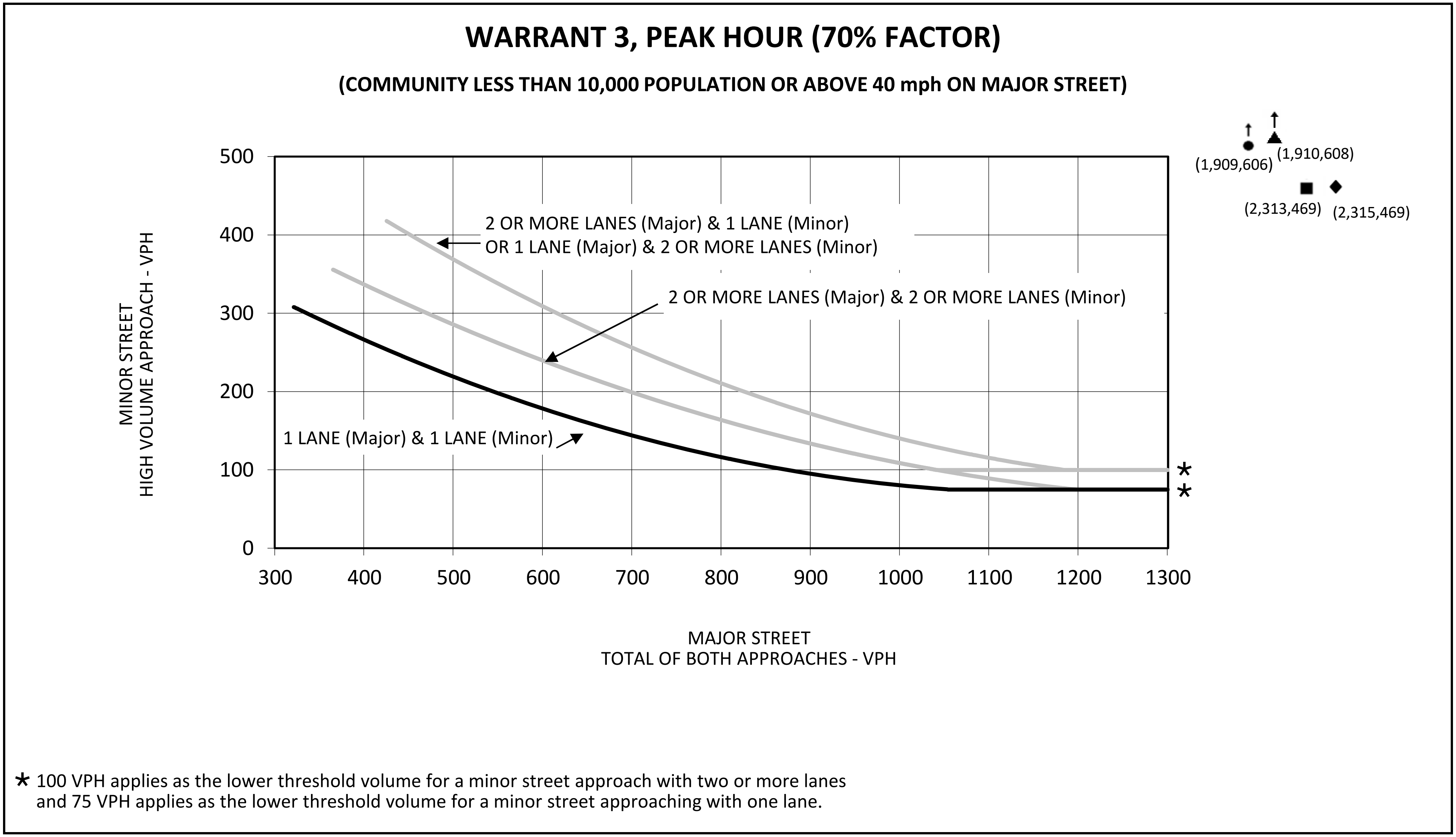


FIGURE 8-2

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

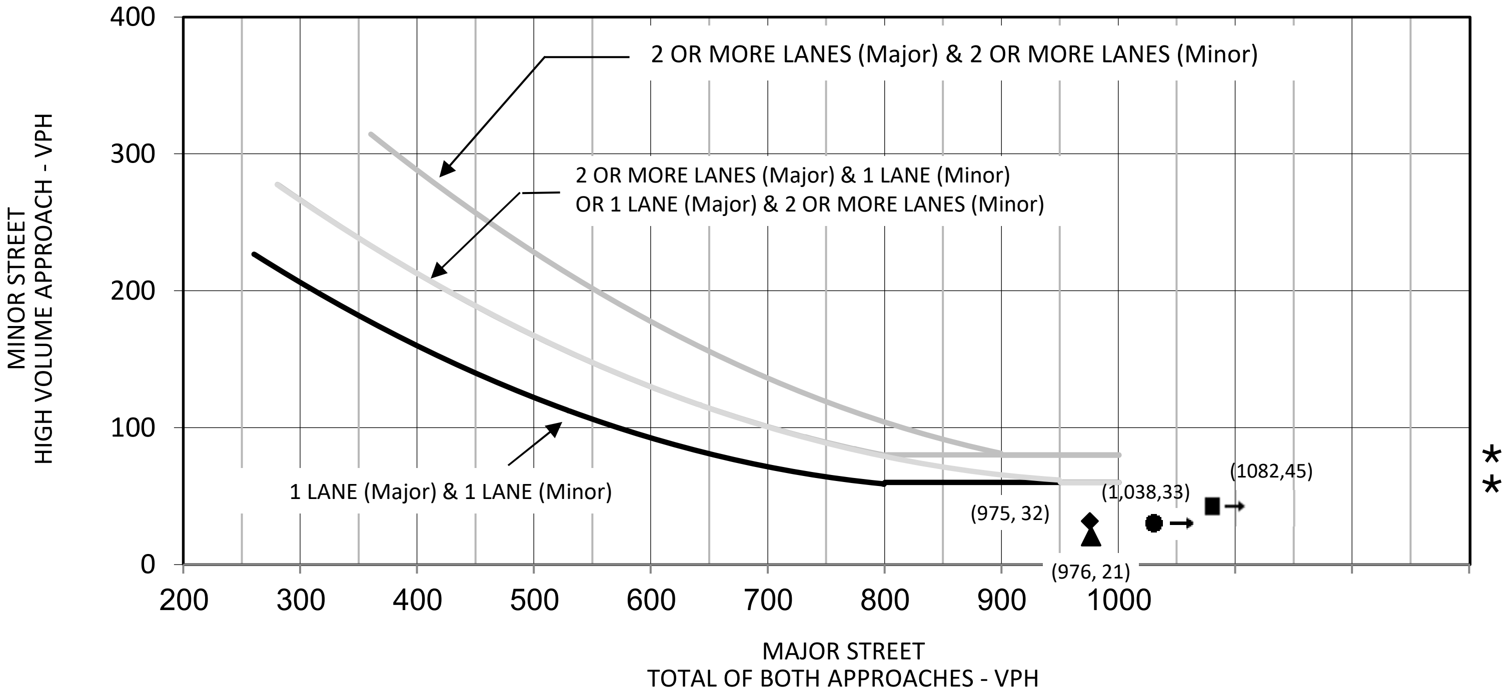
Tract Map 6360 Project

Traffic Impact Study

Warrant 3: Peak Hour - Fowler Avenue/McKinley Avenue - Cumulative Year (2046) Conditions

WARRANT 2, FOUR-HOUR VEHICULAR VOLUME (70% fACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 80 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 60 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-3

● Highest Hour Volumes (17:00-18:00)	▲ Third Highest Hourly Volumes (16:00-17:00)
■ Second Highest Hourly Volumes (18:00-19:00)	◆ Fourth Highest Hourly Volumes (15:00-16:00)

Tract Map 6360 Project
Traffic Impact Study

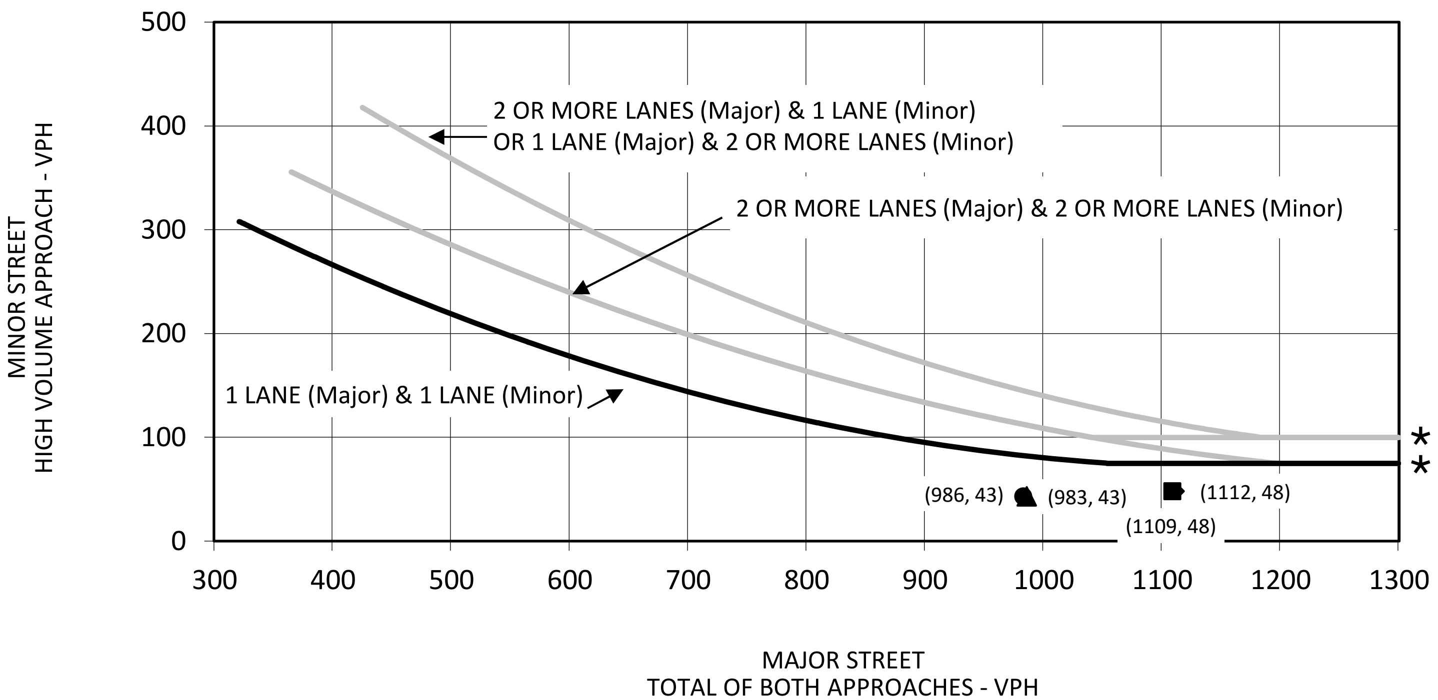
SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-2

Warrant 2: 4 Hour - Fowler Avenue/Floradora Avenue - Existing Conditions

P:\HAA2103-TM 6360\PRODUCTS\Traffic\Warrants\Warrant 2\Warrant 2-Four Hour_Exist_Int 2.xlsx (3/23/2023)

WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-4

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

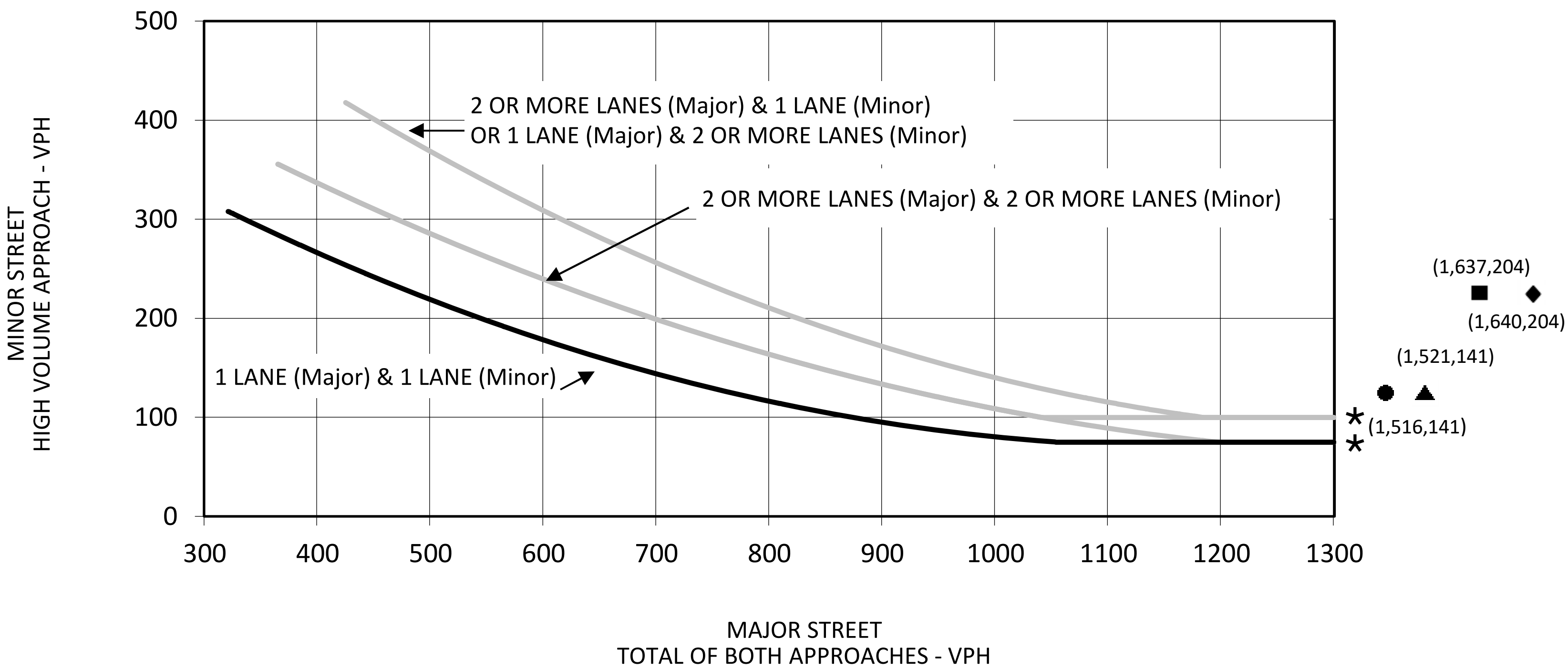
SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Tract Map 6360 Project
Traffic Impact Study

Warrant 3: Peak Hour - Fowler Avenue/Floradora Avenue - Existing Conditions

WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-5

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

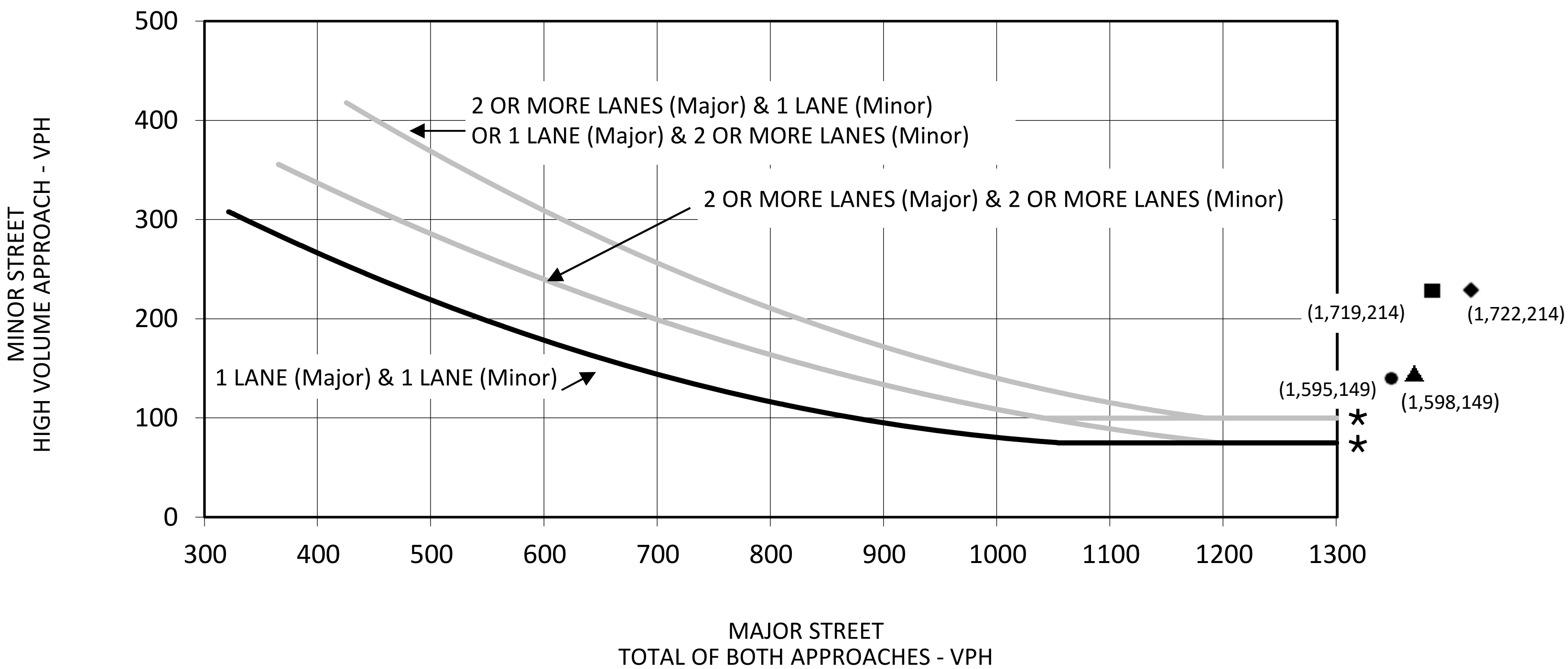
Tract Map 6360 Project

Traffic Impact Study

Warrant 3: Peak Hour - Fowler Avenue/Floradora Avenue - Near Term Conditions

WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-6

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

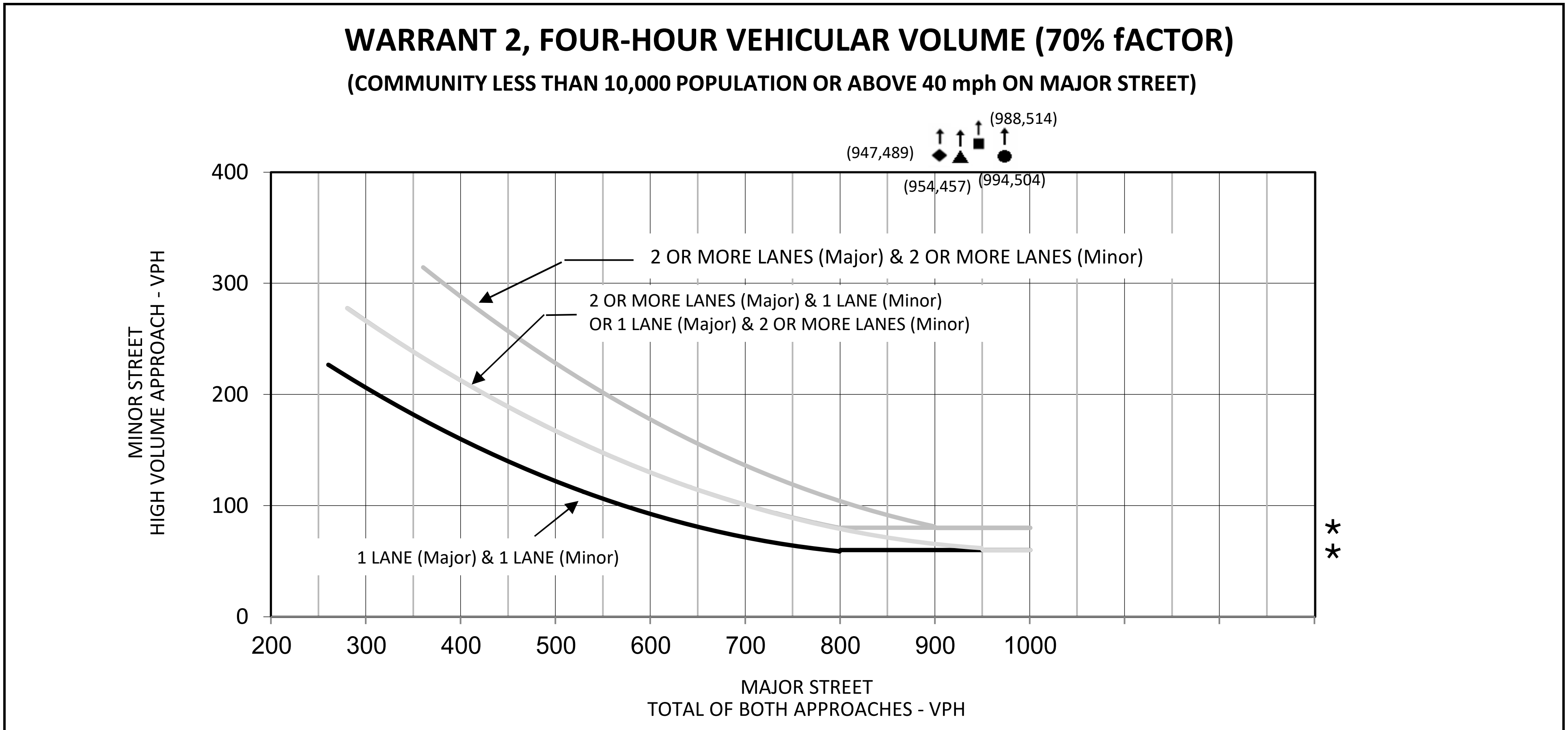
■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Tract Map 6360 Project

Traffic Impact Study

Warrant 3: Peak Hour - Fowler Avenue/Floradora Avenue - Cumulative Year (2046) Conditions



* 80 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 60 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-7

- ● Highest Hour Volumes (15:00-16:00)
- ■ Second Highest Hourly Volumes (14:00-15:00)
- ▲ Third Highest Hourly Volumes (13:00-14:00)
- ◆ Fourth Highest Hourly Volumes (18:00-19:00)

Tract Map 6360 Project
Traffic Impact Study

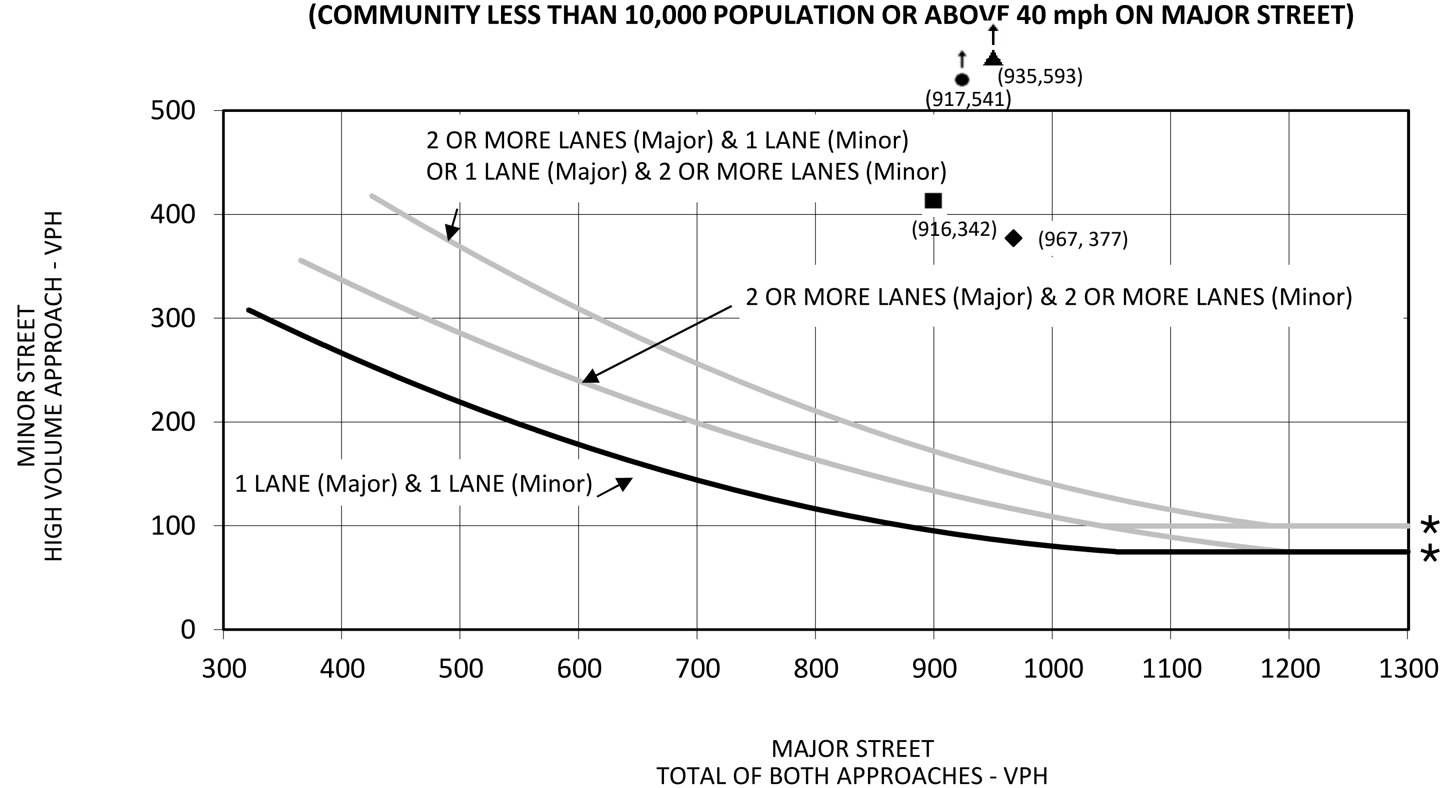
SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-2

Warrant 2: 4 Hour - Fowler Avenue/Olive Avenue - Existing Conditions

P:\HAA2103-TM 6360\PRODUCTS\Traffic\Warrants\Warrant 2\Warrant 2-Four Hour_Exist_Int 3.xlsx (3/23/2023)

WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-8

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

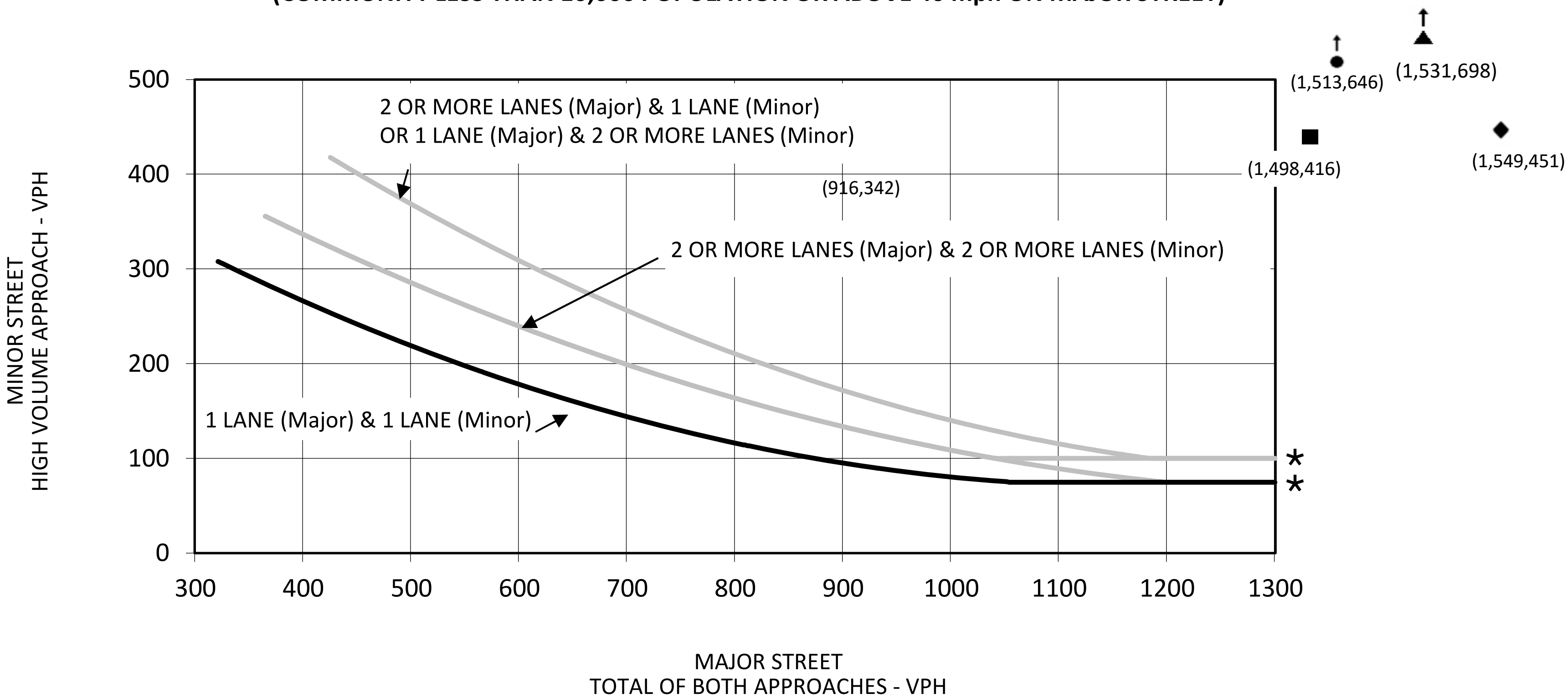
Tract Map 6360 Project
Traffic Impact Study

Warrant 3: Peak Hour - Fowler Avenue/Olive Avenue - Existing Conditions

P:\HAA2103-TM 6360\PRODUCTS\Traffic\Warrants\Warrant 3\Existing\2022_Int03.xlsx (3/23/2023)

WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

FIGURE 8-9

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

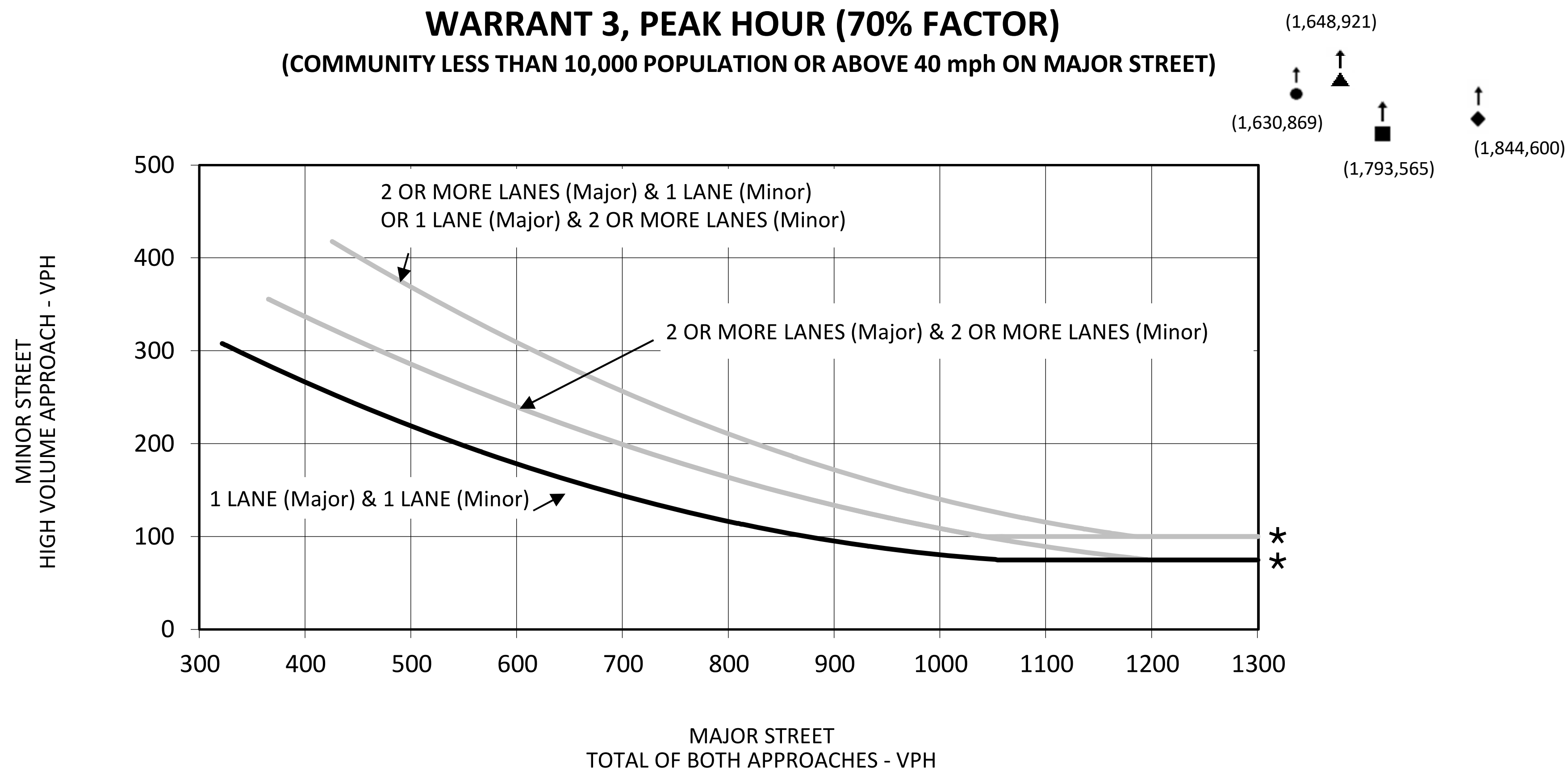
SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Tract Map 6360 Project

Traffic Impact Study

Warrant 3: Peak Hour - Fowler Avenue/Olive Avenue - Near Term Conditions

P:\HAA2103-TM 6360\PRODUCTS\Traffic\Warrants\Warrant 3\Near Term\2026_Int03.xlsx (3/23/2023)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-10

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Tract Map 6360 Project

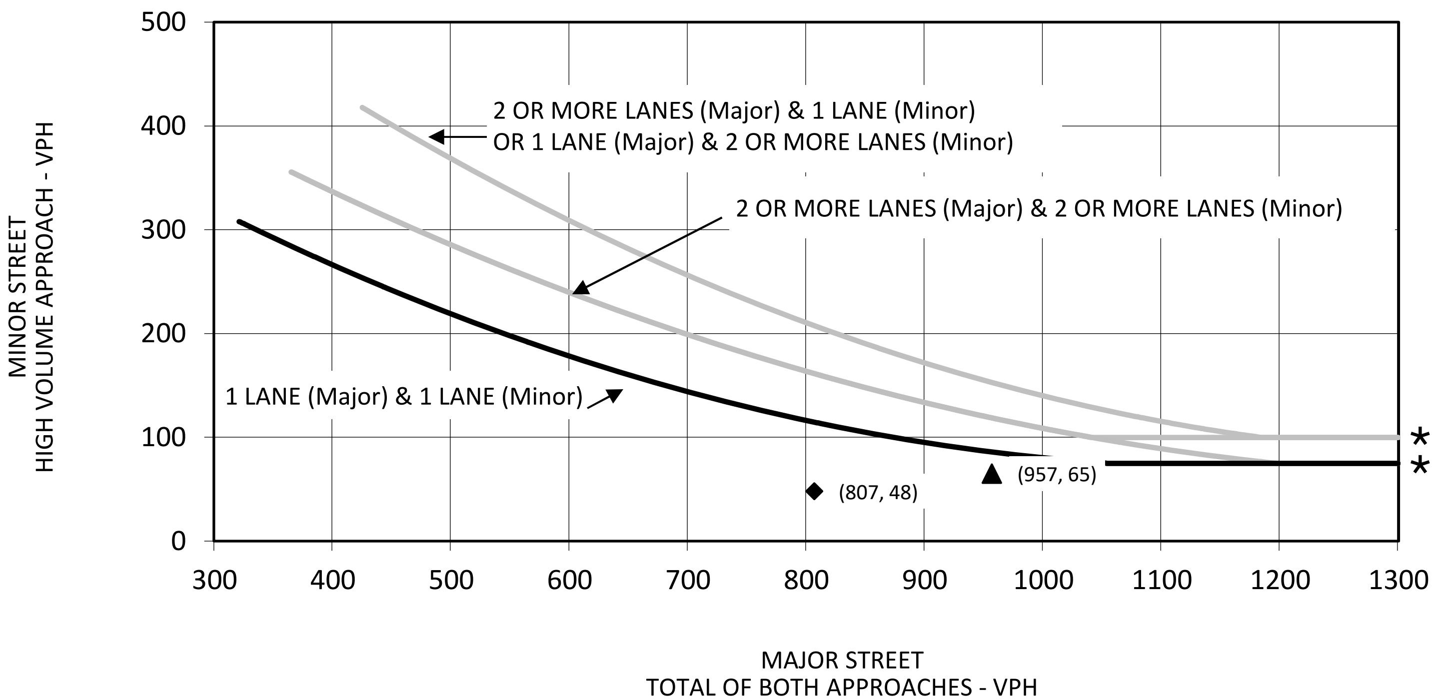
Traffic Impact Study

Warrant 3: Peak Hour - Fowler Avenue/Olive Avenue - Cumulative Year (2046) Conditions

P:\HAA2103-TM 6360\PRODUCTS\Traffic\Warrants\Warrant 3\Cumulative\2046_Int03.xlsx (3/23/2023)

WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-11

▲ Plus Project AM Peak Hour

◆ Plus Project PM Peak Hour

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

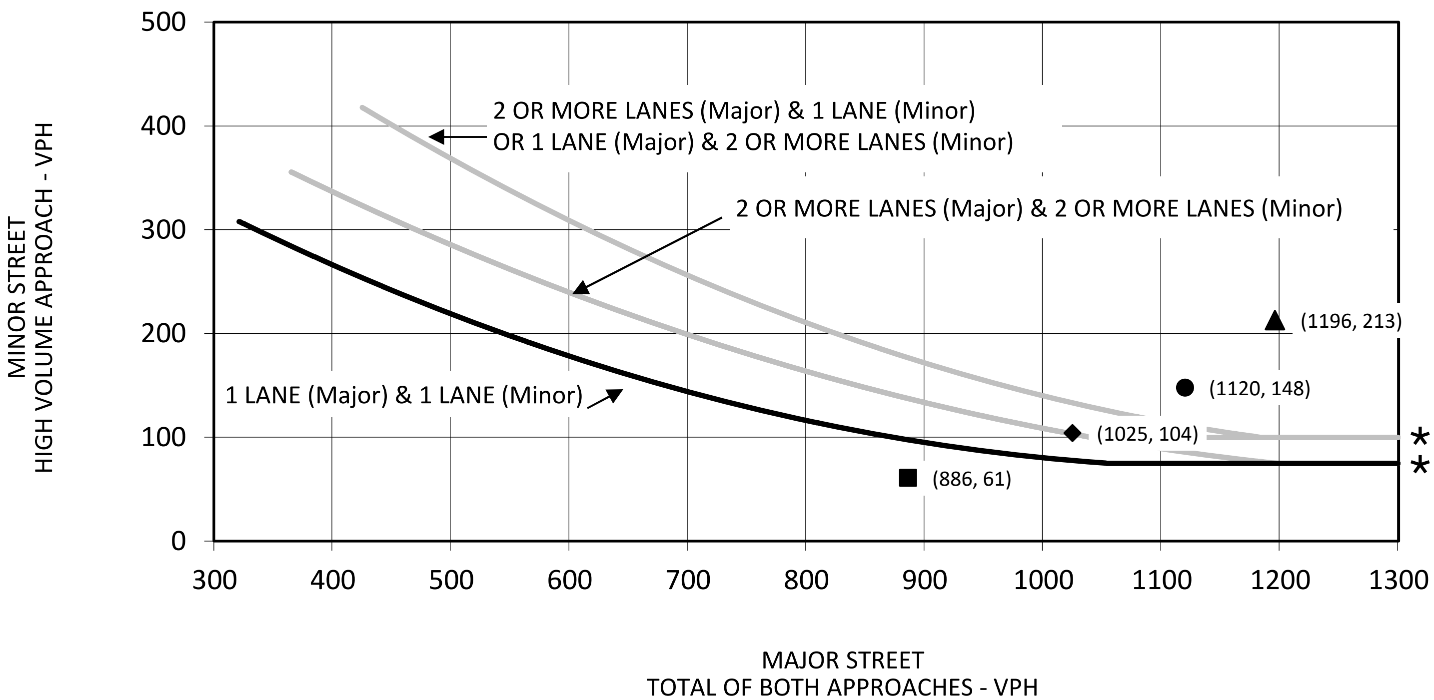
Tract Map 6360 Project
Traffic Impact Study

Warrant 3: Peak Hour - Armstrong Avenue/McKinley Avenue - Existing Conditions

P:\HAA2103-TM 6360\PRODUCTS\Traffic\Warrants\Warrant 3\Existing\2022_Int07.xlsx (3/23/2023)

WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-12

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

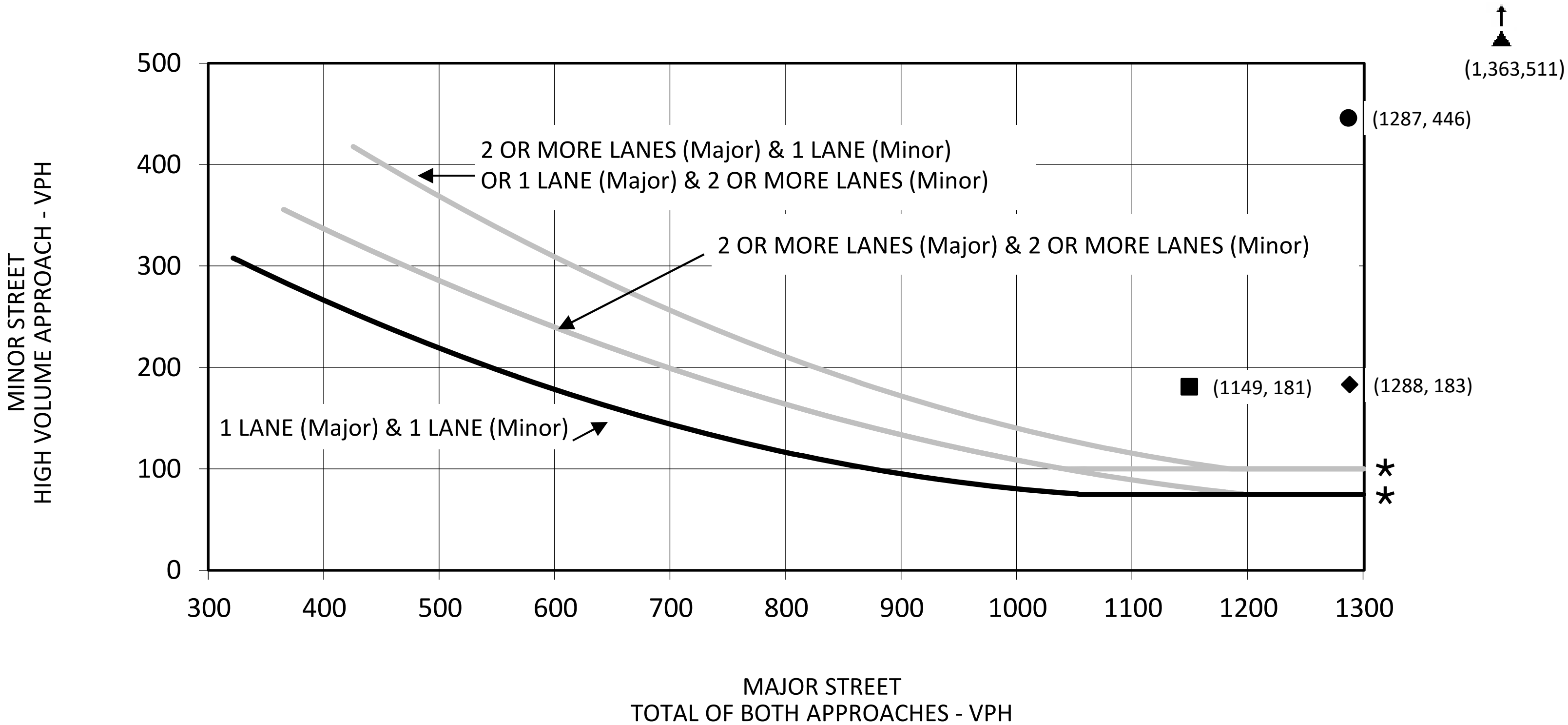
SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Tract Map 6360 Project
Traffic Impact Study

Warrant 3: Peak Hour - Armstrong Avenue/McKinley Avenue - Near Term Conditions

WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-13

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Tract Map 6360 Project

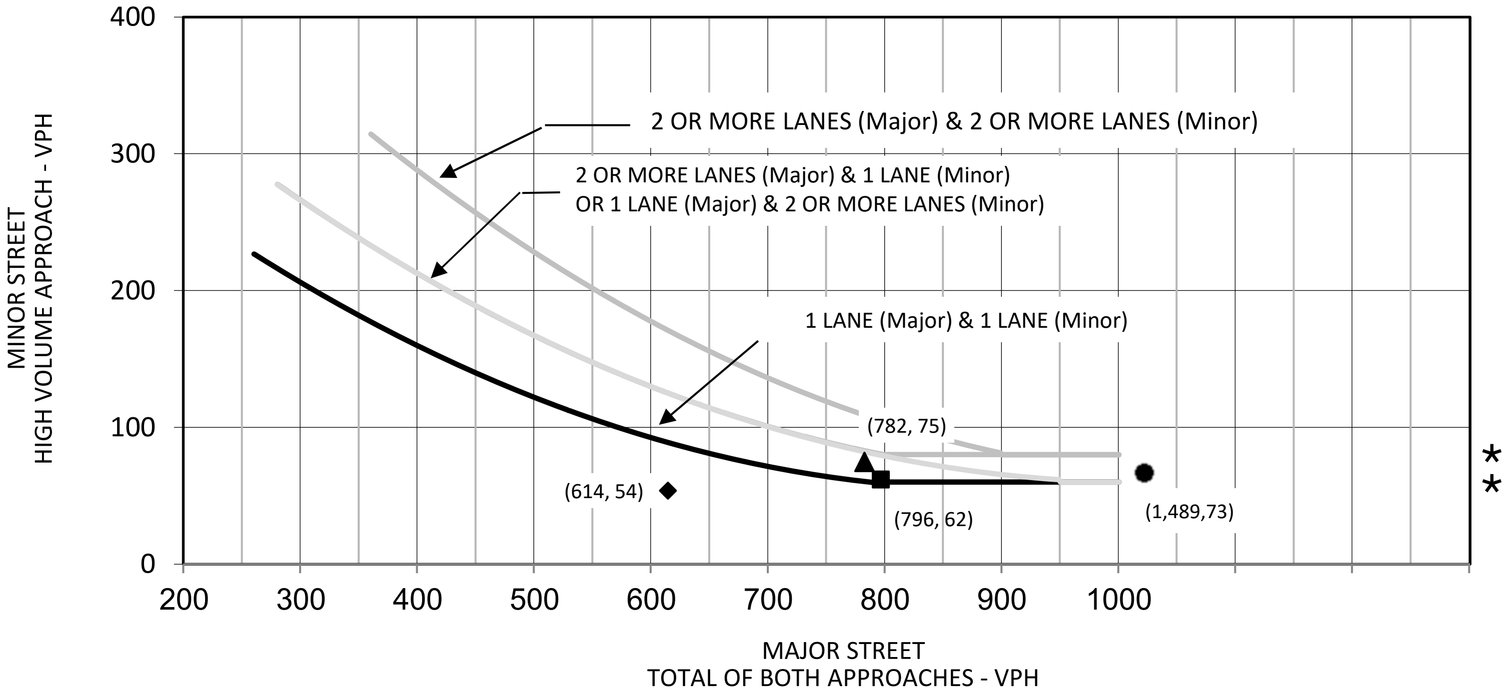
Traffic Impact Study

Warrant 3: Peak Hour - Armstrong Avenue/McKinley Avenue - Cumulative Year (2046) Conditions

P:\HAA2103-TM 6360\PRODUCTS\Traffic\Warrants\Warrant 3\Cumulative\2046_Int07.xlsx (3/23/2023)

WARRANT 2, FOUR-HOUR VEHICULAR VOLUME (70% fACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 80 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 60 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-14

● Highest Hour Volumes (9:00-10:00)

■ Second Highest Hourly Volumes (18:00-19:00)

▲ Third Highest Hourly Volumes (17:00-18:00)

◆ Fourth Highest Hourly Volumes (19:00-20:00)

Tract Map 6360 Project
Traffic Impact Study

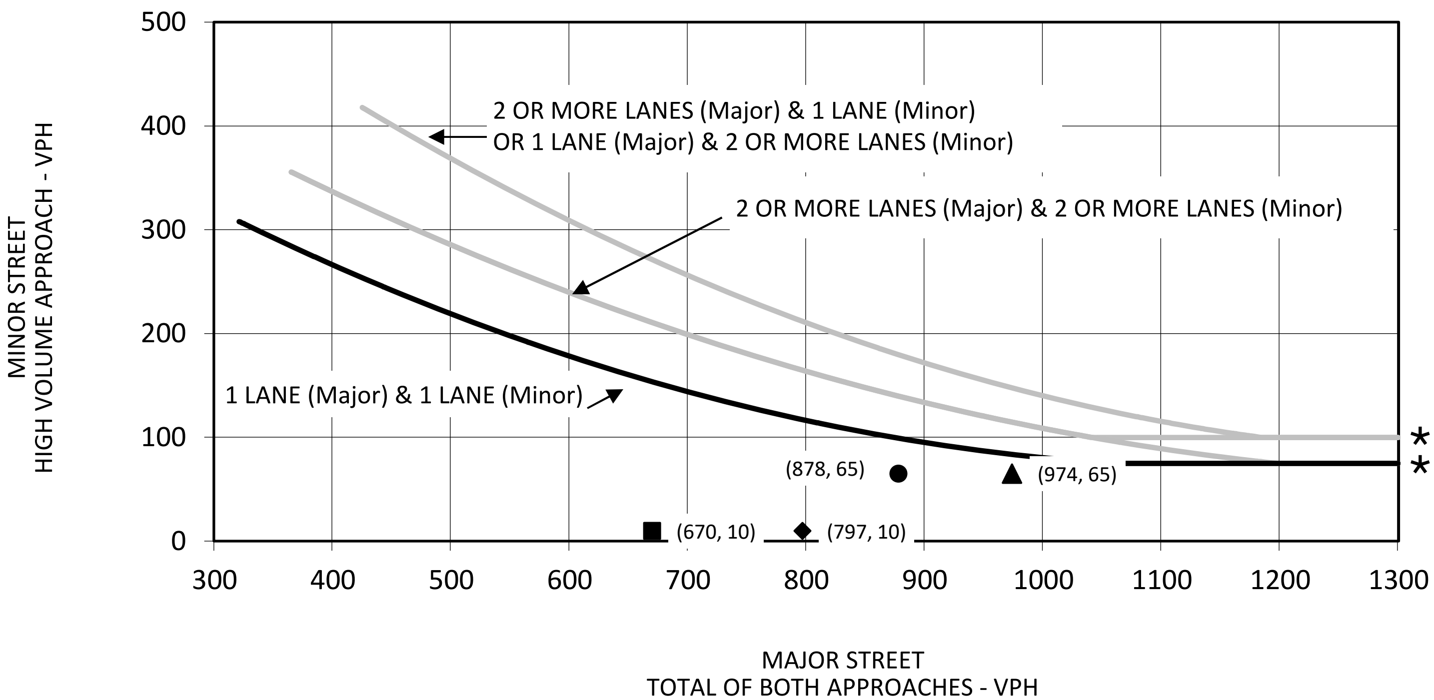
SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-2

Warrant 2: 4 Hour - Armstrong Avenue/Floradora Avenue - Existing Conditions

P:\HAA2103-TM 6360\PRODUCTS\Traffic\Warrants\Warrant 2\Warrant 2-Four Hour_Exist_Int 8.xlsx (3/23/2023)

WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-15

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

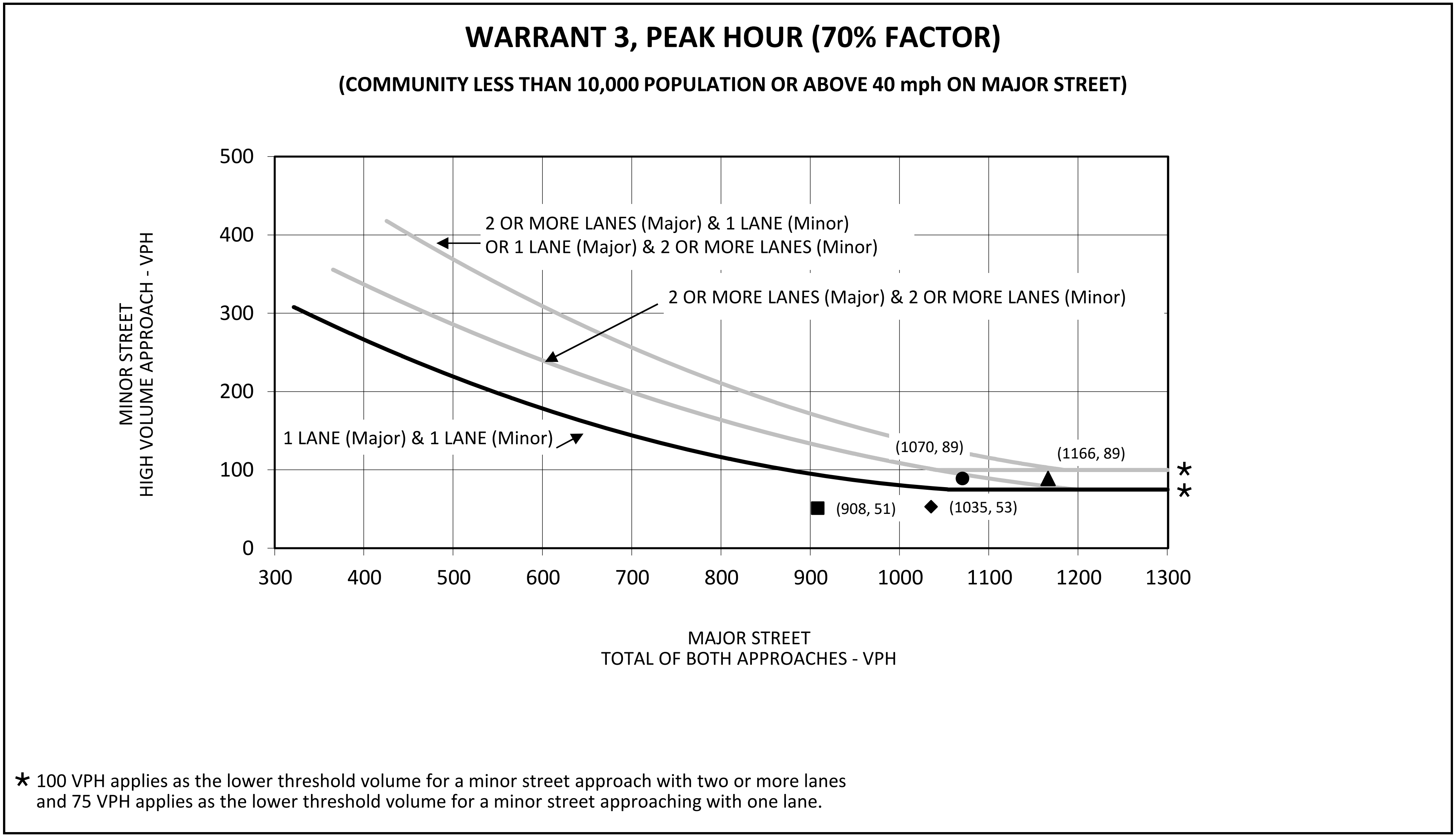
SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Tract Map 6360 Project

Traffic Impact Study

Warrant 3: Peak Hour - Armstrong Avenue/Floradora Avenue - Existing Conditions

P:\HAA2103-TM 6360\PRODUCTS\Traffic\Warrants\Warrant 3\Existing\2022_Int08.xlsx (3/23/2023)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

FIGURE 8-16

LSA

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

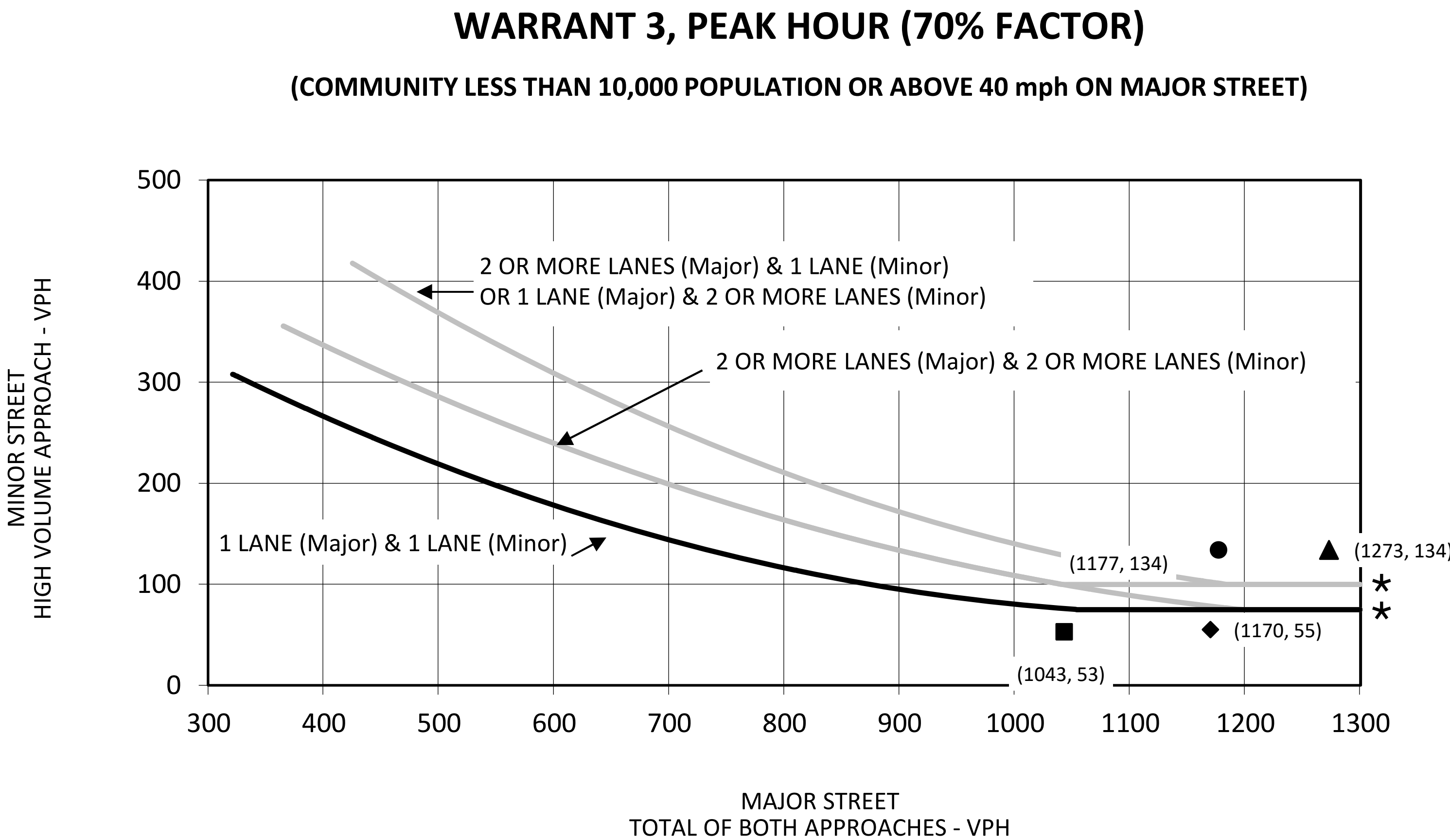
■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Tract Map 6360 Project

Traffic Impact Study

Warrant 3: Peak Hour - Armstrong Avenue/Floradora Avenue - Near Term Conditions



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

FIGURE 8-17

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

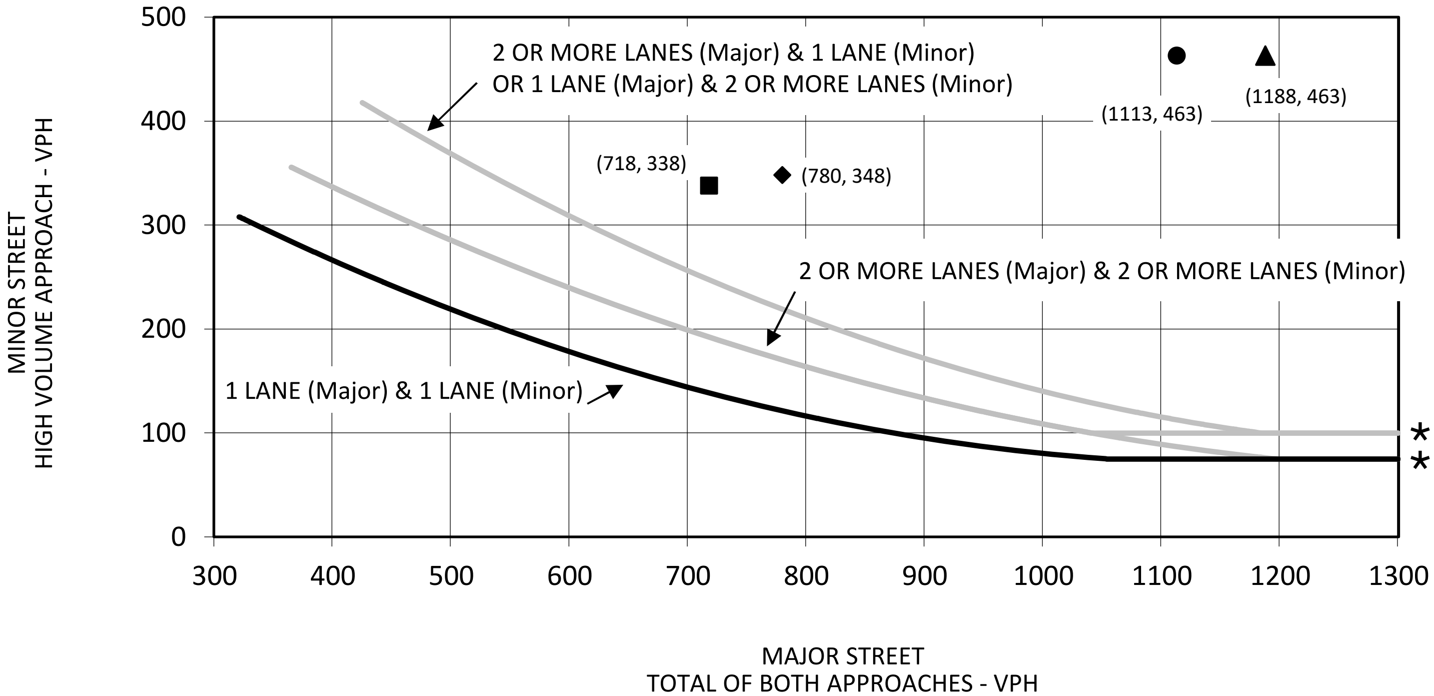
Tract Map 6360 Project

Traffic Impact Study

Warrant 3: Peak Hour - Armstrong Avenue/Floradora Avenue - Cumulative Year (2046) Conditions

WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-18

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

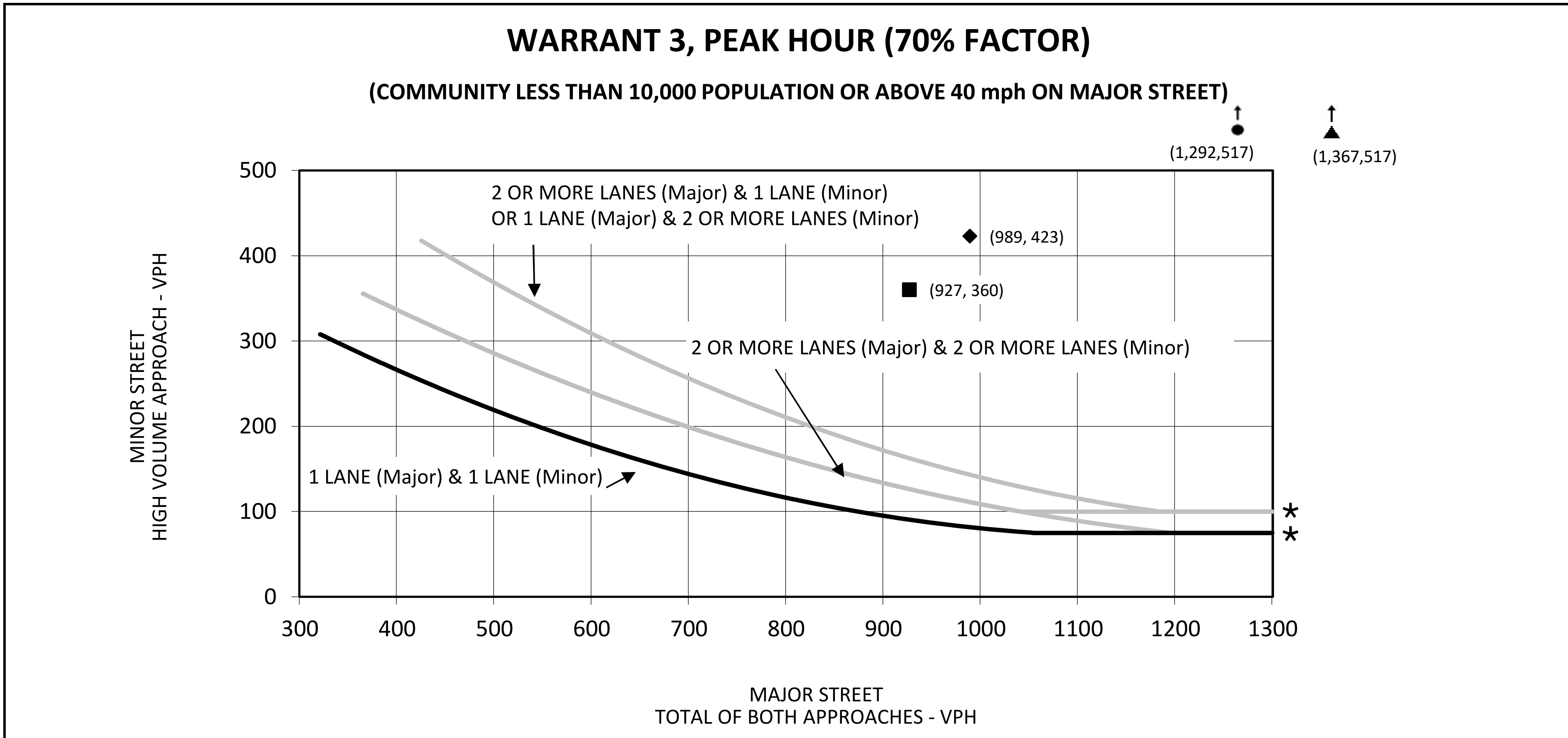
SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Tract Map 6360 Project

Traffic Impact Study

Warrant 3: Peak Hour - Armstrong Avenue/Olive Avenue - Existing Conditions

P:\HAA2103-TM 6360\PRODUCTS\Traffic\Warrants\Warrant 3\Existing\2022_Int09.xlsx (3/23/2023)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-19

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

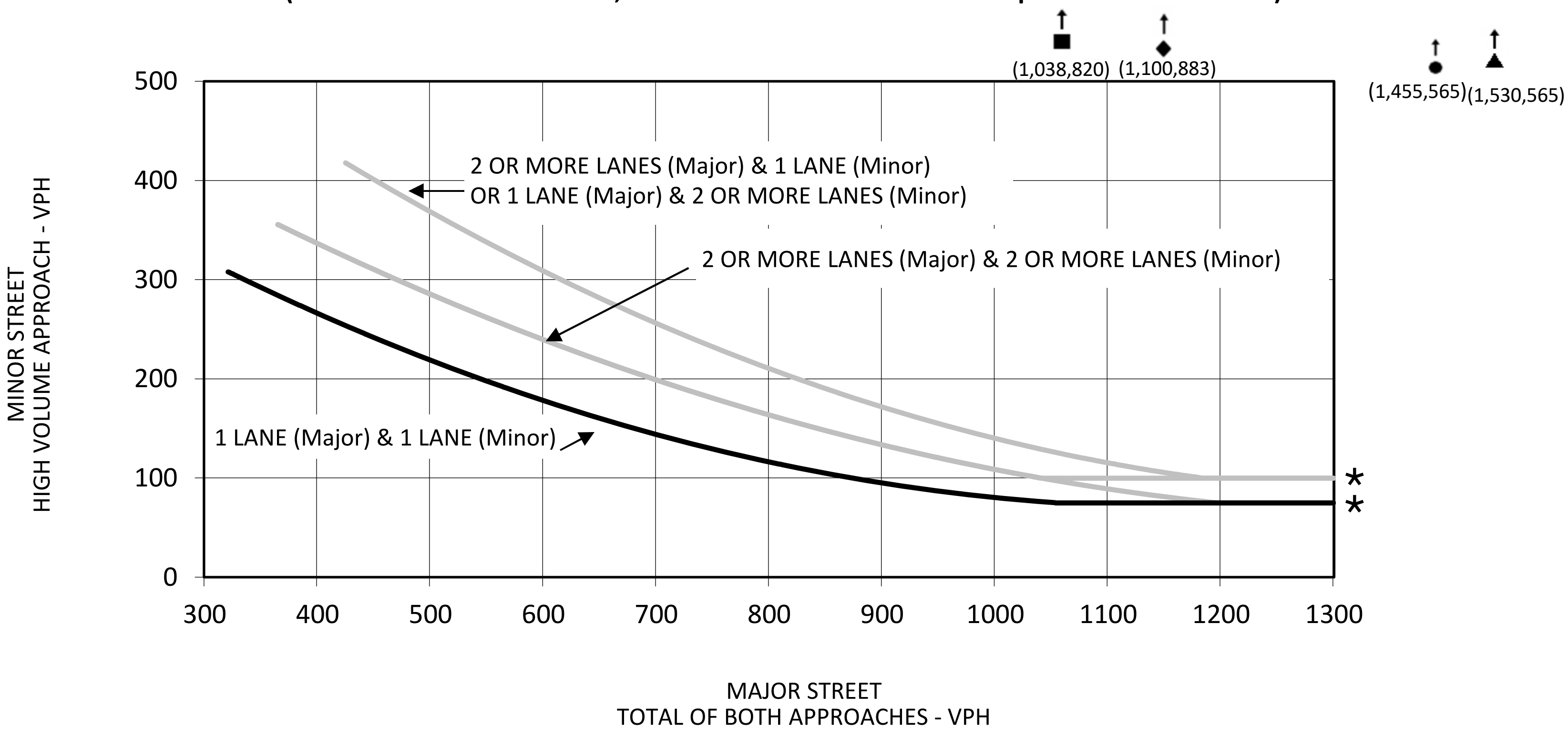
Tract Map 6360 Project

Traffic Impact Study

Warrant 3: Peak Hour - Armstrong Avenue/Olive Avenue - Near Term Conditions

WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-20

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Tract Map 6360 Project

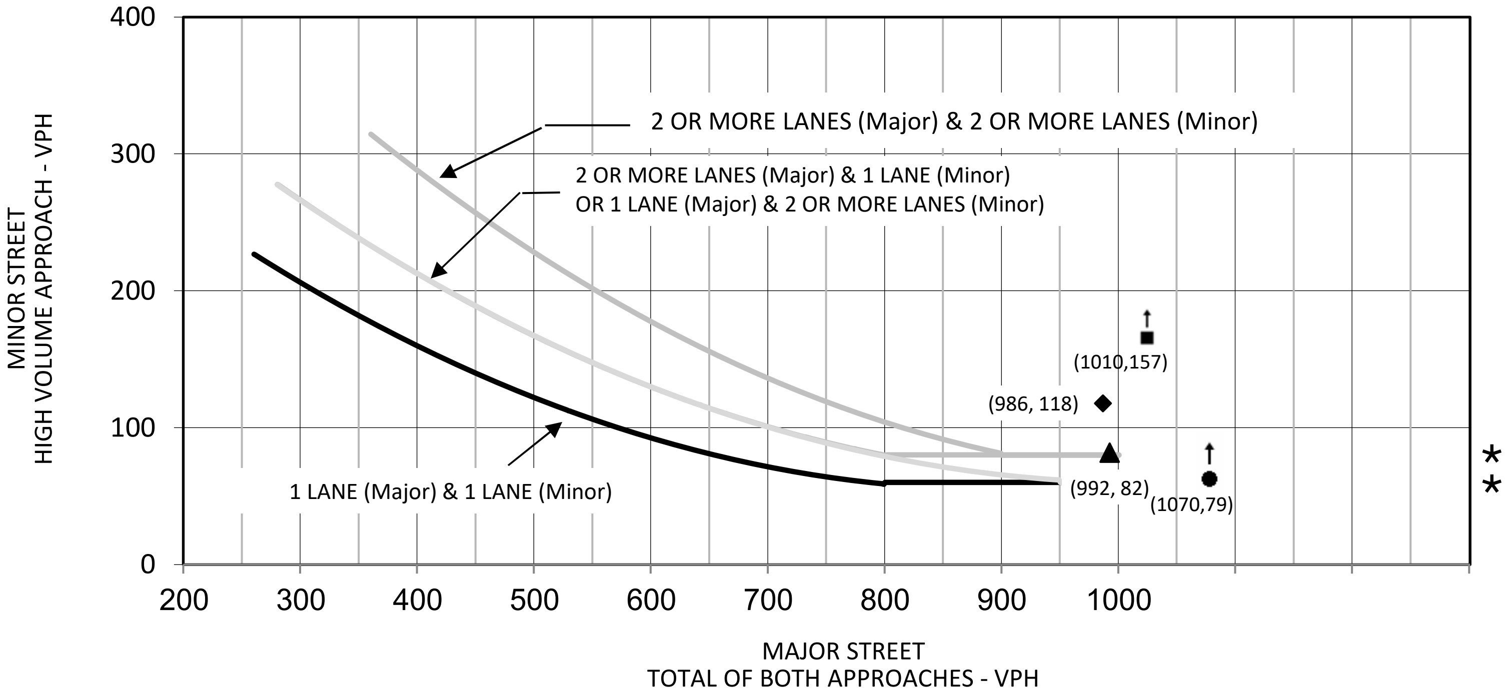
Traffic Impact Study

Warrant 3: Peak Hour - Armstrong Avenue/Olive Avenue - Cumulative Year (2046) Conditions

P:\HAA2103-TM 6360\PRODUCTS\Traffic\Warrants\Warrant 3\Cumulative\2046_Int09.xlsx (3/23/2023)

WARRANT 2, FOUR-HOUR VEHICULAR VOLUME (70% fACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 80 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 60 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-21

● Highest Hour Volumes (18:00-19:00)

■ Second Highest Hourly Volumes (9:00-10:00)

▲ Third Highest Hourly Volumes (19:00-20:00)

◆ Fourth Highest Hourly Volumes (17:00-18:00)

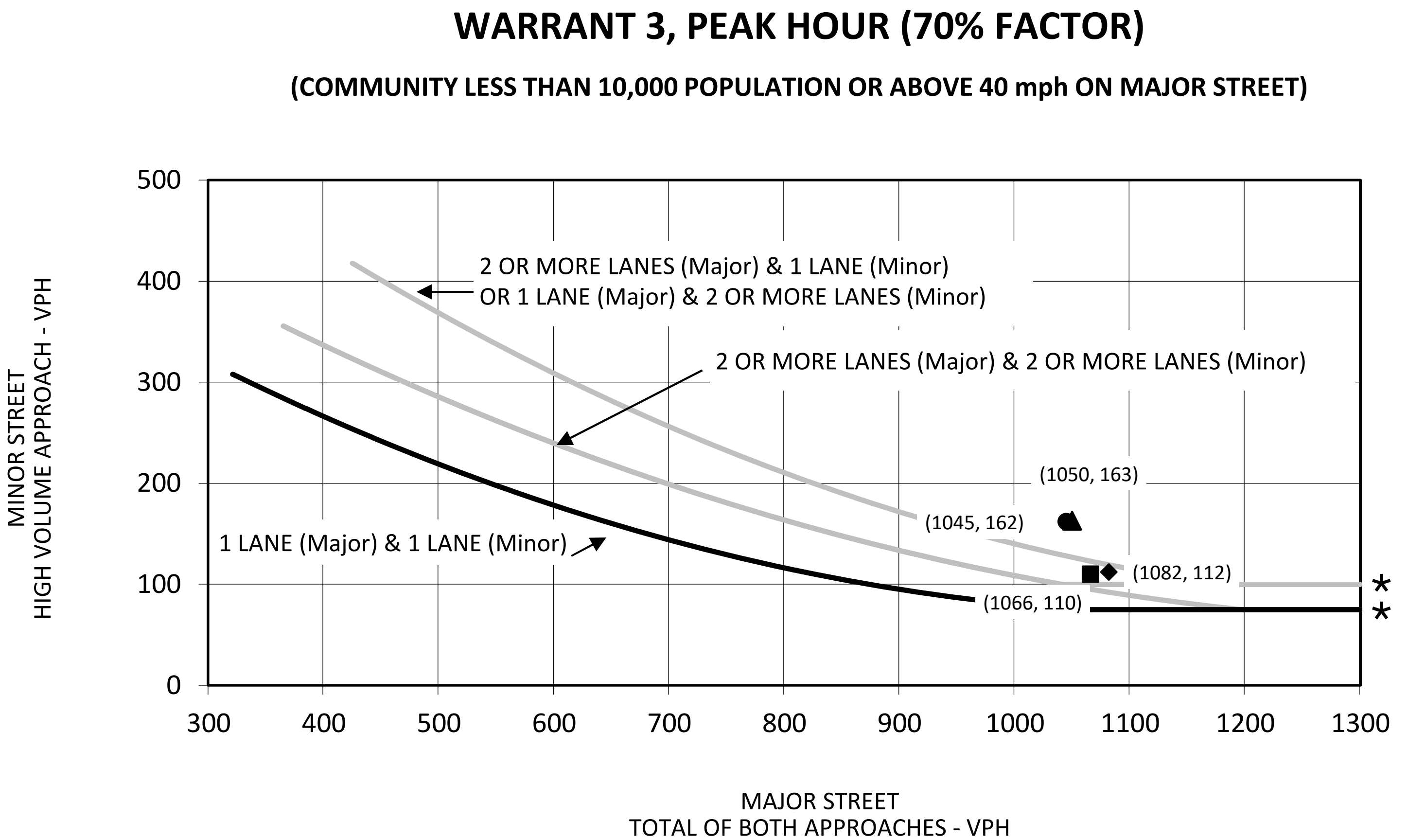
Tract Map 6360 Project

Traffic Impact Study

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-2

Warrant 2: 4 Hour -Temperance Avenue/McKinley Avenue - Existing Conditions

P:\HAA2103-TM 6360\PRODUCTS\Traffic\Warrants\Warrant 2\Warrant 2-Four Hour_Exist_Int 10.xlsx (3/23/2023)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-22

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

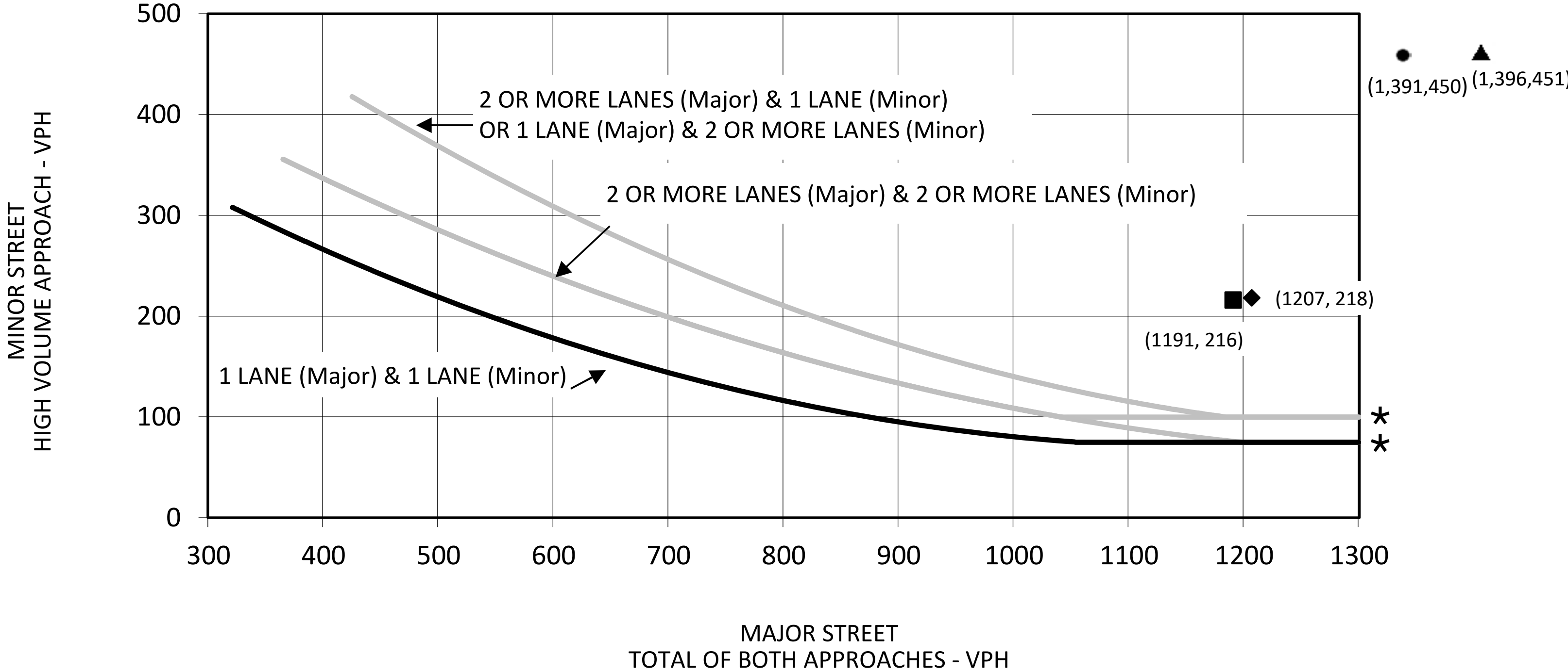
SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Tract Map 6360 Project
Traffic Impact Study

Warrant 3: Peak Hour - Temperance Avenue/McKinley Avenue - Existing Conditions

WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-23

- ● Without Project AM Peak Hour
- ▲ Plus Project AM Peak Hour
- ■ Without Project PM Peak Hour
- ◆ Plus Project PM Peak Hour

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

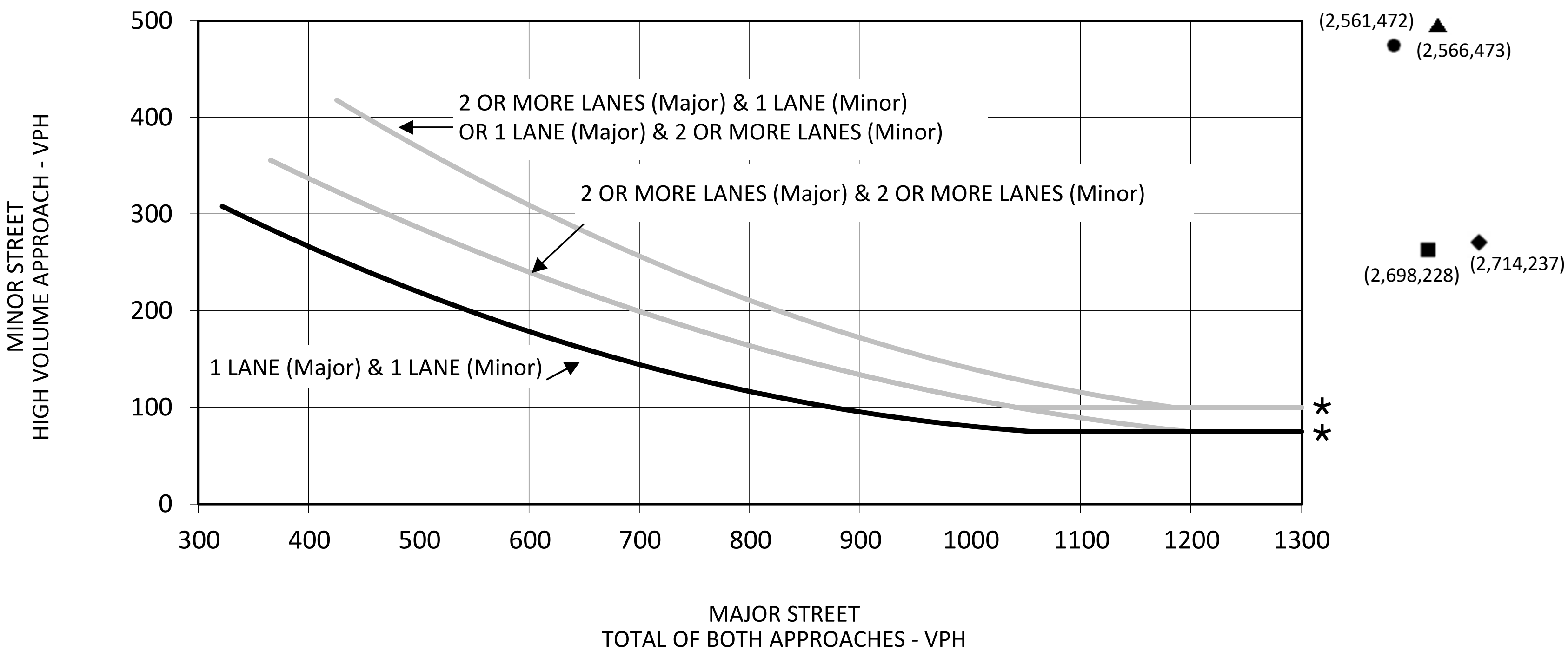
Tract Map 6360 Project

Traffic Impact Study

Warrant 3: Peak Hour - Temperance Avenue/McKinley Avenue - Near Term Conditions

WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-24

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Tract Map 6360 Project

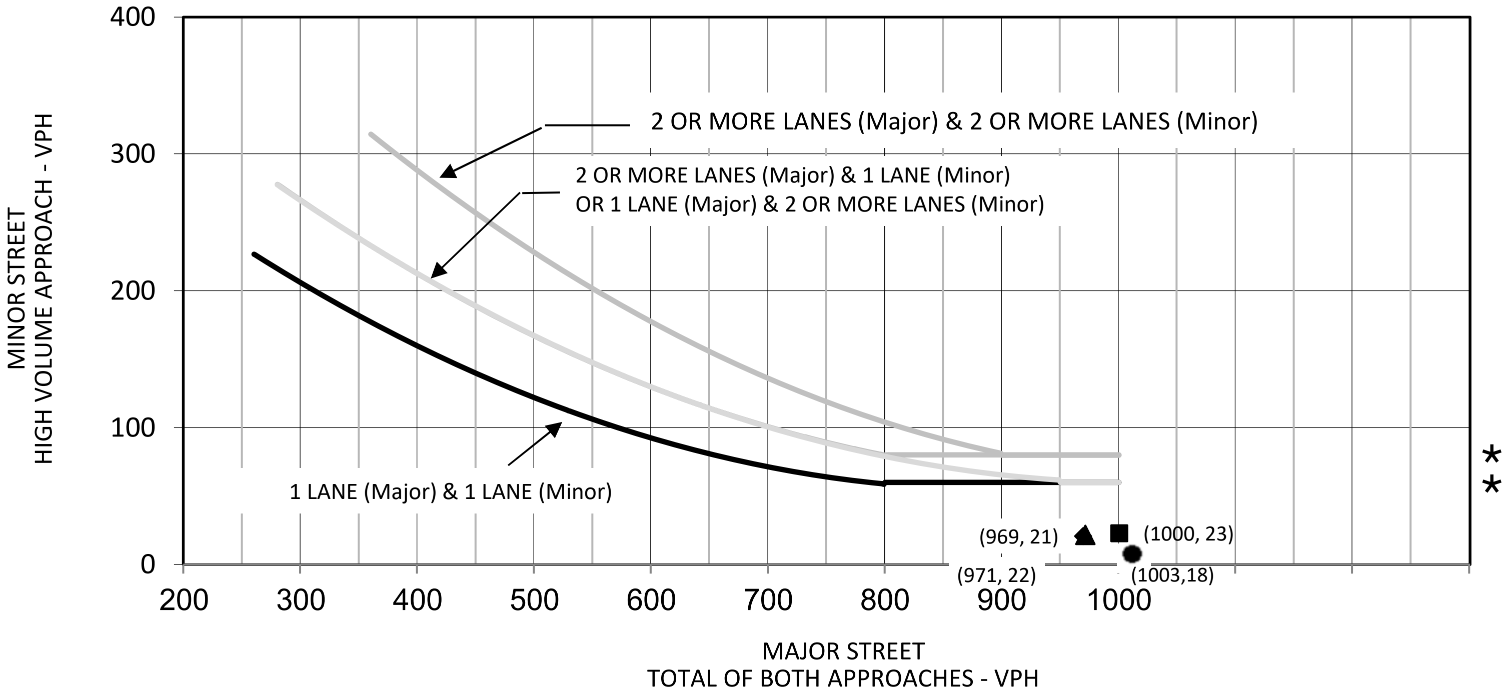
Traffic Impact Study

Warrant 3: Peak Hour - Temperance Avenue/McKinley Avenue - Cumulative Year (2046) Conditions

P:\HAA2103-TM 6360\PRODUCTS\Traffic\Warrants\Warrant 3\Cumulative\2046_Int10.xlsx (3/23/2023)

WARRANT 2, FOUR-HOUR VEHICULAR VOLUME (70% fACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 80 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 60 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-25

● Highest Hour Volumes (9:00-10:00)

■ Second Highest Hourly Volumes (18:00-19:00)

▲ Third Highest Hourly Volumes (17:00-18:00)

◆ Fourth Highest Hourly Volumes (19:00-20:00)

Tract Map 6360 Project

Traffic Impact Study

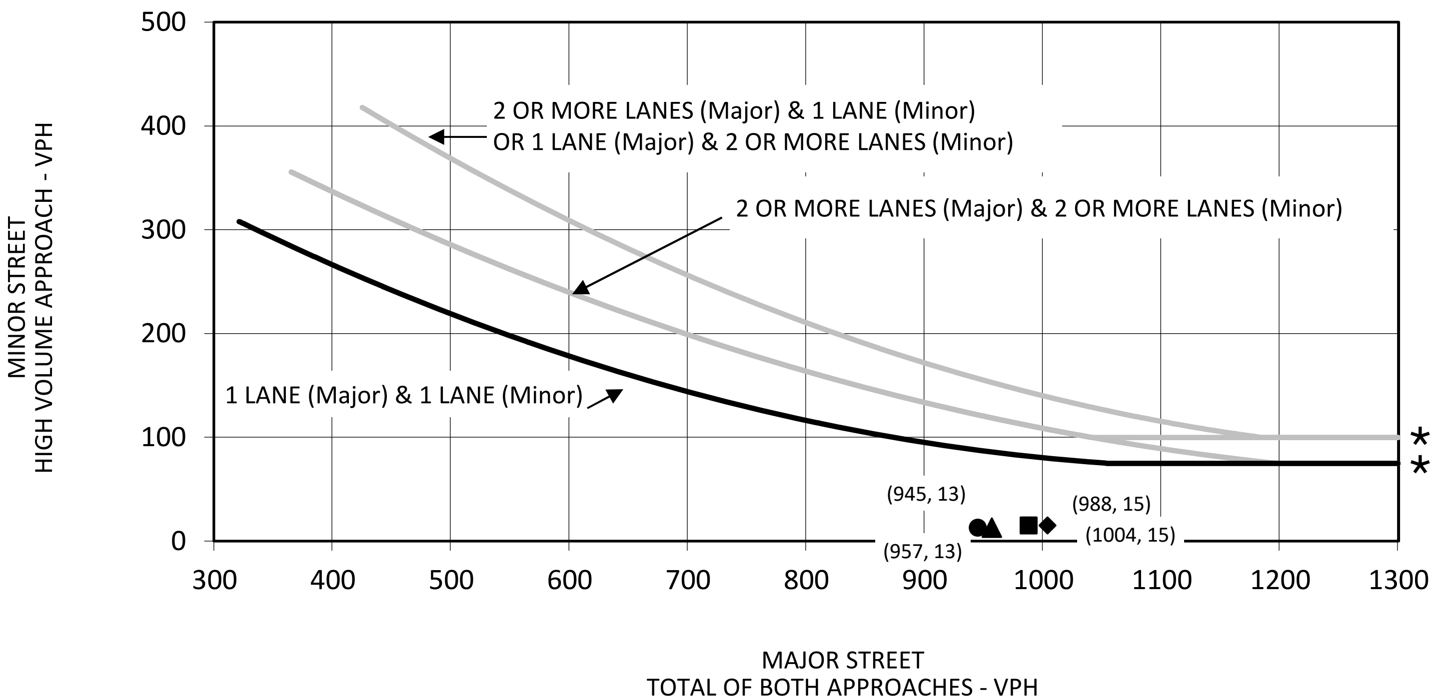
SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-2

Warrant 2: 4 Hour - Temperance Avenue/Floradora Avenue - Existing Conditions

P:\HAA2103-TM 6360\PRODUCTS\Traffic\Warrants\Warrant 2\Warrant 2-Four Hour_Exist_Int 11.xlsx (3/23/2023)

WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-26

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

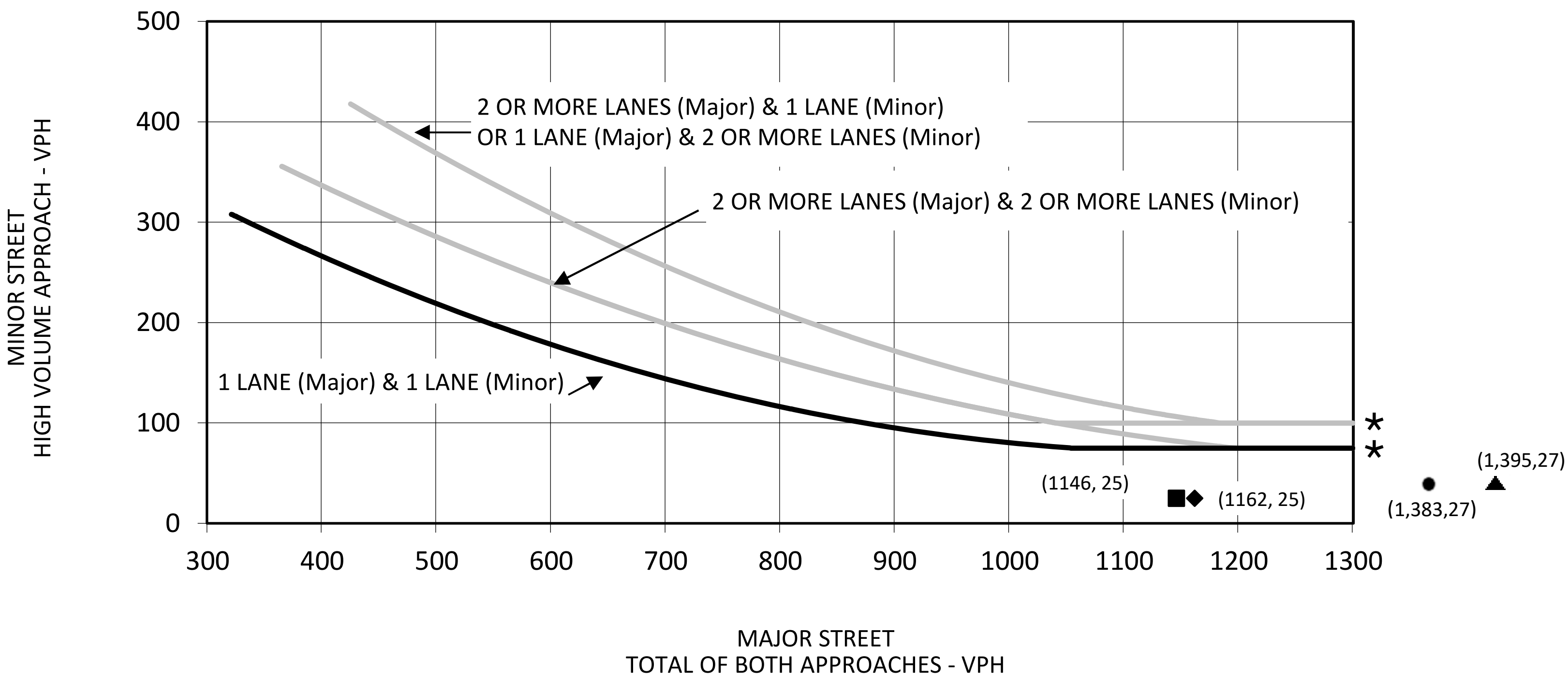
SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Tract Map 6360 Project
Traffic Impact Study

Warrant 3: Peak Hour - Temperance Avenue/Floradora Avenue - Existing Conditions

WARRANT 3, PEAK HOUR (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 mph ON MAJOR STREET)



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

LSA

FIGURE 8-27

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

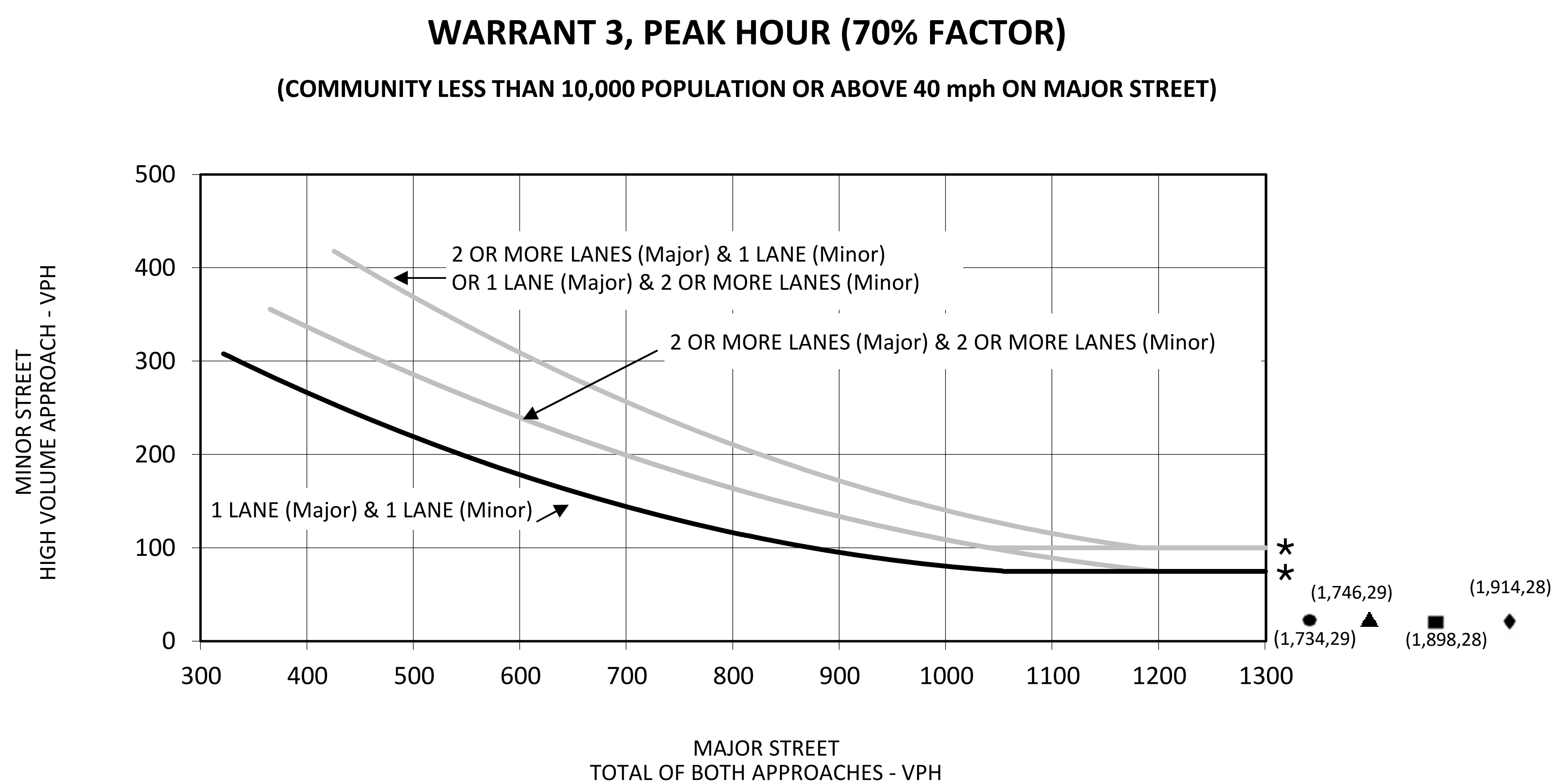
■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Tract Map 6360 Project

Traffic Impact Study

Warrant 3: Peak Hour - Temperance Avenue/Floradora Avenue - Near Term Conditions



* 100 VPH applies as the lower threshold volume for a minor street approach with two or more lanes and 75 VPH applies as the lower threshold volume for a minor street approaching with one lane.

FIGURE 8-28

● Without Project AM Peak Hour ▲ Plus Project AM Peak Hour

■ Without Project PM Peak Hour ◆ Plus Project PM Peak Hour

SOURCE: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, FIGURE 4C-4

Tract Map 6360 Project

Traffic Impact Study

Warrant 3: Peak Hour - Temperance Avenue/Floradora Avenue - Cumulative Year (2046) Conditions

Table 8-A - Eight-Hour Warrant Analysis - Condition A (70%)

Fowler Avenue/Floradora Avenue

Time	24-Hour Counts (Veh/hr) EB	WB	NB	SB	Total Major Approaches (≥ 350 Veh/hr)	Higher Minor Approaches (≥ 105 Veh/hr)	Warrant Met
2 Fowler Avenue/Floradora Avenue							
	Minor Approach		Major Approach				
0:00 - 1:00		1	73	66	139	1	No
1:00 - 2:00		1	48	33	81	1	No
2:00 - 3:00		3	31	38	69	3	No
3:00 - 4:00		2	28	26	54	2	No
4:00 - 5:00		1	37	41	78	1	No
5:00 - 6:00		3	75	133	208	3	No
6:00 - 7:00		5	186	253	439	5	No
7:00 - 8:00		13	331	493	824	13	No
8:00 - 9:00		41	407	552	959	41	No
9:00 - 10:00		37	424	491	915	37	No
10:00 - 11:00		19	380	418	798	19	No
11:00 - 12:00		9	366	454	820	9	No
12:00 - 13:00		12	414	403	817	12	No
13:00 - 14:00		21	447	477	924	21	No
14:00 - 15:00		22	499	472	971	22	No
15:00 - 16:00		32	489	486	975	32	No
16:00 - 17:00		21	487	489	976	21	No
17:00 - 18:00		45	589	493	1,082	45	No
18:00 - 19:00		33	541	497	1,038	33	No
19:00 - 20:00		14	447	411	858	14	No
20:00 - 21:00		7	391	300	691	7	No
21:00 - 22:00		3	274	238	512	3	No
22:00 -23:00		3	198	175	373	3	No
23:00 - 24:00		2	124	103	227	2	No
Total		350	7,286	7,542			

Notes:

Meets Approach Volume Criteria

LSA

Table 8-B - Eight-Hour Warrant Analysis - Condition B (80%)

Fowler Avenue/Floradora Avenue

Time	24-Hour Counts (Veh/hr) EB	WB	NB	SB	Total Major Approaches (≥ 600 Veh/hr)	Higher Minor Approaches (≥ 60 Veh/hr)	Warrant Met
2 Fowler Avenue/Floradora Avenue							
	Minor Approach		Major Approach				
0:00 - 1:00		1	73	66	139	1	No
1:00 - 2:00		1	48	33	81	1	No
2:00 - 3:00		3	31	38	69	3	No
3:00 - 4:00		2	28	26	54	2	No
4:00 - 5:00		1	37	41	78	1	No
5:00 - 6:00		3	75	133	208	3	No
6:00 - 7:00		5	186	253	439	5	No
7:00 - 8:00		13	331	493	824	13	No
8:00 - 9:00		41	407	552	959	41	No
9:00 - 10:00		37	424	491	915	37	No
10:00 - 11:00		19	380	418	798	19	No
11:00 - 12:00		9	366	454	820	9	No
12:00 - 13:00		12	414	403	817	12	No
13:00 - 14:00		21	447	477	924	21	No
14:00 - 15:00		22	499	472	971	22	No
15:00 - 16:00		32	489	486	975	32	No
16:00 - 17:00		21	487	489	976	21	No
17:00 - 18:00		45	589	493	1,082	45	No
18:00 - 19:00		33	541	497	1,038	33	No
19:00 - 20:00		14	447	411	858	14	No
20:00 - 21:00		7	391	300	691	7	No
21:00 - 22:00		3	274	238	512	3	No
22:00 -23:00		3	198	175	373	3	No
23:00 - 24:00		2	124	103	227	2	No
Total		350	7,286	7,542			

Notes:

Meets Approach Volume Criteria

Table 8-C - Eight-Hour Warrant Analysis - Condition A (70%)

Fowler Avenue/Olive Avenue

Time	EB	WB	NB	SB	Total Major Approaches (≥ 350 Veh/hr)	Higher Minor Approaches (≥ 105 Veh/hr)	Warrant Met
	24-Hour Counts (Veh/hr)						
3 Fowler Avenue/Olive Avenue							
	Minor Approach		Major Approach				
0:00 - 1:00	97	12	94	65	159	97	No
1:00 - 2:00	56	10	58	32	90	56	No
2:00 - 3:00	33	3	33	37	70	33	No
3:00 - 4:00	32	13	33	24	57	32	No
4:00 - 5:00	45	15	43	40	83	45	No
5:00 - 6:00	78	41	76	132	208	78	No
6:00 - 7:00	224	112	223	249	472	224	**Yes**
7:00 - 8:00	443	298	434	475	909	443	**Yes**
8:00 - 9:00	425	546	447	480	927	546	**Yes**
9:00 - 10:00	459	282	436	464	900	459	**Yes**
10:00 - 11:00	431	164	427	411	838	431	**Yes**
11:00 - 12:00	433	143	427	448	875	433	**Yes**
12:00 - 13:00	452	174	455	398	853	452	**Yes**
13:00 - 14:00	457	171	484	470	954	457	**Yes**
14:00 - 15:00	514	181	526	462	988	514	**Yes**
15:00 - 16:00	504	203	524	470	994	504	**Yes**
16:00 - 17:00	433	310	432	418	850	433	**Yes**
17:00 - 18:00	483	234	499	434	933	483	**Yes**
18:00 - 19:00	489	221	499	448	947	489	**Yes**
19:00 - 20:00	508	121	486	403	889	508	**Yes**
20:00 - 21:00	479	94	480	296	776	479	**Yes**
21:00 - 22:00	348	56	352	237	589	348	**Yes**
22:00 -23:00	217	50	217	171	388	217	**Yes**
23:00 - 24:00	146	27	142	102	244	146	No
Total	7,786	3,481	7,827	7,166			

Notes:

Meets Approach Volume Criteria (shaded)

Table 8-D - Eight-Hour Warrant Analysis - Condition A (70%)

Armstrong Avenue/Floradora Avenue

Time	24-Hour Counts (Veh/hr) EB	WB	NB	SB	Total Major Approaches (≥ 350 Veh/hr)	Higher Minor Approaches (≥ 105 Veh/hr)	Warrant Met
8 Armstrong Avenue/Floradora Avenue							
	Minor Approach		Major Approach				
0:00 - 1:00	1	0	10	15	25	1	No
1:00 - 2:00	1	1	0	5	5	1	No
2:00 - 3:00	2	0	5	5	10	2	No
3:00 - 4:00	2	0	0	0	0	2	No
4:00 - 5:00	1	0	0	0	0	1	No
5:00 - 6:00	1	0	0	5	5	1	No
6:00 - 7:00	7	0	25	30	55	7	No
7:00 - 8:00	23	24	198	242	440	24	No
8:00 - 9:00	73	155	277	1212	1,489	155	**Yes**
9:00 - 10:00	28	33	198	247	445	33	No
10:00 - 11:00	14	4	99	84	183	14	No
11:00 - 12:00	15	4	89	74	163	15	No
12:00 - 13:00	10	8	114	94	208	10	No
13:00 - 14:00	13	18	104	99	203	18	No
14:00 - 15:00	14	17	109	119	228	17	No
15:00 - 16:00	23	16	183	183	366	23	No
16:00 - 17:00	75	39	218	564	782	75	No
17:00 - 18:00	62	27	341	455	796	62	No
18:00 - 19:00	54	10	277	337	614	54	No
19:00 - 20:00	10	6	119	59	178	10	No
20:00 - 21:00	5	1	79	49	128	5	No
21:00 - 22:00	1	1	54	25	79	1	No
22:00 -23:00	6	4	49	35	84	6	No
23:00 - 24:00	2	3	15	6	21	3	No
Total	443	371	2,563	3,944			

Notes:

Meets Approach Volume Criteria

LSA

Table 8-E - Eight-Hour Warrant Analysis - Condition B (80%)

Armstrong Avenue/Floradora Avenue

Time	EB	WB	NB	SB	Total Major Approaches (≥ 600 Veh/hr)	Higher Minor Approaches (≥ 60 Veh/hr)	Warrant Met
	24-Hour Counts (Veh/hr)						
8 Armstrong Avenue/Floradora Avenue							
	Minor Approach		Major Approach				
0:00 - 1:00	1	0	10	15	25	1	No
1:00 - 2:00	1	1	0	5	5	1	No
2:00 - 3:00	2	0	5	5	10	2	No
3:00 - 4:00	2	0	0	0	0	2	No
4:00 - 5:00	1	0	0	0	0	1	No
5:00 - 6:00	1	0	0	5	5	1	No
6:00 - 7:00	7	0	25	30	55	7	No
7:00 - 8:00	23	24	198	242	440	24	No
8:00 - 9:00	73	155	277	1212	1,489	155	**Yes**
9:00 - 10:00	28	33	198	247	445	33	No
10:00 - 11:00	14	4	99	84	183	14	No
11:00 - 12:00	15	4	89	74	163	15	No
12:00 - 13:00	10	8	114	94	208	10	No
13:00 - 14:00	13	18	104	99	203	18	No
14:00 - 15:00	14	17	109	119	228	17	No
15:00 - 16:00	23	16	183	183	366	23	No
16:00 - 17:00	75	39	218	564	782	75	**Yes**
17:00 - 18:00	62	27	341	455	796	62	**Yes**
18:00 - 19:00	54	10	277	337	614	54	No
19:00 - 20:00	10	6	119	59	178	10	No
20:00 - 21:00	5	1	79	49	128	5	No
21:00 - 22:00	1	1	54	25	79	1	No
22:00 -23:00	6	4	49	35	84	6	No
23:00 - 24:00	2	3	15	6	21	3	No
Total	443	371	2,563	3,944			

Notes:

Meets Approach Volume Criteria

Table 8-F - Eight-Hour Warrant Analysis - Condition A (70%)

Temperance Avenue/McKinley Avenue

Time	EB	WB	NB	SB	Total Major Approaches (≥ 350 Veh/hr)	Higher Minor Approaches (≥ 105 Veh/hr)	Warrant Met
	24-Hour Counts (Veh/hr)						
10 Temperance Avenue/McKinley Avenue							
	Minor Approach		Major Approach				
0:00 - 1:00		8	46	39	85	8	No
1:00 - 2:00		3	32	16	48	3	No
2:00 - 3:00		3	14	10	24	3	No
3:00 - 4:00		3	14	17	31	3	No
4:00 - 5:00		9	23	36	59	9	No
5:00 - 6:00		19	16	66	82	19	No
6:00 - 7:00		34	52	187	239	34	No
7:00 - 8:00		90	247	418	665	90	No
8:00 - 9:00		157	388	622	1,010	157	**Yes**
9:00 - 10:00		78	304	427	731	78	No
10:00 - 11:00		60	232	268	500	60	No
11:00 - 12:00		69	243	275	518	69	No
12:00 - 13:00		72	281	298	579	72	No
13:00 - 14:00		55	320	321	641	55	No
14:00 - 15:00		63	297	337	634	63	No
15:00 - 16:00		83	429	429	858	83	No
16:00 - 17:00		118	510	476	986	118	**Yes**
17:00 - 18:00		79	582	488	1,070	79	No
18:00 - 19:00		82	547	445	992	82	No
19:00 - 20:00		55	364	281	645	55	No
20:00 - 21:00		30	233	178	411	30	No
21:00 - 22:00		23	217	167	384	23	No
22:00 -23:00		16	146	115	261	16	No
23:00 - 24:00		15	87	67	154	15	No
Total	0	1,224	5,624	5,983			

Notes:

Meets Approach Volume Criteria

LSA

Table 8-G - Eight-Hour Warrant Analysis - Condition B (80%)

Temperance Avenue/McKinley Avenue

Time	EB	WB	NB	SB	Total Major Approaches (≥ 600 Veh/hr)	Higher Minor Approaches (≥ 60 Veh/hr)	Warrant Met
	24-Hour Counts (Veh/hr)						
10 Temperance Avenue/McKinley Avenue							
	Minor Approach		Major Approach				
0:00 - 1:00		8	46	39	85	8	No
1:00 - 2:00		3	32	16	48	3	No
2:00 - 3:00		3	14	10	24	3	No
3:00 - 4:00		3	14	17	31	3	No
4:00 - 5:00		9	23	36	59	9	No
5:00 - 6:00		19	16	66	82	19	No
6:00 - 7:00		34	52	187	239	34	No
7:00 - 8:00		90	247	418	665	90	**Yes**
8:00 - 9:00		157	388	622	1,010	157	**Yes**
9:00 - 10:00		78	304	427	731	78	**Yes**
10:00 - 11:00		60	232	268	500	60	No
11:00 - 12:00		69	243	275	518	69	No
12:00 - 13:00		72	281	298	579	72	No
13:00 - 14:00		55	320	321	641	55	No
14:00 - 15:00		63	297	337	634	63	**Yes**
15:00 - 16:00		83	429	429	858	83	**Yes**
16:00 - 17:00		118	510	476	986	118	**Yes**
17:00 - 18:00		79	582	488	1,070	79	**Yes**
18:00 - 19:00		82	547	445	992	82	**Yes**
19:00 - 20:00		55	364	281	645	55	No
20:00 - 21:00		30	233	178	411	30	No
21:00 - 22:00		23	217	167	384	23	No
22:00 -23:00		16	146	115	261	16	No
23:00 - 24:00		15	87	67	154	15	No
Total	0	1,224	5,624	5,983			

Notes:

Meets Approach Volume Criteria (shaded)

LSA

Table 8-H - Eight-Hour Warrant Analysis - Condition A (70%)

Temperance Avenue/Floradora Avenue

Time	EB	WB	NB	SB	Total Major Approaches (≥ 350 Veh/hr)	Higher Minor Approaches (≥ 105 Veh/hr)	Warrant Met
	24-Hour Counts (Veh/hr)						
11 Temperance Avenue/Floradora Avenue							
	Minor Approach		**Major Approach**				
0:00 - 1:00	0	0	50	40	90	0	No
1:00 - 2:00	0	0	31	18	49	0	No
2:00 - 3:00	0	0	16	13	29	0	No
3:00 - 4:00	0	0	16	20	36	0	No
4:00 - 5:00	0	0	21	44	65	0	No
5:00 - 6:00	0	0	16	80	96	0	No
6:00 - 7:00	1	1	42	205	247	1	No
7:00 - 8:00	6	0	226	450	676	6	No
8:00 - 9:00	18	1	379	624	1,003	18	No
9:00 - 10:00	14	1	319	426	745	14	No
10:00 - 11:00	2	0	221	281	502	2	No
11:00 - 12:00	4	0	243	286	529	4	No
12:00 - 13:00	9	0	266	301	567	9	No
13:00 - 14:00	7	1	301	313	614	7	No
14:00 - 15:00	11	0	305	328	633	11	No
15:00 - 16:00	8	0	400	385	785	8	No
16:00 - 17:00	22	1	500	471	971	22	No
17:00 - 18:00	23	2	563	437	1,000	23	No
18:00 - 19:00	21	0	541	428	969	21	No
19:00 - 20:00	7	0	385	271	656	7	No
20:00 - 21:00	2	1	246	174	420	2	No
21:00 - 22:00	4	1	217	153	370	4	No
22:00 -23:00	4	0	147	113	260	4	No
23:00 - 24:00	0	0	90	58	148	0	No
Total	163	9	5,541	5,919			

Notes:

Meets Approach Volume Criteria

Table 8- I - Eight-Hour Warrant Analysis - Condition B (80%)

Temperance Avenue/Floradora Avenue

Time	24-Hour Counts (Veh/hr) EB	WB	NB	SB	Total Major Approaches (≥ 600 Veh/hr)	Higher Minor Approaches (≥ 60 Veh/hr)	Warrant Met
11 Temperance Avenue/Floradora Avenue							
	Minor Approach		**Major Approach**				
0:00 - 1:00	0	0	50	40	90	0	No
1:00 - 2:00	0	0	31	18	49	0	No
2:00 - 3:00	0	0	16	13	29	0	No
3:00 - 4:00	0	0	16	20	36	0	No
4:00 - 5:00	0	0	21	44	65	0	No
5:00 - 6:00	0	0	16	80	96	0	No
6:00 - 7:00	1	1	42	205	247	1	No
7:00 - 8:00	6	0	226	450	676	6	No
8:00 - 9:00	18	1	379	624	1,003	18	No
9:00 - 10:00	14	1	319	426	745	14	No
10:00 - 11:00	2	0	221	281	502	2	No
11:00 - 12:00	4	0	243	286	529	4	No
12:00 - 13:00	9	0	266	301	567	9	No
13:00 - 14:00	7	1	301	313	614	7	No
14:00 - 15:00	11	0	305	328	633	11	No
15:00 - 16:00	8	0	400	385	785	8	No
16:00 - 17:00	22	1	500	471	971	22	No
17:00 - 18:00	23	2	563	437	1,000	23	No
18:00 - 19:00	21	0	541	428	969	21	No
19:00 - 20:00	7	0	385	271	656	7	No
20:00 - 21:00	2	1	246	174	420	2	No
21:00 - 22:00	4	1	217	153	370	4	No
22:00 -23:00	4	0	147	113	260	4	No
23:00 - 24:00	0	0	90	58	148	0	No
Total	163	9	5,541	5,919			

Notes:

Meets Approach Volume Criteria

9.0 CIRCULATION IMPROVEMENTS AND FUNDING SOURCES

9.1 RECOMMENDED IMPROVEMENTS

Improvements have been recommended at study intersections and roadway segments where an operational deficiency has been identified based on the results of the LOS analysis. Table 9-A summarizes the recommended improvements for study intersections for all analysis scenarios. Tables 9-B, 9-C, and 9-D summarize the post-improvement intersection LOS under existing, near-term, and cumulative year conditions, respectively. Detailed LOS worksheets are included in Appendix E. Figures 9-1, 9-2, and 9-3 illustrate the with recommended improvements intersection geometrics and traffic control under existing, near-term, and cumulative year conditions plus project, respectively.

It should be noted in many of the unsignalized intersections, installing a signal have been proposed to eliminate the existing or forecasted operational deficiency. However, a signal was only recommended as an improvement if it meets any of the signal warrants conducted for unsignalized intersections as included in Chapter 8.0 of this report.

Table 9-E summarizes the recommended improvements for roadway segments for all analysis scenarios. Tables 9-F, 9-G, and 9-H summarize the post-improvement roadway segment LOS under existing, near-term and cumulative year plus project conditions, respectively.

9.2 FUNDING SOURCES AND MECHANISMS

Where there is a funding mechanism (fee program) for the recommended improvements, payment into the fee program would be considered sufficient project obligation to alleviate project-related operational deficiencies. At study locations where the addition of project traffic creates an operational deficiency (existing with project conditions) and there is no funding mechanism in place, the project will be responsible for the implementation of the improvement. At locations where the project adds to or creates a forecast deficiency and there is no funding mechanism in place, the project is responsible for its fair-share payment.

9.2.1 Citywide Traffic Signal Mitigation Impact (TSMI) Program

The City of Fresno Traffic Signal Mitigation Impact (TSMI) fees are charged to all new developments throughout the City to mitigate the traffic operational deficiencies through the funding of traffic signal improvements to serve new developments. Based on the City of Fresno *City-Wide Traffic Signal Mitigation Impact Fee nexus Analysis for Proposed Fee Update*, dated June 2022, several of the proposed signals are included in the Traffic Signal Capital Improvements, where the entire funding is expected to be generated from the TSMI fees. Therefore, since these improvements are covered under the TSMI Fee program, the project will be paying into the fee program for these improvements.

9.2.2 Fresno COG FTIP

The underlying purpose of the Fresno Council of Governments (Fresno COG) Federal Transportation Improvement Program (FTIP) is the "incremental implementation (four years) of the long-range

[Regional Transportation Plan] (RTP) (24 years).” As such, it is a compilation of projects under the State Transportation Improvement program (STIP) and other programs within the Fresno County region. Projects listed include “all transportation-related projects requiring federal funding or other approval by the federal transportation agencies” and “are consistent with the Fresno COG’s RTP and are part of the area’s overall strategy for providing mobility, congestion relief and reduction of transportation-related air pollution.” It should be noted that the timing for implementation of these projects may vary depending on the availability of funding. As such, the project would be contributing to the FTIP for implementation of these improvements.

9.2.3 Project Fair Share

In the absence of a fee program where the project has an impact on the roadway network, the project will pay its respective fair share for the proposed improvements. The project’s fair share has been calculated based on project traffic as a percentage of total growth of existing traffic plus project volumes.

Table 9-I summarizes the recommended improvement for the deficient intersections, funding mechanism, and its fair share percentage for the improvements to be covered under fair share. Table 9-J summarizes the corresponding improvements and funding mechanism for the roadway segments.

9.3 LIST OF CHAPTER 9.0 FIGURES AND TABLES

- Figure 9-1: Existing Plus Project with Improvements Study Intersection Geometrics and Traffic Control
- Figure 9-2: Near-Term Plus Project with Improvements Study Intersection Geometrics and Traffic Control
- Figure 9-3: Cumulative Year (2046) Plus Project with Improvements Study Intersection Geometrics and Traffic Control
- Table 9-A: Recommended Improvements for Intersections
- Table 9-B: Existing Plus Project with Recommended Improvements Intersection Levels of Service
- Table 9-C: Near-Term Plus Project with Recommended Improvements Intersection Levels of Service
- Table 9-D: Cumulative Year (2046) Plus Project with Recommended Improvements Intersection Levels of Service
- Table 9-E: Recommended Improvements for Roadway Segments
- Table 9-F: Existing Plus Project with Recommended Improvements Roadway Segments Levels of Service
- Table 9-G: Near-Term Plus Project with Recommended Improvements Roadway Segments Levels of Service
- Table 9-H: Cumulative Year (2046) Plus Project with Recommended Improvements Roadway Segments Levels of Service
- Table 9-I: Intersection Improvement Funding Mechanism and Fair Share
- Table 9-J: Roadway Segment Improvement Funding Mechanism and Fair Share

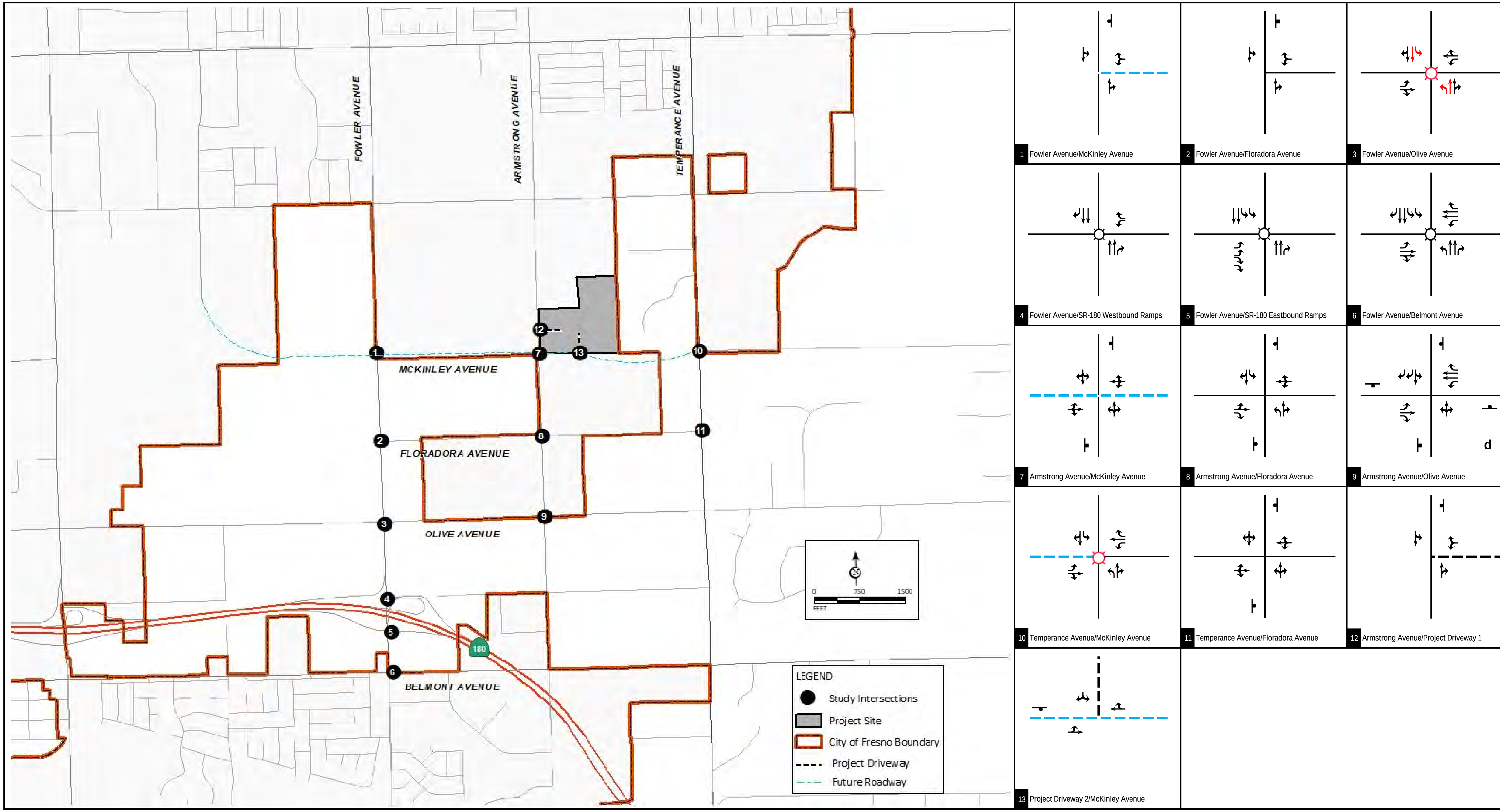


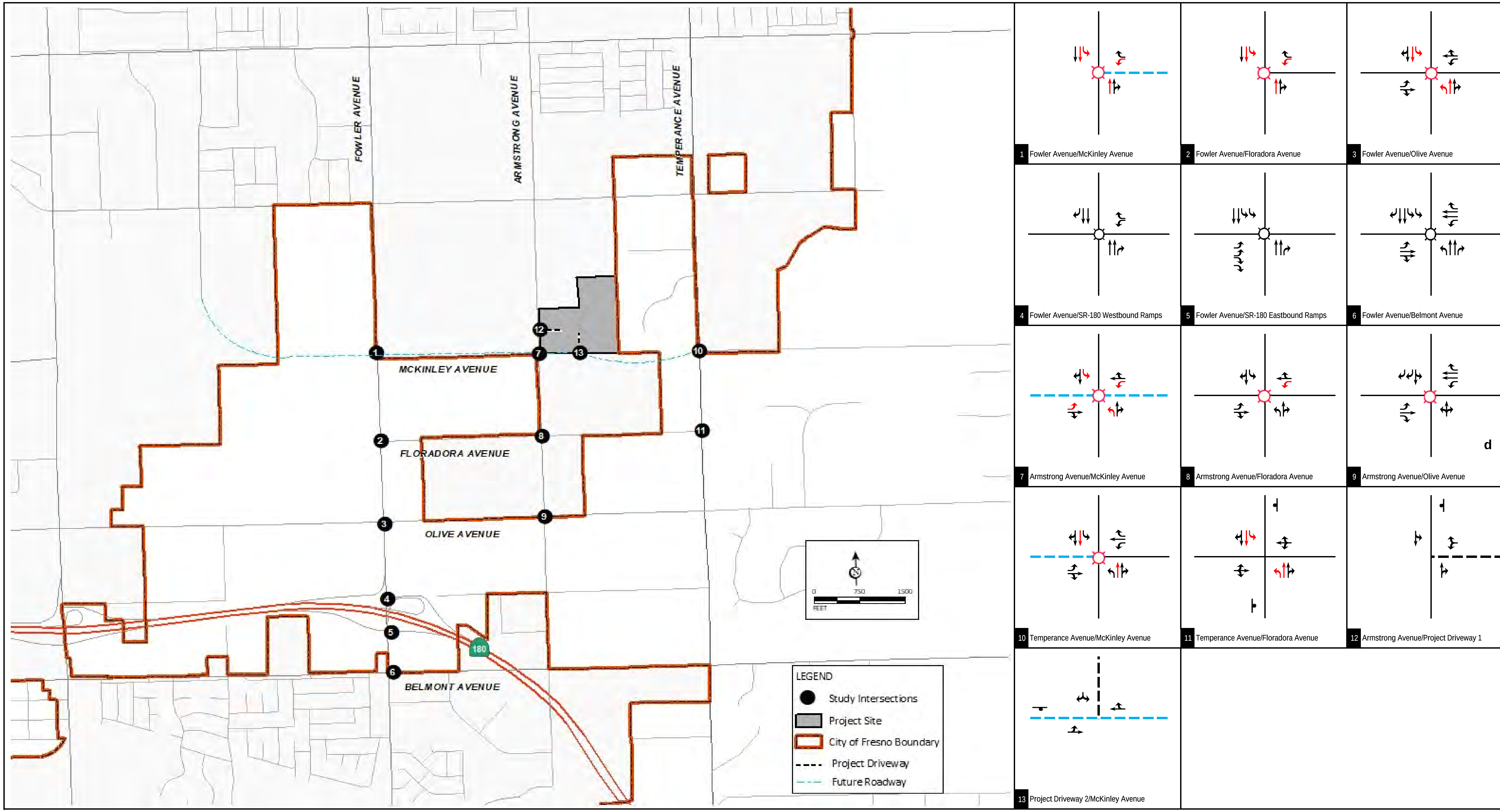
FIGURE 9-1

Legend

- Signal
- Stop Sign
- d De-facto Right Turn
- Project Driveway
- Future Segment
- Recommended Improvements

Tract Map 6360 Project
Traffic Impact Study

Existing Plus Project with Improvements Study Intersection Geometrics and Traffic Control



LSA

FIGURE 9-2

Legend

- Signal
- Stop Sign
- d De-facto Right Turn
- Project Driveway
- Future Segment
- Recommended Improvements

Tract Map 6360 Project
Traffic Impact Study

Near-Term Plus Project with Improvements Study Intersection Geometrics and Traffic Control

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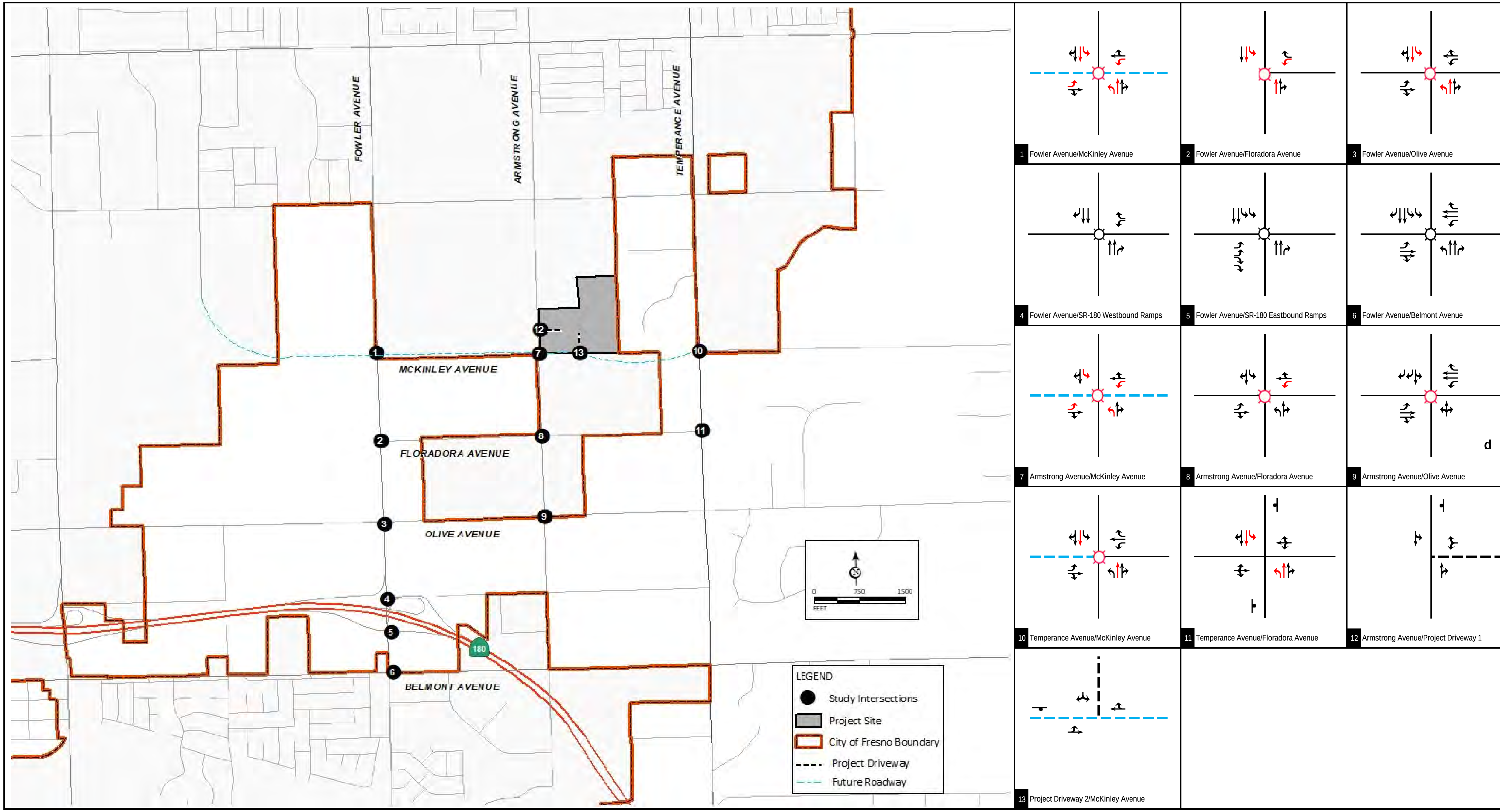

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FIGURE 9-3

Legend
- Signal
- Stop Sign
- d De-facto Right Turn
- Project Driveway
- Future Segment
- Recommended Improvements

Tract Map 6360 Project
Traffic Impact Study

Cumulative Year (2046) Plus Project with Improvements Study Intersection Geometrics and Traffic Control

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Table 9-A - Recommended Improvements for Intersections

Intersection	Jurisdiction	Existing Plus Project Improvements[1]	Near-Term Plus Project Improvements	Cumulative Year (2046) Plus Project Improvements
1 . Fowler Avenue/McKinley Avenue	City of Fresno/Fresno County		Install traffic signal, add NBT lane, add SBL lane, add SBT lane, add WBL lane	Install traffic signal, add NBL lane, add NBT lane, add SBL lane, add SBT lane, add EBL lane, add WBL lane
2 . Fowler Avenue/Floradora Avenue	Fresno County		Install traffic signal, add NBT lane, add SBL lane, add SBT lane, add WBL lane	Install traffic signal, add NBT lane, add SBL lane, add SBT lane, add WBL lane
3 . Fowler Avenue/Olive Avenue	Fresno County	Install traffic signal, add NBL lane, add NBT lane, add SBL lane, add SBT lane	Install traffic signal, add NBL lane, add NBT lane, add SBL lane, add SBT lane	Install traffic signal, add NBL lane, add NBT lane, add SBL lane, add SBT lane
5 . Fowler Avenue/SR-180 Eastbound Ramps	Caltrans	Optimize signal timings	Optimize signal timings	Optimize signal timings
7 . Armstrong Avenue/McKinley Avenue	City of Fresno/Fresno County		Install traffic signal, add NBL lane, add SBL lane, add EBL lane, add WBL lane	Install traffic signal, add NBL lane, add SBL lane, add EBL lane, add WBL lane
8 . Armstrong Avenue/Floradora Avenue	City of Fresno/Fresno County		Install traffic signal, add WBL lane	Install traffic signal, add WBL lane
9 . Armstrong Avenue/Olive Avenue	City of Fresno/Fresno County		Install traffic signal	Install traffic signal, add EB receiving lane
10 . Temperance Avenue/McKinley Avenue	City of Fresno/Fresno County	Install traffic signal	Install traffic signal, add NBT lane, add SBT lane	Install traffic signal, add NBT lane, add SBT lane
11 . Temperance Avenue/Floradora Avenue	Fresno County		Add NBL lane, add NBT lane, add SBL lane, add SBT lane	Add NBL lane, add NBT lane, add SBL lane, add SBT lane

Notes:

NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound

L = Left, T = Through, R = Right

[1] Recommended improvements for Existing Plus Project is for informational purposes only. As such, the project will be required to implement the recommended improvements starting with completion of the project.

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Table 9-B - Existing Plus Project with Recommended Improvements Intersection Levels of Service

			Plus Project Without Improvements							Plus Project With Improvements				
				A.M. Peak Hour			P.M. Peak Hour				A.M. Peak Hour		P.M. Peak Hour	
Intersection	Jurisdiction	LOS Standard	Control	Delay (sec.)	LOS		Delay (sec.)	LOS		Control	Delay (sec.)	LOS	Delay (sec.)	LOS
3 . Fowler Avenue/Olive Avenue	Fresno County	D	AWSC	69.8	**F**	*	67.1	**F**	*	Signal	30.1	C	25.9	C
5 . Fowler Avenue/SR-180 Eastbound Ramps	Caltrans	45 sec	Signal	20.4	C		69.5	**E**	*	Signal	22.0	C	32.2	C
10 . Temperance Avenue/McKinley Avenue	Fresno/Fresno County	D	TWSC	63.4	**F**	*	70.8	**F**	*	TWSC	7.0	A	17.7	C

Notes:

AWSC= All-Way Stop Control; OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; LOS = Level of Service

Delay = Average control delay in seconds (For OWSC/TWSC intersections, reported delay is for worst-case movement).

* Exceeds LOS Standard

Table 9-C - Near-Term Plus Project with Recommended Improvements Intersection Levels of Service

			Plus Project Without Improvements					Plus Project With Improvements				
				A.M. Peak Hour		P.M. Peak Hour			A.M. Peak Hour		P.M. Peak Hour	
Intersection	Jurisdiction	LOS Standard	Control	Delay (sec.)	LOS	Delay (sec.)	LOS	Control	Delay (sec.)	LOS	Delay (sec.)	LOS
1 . Fowler Avenue/McKinley Avenue	Fresno/Fresno County	D	OWSC	62.3	**F** *	41.3	**E** *	Signal	10.5	B	4.0	A
2 . Fowler Avenue/Floradora Avenue	Fresno County	D	OWSC	157.9	**F** *	>200	**F** *	Signal	10.0	A	8.1	A
3 . Fowler Avenue/Olive Avenue	Fresno County	D	AWSC	>200	**F** *	>200	**F** *	Signal	41.6	D	23.8	C
5 . Fowler Avenue/SR-180 Eastbound Ramps	Caltrans	45 sec	Signal	23.0	C	76.8	**E** *	Signal	23.4	C	34.1	C
7 . Armstrong Avenue/McKinley Avenue	Fresno/Fresno County	D	TWSC	194.9	**F** *	44.9	**E** *	Signal	22.8	C	11.9	B
8 . Armstrong Avenue/Floradora Avenue	Fresno	D	TWSC	58.4	**F** *	33.1	D	Signal	7.9	A	4.7	A
9 . Armstrong Avenue/Olive Avenue[2]	Fresno	D	AWSC	76.1	**F** *	188.9	**F** *	Signal	46.2	D	46.5	D
10 . Temperance Avenue/McKinley Avenue	Fresno/Fresno County	D	TWSC	-	**F** *	>200	**F** *	Signal	38.7	D	27.6	C
11 . Temperance Avenue/Floradora Avenue	Fresno County	D	TWSC	53.1	**F** *	28.5	D	TWSC	17.0	C	13.9	B

Notes:

AWSC= All-Way Stop Control; OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; LOS = Level of Service

Delay = Average control delay in seconds (For OWSC/TWSC intersections, reported delay is for worst-case movement).

[1] Based on Synchro results, intersections where the delay is represented with a dash (-) has through volumes that block the turn movements throughout the peak hour. As such, Synchro does not report a delay at these intersections for the blocked turn movements. Therefore, the worst-case movements at these intersections operate at LOS F.

[2] Due to the road configuration at this intersection, Synchro does not report an LOS using HCM methologies for this intersection. Therefore, the LOS was determined using SimTraffic simulation.

* Exceeds LOS Standard

Table 9-D - Cumulative Year (2046) Plus Project with Recommended Improvements Intersection Levels of Service

Intersection	Jurisdiction	LOS Standard	Plus Project Without Improvements: Control	A.M. Peak Hour Delay (sec.)	A.M. Peak Hour LOS		P.M. Peak Hour Delay (sec.)	P.M. Peak Hour LOS		Plus Project With Improvements: Control	A.M. Peak Hour Delay (sec.)	A.M. Peak Hour LOS	P.M. Peak Hour Delay (sec.)	P.M. Peak Hour LOS
1 . Fowler Avenue/McKinley Avenue	Fresno/Fresno County	D	TWSC	-	F	*	-	F	*	Signal	53.7	D	39.9	D
2 . Fowler Avenue/Floradora Avenue	Fresno County	D	OWSC	>200	F	*	>200	F	*	Signal	10.7	B	7.6	A
3 . Fowler Avenue/Olive Avenue	Fresno County	D	AWSC	>200	F	*	>200	F	*	Signal	45.0	D	50.1	D
5 . Fowler Avenue/SR-180 Eastbound Ramps	Caltrans	45 sec	Signal	24.6	C		97.0	F	*	Signal	24.9	C	37.5	D
7 . Armstrong Avenue/McKinley Avenue	Fresno/Fresno County	D	TWSC	-	F	*	>200	F	*	Signal	52.2	D	18.7	B
8 . Armstrong Avenue/Floradora Avenue	Fresno	D	TWSC	199.4	F	*	43.8	E	*	Signal	9.4	A	4.6	A
9 . Armstrong Avenue/Olive Avenue[2]	Fresno	D	AWSC	108.6	F	*	>200	F	*	Signal	51.3	D	54.8	D
10 . Temperance Avenue/McKinley Avenue	Fresno/Fresno County	D	TWSC	-	F	*	-	F	*	Signal	47.9	D	32.6	C
11 . Temperance Avenue/Floradora Avenue	Fresno County	D	TWSC	101.8	F	*	92.9	F	*	TWSC	20.2	C	31.3	D

Notes:

AWSC= All-Way Stop Control; OWSC = One-Way Stop Control; TWSC = Two-Way Stop Control; LOS = Level of Service

Delay = Average control delay in seconds (For OWSC/TWSC intersections, reported delay is for worst-case movement).

[1] Based on Synchro results, intersections where the delay is represented with a dash (-) has through volumes that block the turn movements throughout the peak hour. As such, Synchro does not report a delay at these intersections for the blocked turn movements. Therefore, the worst-case movements at these intersections operate at LOS F.

[2] Due to the road configuration at this intersection, Synchro does not report an LOS using HCM metholodiges for this intersection. Therefore, the LOS was determined using SimTraffic simulation.

* Exceeds LOS Standard

Table 9-E - Recommended Improvements for Roadway Segments

Roadway Segment	Jurisdiction	Existing Plus Project Improvements	Near-Term Plus Project Improvements	Cumulative (2046) Plus Project Improvements
Segments on Fowler Avenue				
1 . between McKinley Avenue and Floradora Avenue	Fresno County		Convert to 4-Lane Divided Arterial	Convert to 4-Lane Divided Arterial
2 . between Floradora Avenue and Olive Avenue	Fresno County		Convert to 4-Lane Divided Arterial	Convert to 4-Lane Divided Arterial
3 . between Olive Avenue and SR-180 Westbound Ramps	Fresno County	Convert to 4-Lane Divided Arterial	Convert to 4-Lane Divided Arterial	Convert to 4-Lane Divided Arterial

Table 9-F - Existing Plus Project with Recommended Improvements Roadway Segments Levels of Service

Roadway Segment	Jurisdiction	Plus Project Without Improvements				Plus Project With Improvements			
		Functional Classification[1]	Roadway Capacity[2]	Daily Volume	LOS	Functional Classification[1]	Roadway Capacity[2]	Daily Volume	LOS
Segments on Fowler Avenue									
3 . between Olive Avenue and SR-180 Westbound Ramps	Fresno County	2-Lane Undivided Arterial	15,930	18,284	**E** *	4-Lane Divided Arterial[3]	35,820	18,284	C

Notes:

LOS = Level of Service.

1 Classification obtained from the Figure MT-1 Major Street Circulation Diagram, City of Fresno 2014 General Plan.

2 Roadway Capacity obtained from Table 1, Generalized Annual Average Daily Volumes for Florida's Urbanized Areas. Since the facilities ate Non-State, a 10% reduction factor was applied for the roadway capacities.

3 This classification is not listed in Table 1, Generalized Annual Average Daily Volumes for Florida's Urbanized Areas. Roadway Capacity for this classification are interpolated from capacities of similar classifications.

* Exceeds LOS Standard

Table 9-G - Near-Term Plus Project with Recommended Improvements Roadway Segments Levels of Service

Roadway Segment	Jurisdiction	Plus Project Without Improvements				Plus Project With Improvements			
		Functional Classification[1]	Roadway Capacity[2]	Daily Volume	LOS	Functional Classification[1]	Roadway Capacity[2]	Daily Volume	LOS
Segments on Fowler Avenue									
1 . between McKinley Avenue and Floradora Avenue	Fresno County	2-Lane Undivided Arterial	15,930	20,357	E *	4-Lane Divided Arterial[3]	35,820	20,357	C
2 . between Floradora Avenue and Olive Avenue	Fresno County	2-Lane Undivided Arterial	15,930	20,626	E *	4-Lane Divided Arterial[3]	35,820	20,626	C
3 . between Olive Avenue and SR-180 Westbound Ramps	Fresno County	2-Lane Undivided Arterial	15,930	24,705	E *	4-Lane Divided Arterial[3]	35,820	24,705	C

Notes:

LOS = Level of Service.

1 Classification obtained from the Figure MT-1 Major Street Circulation Diagram, City of Fresno 2014 General Plan.

2 Roadway Capacity obtained from Table 1, Generalized Annual Average Daily Volumes for Florida's Urbanized Areas. Since the facilities ate Non-State, a 10% reduction factor was applied for the roadway capacities.

3 This classification is not listed in Table 1, Generalized Annual Average Daily Volumes for Florida's Urbanized Areas. Roadway Capacity for this classification are interpolated from capacities of similar classifications.

* Exceeds LOS Standard

Table 9-H - Cumulative Year (2046) Plus Project with Recommended Improvements Roadway Segments Levels of Service

Roadway Segment	Jurisdiction	Plus Project Without Improvements					Plus Project With Improvements			
		Functional Classification[1]	Roadway Capacity[2]	Daily Volume	LOS		Functional Classification[1]	Roadway Capacity[2]	Daily Volume	LOS
Segments on Fowler Avenue										
1 . between McKinley Avenue and Floradora Avenue	Fresno County	2-Lane Undivided Arterial	15,930	21,373	E	*	4-Lane Divided Arterial[3]	35,820	21,373	C
2 . between Floradora Avenue and Olive Avenue	Fresno County	2-Lane Undivided Arterial	15,930	21,656	E	*	4-Lane Divided Arterial[3]	35,820	21,656	C
3 . between Olive Avenue and SR-180 Westbound Ramps	Fresno County	2-Lane Undivided Arterial	15,930	25,899	E	*	4-Lane Divided Arterial[3]	35,820	25,899	C

Notes:

LOS = Level of Service.

[1] Classification obtained from the Figure MT-1 Major Street Circulation Diagram, City of Fresno 2014 General Plan.

[2] Roadway Capacity obtained from Table 1, Generalized Annual Average Daily Volumes for Florida's Urbanized Areas. Since the facilities ate Non-State, a 10% reduction factor was applied for the roadway capacities.

[3] This classification is not listed in Table 1, Generalized Annual Average Daily Volumes for Florida's Urbanized Areas. Roadway Capacity for this classification are interpolated from capacities of similar classifications.

* Exceeds LOS Standard

Table 9-I - Intersection Improvement Funding Mechanism and Fair Share

Intersection	Jurisdiction	Funding Mechanism	Improvements Covered by TSMI Fee Program[1]	Improvements Covered by FTIP[2]	Improvements Covered by Fair Share	Fair Share Percentage
1 . Fowler Avenue/McKinley Avenue	City of Fresno/Fresno County	TSMI/FTIP/Fair Share	Install traffic signal	Add NBT lane, add SBT lane	Add NBL lane, add SBL lane, add EBL lane, add WBL lane	0.17%
2 . Fowler Avenue/Floradora Avenue	Fresno County	FTIP/Fair Share		Add NBT lane, add SBT lane	Install traffic signal, add SBL lane, add WBL lane	0.42%
3 . Fowler Avenue/Olive Avenue	Fresno County	TSMI/FTIP/Fair Share	Install traffic signal	Add NBT lane, add SBT lane	Add NBL lane, add SBL lane	6.99%
5 . Fowler Avenue/SR-180 Eastbound Ramps	Caltrans	Fair Share			Optimize signal timings	6.26%
7 . Armstrong Avenue/McKinley Avenue	City of Fresno/Fresno County	TSMI/Fair Share	Install traffic signal		Add NBL lane, add SBL lane, add EBL lane, add WBL lane	24.45%
8 . Armstrong Avenue/Floradora Avenue	City of Fresno/Fresno County	Fair Share			Install traffic signal, add WBL lane	28.73%
9 . Armstrong Avenue/Olive Avenue	City of Fresno/Fresno County	TSMI/FTIP	Install traffic signal	Add EB receiving lane		
10 . Temperance Avenue/McKinley Avenue	City of Fresno/Fresno County	TSMI/FTIP	Install traffic signal	Add NBT lane, add SBT lane		
11 . Temperance Avenue/Floradora Avenue	Fresno County	FTIP/Fair Share		Add NBT lane, add SBT lane	Add NBL lane, add SBL lane	1.73%

Notes:

NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound

L = Left, T = Through, R = Right

[1] Improvements in accordance with the City of Fresno *City-Wide Traffic Signal Mitigation Impact Fee* (dated June 2022)

[2] Improvements in accordance with the Fresno Council of Governments *2021 Federal Transportation Improvement Program (FTIP)*

[3] Project Fair Share Percentage is the highest fair share value of the AM and PM peak hour when both peak hours require improvements, or only in the peak hour that require improvements.

Table 9-J - Roadway Segment Improvement Funding Mechanism and Fair Share

Roadway Segment	Jurisdiction	Cumulative (2046) Plus Project Improvements	Funding Mechanism	Project Responsibility[1]	Improvements Covered by FTIP	Improvements Covered by Fair Share	Fair Share Percentage
Segments on Fowler Avenue							
1 . between McKinley Avenue and Floradora Avenue	Fresno County	Convert to 4-Lane Divided Arterial	FTIP		Convert to 4-Lane Divided Arterial		
2 . between Floradora Avenue and Olive Avenue	Fresno County	Convert to 4-Lane Divided Arterial	FTIP		Convert to 4-Lane Divided Arterial		
3 . between Olive Avenue and SR-180 Westbound Ramps	Fresno County	Convert to 4-Lane Divided Arterial	FTIP		Convert to 4-Lane Divided Arterial		

Notes:

LOS = Level of Service; FTIP = Fresno Council of Governments 2021 Federal Transportation Improvement Program

[1] Improvements listed under this section would be 100 percent project responsibility.

10.0 INTERSECTION QUEUING ANALYSIS

Tables 10-A, 10-B, and 10-C list the available turn-pocket storage lengths and summarize the 95th percentile back-of-queue lengths at the study intersections under existing, near-term, and cumulative year conditions. The queues for the signalized intersections have been reported from Synchro, while for unsignalized intersections, the SimTraffic queues have been reported since Synchro does not appropriately report queues at unsignalized intersections.

Detailed queuing analysis worksheets are included in Appendix F.

10.1 LIST OF CHAPTER 10.0 TABLES

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Table 10-A - Existing Queuing Analysis

Intersection		Movement	Storage Length[1] (ft/ln)	Existing No Project AM	Existing No Project PM	Existing Plus Project AM	Existing Plus Project PM
3 .	Fowler Avenue/Olive Avenue	**EBL**	190	50	110	50	65
	AWSC	**WBL**	200	**280**	75	**245**	110
4 .	Fowler Avenue/SR-180 Westbound Ramps	**NBR**	430	0	0	0	0
	Signal	**WBL**	650	25	35	25	35
		WBR	650	30	15	30	15
5 .	Fowler Avenue/SR-180 Eastbound Ramps	**NBR**	185	0	0	0	0
	Signal	**SBL**	230	25	45	25	45
		EBL	405	90	125	95	130
		EBR	230	40	50	40	50
6 .	Fowler Avenue/Belmont Avenue	**NBL**	250	170	120	170	120
	Signal	**NBR**	165	55	30	55	30
		SBL	275	105	125	105	125
		SBR	130	0	5	0	5
		EBL	225	120	105	120	105
		WBL	250	150	135	150	135
		WBR	60	60	45	60	45
8 .	Armstrong Avenue/Floradora Avenue	**NBL**	170	0	0	10	0
	TWSC	**SBL**	100	0	0	0	15
		EBR	85	40	0	45	20
9 .	Armstrong Avenue/Olive Avenue	**SBR**	130	105	50	120	60
	AWSC	**EBL**	195	30	50	50	65
		EBR	105	10	10	15	10
		WBL	145	110	60	60	55
		WBR	150	30	20	30	35
10 .	Temperance Avenue/McKinley Avenue	**NBL**	155	0	0	15	15
	TWSC	**SBL**	155	50	55	45	65
		EBL	105	0	0	15	20
		WBL	105	70	60	50	60
		WBR	140	40	35	45	40

Notes:

AWSC = All-Way Stop Control; TWSC = Two-Way Stop Control

EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound

L = Left; T = Through; R = Right

Bold = Queue exceeds available storage.

[1] Storage length for all movements are obtained from Google Earth measurements.

[2] All queues reported are 95th percentile queues. Queues for signalized intersections have been reported from Synchro, while queues for unsignalized intersections have been reported from SimTraffic.

Table 10-B - Near-Term Queuing Analysis

Intersection	Movement	Storage Length[1] (ft/ln)	Near-Term Plus Project AM	Near-Term Plus Project PM
3 . Fowler Avenue/Olive Avenue	**EBL**	190	45	80
AWSC	**WBL**	200	**310**	125
4 . Fowler Avenue/SR-180 Westbound Ramps	**NBR**	430	0	0
Signal	**WBL**	650	75	80
	WBR	650	35	45
5 . Fowler Avenue/SR-180 Eastbound Ramps	**NBR**	185	40	35
Signal	**SBL**	230	55	65
	EBL	405	120	175
	EBR	230	40	225
6 . Fowler Avenue/Belmont Avenue	**NBL**	250	185	140
Signal	**NBR**	165	135	70
	SBL	275	210	215
	SBR	130	10	35
	EBL	225	175	155
	WBL	250	210	215
	WBR	60	**70**	**80**
8 . Armstrong Avenue/Floradora Avenue	**NBL**	170	10	15
TWSC	**SBL**	100	10	30
	EBR	85	55	15
9 . Armstrong Avenue/Olive Avenue	**SBR**	130	**385**	70
AWSC	**EBL**	195	45	100
	EBR	105	25	20
	WBL	145	**175**	70
	WBR	150	25	35
10 . Temperance Avenue/McKinley Avenue	**NBL**	155	20	30
TWSC	**SBL**	155	65	60
	EBL	105	**285**	30
	WBL	105	**320**	**110**
	WBR	140	70	55

Notes:

AWSC = All-Way Stop Control; TWSC = Two-Way Stop Control

EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound

L = Left; T = Through; R = Right

Bold = Queue exceeds available storage.

1 Storage length for all movements are obtained from Google Earth measurements.

2 All queues reported are 95th percentile queues. Queues for signalized intersections have been reported from Synchro, while queues for unsignalized intersections have been reported from SimTraffic.

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Table 10-C - Cumulative Year (2046) Queuing Analysis

Intersection	Movement	Storage Length[1] (ft/ln)	Cumulative Year (2046)			
			No Project		Plus Project	
			AM	PM	AM	PM
3 . Fowler Avenue/Olive Avenue	**EBL**	190	50	**370**	50	**470**
AWSC	**WBL**	200	**275**	**260**	**370**	**370**
4 . Fowler Avenue/SR-180 Westbound Ramps	**NBR**	430	0	0	0	0
Signal	**WBL**	650	80	85	80	85
	WBR	650	40	50	40	55
5 . Fowler Avenue/SR-180 Eastbound Ramps	**NBR**	185	45	35	45	35
Signal	**SBL**	230	60	65	60	65
	EBL	405	125	170	125	180
	EBR	230	45	**255**	45	**260**
6 . Fowler Avenue/Belmont Avenue	**NBL**	250	220	145	220	145
Signal	**NBR**	165	140	65	140	70
	SBL	275	220	220	220	220
	SBR	130	15	40	15	40
	EBL	225	185	**400**	185	**400**
	WBL	250	215	225	215	225
	WBR	60	**135**	**80**	**145**	**80**
8 . Armstrong Avenue/Floradora Avenue	**NBL**	170	0	10	0	0
TWSC	**SBL**	100	0	30	0	15
	EBR	85	75	15	75	25
9 . Armstrong Avenue/Olive Avenue	**SBR**	130	**180**	60	**225**	70
AWSC	**EBL**	195	**235**	180	150	**255**
	EBR	105	15	100	15	**145**
	WBL	145	65	105	105	115
	WBR	150	**155**	40	45	40
10 . Temperance Avenue/McKinley Avenue	**NBL**	155	**265**	25	**325**	55
TWSC	**SBL**	155	90	**250**	**300**	**260**
	EBL	105	**200**	**315**	0	**310**
	WBL	105	**390**	**310**	**300**	**180**
	WBR	140	0	0	0	0

Notes:

AWSC = All-Way Stop Control; TWSC = Two-Way Stop Control

EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound

L = Left; T = Through; R = Right

Bold = Queue exceeds available storage.

1 Storage length for all movements are obtained from Google Earth measurements.

2 All queues reported are 95th percentile queues. Queues for signalized intersections have been reported from Synchro, while queues for unsignalized intersections have been reported from SimTraffic.

11.0 SITE ACCESS AND CIRCULATION ANALYSIS

As previously illustrated in Figure 1-2, access to the project would be provided via two full-access driveways, one on Armstrong Avenue and the other on McKinley Avenue.

11.1 SIGHT DISTANCE ANALYSIS

A sight distance analysis was conducted at the project driveways along Armstrong Avenue and McKinley Avenue to evaluate safe access in and out of the project. Sight distance is the length of the visible roadway a driver can see approaching vehicles before their line of sight is blocked by any object. For purposes of this analysis, both the stopping sight distance and corner sight distance have been evaluated. That is because there are the two sight distance lengths that would affect safe maneuver of ingress/egress traffic from the project driveways.

According to the *Caltrans Highway Design Manual (HDM)* (dated July 2020), the stopping sight distance is the minimum sight distance along a roadway required to allow a driver to decrease their speed from the design speed to a complete stop. The corner sight distance is the minimum sight distance in which a driver at a stop-controlled approach can see oncoming traffic on the major street to safely maneuver onto the roadway.

The stopping sight distance was evaluated on the major arterials abutting the project (i.e., Armstrong Avenue and McKinley Avenue). The posted speed limit on Armstrong Avenue is 45 mph. Though McKinley Avenue is yet to be constructed along the project frontage, the speed limit was estimated as 35 mph along the project frontage. For purposes of this analysis, the posted or estimated speed limits have been considered as the design speed. As stated in Table 201.1 of the HDM, the minimum stopping sight distance is 360 feet for a design speed of 45 mph and 250 feet for a design speed of 35 mph. Therefore, the minimum stopping sight distance has been considered as 360 feet and 250 feet for Project Driveway 1 (along Armstrong Avenue) and Project Driveway 2 (along McKinley Avenue), respectively.

As for corner sight distance, Section 405.1 of the HDM states that corner sight distance requirements are not applicable for urban driveways unless signalized. However, as a conservative approach, corner sight distances were also evaluated for the project driveways. The minimum corner sight distance was based on design speed, time gap, and type of vehicles from the minor roads (project driveways) to enter the major roads (Armstrong Avenue and McKinley Avenue). Based on the requirements established in the HDM, it was determined that a minimum corner sight distance of 500 feet and 390 feet would be required for left-turn maneuvers coming out of Project Driveway 1 and Project Driveway 2, respectively. Furthermore, a minimum corner sight distance of 430 feet and 335 feet would be required for right-turn maneuvers coming out of Project Driveway 1 and Project Driveway 2, respectively.

Since the corner sight distances required at the project driveways would be greater than the stopping sight distances (500 feet compared to 360 feet for Project Driveway 1 and 390 feet compared to 250 feet for Project Driveway 2), sight triangle figures were created using corner sight distances. As a conservative measure, left-turn corner sight distances were used for both right- and left-turn sight triangles for both project driveways. As illustrated in Figure 11-1, Project Driveway 1 will provide adequate sight distance for left- and right-turn maneuvers onto Armstrong Avenue. As illustrated in Figure 11-2, Project Driveway 2 will provide adequate sight distance for left- and right-turn maneuvers onto McKinley Avenue.

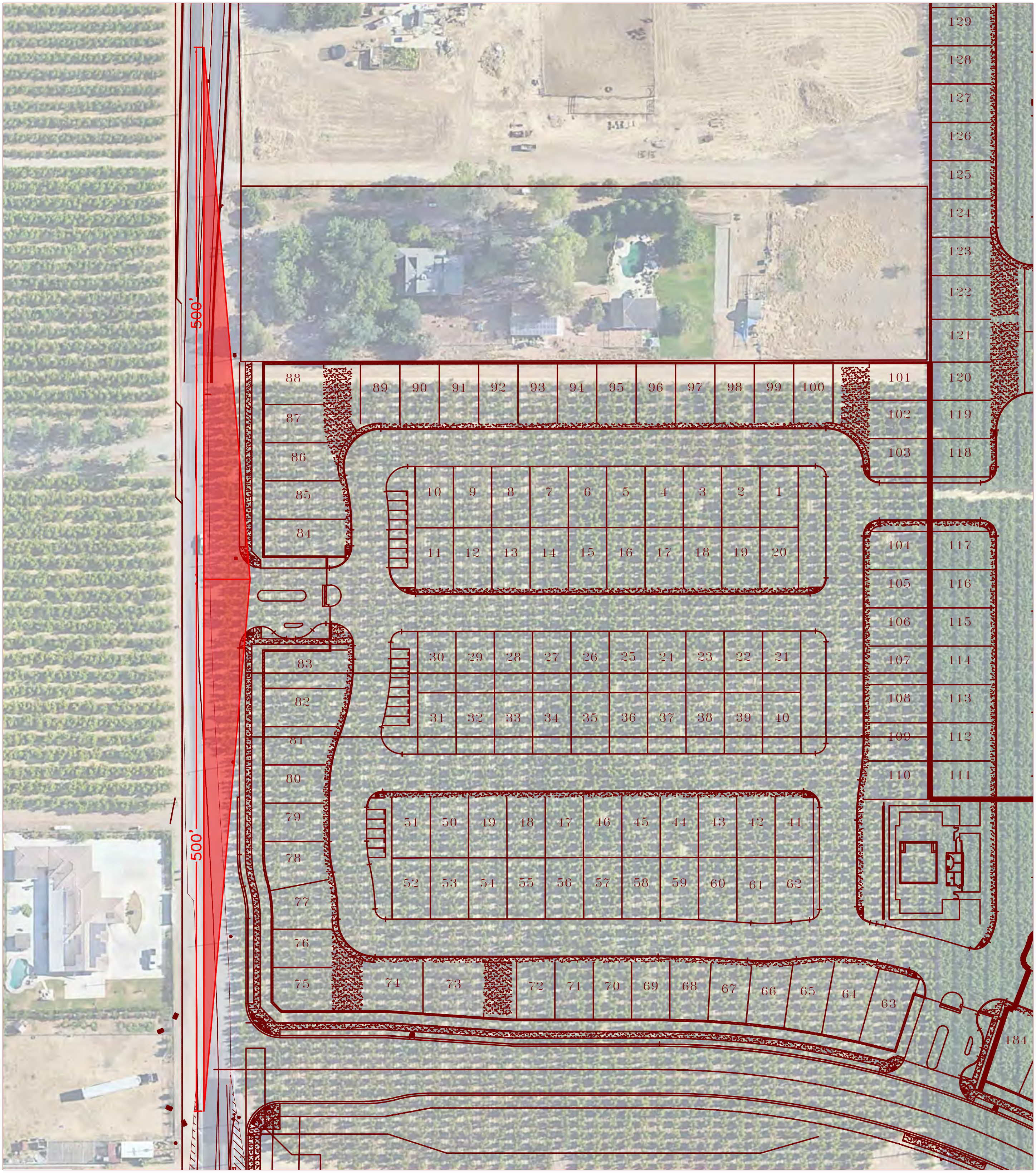
11.2 DRIVEWAY SPACING

Previously referenced Figure 1-2 illustrates the project site plan. As illustrated in Figure 1-2, the driveway on Armstrong Avenue is located approximately 450 feet north from the intersection of Armstrong Avenue/McKinley Avenue. Similarly, the project driveway on McKinley Avenue is located approximately 650 feet east of this intersection. As such, none of the driveways are located too close to any existing and future intersections, and there would be sufficient spacing between all existing and future intersections including the project driveway intersections.

11.3 PROJECT DRIVEWAY QUEUING ANALYSIS

As shown in tables 10-A through 10-C, the project is not anticipated to create a back-up along Armstrong Avenue or McKinley Avenue due to project traffic. As such, the project traffic is not anticipated to create any adverse effect along the project driveways.

11.4 LIST OF CHAPTER 11.0 FIGURES



LSA

LEGEND

- Sight Distance Triangle

FIGURE 11-1

N

0 60 120
FEET

Tract Map 6360 Project
Traffic Impact Study

Corner Sight Distance at Project Driveway 1

SOURCE: Habrbour & Associates, November 2022

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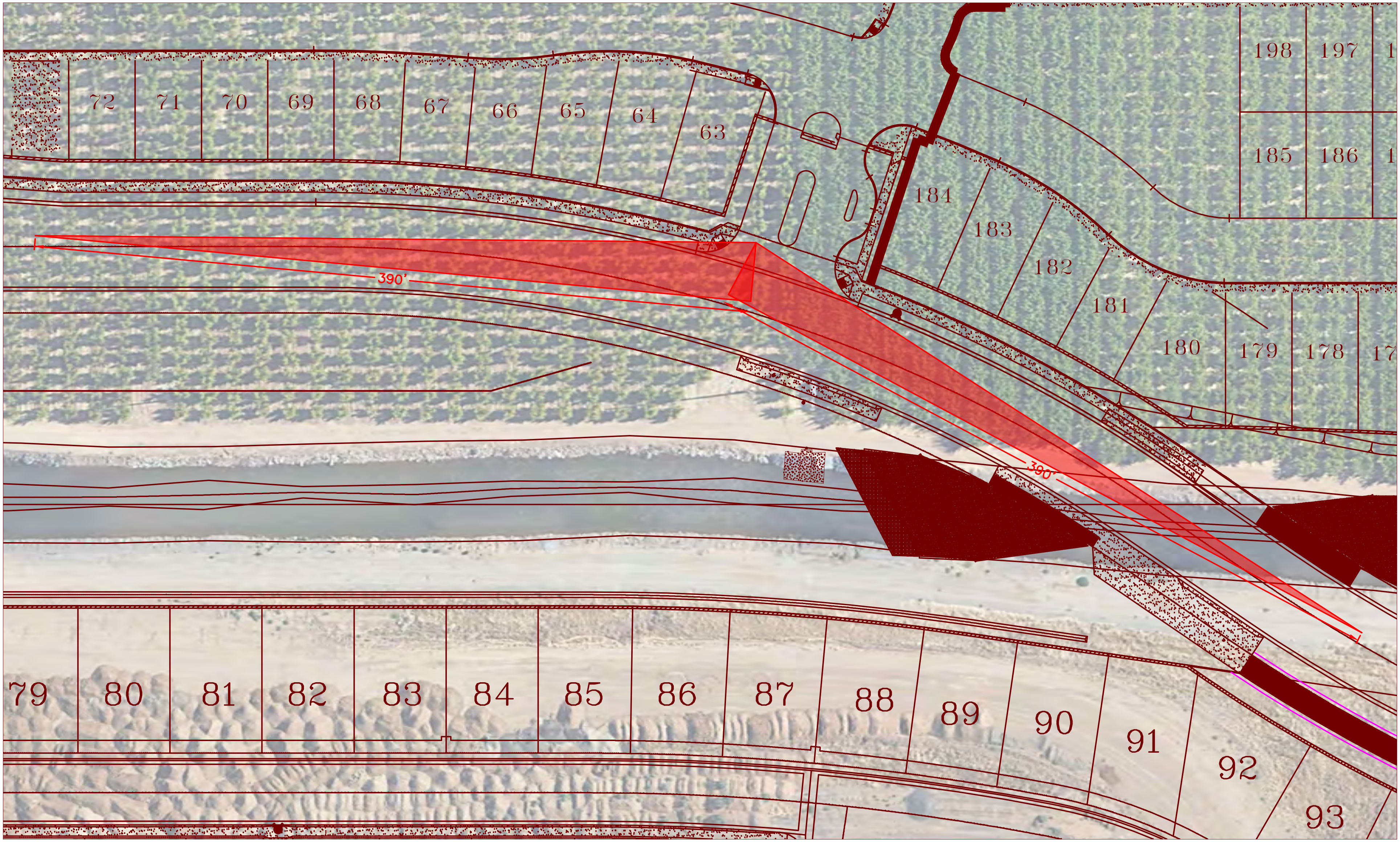

LSA

LEGEND

- Sight Distance Triangle

FIGURE 11-2

0 40 80
FEET

Tract Map 6360 Project
Traffic Impact Study

Corner Sight Distance at Project Driveway 2

SOURCE: Habrbour & Associates, November 2022

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12.0 SAFE ROUTES TO SCHOOL EVALUATION

The project will be under the jurisdiction of the Clovis Unified School District (CUSD). The CUSD provides transportation for students who live in excess of an established radius zone. The zones are a radius of 1.00 miles for grades Kindergarten through 6th and 2.50 miles for grades 7th through 12th.

The nearest elementary school to the project site is Temperance-Kutner Elementary School, which is located at the southeast corner of the intersection of Armstrong Avenue/Olive Avenue. The distance between the project corner and the school along Armstrong Avenue is approximately 0.55 miles. Therefore, it is estimated that children from the project will be accessing the elementary school by car, bike, or by walking. This school can be reached from the project site traveling directly south along Armstrong Avenue to the intersection of Armstrong Avenue/Olive Avenue.

Paved sidewalks are currently present along the southbound direction and intermittently present along the northbound direction of Armstrong Avenue between Floradora Avenue and Olive Avenue. The project will be adding sidewalks along the project frontage on Armstrong Avenue and McKinley Avenue. Additionally, paved sidewalks are expected to be constructed along both directions of Armstrong Avenue between McKinley Avenue and Olive Avenue prior to the completion of the project as part of TM 6209 project. The future intersection of Armstrong Avenue/McKinley Avenue is anticipated to be two-way stop controlled (TWSC) with the stop signage placed on both directions of McKinley Avenue and a marked crosswalk along the northbound direction of Armstrong Avenue. Students are anticipated to cross this intersection headed southbound on the westside of Armstrong Avenue towards the intersection of Armstrong Avenue/Floradora Avenue. The intersection of Armstrong Avenue/Floradora Avenue is TWSC with stop signage placed on both directions of Floradora Avenue and no marked crosswalks along any direction. Students are anticipated to cross this intersection and continue southbound on the westside of Armstrong Avenue to the intersection of Armstrong Avenue/Olive Avenue. The intersection of Armstrong Avenue/Olive Avenue is all-way stop controlled (AWSC) with marked crosswalks along the northbound direction of Armstrong Avenue and both directions along Olive Avenue. Students are anticipated to cross this intersection and arrive at the northwest corner of the elementary school. Due to the lack of marked crosswalks within the intersection of Armstrong Avenue/Floradora Avenue, it is recommended for CUSD and the City to prioritize installation of marked crosswalks at this intersection to provide a safe walking route for students walking from the project to school.

The nearest middle school to the project site is Reyburn Intermediate, which is located at the southeast corner of the intersection of De Wolf Avenue/Donner Avenue. The distance between the project site and the school is approximately 2.65 miles. Since the distance between the project site and the school exceeds the established radius zone of 2.50 miles, public transportation will be provided to students residing within the project.

The nearest high school to the project site is Clovis East High School, which is located at the southwest corner of the intersection of Leonard Avenue/Donner Avenue. The distance between the project site and the school is approximately 2.8 miles. Since the distance between the project site and the school exceeds the established radius zone of 2.50 miles, public transportation will be provided to the students residing within the project.

13.0 COLLISION ANALYSIS

13.1 LOCAL ROADWAYS AND INTERSECTIONS

A traffic collision analysis was conducted for the study area inclusive of all study intersections and roadway segments. Traffic collision data was obtained from the State of California *Statewide Integrated Traffic Records System* (SWITRS) through the University of California, Berkeley *Transportation Injury Mapping System* (TIMS). It should be noted that the SWITRS currently provides collision data dated from December 2021 and earlier. For purposes of this analysis, five years of traffic collision data, dated between December 2016 and December 2021, were examined for this analysis.

According to the data provided by SWITRS, there have been a total of 12 crashes involving at least one vehicle within the defined study area. These 12 crashes are divided into one fatal crash, seven crashes that resulted in injury, and four unmapped collisions. All 12 crashes involve at least one vehicle but none involve pedestrians or bicyclists. Of these 12 crashes, seven occurred on Fowler Avenue near the SR-180 ramps, three on the intersection of Armstrong Avenue/Belmont Avenue, and two near the intersection of Temperance Avenue/McKinley Avenue. The fatal collision occurred near the intersection of Temperance Avenue/McKinley Avenue and involved a vehicle colliding with an undocumented object.

Detailed collision data extracted from TIMS are included in Appendix G.

13.2 CALTRANS FACILITIES

Based on data obtained from the Caltrans *Traffic Accident Surveillance and Analysis System* (TASAS) for freeway facilities, 28 collisions occurred along the eastbound SR-180 in the vicinity of the Fowler Avenue interchange (between Clovis Avenue interchange and Temperance Avenue interchange) between August 2019 to July 2022. These collisions included 1 fatal, 10 injury, and 17 property damage only collisions. Based on the TASAS data, the fatal collision rate for this facility is higher than the statewide average. However, fatal + injury collision rate and the total collision rate for the SR-180 eastbound facility in the Fowler Avenue interchange is lower than the statewide average for such facilities.

For the westbound SR-180 in the vicinity of the Fowler Avenue interchange (between Clovis Avenue interchange and Temperance Avenue interchange), 53 collisions occurred within the same time. None of these collisions resulted in any fatalities. These collisions included 14 injury, and 39 property damage only collisions. As included in the summary, the rate of fatal + injury related collisions, as well as the rate of total rate of collisions along this facility, is lower than the corresponding statewide average rate for similar facilities.

The Caltrans TASAS data summary is included in Appendix G.

14.0 VEHICLE MILES TRAVELED ANALYSIS

On December 28, 2018, the California Office of Administrative Law cleared the revised California Environmental Quality Act (CEQA) guidelines for use. Among the changes to the guidelines was removal of vehicle delay and level of service from consideration under CEQA. With the adopted guidelines, transportation impacts are to be evaluated based on a project's effect on vehicle miles traveled (VMT).

The City adopted the City of Fresno CEQA Guidelines for Vehicle Miles Traveled Thresholds (VMT Guidelines) on June 25, 2020, which includes the screening criteria, VMT analysis methodology, VMT impact thresholds, and VMT mitigation measures. Therefore, the City's VMT Guidelines was used in the evaluation of the project's VMT analysis.

14.1 METHODOLOGY

14.1.1 Project Screening Evaluation

The VMT Guidelines provides multiple screening criteria for land use projects. The project was compared with the screening criteria established in the "Project Screening" section of the VMT Guidelines to check if the project can be screened out. Following is a brief description about the project in relation with the project screening criteria:

- **Project Located in a High-Quality Transit Area (HQTA):** The project is not located within an HQTA; therefore, this screening criteria does not apply to the project.

- **Local-Serving Retail:** The project consists of residential land use only; therefore, this screening criteria does not apply to the project.

- **Provision of Affordable Housing:** The project proposes to develop market-rate, single-family dwelling units. Therefore, this screening criteria does not apply to the project.

- **Small Project:** The guidelines state that projects generating less than 500 daily trips could be screened out of a detailed VMT analysis. As discussed in Section 5.0, Project Trip Generation, the project is estimated to generate 3,074 daily trips. Therefore, the project does not satisfy this screening criteria.

- **Project Located in Low VMT Area:** Given the project consists of only residential uses, the City's VMT per capita map can be used to check if the project is located in a low VMT area. Based on review of the City of Fresno VMT per capita screening map, the project is not located in a low VMT area; therefore, this criteria does not apply to the project.

As shown above, the project could not be screened out from detailed VMT analysis. As such, pursuant to the VMT Guidelines, a detailed VMT analysis was conducted to assess the project's VMT impact.

14.1.2 Thresholds of Significance

The project consists of residential land use. The guidelines established VMT per capita as the appropriate metric to evaluate residential land use projects while defining Fresno County as the "region" for determining VMT thresholds. The project would have a significant VMT impact if the baseline project VMT per capita is greater than 87 percent of the baseline Fresno County VMT per capita. Based on the guidelines, baseline Fresno County VMT per capita is 16.1 and the corresponding threshold is 14.0 (which is 87 percent of 16.1). Therefore, the project will have a significant VMT impact if the project VMT per capita is greater than 14.0.

As recommended in the guidelines, the Fresno COG ABM was used for the project VMT analysis. The model inputs were updated with the project land uses to calculate project VMT. The project VMT was calculated from a Fresno COG ABM model run as described in the following sections.

14.1.3 Project Traffic Analysis Zone Update

The first step in preparation of this analysis was to update the traffic analysis zones (TAZs) in the model that include the project area. The Fresno COG ABM includes the ability to add or split zones. In order to isolate the project VMT, a new zone was created in the model. The project households were included in the newly created zone for modeling purposes. No project-specific network modifications were required for the model run. A model run was conducted for the existing/base scenario with updated model inputs. The outputs from this updated model run were used to calculate the project VMT per capita.

14.1.4 Model Runs and Project Vehicle Miles Traveled Estimation

A model run was conducted for this updated model upon completion of the socioeconomic data update. The outputs from this updated model run were used to calculate the project VMT per capita.

14.2 PROJECT VEHICLE MILES TRAVELED ANALYSIS

Table 14-A summarizes the regional threshold and project VMT per capita. As shown in Table 14-A, the project VMT per capita is 9.1 percent higher than the City's VMT per capita threshold. Therefore, based on the guidelines, the project will have a significant VMT impact.

Detailed VMT calculation for the project is included in Appendix H.

14.3 VMT REDUCTION MEASURES – PROJECT DESIGN FEATURES AND MITIGATION MEASURES

When a lead agency identifies a significant CEQA impact, the agency must identify feasible mitigation measures in order to avoid or substantially reduce that impact. These measures can be incorporated as a part of plans, policies, regulations, or project designs. Project design features that encourage mode shift from automobiles to transit or non-motorized modes can therefore help reduce project VMT. Typically, VMT reduction and benefits from these project design features are not accounted in the project VMT calculations conducted using the regional travel demand model. Therefore, VMT reduction credit can be accounted for these design features, similar to VMT mitigation measures to help reduce or eliminate the project's VMT impact. Enforcement of mitigation measures will be subject to the mitigation monitoring requirements under CEQA, as well as the regular police powers of the lead agency.

Evaluation of VMT reductions should be evaluated using state-of-the-practice methodologies recognizing that many of the VMT mitigation strategies/project design features are dependent on resident performance over time. Following is a detailed description of both and the corresponding potential reduction that could be achieved with implementation of these measures.

14.3.1 Project Design Features

As per information provided by the applicant, the project intends to implement project design features that will help reduce project VMT. The proposed project design features were evaluated using City's Urban Form VMT Calculator and California Air Pollution Control Officers Association's (CAPCOA) "*Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity – Designed for Local Governments, Communities, and Project Developers*" dated December 2021, (CAPCOA handbook) as described below.

Urban Form VMT Calculator: City of Fresno has developed a tool – "City of Fresno Urban Form VMT Calculator", to assist land use projects with estimation of VMT reduction that can obtained from project design features. The tool takes into account multiple project attributes (e.g., density, mix of uses), project location characteristics (accessibility to other land uses, major street connections), and project design features (inclusion of sidewalks, bike lanes, provision of trees) to estimate the VMT reduction that can be achieved from project location and design.

LSA used the project site plan in CAD (Computer-Aided Design) to estimate the inputs for City's Urban Form VMT Calculator. Based on the project inputs, no VMT reduction was estimated from the tool. However, it should be noted that Estimation of VMT reduction in the current tool was based on CAPCOA's "*Quantifying Greenhouse Gas Mitigation Measures - A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures*" dated August, 2010 and professional planning experience. However, CAPCOA has recently released an updated version of the handbook "*Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity – Designed for Local Governments, Communities, and Project Developers*" dated December 2021. As such, the City is in the process of updating the VMT tool using the recommendations and methodologies from the new Green Book. Therefore, VMT reduction from the Urban Form VMT Calculator was not utilized for this project.

LSA reviewed the project design features and VMT mitigation measures listed in the CAPCOA handbook that are applicable to City of Fresno. VMT reductions for applicable design features/mitigation measures were estimated using the most recent version of CAPCOA handbook.

Improve Street Connectivity: The project proposes to provide an internal circulation network. Projects with higher density of intersections would help increase street connectivity, reduce trip lengths and promote use of alternative transportation modes of travel. CAPCOA handbook, identifies measure **T-17: Improve Street Connectivity** to evaluate project street network. The measure is recommended as an appropriate design feature for plans within urban or suburban areas. The current project is located in suburban/rural area type setting so this measure was explored as a potential VMT reduction design feature.

Measure T-17 estimates that an increased density of vehicular intersections improves street connectivity and helps in reduction in GHG emissions and corresponding VMT. As included in the CAPCOA handbook, this measure could be applied to a project for:

> *'Projects that increase intersection density would be building a new street network in a subdivision or retrofitting an existing street network to improve connectivity (e.g., converting cul-de-sacs or dead-end streets to grid streets)'.*

The measure establishes the following numerical formula of VMT reduction due to increased intersection density and improved street connectivity:

$$A = \frac{B - C}{C} * D$$

Where,

A = Percent Reduction in GHG/VMT emission from vehicle Travel

B = Intersection Density in project site with measure

C = Average Intersection Density for Typical developments (36)

D = Elasticity of VMT with respect to intersection density (-0.14)

The CAPCOA handbook establishes the variable C using an average density of intersections within a square mile in a typical development as included in the *Proposed Trip Generation, Distribution, and Transit Mode Split Forecasts for the Bayview Waterfront Project Transportation Study*, Fehr & Peers. 2009. This establishes the average suburban intersection density for the entire United States.

CAPCOA handbook adapts the variable D, Elasticity of VMT with respect to intersection density from the report '*Does Compact Development Make People Drive Less*?' published in the Journal of the American Planning Association, 2016, authored by Mark R. Stevens. The elasticity was determined from a meta-regression analysis from data of fifteen studies, having studied in different urban/suburban geographic regions within the Country.

The project is a gated community which has specified entry/exit ways that reduces accessibility to all project related traffic. While the increased intersection density helps facilitate greater number of short trips, the project consists of only single land use type (residential) and the amount of internal capture (trips that can be fulfilled within the project; with both origin and destinations within the project site) would be minimal. Also, CAPCOA suggests application of different VMT mitigation measures at different scales – project/site scale or community/plan scale. Based on CAPCOA handbook, this mitigation measure is applicable at a plan/community scale. However, this measure was explored as a VMT reduction design feature at a project scale with appropriate limitations as described below.

While the internal intersections can be considered to estimate the VMT reduction due to increased street connectivity, given the above limitations (project location area type, single land use type, gated entry/exit, and CAPCOA applicability scale), only the two project driveways were included to determine project intersection density. Figure 1-2 illustrates these driveway intersections of the project. The project site is approximately 31.27 acres. Therefore, the intersection density of the project would be approximately 40.35 intersections per square mile.

Since project intersection density is greater than the countrywide average intersection density of 36 intersections per square miles as identified in the CAPCOA handbook, it could be estimated that the project will help reduce project VMT due to a higher-than-average density of vehicular network intersections along with implementation of the project design features. The percentage of VMT reduction for the project could be determined as:

$$\%\, VMT\ reduction = \frac{40.35 - 36}{36} * (-0.14)$$

Or -1.69 percent

As such, due to these improved vehicular network connection and project design features, the project will achieve 1.69 percent reduction in VMT compared to the project VMT that was estimated from the regional travel demand model.

Pedestrian Infrastructure: The project proposes to provide pedestrian improvements/sidewalks both internal to the project site and along the project frontage. Providing sidewalk/pedestrian improvements encourage people to walk instead of drive and thus reduces VMT. CAPCOA transportation measure **T-18: Provide Pedestrian Network Improvement** was deemed applicable to estimate the VMT reduction due to project related pedestrian network improvements. According to this measure, providing pedestrian network improvements helps improve pedestrian access within the area. This encourages a mode shift on the roadway parallel to the sidewalks from vehicles to walking, displacing VMT and thus reducing GHG emissions. However, no additional VMT reduction due to provision of pedestrian infrastructure was estimated, since increasing intersection density (Improve Street Connectivity Measure) already accounts for the mode shift that will occur in the project area. As such, not estimating further VMT reduction due to this design feature when implemented along with improving street connectivity, provides a more conservative scenario in the estimation of VMT reduction.

Bicycle Infrastructure/Improvements: The project is planning to provide a 25-foot-wide easement for bicycle and pedestrian infrastructure. This easement provides the necessary right-of-way for the City of Fresno to construct a Class I Bike Path on East McKinley Avenue as planned in the City of Fresno *Active Transportation Plan, December 2016*. Similar to pedestrian facilities, these bicycle design features included in the project can encourage increase active transportation mode share in the area. CAPCOA transportation measure **T-19A: Construct or Improve Bike Facility** was deemed applicable to estimate the VMT reduction due to project bicycle features. According to the measure, providing bicycle infrastructure improve biking conditions within an area, which encourages a mode shift on the roadway parallel to the bicycle facility from vehicles to bicycles, displacing VMT and thus reducing GHG emissions. Similar to project pedestrian infrastructure, no VMT reduction was estimated for this design feature to present a conservative scenario.

Implement a School Bus Program: As previously mentioned, the project is within the Clovis Unified School District (CUSD) jurisdiction. According to CUSD Board Policy 351, the school district is responsible for providing transportation between home and schools for students living outside the established radius zone. The established radius zone for students in grades K-6, is one mile from the school where the student is assigned and the established radius zone for students in grades 7-12 (intermediate and high school students), is 2.5 miles from the school where the student is assigned. Additionally, if a community is inside the established radius zone, a Community Funded Bus Run (CFBR) program can be established, per Clovis Unified Board Policy and Administrative Regulation #8301. If sufficient funds are raised by the CFBR program, the CUSD will provide transportation to the community. CAPCOA transportation measure **T-40: Implement School Bus Program** was deemed applicable to potentially reduce VMT and associated GHG emissions due to the reduction in number of private vehicles trips to drop-off or pick-up students.

14.3.2 Mitigation Measures

The project explored other potential mitigation measures from CAPCOA that might help further reduce project VMT that are shown below. Similar to project design features, VMT reduction that can be achieved by the mitigation measures has been estimated using the CAPCOA manual mentioned previously.

Provide Electric Vehicle (EV) Parking and EV Charging Infrastructure: Accessible EV parking and provision of charging for electric vehicles in the residential units will encourage the use of EVs. The latest California Green Building Standards (CALGreen), California Building Code, requires provision of infrastructure to accommodate electric vehicle chargers for new single family and attached dwelling units/town houses. For new construction projects such as apartments, condos, hotels, and motels, CALGreen code requires the project to provide EV charging stations as a percentage of the total project parking. While it is understood that provision of electric charging infrastructure/stations might not reduce VMT, it will reduce GHG which can be considered equivalent to reduction in VMT. According to CAPCOA, provision of additional electric charging stations, in addition to CALGreen requirements, can be considered as a GHG/VMT mitigation. Provision of EV charging infrastructure has a potential to achieve a maximum VMT reduction of up to 11.9 percent. However, the project is a single-family residential development and as such doesn't propose to provide electric charging stations. While this project design feature has the potential to reduce GHG emissions, no direct VMT reduction has been accounted for this project design feature.

In conclusion, project design features aim to promote overall mobility with the goal of reducing VMT and reducing greenhouse gas emissions. Implementation of the above project design features may possibly reduce the project's VMT by approximately up to 1.69 percent. The proposed measures and strategies should be monitored for their usage and effectiveness. The project design features can help offset some of the VMT impacts of the project but will not reduce the impact to a less than significant level. Therefore, the project will have a significant and unavoidable transportation impact under CEQA.

14.4 LIST OF CHAPTER 14.0 TABLES

Table 14-A: Regional and Project VMT per Capita

Region (Fresno County)[1]	Project	Difference	Percentage Difference
14.0	15.3	1.3	9.1%

Source: Fresno Council of Governments' Activity-Based Model

VMT = Vehicle Miles Traveled

[1]*The Fresno County VMT per capita was obtained from CEQA Guidelines for Vehicle Miles Traveled Thresholds, City of Fresno - June 25, 2020*

15.0 SUMMARY AND CONCLUSIONS

The proposed project would include 326 single-family residential units. The project site is zoned within the Residential Single-Family District (RS-3). The RS district is intended to provide for a variety of single-family residences built to urban or suburban standards to suit a spectrum of individual lifestyles and needs. This district is also meant to enhance the City's residential neighborhoods while providing new opportunities for the development of a range of housing types throughout the City. The project site is designated Low-Density Residential in the Fresno General Plan.

15.1 EXISTING CONDITIONS SUMMARY

All study intersections and roadway segments operate at a satisfactory LOS under existing and existing plus project conditions with the exception of three intersections and one roadway segment.

All three intersections meet signal warrant requirements under existing and existing plus project conditions.

15.2 NEAR-TERM PLUS PROJECT CONDITIONS SUMMARY

Four study intersections are forecast to operate at a satisfactory LOS under near-term plus project conditions. Nine study intersections are forecast to operate at a deficient LOS under near-term plus project conditions. All roadway segments are forecast to operate at a satisfactory LOS under near-term plus project conditions with the exception of three roadway segments.

Seven intersections meet signal warrant requirements under near-term plus project conditions.

15.3 CUMULATIVE YEAR (2046) CONDITIONS SUMMARY

Two study intersections are forecast to operate at a satisfactory LOS under cumulative year no project conditions while four study intersections are forecast to operate at a satisfactory LOS under cumulative year plus project conditions. Nine study intersections are forecast to operate at a deficient LOS under cumulative year no and plus project conditions. All roadway segments are forecast to operate at a satisfactory LOS under cumulative year no and plus project conditions with the exception of three roadway segments.

Seven intersections meet signal warrant requirements under cumulative year no and plus project conditions.

15.4 IMPROVEMENTS SUMMARY

Based on the improvements discussed in Section 9.1 “Recommended Improvements” of this report, the recommended improvements include adding additional lanes to roadway segments, installing traffic control signals where the requirements of a signal warrant were met, and restriping of existing lane markings. Most of the recommended circulation improvements are covered by the City's fee programs. However, the project will pay fair share percentages for intersections and roadway segments where improvements were not covered by a fee program.

15.5 SITE ACCESS AND CIRCULATION ANALYSIS SUMMARY

The project driveways have adequate corner sight distance and will be stop controlled. Based on the locations of the project driveways, the project is not anticipated to create deficiency in the neighborhood traffic flow pattern.

15.6 SAFE ROUTES TO SCHOOL EVALUATION SUMMARY

The nearest elementary school is within walking distance to the project site. However, there currently does not exist a safe route for students to access the elementary school by walking. The nearest middle school and high school are not within walking distance to the project site. However, public transportation will be provided to students at the project site.

15.7 COLLISION ANALYSIS SUMMARY

Accident ratio within the study area is lower than the corresponding countywide and statewide average and no improvement is necessary to enhance safety within the study area. Within one mile of the SR-180 and Fowler Avenue interchange, the accident rates are higher than the average for similar facilities. It is not estimated that project traffic will significantly change the traffic flow pattern within the study area or increase the current collision frequency.

15.8 VEHICLE MILES TRAVELED SUMMARY

The project could not be screened out and a detailed VMT analysis using Fresno COG ABM was conducted for the project. The project VMT is 9.1 percent higher than the City's threshold and therefore, will have a significant VMT impact. Though project design features and mitigation measures are estimated to reduce the project VMT by some percentages, the project VMT impact could not be fully mitigated.

APPENDIX A

SCOPING AGREEMENT

LSA

CARLSBAD
CLOVIS
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

January 9, 2023

Ms. Harmanjit Dhaliwal, PE
Supervising Professional Engineer
Traffic Operations & Planning Division, Public Works Department
City of Fresno
2600 Fresno Street, Room 4064
Fresno, California 93721-3623

Subject: Tract Map 6360 Project TIS Scoping Agreement (LSA Project No. HAA2103)

Dear Harmanjit:

LSA will be preparing a Traffic Impact Study (TIS) for the proposed Tract Map 6360 Project (project) to be located at the northeast corner of the intersection between Armstrong Avenue and the future extension of McKinley Avenue in the City of Fresno (City). The project site is currently vacant. Figure 1 (all figures, tables, and appendices attached) illustrates the regional and project location.

The proposed project will include 326 single-family residential units. Access to the project will be provided via two full-access driveways, one located on Armstrong Avenue and the other located on the future extension of McKinley Avenue. It is to be noted that the section of McKinley Avenue along the project frontage from Armstrong Avenue and its extension up to Temperance Avenue will occur prior to the completion of the project. Figure 2 illustrates the conceptual site plan for the project.

The project site is zoned within the Residential Single-Family District (RS-3). The RS district is intended to provide for a variety of single-family residences built to urban or suburban standards to suit a spectrum of individual lifestyles and needs. This district is also meant to enhance the City's residential neighborhoods while providing new opportunities for the development of a range of housing types throughout the City. The project site is designated Low-Density Residential in the City's General Plan.

LSA anticipates that the following scope of work will be required to prepare the TIS for the proposed project.

SCOPE OF WORK: LEVEL OF SERVICE ANALYSIS

While Level of Service (LOS) analysis is no longer a determinant of California Environmental Quality Act (CEQA) impacts, consistency with the City's General Plan goals and policies is still required. The LOS analysis will be prepared to satisfy the requirements established by the City of Fresno *Traffic Impact Study Report Guidelines* (TIS Guidelines), updated February 2, 2009.

Study Intersections

LSA proposes to include the following intersections in the study:

1. Fowler Avenue/McKinley Avenue;

1500 Iowa Avenue, Suite 200, Riverside, California 92507 951.781.9310 www.lsa.net

2. Fowler Avenue/Floradora Avenue;
3. Fowler Avenue/Olive Avenue;
4. Fowler Avenue/State Route 180 (SR-180) Westbound Ramps;
5. Fowler Avenue/SR-180 Eastbound Ramps;
6. Fowler Avenue/Belmont Avenue;
7. Armstrong Avenue/McKinley Avenue;
8. Armstrong Avenue/Floradora Avenue;
9. Armstrong Avenue/Olive Avenue;
10. Temperance Avenue/McKinley Avenue;
11. Temperance Avenue/Floradora Avenue;
12. Armstrong Avenue/Project Driveway 1; and
13. Project Driveway 2/McKinley Avenue.

Figure 3 illustrates the study area intersections.

Roadway Segments

LSA proposes to include the following roadway segments in the study:

1. Fowler Avenue, between McKinley Avenue and Floradora Avenue;
2. Fowler Avenue, between Floradora Avenue and Olive Avenue;
3. Fowler Avenue, between Olive Avenue and SR-180 Westbound Ramps;
4. Fowler Avenue, between SR-180 Eastbound Ramps and Belmont Avenue;
5. Armstrong Avenue, between Project Driveway 1 and McKinley Avenue;
6. Armstrong Avenue, between McKinley Avenue and Floradora Avenue;
7. Armstrong Avenue, between Floradora Avenue and Olive Avenue;
8. Temperance Avenue, between McKinley Avenue and Floradora Avenue;
9. McKinley Avenue, between Fowler Avenue and Armstrong Avenue;
10. McKinley Avenue, between Armstrong Avenue and Project Driveway 2;
11. McKinley Avenue, between Project Driveway 2 and Temperance Avenue;
12. Floradora Avenue, between Fowler Avenue and Armstrong Avenue; and
13. Olive Avenue, between Fowler Avenue and Armstrong Avenue.

Analysis Scenarios

The LOS analysis will satisfy the requirements established by the City. As such, the following scenarios will be included in the TIS:

- Existing conditions;
- Existing plus project conditions;
- Near-term plus project conditions;
- Cumulative year (2046) no project conditions; and
- Cumulative year (2046) plus project conditions.

Trip Generation

The trip generation for the proposed project was developed using rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition) for Land Use 210 - “Single-Family Detached Housing.” Table A summarizes the project trip generation. As shown in Table A, the proposed project is anticipated to generate 3,074 daily trips, with 229 trips occurring during the a.m. peak hour and 306 trips occurring during the p.m. peak hour.

Project trip distribution patterns were developed using the select zone model run obtained from the Fresno Council of Governments’ (COG’s) Activity-Based Model (ABM). The select zone distribution plot is included in Appendix A. Figure 4 illustrates the project trip distribution. The project trip assignment at the study intersections is the product of the project trip generation and the corresponding trip distribution percentages. Figure 5 illustrates the project trip assignment.

Volume Development and Analysis Methodology

Traffic volumes for existing conditions will be developed using existing count data collected at study area intersections and roadway segments. Existing plus project volumes will be developed by adding project traffic to the existing traffic volumes.

Traffic volumes for near-term conditions will be developed by applying a per annum growth factor to existing traffic volumes and adding traffic from the project, as well as from approved and pending development projects in the vicinity of the project. LSA will be requesting City staff and adjacent jurisdictions for a list of such development projects.

Cumulative year without project traffic volumes will be developed using forecast volumes obtained from the Fresno COG ABM and by applying appropriate post-processing methodologies. Additionally, the transportation network to be evaluated in this scenario will be reviewed to include all Capital Improvement Projects (CIPs) already identified in impact fee programs such as the Fresno Major Street Impact (FMSI) or the Traffic Signal Mitigation Impact (TSMI) fee programs.

Cumulative year plus project traffic volumes will be developed by adding project traffic to cumulative without project traffic volumes.

All study intersections will be analyzed during the a.m. and p.m. peak hours. As per the City’s TIS Guidelines, the a.m. peak hour is defined as the one hour of highest traffic volumes occurring between 7:00 and 9:00 a.m. while the p.m. peak hour is defined as the one hour of highest traffic volumes occurring between 4:00 and 6:00 p.m. Intersection LOS will be calculated using the *Highway Capacity Manual 6* (HCM 6) analysis methodologies and by using the Synchro 11 software.

Roadway segments will be analyzed for daily traffic using Florida Tables as recommended in the City’s TIS guidelines.

Queuing Analysis

A queuing analysis will be performed at all study intersections. Queues for signalized intersections will be reported from Synchro, while queues for unsignalized intersections will be reported from SimTraffic.

Site Access and Circulation

A description of the project driveway and an illustration of the site plan will be provided in the TIS. Traffic operations at the project driveway will be analyzed based on an LOS and queuing analysis. The TIS will also include a discussion on the distance of the driveway from nearby intersections, along with the anticipated queues and Minimum Required Throat Depth (MRTD) at the driveway. Additionally, as per the City's TIS guidelines, an evaluation of sight distance and other potential unsafe traffic conditions shall be included in the TIS and appropriate recommendations will be provided.

Analysis of Traffic Operations and Recommended Circulation Improvements

LOS without the project at study intersections and roadway segments will be compared to the LOS with the project for all analysis scenarios to determine operational deficiencies based on the LOS standards and operational deficiency criteria established in the City's TIS guidelines.

Based on the results of the LOS and queuing analysis, improvements will be recommended at locations where the project creates or contributes to an operational deficiency. Improvements may include addition of intersection turn lanes, roadway widening, traffic signal installation and modification, local street striping and channelization improvements, and signage. The LOS with improvements will be calculated and summarized along with a comparison of the LOS without improvements.

Signal Warrant Analysis

As requested by City staff, the following signal warrant analysis will be included in the TIS as per the criteria defined in the California supplement of the *Manual on Uniform Traffic Control Devices* (CA-MUTCD):

- Warrant 1 and 2 for the existing unsignalized study intersections under existing conditions; and
- Warrant 3 for all unsignalized study intersections under all analysis scenarios.

Collision Analysis

An analysis of the collision data, based on the California Highway Patrol (CHP) Statewide Integrated Traffic Records System (SWITRS), over a five-year period will be included in the TIS.

Multimodal Analysis

The existing and planned transit routes, walkways, and bikeways will be documented and gaps in the existing sidewalk and bicycle network within the study area as well as current access to transit and current transit service will be identified in the analysis. The analysis will identify connectivity from the project site to the existing bicycle and pedestrian network, and distance to current transit stops. Improvements that will increase connectivity to sidewalks, trails, bicycle facilities, and transit facilities will be considered in the TIS.

Safe Routes to School Evaluation

As requested by City staff, the TIS will include a qualitative analysis of safe routes to school from the project site to the K-12 school(s) which would likely serve the project on its opening day.

Fair Share

LSA will evaluate whether the improvements identified in the TIS are included in the City's FMSI or TMSI fee programs. If it is determined that an improvement is not covered through either of the fee programs, then the project's fair share contribution will be calculated based on the project traffic as a percentage of total growth from existing to cumulative year conditions.

Should you have any questions, please do not hesitate to contact me at (951) 781-9310 or email me at Ambarish.Mukherjee@lsa.net.

Sincerely,

LSA ASSOCIATES, INC.

A. Mukherjee

Ambarish Mukherjee, AICP, PE
Principal

ATTACHMENTS

Table A: Project Trip Generation
Figure 1: Regional and Project Location
Figure 2: Conceptual Site Plan
Figure 3: Study Area Intersections
Figure 4: Project Trip Distribution
Figure 5: Project Trip Assignment
Appendix A: Fresno COG ABM Select Zone Distribution Plot

TABLES

LSA

Table A - Project Trip Generation

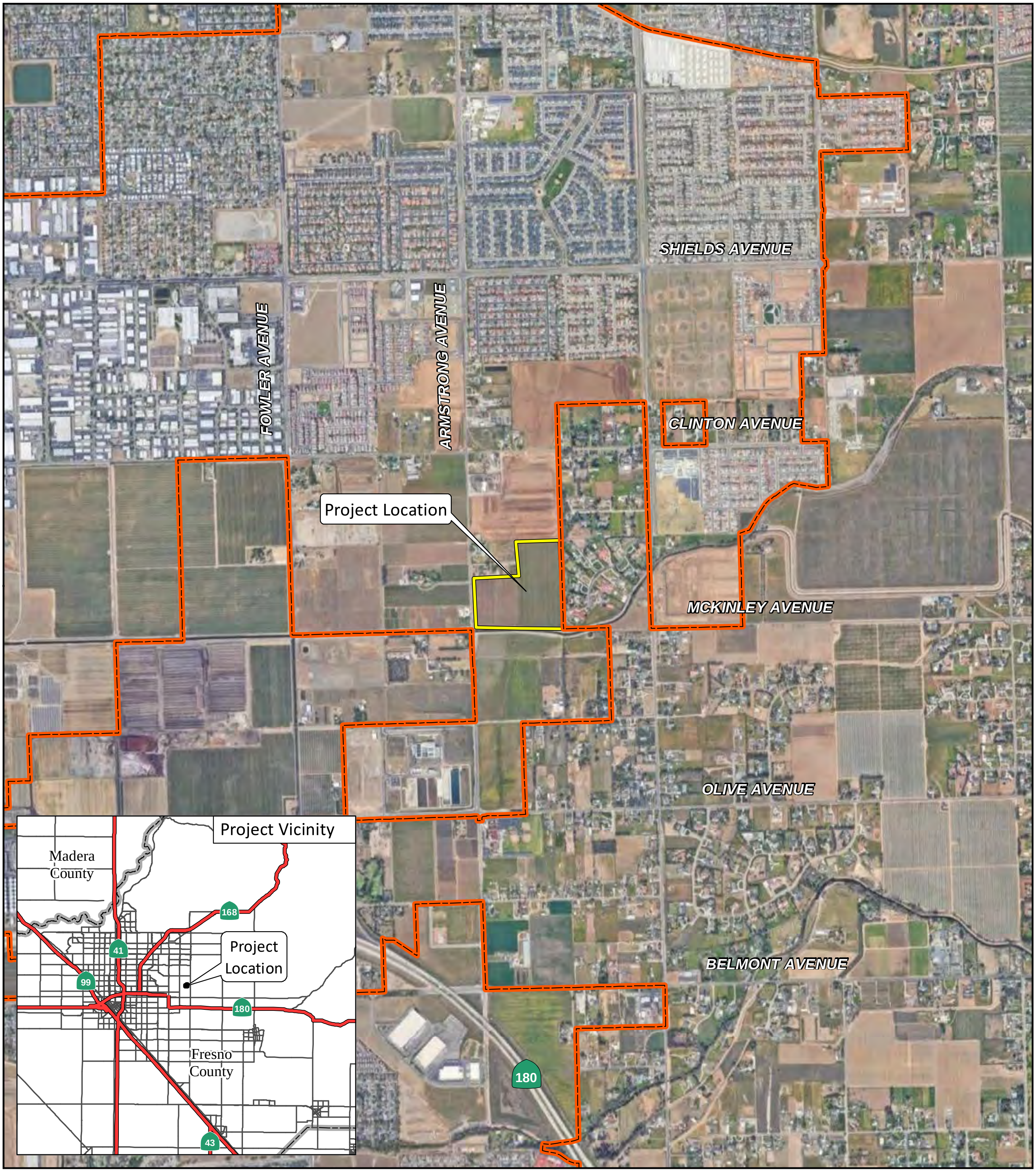
Land Use		Units	A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
Single-Family Detached Housing	326	DU							
Trips/Unit[1]			0.18	0.52	0.70	0.59	0.35	0.94	9.43
Trip Generation			59	170	229	192	114	306	3,074

Note:

DU = Dwelling Units

[1] Rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition), Land Use 210 - "Single-Family Detached Housing", Setting/Location - "General Urban/Suburban."

FIGURES



LSA

LEGEND

City of Fresno Boundary

Project Location

FIGURE 1

0 1000 2000
FEET

Tract 6360 Project
Traffic Impact Study

Regional and Project Location

SOURCE: Google Earth, 2018; County of Fresno Streets Data, 2021.

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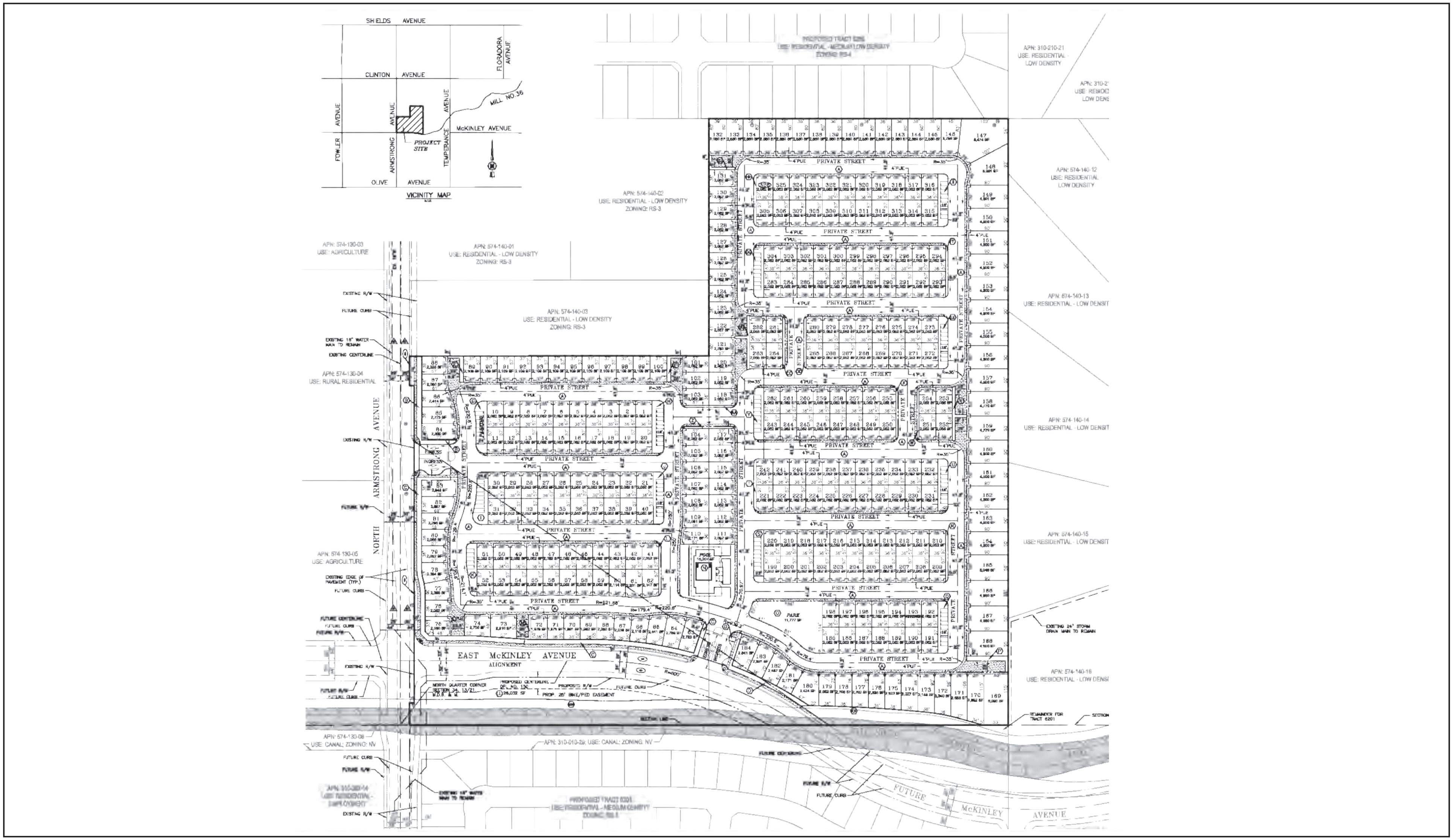
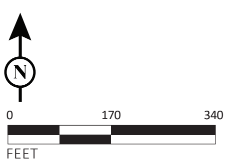


FIGURE 2



Tract Map 6360 Project
Traffic Impact Study

Conceptual Site Plan

SOURCE: Harbour & Associates, November 2022

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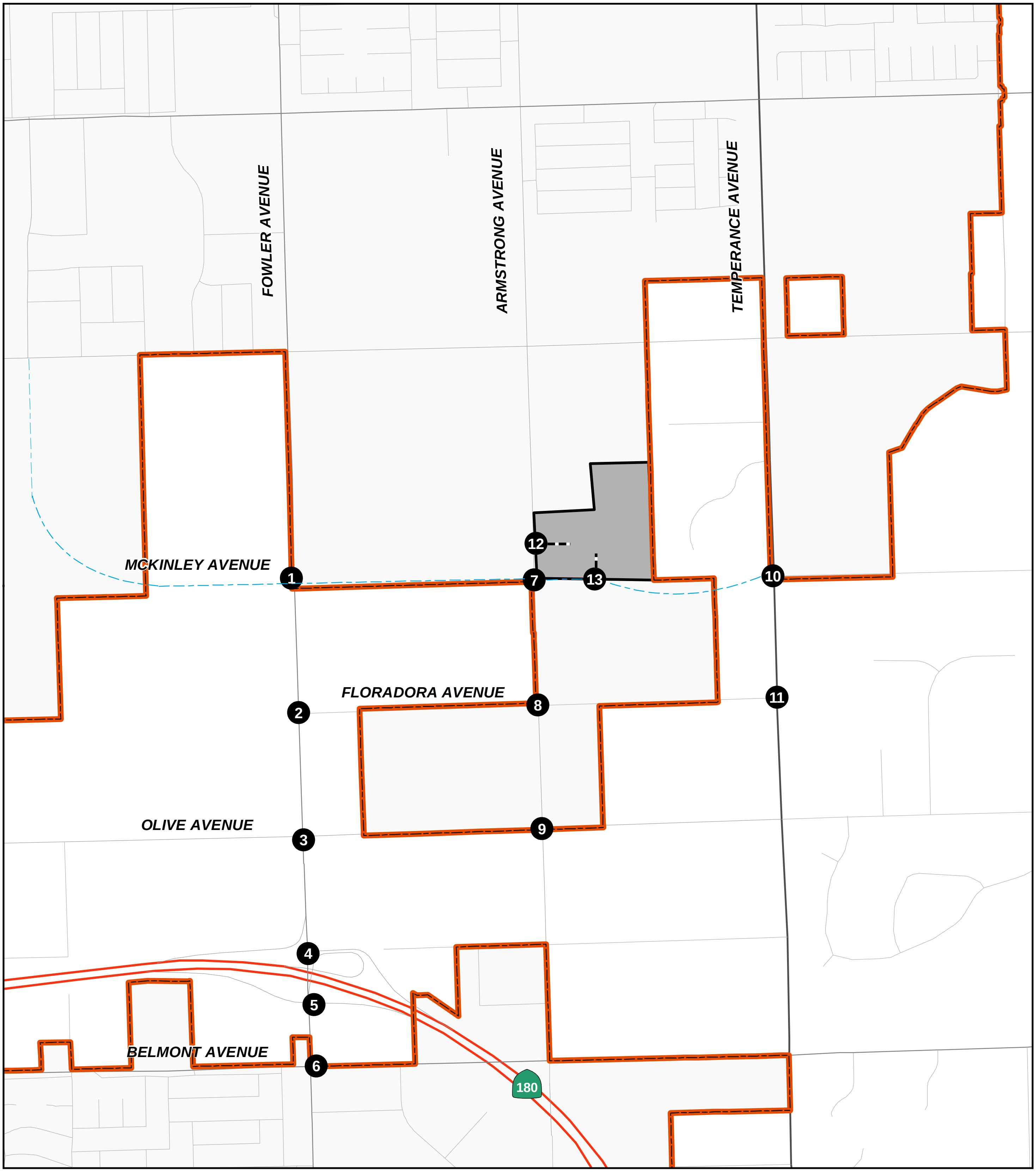

LSA

LEGEND

Project Site

City of Fresno Boundary

Study Intersections

Project Driveway

Future Roadway

0 750 1500

FEET

FIGURE 3

Tract 6360 Project

Traffic Impact Study

Study Area Intersections

SOURCE: County of Fresno Streets Data, 2021.

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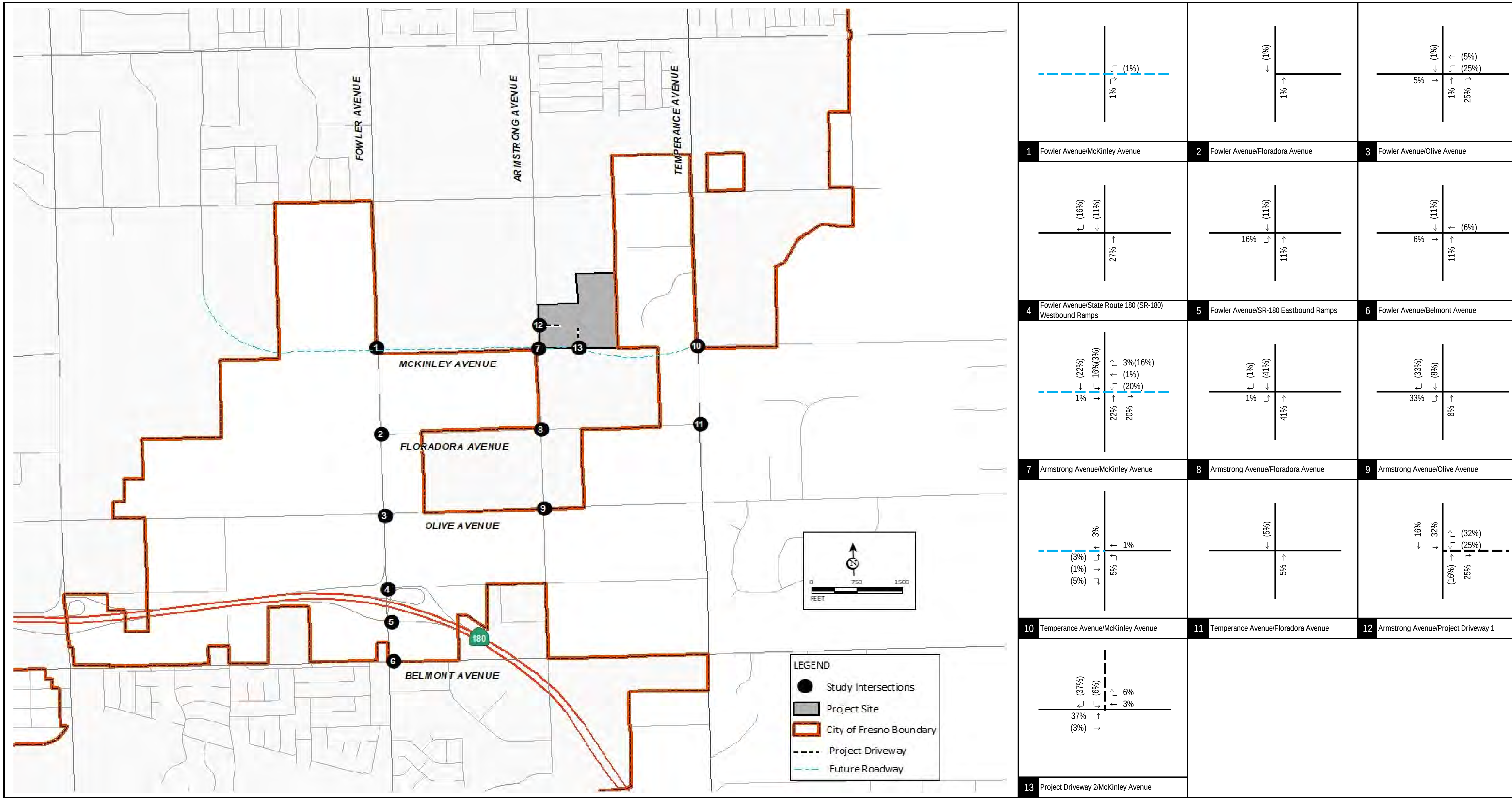


LSA

FIGURE 4

XX% (YY%)

Inbound (Outbound) Trip Distribution

Project Driveway

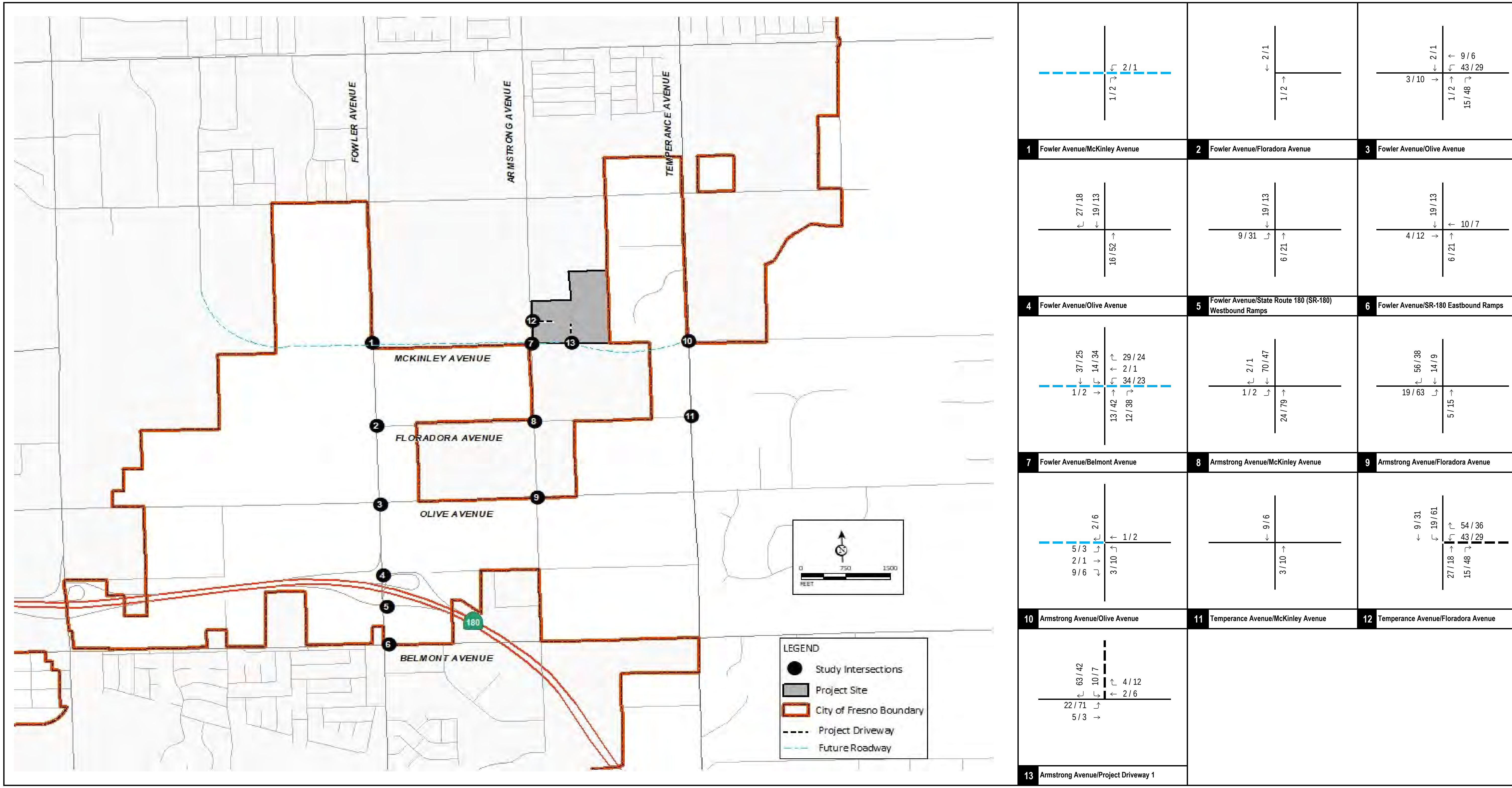
Future Segment

Tract Map 6360 Project

Traffic Impact Study

Project Trip Distribution

P:\HAA2103-TM 6360\PRODUCTS\Traffic\z45_Dist.xlsx 1/6/2023



LSA

FIGURE 5

XX / YY
AM / PM Peak Hour Traffic Volumes
Project Driveway
Future Segment

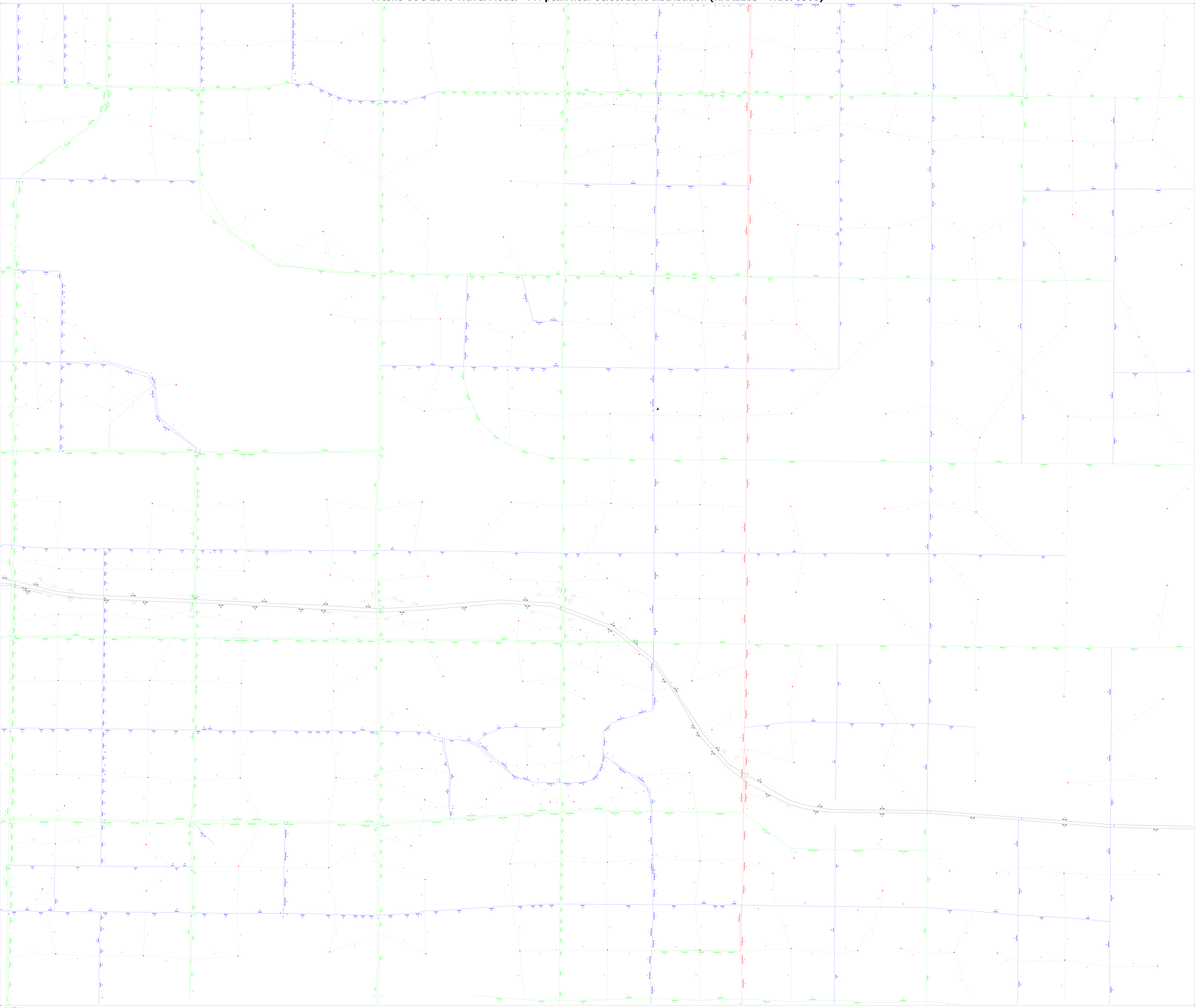
Tract Map 6360 Project
Traffic Impact Study
Project Trip Assignment

P:\HAA2103-TM 6360\PRODUCTS\Traffic\z45_Assign.xlsx 1/3/2023

APPENDIX A

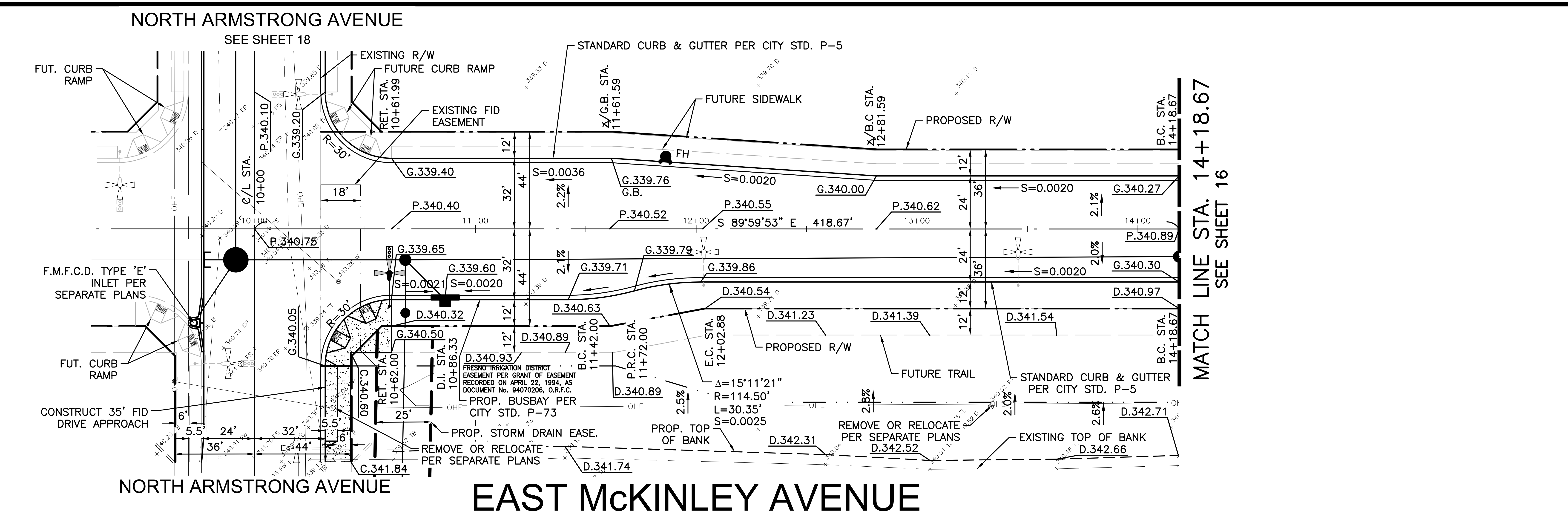
FRESNO COG ABM SELECT ZONE DISTRIBUTION PLOT

Fresno COG 2046 Travel Model - PM peak hour select zone distribution (HAA2103 - Tract 6360)



APPENDIX B

MCKINLEY AVENUE EXTENSION ALIGNMENT PLAN SHEETS



LEGEND

- INSTALL CURB RAMP PER CITY STANDARD P-28 & P-32
- INSTALL STREET LIGHT PER SEPARATE PLANS
- FH — FIRE HYDRANT, CURB AND SIDEWALK TRANSITION ADJACENT TO FIRE HYDRANT PER DETAIL ON SHEET 5
- P.349.19 — PAVEMENT ELEVATION
- G.349.19 — GUTTER ELEVATION
- FL.349.19 — FLOWLINE ELEVATION
- S=0.0000 — SLOPE
- CONSTRUCT SIDEWALK PER CITY STANDARD P-5
- G.B. — GRADE BREAK
- V.G. — CONSTRUCT VALLEY GUTTER PER CITY STD. P-10
- DW — PRIVATE LOT DRIVEWAY
- F.M.F.C.D. TYPE "D" INLET PER SEPARATE PLANS

NOTE:
ALL STATIONING IS ALONG AND PERPENDICULAR TO STREET CENTERLINE

REGISTERED PROFESSIONAL ENGINEER
RYAN NEELY
No. 85654
Exp. 9/24
CIVIL
STATE OF CALIFORNIA

GRAPHIC SCALE
0 20' 40' 80'

PLAN SCALE 1" = 40'
PROFILE SCALES
HORZ: 1" = 40'
VERT: 1" = 2'

NOT FOR CONSTRUCTION

PW FILE NO.
PROJ. ID.
FUND NO.
ORG. NO.
REF. & REV.
C.U.P. P19-00846
PLAT XXXX

CITY OF FRESNO — DEPARTMENT OF PUBLIC WORKS

PLANS AND PROFILES FOR THE IMPROVEMENT OF STREETS FOR
TRACT No. 6383
EAST McKINLEY AVENUE

REVIEWED:
OFFICE ENG. ____ CITY ENG. ____
DR. BY ____ SHEET NO. 15 OF 20 SHEETS
CH. BY ____
DATE XX-XX-XX
SCALE AS NOTED
15-C-____

Submittal: 01-09-23

W.O. 21-054 X-203

INIT. EM 10/06/22 FN: BB 11/08/22 DC: XX XX/XX/XX

J:\2021 w.o.s\21054 - Wilson- Tract 6383 (phase 2 of TR6201)\6383 C3D Proj\Production Drawings\6383 Street Plans\6383 ST09.dwg Plotted By: benb 01/09/23 - 2:46 PM


EAST McKINLEY AVENUE
FUTURE T6360
MATCH LINE STA. 14+18.67 SEE SHEET 15
MATCH LINE STA. 24+56.37 SHEET 17
NORTH McKELVEY AVENUE SEE SHEET 12
FID'S MILL NO.36
147.76' CENTERLINE SAG VERTICAL CURVE
130.20' CENTERLINE CREST VERTICAL CURVE
130.00' LEFT CREST VERTICAL CURVE
147.76' RIGHT SAG VERTICAL CURVE
130.00' RIGHT CREST VERTICAL CURVE
FUTURE CURB & GUTTER
STANDARD CURB & GUTTER PER CITY STD. P-5
PROPOSED R/W
FUTURE SIDEWALK
FUTURE TRAIL
PROP. FID EASEMENT
PROP. TOP OF BANK
EX. TOP OF BANK
PROP. BRIDGE
INSTALL DRIVE APPROACH PER CITY STD. P-2
REMOVE OR RELOCATE PER SEPARATE PLANS
BEGIN WALK
CONSTRUCT 12FT BIKE PATH & PEDESTRIAN CLASS 1 ASPHALT TRAIL PER CITY STD. P-58, P-60, & P-61
DEPRESS CURB FOR FUTURE RAMP
PHASE II
10' PUE
91
92
93
94
95
96
97
98
99
15+00
16+00
17+00
18+00
19+00
20+00
21+00
22+00
23+00
24+00
25+00
LEGEND
INSTALL CURB RAMP PER CITY STANDARD P-28 & P-32
INSTALL STREET LIGHT PER SEPARATE PLANS
FUTURE STREET LIGHT
FIRE HYDRANT, CURB AND SIDEWALK TRANSITION ADJACENT TO FIRE HYDRANT PER DETAIL ON SHEET 5
P.349.19 PAVEMENT ELEVATION
G.349.19 GUTTER ELEVATION
FL.349.19 FLOWLINE ELEVATION
S=0.0000 SLOPE
CONSTRUCT SIDEWALK PER CITY STANDARD P-5
G.B. GRADE BREAK
V.G. CONSTRUCT VALLEY GUTTER PER CITY STD. P-10
DW PRIVATE LOT DRIVEWAY
PROPOSED TYPE "D" INLET PER F.M.F.C.D. STD. A-4
PROPOSED MASONRY WALL PER DETAIL
NOTE: ALL STATIONING IS ALONG AND PERPENDICULAR TO STREET CENTERLINE
REGISTERED PROFESSIONAL ENGINEER
RYAN NEELY
No. 85654
Exp. 9/24
CIVIL
STATE OF CALIFORNIA
GRAPHIC SCALE
PLAN SCALE 1"= 40'
PROFILE SCALES
HORZ: 1" = 40'
VERT: 1" = 2'
NGVD 29
PROPOSED LEFT GUTTER PROFILE
PROPOSED CENTERLINE PROFILE
EXISTING CENTERLINE PROFILE
PROPOSED RIGHT GUTTER PROFILE
PVI STA: 17+15.12 ELEV: 341.65 LENGTH: 135.00' A=1.34% K=100.81
PVI STA: 18+47.62 ELEV: 343.78 LENGTH: 130.00' A=1.83% K=71.21 HIGH PT. STA: 18+96.87 ELEV: 343.65
PVI STA: 18+72.37 ELEV: 343.16 LENGTH: 130.00' A=1.51% K=86.17 HIGH PT. STA: 19+15.55 ELEV: 343.02
PVI STA: 17+15.12 ELEV: 341.04 LENGTH: 135.00' A=1.32% K=102.62
PVI STA: 18+47.62 ELEV: 343.12 LENGTH: 130.00' A=1.82% K=71.58 HIGH PT. STA: 18+94.69 ELEV: 342.98
STA:14+18.67 ELEV:340.89(CL)
STA:14+18.67 ELEV:340.30(R)
STA:14+18.67 ELEV:340.27(L)
STA:16+15.31 ELEV:341.39(CL)
STA:16+15.31 ELEV:340.79(R)
STA:16+21.38 ELEV:340.79(L)
STA:17+11.48 ELEV:341.14(L)
STA:19+78.96 ELEV:343.49(CL)
STA:19+78.96 ELEV:342.89(L)
STA:19+78.96 ELEV:342.79(R) G.B.
STA:20+10.67 ELEV:343.40(CL)
STA:20+10.67 ELEV:342.81(L) G.B.
STA:20+58.21 ELEV:342.56(L)
STA:23+75.17 ELEV:341.68(CL)
STA:23+75.17 ELEV:341.08(L)
STA:23+75.17 ELEV:341.01(R)
STA:24+13.00 ELEV:341.60(CL)
STA:24+56.37 ELEV:341.20(CL)
STA:24+56.23 ELEV:340.59(L)
FID's MILL No. 36
PROPOSED BOX CULVERT PER SEPARATE PLANS
NOT FOR CONSTRUCTION
CITY OF FRESNO
DEPARTMENT OF PUBLIC WORKS
PLANS AND PROFILES FOR THE IMPROVEMENT OF STREETS FOR
TRACT No. 6383
EAST McKINLEY AVENUE
C.U.P. P19-00846 PLAT XXXX
SHEET No. 16 OF 20 SHEETS
DATE XX-XX-XX
SCALE AS NOTED
15-C-
W.O. 21-054
X-203
Submittal: 01-09-23

OFFICIAL PLAN LINES

EAST MCKINLEY AVENUE

BETWEEN

NORTH SUNNYSIDE AND NORTH TEMPERANCE AVENUES

THIS MAP CONSTITUTES PART OF THE GENERAL PLAN LINES OF THE CITY OF FRESNO, CALIFORNIA AND IS FILED IN THE VOLUME ENTITLED "OFFICIAL PLAN LINES – CITY OF FRESNO" IN THE DEVELOPMENT DEPARTMENT.

LOCATION MAP
SCALE: 1"=500'

WE HEREBY CERTIFY THAT THIS MAP CONSTITUTES A PART OF THE OFFICIAL PLAN LINE OF STREETS AND HIGHWAYS BEING A PART OF THE MASTER PLAN OF THE CITY OF FRESNO, CALIFORNIA, ADOPTED BY THE PLANNING COMMISSION OF SAID CITY BY RESOLUTION NO. 13428 AT A MEETING HELD ON THE 2ND DAY OF November, 2016 AND CARRIED BY THE AFFIRMATIVE VOTE OF THE MAJORITY OF THE TOTAL MEMBERSHIP OF SAID COMMISSION.

[signature]
SECRETARY

WE HEREBY CERTIFY THAT THIS MAP OF OFFICIAL PLAN LINES WAS ADOPTED BY THE CITY COUNCIL OF THE CITY OF FRESNO ON THE 8TH DAY OF December, 2016 BY ORDINANCE NO. 2016-56 ADOPTED PURSUANT TO ARTICLE 7 OF CHAPTER 12 OF THE FRESNO MUNICIPAL CODE.

ATTEST:

YVONNE SPENCE, CMC
CITY CLERK OF THE CITY OF FRESNO

CITY OF FRESNO INCORPORATED OCT. 12, 1885

Marco Martinez 5/10/17
DEPUTY Marco Martinez

I, JASON A. CAMIT, CHIEF SURVEYOR OF THE PUBLIC WORKS DEPARTMENT OF THE CITY OF FRESNO, CALIFORNIA HEREBY CERTIFY THAT I HAVE EXAMINED THE OFFICIAL PLAN LINES DELINEATED ON THIS MAP AND I AM SATISFIED THAT THIS MAP IS TECHNICALLY CORRECT.

DATE 5-10-2017

[signature]
JASON A. CAMIT, PLS 8636
EXPIRES: 12-31-2017

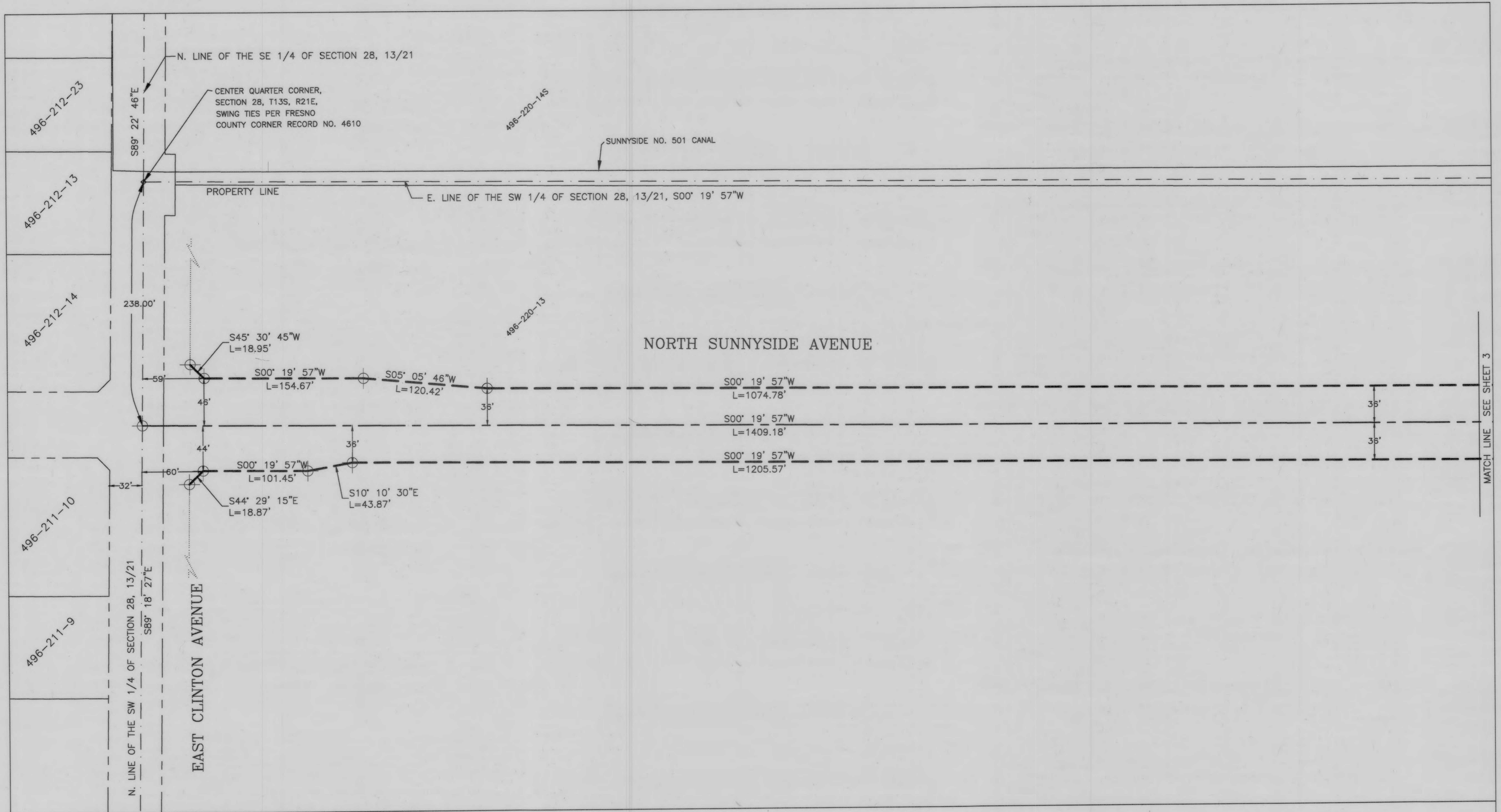
LICENSED LAND SURVEYOR JASON ALLEN CAMIT L.S. 8636 Exp. 12/31/17 STATE OF CALIFORNIA

INSTRUMENT NO. 2017-0057990 FILED AND RECORDED AT THE REQUEST OF THE CITY OF FRESNO THE 11th DAY OF May, 2017 AT 20 MINUTES PAST 10 A.M. AND RECORDED IN VOLUME 8 OF PRECISE PLANS AT PAGE 97-102 FRESNO COUNTY RECORDS.

PAUL DICTOS, C.P.A.
COUNTY RECORDER OF THE COUNTY OF FRESNO

BY: Angela Gillespie

Sheet No. 1 of 6 sheets



OFFICIAL PLAN LINES

EAST MCKINLEY AVENUE

BETWEEN

NORTH SUNNYSIDE AND NORTH TEMPERANCE AVENUES

SCALE: 1"=60'

NOTE:
ALL SETBACKS SHALL BE MEASURED FROM THE "OFFICIAL PLAN LINES".

LEGEND
- OFFICIAL PLAN LINES
- EXISTING RIGHT OF WAY LINES
- PROPERTY LINES
- CITY LIMITS
- SECTION LINE
- CENTER LINE

Sheet No. 2 of 6 Sheets

SCALE: 1" = 60'

NOTE:
ALL SETBACKS SHALL BE MEASURED FROM THE "OFFICIAL PLAN LINES".

OFFICIAL PLAN LINES

EAST MCKINLEY AVENUE

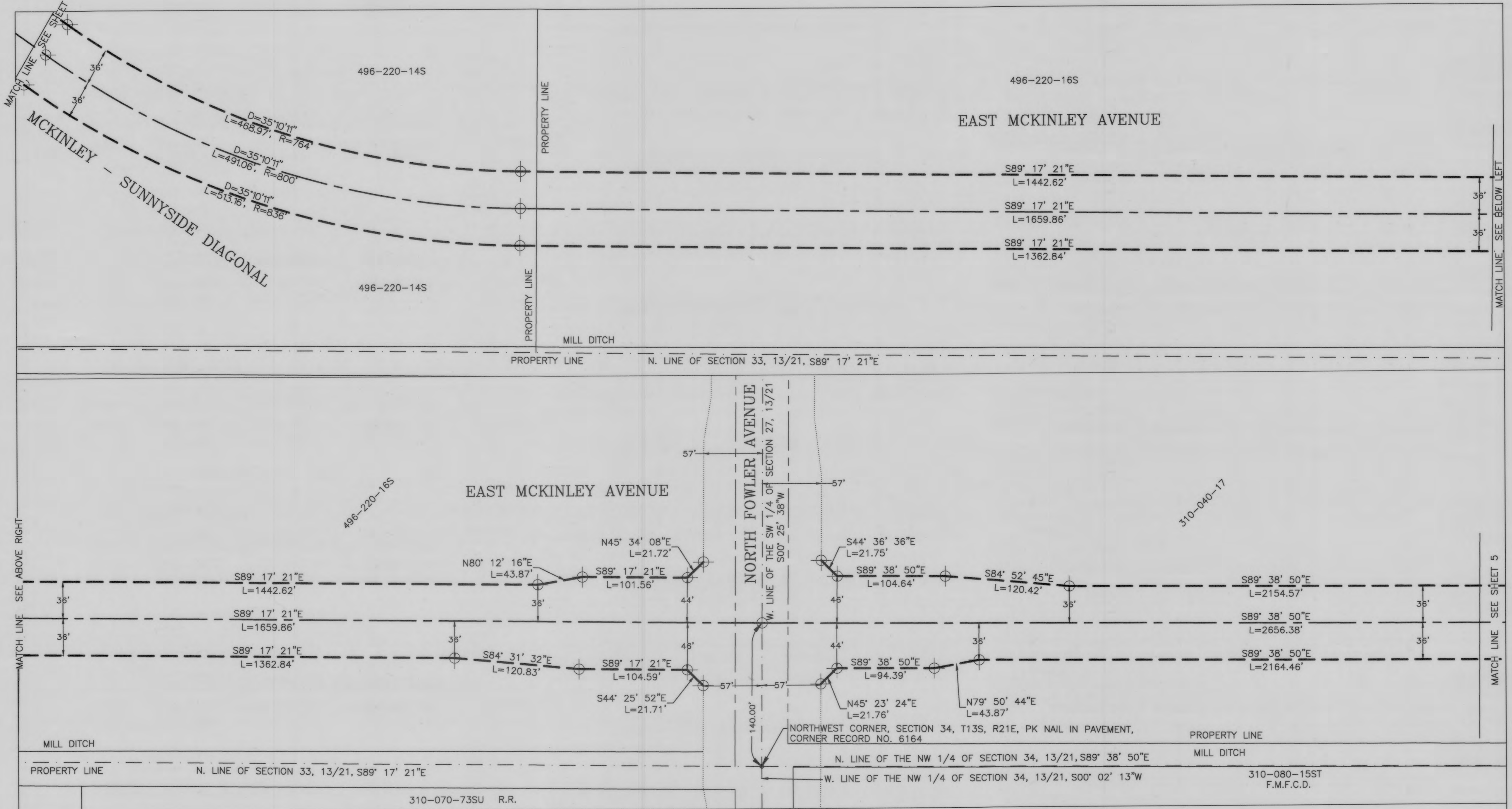
BETWEEN

NORTH SUNNYSIDE AND NORTH TEMPERANCE AVENUES

LEGEND

- OFFICIAL PLAN LINES
- EXISTING RIGHT OF WAY LINES
- EXISTING PROPERTY LINES
- CITY LIMITS
- SECTION LINE
- PROPOSED CENTER LINE
- FUTURE RIGHT OF WAY LINE
- FUTURE TRAIL EASEMENT

Sheet No. 3 of 6 Sheets



SCALE: 1" = 60'

NOTE:
ALL SETBACKS SHALL BE MEASURED FROM THE "OFFICIAL PLAN LINES".

OFFICIAL PLAN LINES

EAST MCKINLEY AVENUE

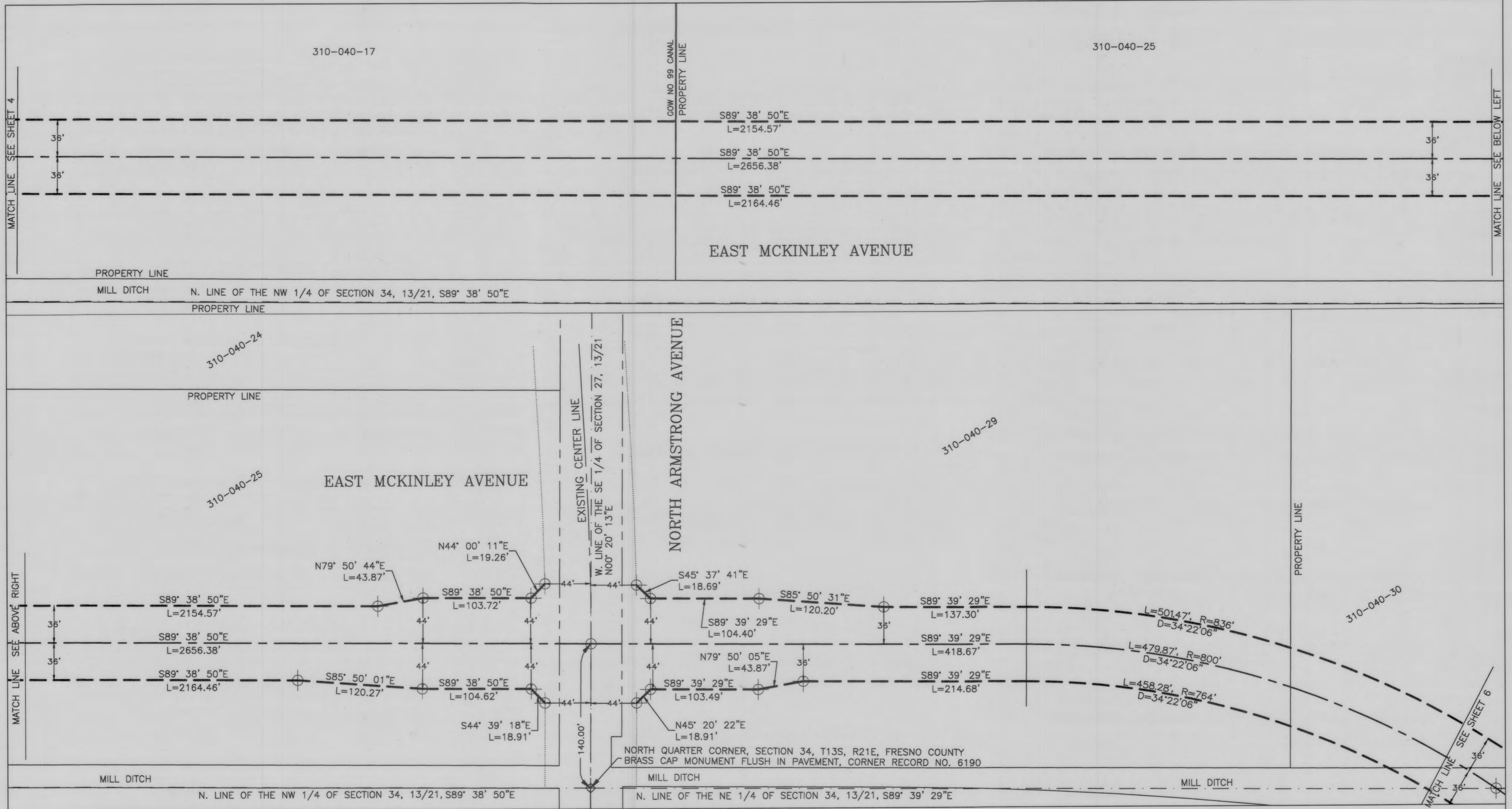
BETWEEN

NORTH SUNNYSIDE AND NORTH TEMPERANCE AVENUES

LEGEND

- OFFICIAL PLAN LINES
- EXISTING RIGHT OF WAY LINES
- EXISTING PROPERTY LINES
- CITY LIMITS
- SECTION LINE
- PROPOSED CENTER LINE
- FUTURE RIGHT OF WAY LINE
- FUTURE TRAIL EASEMENT

Sheet No. 4 of 6 Sheets



SCALE: 1" = 60'

NOTE:
ALL SETBACKS SHALL BE MEASURED FROM THE "OFFICIAL PLAN LINES".

OFFICIAL PLAN LINES

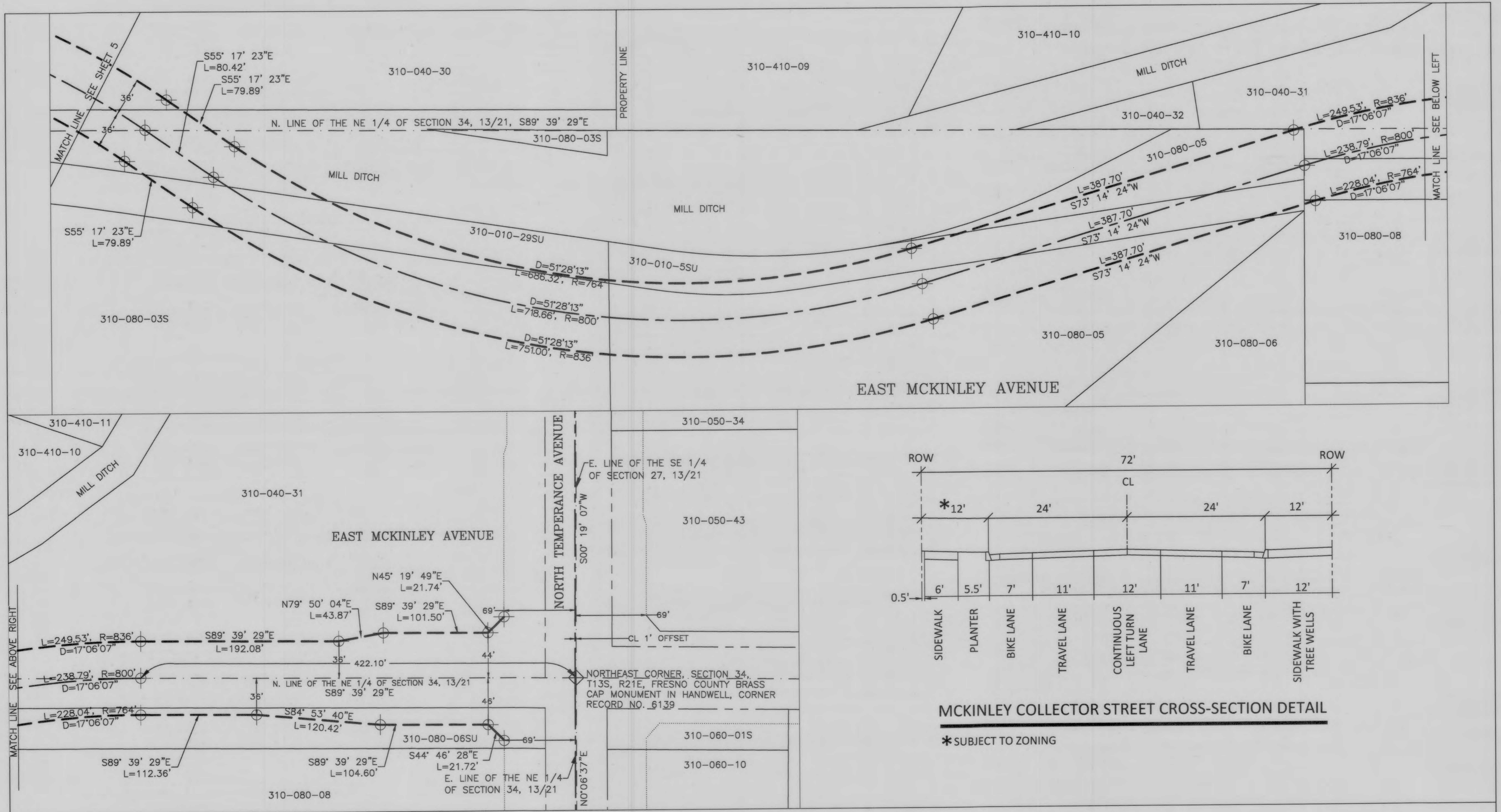
EAST MCKINLEY AVENUE

BETWEEN

NORTH SUNNYSIDE AND NORTH TEMPERANCE AVENUES

LEGEND
- OFFICIAL PLAN LINES
- EXISTING RIGHT OF WAY LINES
- EXISTING PROPERTY LINES
- CITY LIMITS
- SECTION LINE
- PROPOSED CENTER LINE
- FUTURE RIGHT OF WAY LINE
- FUTURE TRAIL EASEMENT

Sheet No. 5 of 6 Sheets



SCALE: 1" = 60'

NOTE:
ALL SETBACKS SHALL BE MEASURED FROM THE "OFFICIAL PLAN LINES".

OFFICIAL PLAN LINES

EAST MCKINLEY AVENUE

BETWEEN

NORTH SUNNYSIDE AND NORTH TEMPERANCE AVENUES

LEGEND
- OFFICIAL PLAN LINES
- EXISTING RIGHT OF WAY LINES
- EXISTING PROPERTY LINES
- CITY LIMITS
- SECTION LINE
- PROPOSED CENTER LINE
- FUTURE RIGHT OF WAY LINE
- FUTURE TRAIL EASEMENT

Sheet No. 6 of 6 Sheets

APPENDIX C

TRAFFIC COUNT AND SIGNAL TIMING SHEETS

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Fresno
N/S: Fowler Avenue
E/W: Floradora Avenue
Weather: Clear

File Name : 01_FSO_Fow_Flo AM
Site Code : 00322994
Start Date : 11/10/2022

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	105	0	108	0	0	1	1	0	72	1	73	0	0	0	0	182
07:15 AM	4	114	0	118	0	0	3	3	0	93	0	93	0	0	0	0	214
07:30 AM	4	142	0	146	0	0	5	5	0	98	3	101	0	0	0	0	252
07:45 AM	7	126	0	133	0	0	4	4	0	89	2	91	0	0	0	0	228
Total	18	487	0	505	0	0	13	13	0	352	6	358	0	0	0	0	876
08:00 AM	7	154	0	161	0	0	7	7	0	91	0	91	0	0	0	0	259
08:15 AM	25	118	0	143	2	0	14	16	0	106	0	106	0	0	0	0	265
08:30 AM	26	109	0	135	0	0	7	7	0	112	1	113	0	0	0	0	255
08:45 AM	15	105	0	120	0	0	13	13	0	114	0	114	0	0	0	0	247
Total	73	486	0	559	2	0	41	43	0	423	1	424	0	0	0	0	1026
Grand Total	91	973	0	1064	2	0	54	56	0	775	7	782	0	0	0	0	1902
Apprch %	8.6	91.4	0		3.6	0	96.4		0	99.1	0.9		0	0	0		
Total %	4.8	51.2	0	55.9	0.1	0	2.8	2.9	0	40.7	0.4	41.1	0	0	0	0	
Passenger Vehicles	90	955	0	1045	0	0	54	54	0	732	6	738	0	0	0	0	1837
% Passenger Vehicles	98.9	98.2	0	98.2	0	0	100	96.4	0	94.5	85.7	94.4	0	0	0	0	96.6
Large 2 Axle Vehicles	1	13	0	14	0	0	0	0	0	29	1	30	0	0	0	0	44
% Large 2 Axle Vehicles	1.1	1.3	0	1.3	0	0	0	0	0	3.7	14.3	3.8	0	0	0	0	2.3
3 Axle Vehicles	0	3	0	3	0	0	0	0	0	9	0	9	0	0	0	0	12
% 3 Axle Vehicles	0	0.3	0	0.3	0	0	0	0	0	1.2	0	1.2	0	0	0	0	0.6
4+ Axle Trucks	0	2	0	2	2	0	0	2	0	5	0	5	0	0	0	0	9
% 4+ Axle Trucks	0	0.2	0	0.2	100	0	0	3.6	0	0.6	0	0.6	0	0	0	0	0.5

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	7	**154**	0	**161**	0	0	7	7	0	91	0	91	0	0	0	0	259
08:15 AM	25	118	0	143	**2**	0	**14**	**16**	0	106	0	106	0	0	0	0	**265**
08:30 AM	**26**	109	0	135	0	0	7	7	0	112	**1**	113	0	0	0	0	255
08:45 AM	15	105	0	120	0	0	13	13	0	**114**	0	**114**	0	0	0	0	247
Total Volume	73	486	0	559	2	0	41	43	0	423	1	424	0	0	0	0	1026
% App. Total	13.1	86.9	0		4.7	0	95.3		0	99.8	0.2		0	0	0		
PHF	.702	.789	.000	.868	.250	.000	.732	.672	.000	.928	.250	.930	.000	.000	.000	.000	.968

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City of Fresno
N/S: Fowler Avenue
E/W: Floradora Avenue
Weather: Clear

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Site Code : 00322994
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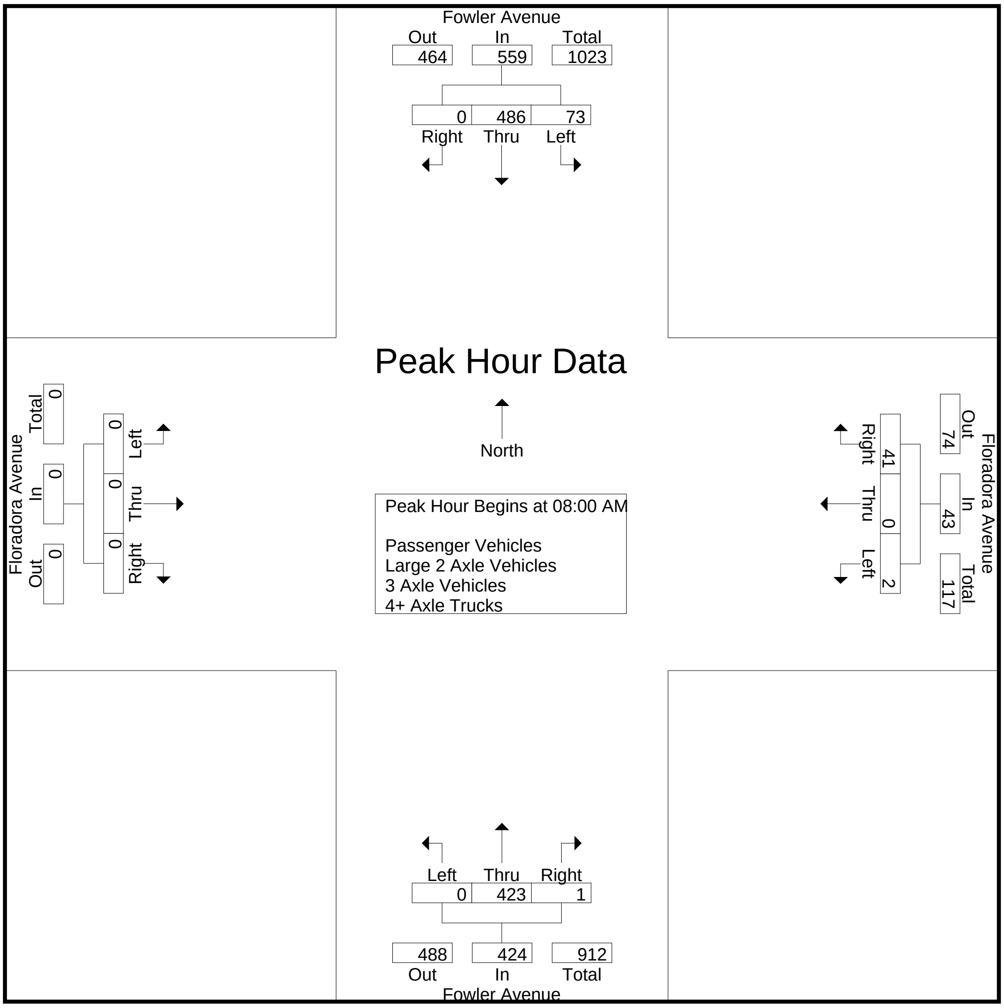

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				08:00 AM				08:00 AM				07:00 AM			
+0 mins.	4	142	0	146	0	0	7	7	0	91	0	91	0	0	0	0
+15 mins.	7	126	0	133	**2**	0	**14**	**16**	0	106	0	106	0	0	0	0
+30 mins.	7	**154**	0	**161**	0	0	7	7	0	112	**1**	113	0	0	0	0
+45 mins.	**25**	118	0	143	0	0	13	13	0	**114**	0	**114**	0	0	0	0
Total Volume	43	540	0	583	2	0	41	43	0	423	1	424	0	0	0	0
% App. Total	7.4	92.6	0		4.7	0	95.3		0	99.8	0.2		0	0	0	
PHF	.430	.877	.000	.905	.250	.000	.732	.672	.000	.928	.250	.930	.000	.000	.000	.000

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Groups Printed- Passenger Vehicles

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	103	0	106	0	0	1	1	0	65	1	66	0	0	0	0	173
07:15 AM	4	113	0	117	0	0	3	3	0	83	0	83	0	0	0	0	203
07:30 AM	4	139	0	143	0	0	5	5	0	94	3	97	0	0	0	0	245
07:45 AM	7	120	0	127	0	0	4	4	0	84	1	85	0	0	0	0	216
Total	18	475	0	493	0	0	13	13	0	326	5	331	0	0	0	0	837
08:00 AM	7	153	0	160	0	0	7	7	0	88	0	88	0	0	0	0	255
08:15 AM	24	116	0	140	0	0	14	14	0	104	0	104	0	0	0	0	258
08:30 AM	26	108	0	134	0	0	7	7	0	103	1	104	0	0	0	0	245
08:45 AM	15	103	0	118	0	0	13	13	0	111	0	111	0	0	0	0	242
Total	72	480	0	552	0	0	41	41	0	406	1	407	0	0	0	0	1000
Grand Total	90	955	0	1045	0	0	54	54	0	732	6	738	0	0	0	0	1837
Apprch %	8.6	91.4	0		0	0	100		0	99.2	0.8		0	0	0		
Total %	4.9	52	0	56.9	0	0	2.9	2.9	0	39.8	0.3	40.2	0	0	0	0	

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	7	**153**	0	**160**	0	0	7	7	0	88	0	88	0	0	0	0	255
08:15 AM	24	116	0	140	0	0	**14**	**14**	0	104	0	104	0	0	0	0	**258**
08:30 AM	**26**	108	0	134	0	0	7	7	0	103	**1**	104	0	0	0	0	245
08:45 AM	15	103	0	118	0	0	13	13	0	**111**	0	**111**	0	0	0	0	242
Total Volume	72	480	0	552	0	0	41	41	0	406	1	407	0	0	0	0	1000
% App. Total	13	87	0		0	0	100		0	99.8	0.2		0	0	0		
PHF	.692	.784	.000	.863	.000	.000	.732	.732	.000	.914	.250	.917	.000	.000	.000	.000	.969

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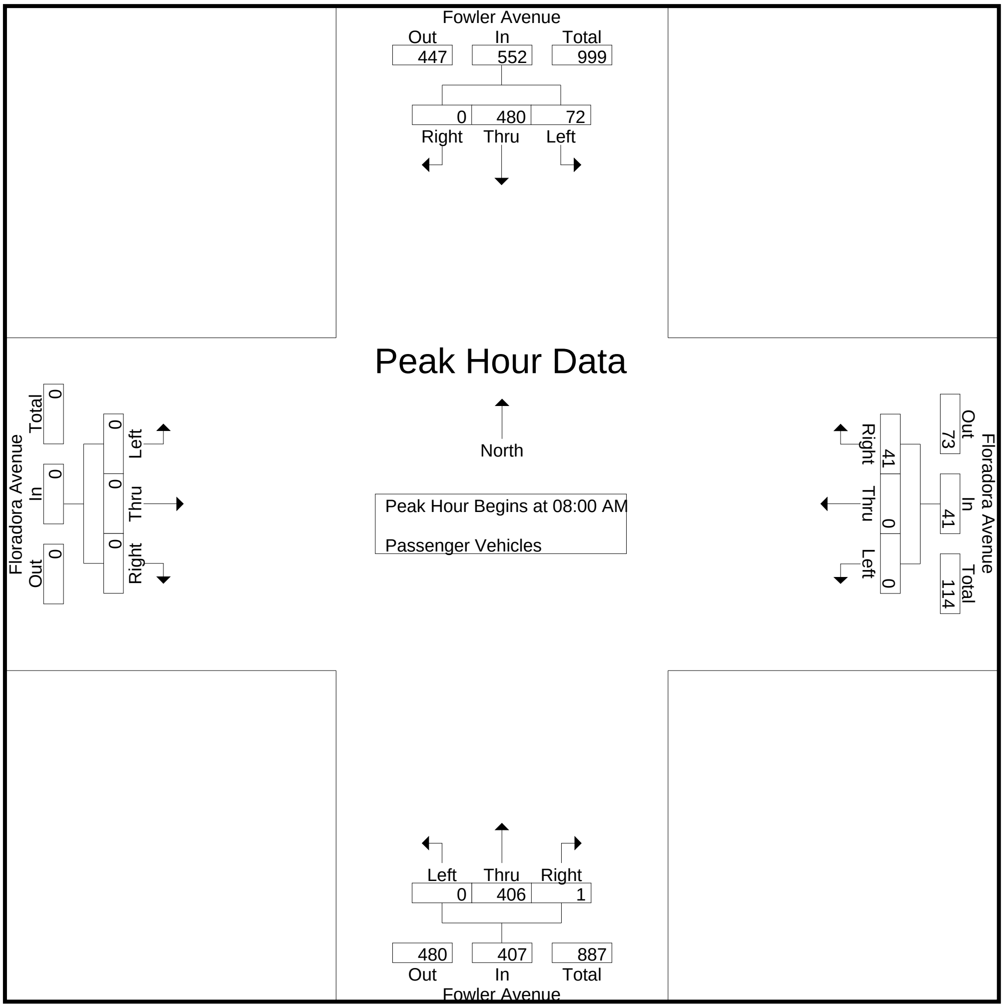

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	7	**153**	0	**160**	0	0	7	7	0	88	0	88	0	0	0	0
+15 mins.	24	116	0	140	0	0	**14**	**14**	0	104	0	104	0	0	0	0
+30 mins.	**26**	108	0	134	0	0	7	7	0	103	**1**	104	0	0	0	0
+45 mins.	15	103	0	118	0	0	13	13	0	**111**	0	**111**	0	0	0	0
Total Volume	72	480	0	552	0	0	41	41	0	406	1	407	0	0	0	0
% App. Total	13	87	0		0	0	100		0	99.8	0.2		0	0	0	
PHF	.692	.784	.000	.863	.000	.000	.732	.732	.000	.914	.250	.917	.000	.000	.000	.000

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Site Code : 00322994
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Groups Printed- Large 2 Axle Vehicles

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	2	0	2	0	0	0	0	0	4	0	4	0	0	0	0	6
07:15 AM	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0	0	6
07:30 AM	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5
07:45 AM	0	4	0	4	0	0	0	0	0	3	1	4	0	0	0	0	8
Total	0	8	0	8	0	0	0	0	0	16	1	17	0	0	0	0	25
08:00 AM	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
08:15 AM	1	2	0	3	0	0	0	0	0	1	0	1	0	0	0	0	4
08:30 AM	0	0	0	0	0	0	0	0	0	8	0	8	0	0	0	0	8
08:45 AM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
Total	1	5	0	6	0	0	0	0	0	13	0	13	0	0	0	0	19
Grand Total	1	13	0	14	0	0	0	0	0	29	1	30	0	0	0	0	44
Apprch %	7.1	92.9	0		0	0	0		0	96.7	3.3		0	0	0		
Total %	2.3	29.5	0	31.8	0	0	0	0	0	65.9	2.3	68.2	0	0	0	0	

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
08:15 AM	**1**	**2**	0	**3**	0	0	0	0	0	1	0	1	0	0	0	0	4
08:30 AM	0	0	0	0	0	0	0	0	0	**8**	0	**8**	0	0	0	0	**8**
08:45 AM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
Total Volume	1	5	0	6	0	0	0	0	0	13	0	13	0	0	0	0	19
% App. Total	16.7	83.3	0		0	0	0		0	100	0		0	0	0		
PHF	.250	.625	.000	.500	.000	.000	.000	.000	.000	.406	.000	.406	.000	.000	.000	.000	.594

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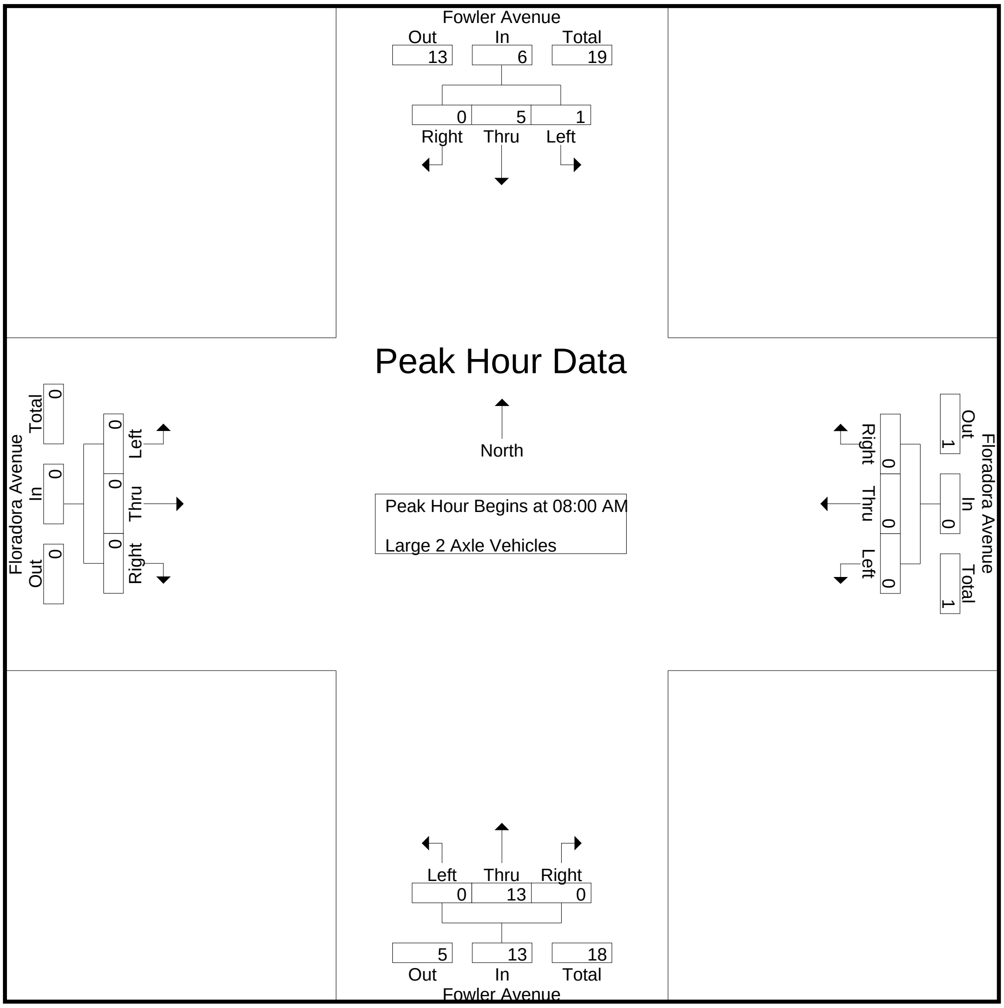

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0
+15 mins.	**1**	**2**	0	**3**	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	**8**	0	**8**	0	0	0	0
+45 mins.	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0
Total Volume	1	5	0	6	0	0	0	0	0	13	0	13	0	0	0	0
% App. Total	16.7	83.3	0		0	0	0		0	100	0		0	0	0	
PHF	.250	.625	.000	.500	.000	.000	.000	.000	.000	.406	.000	.406	.000	.000	.000	.000

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Site Code : 00322994
Start Date : 11/10/2022

Groups Printed- 3 Axle Vehicles

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
07:15 AM	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
07:30 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
07:45 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total	0	3	0	3	0	0	0	0	0	7	0	7	0	0	0	0	10
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
Grand Total	0	3	0	3	0	0	0	0	0	9	0	9	0	0	0	0	12
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	25	0	25	0	0	0	0	0	75	0	75	0	0	0	0	

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	**1**
08:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.500

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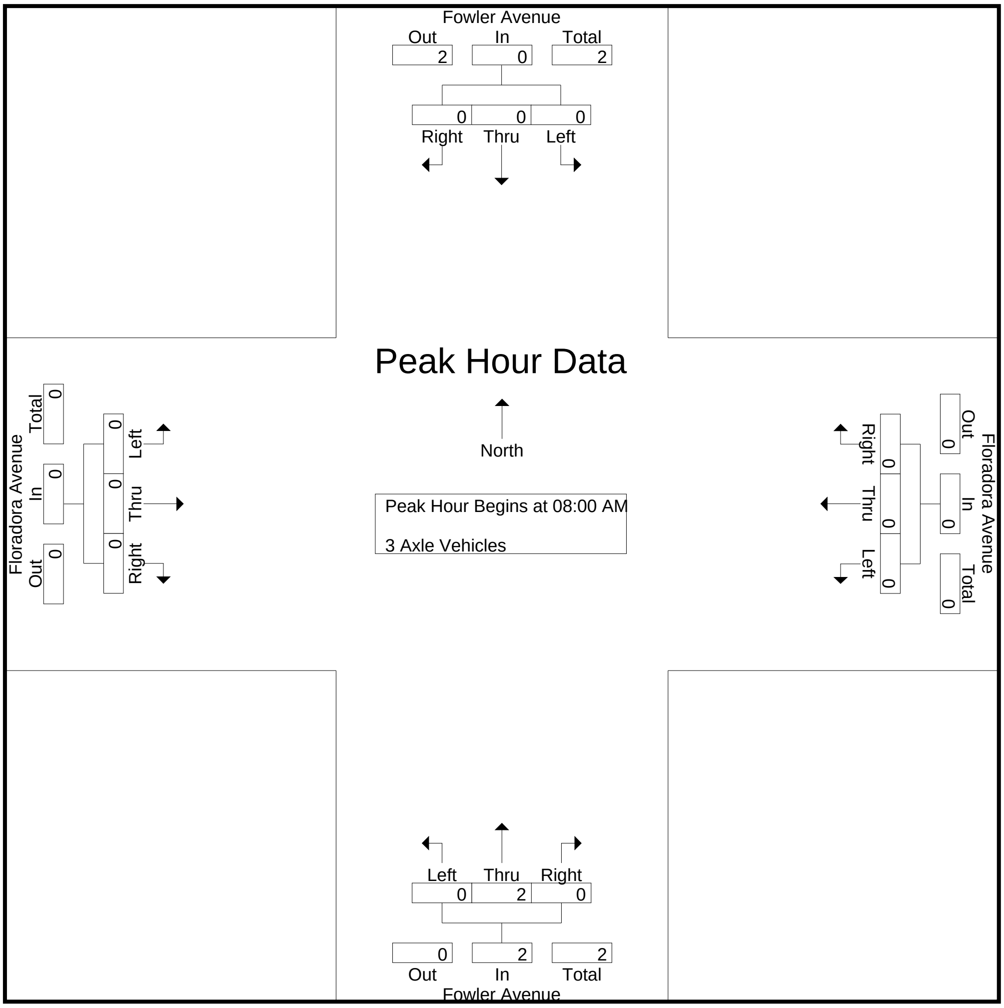

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total	0	1	0	1	0	0	0	0	0	3	0	3	0	0	0	0	4
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
08:30 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	1	0	1	2	0	0	2	0	2	0	2	0	0	0	0	5
Grand Total	0	2	0	2	2	0	0	2	0	5	0	5	0	0	0	0	9
Apprch %	0	100	0		100	0	0		0	100	0		0	0	0		
Total %	0	22.2	0	22.2	22.2	0	0	22.2	0	55.6	0	55.6	0	0	0	0	

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	**2**	0	0	**2**	0	0	0	0	0	0	0	0	**2**
08:30 AM	0	**1**	0	**1**	0	0	0	0	0	**1**	0	**1**	0	0	0	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	1	0	1	2	0	0	2	0	2	0	2	0	0	0	0	5
% App. Total	0	100	0		100	0	0		0	100	0		0	0	0		
PHF	.000	.250	.000	.250	.250	.000	.000	.250	.000	.500	.000	.500	.000	.000	.000	.000	.625

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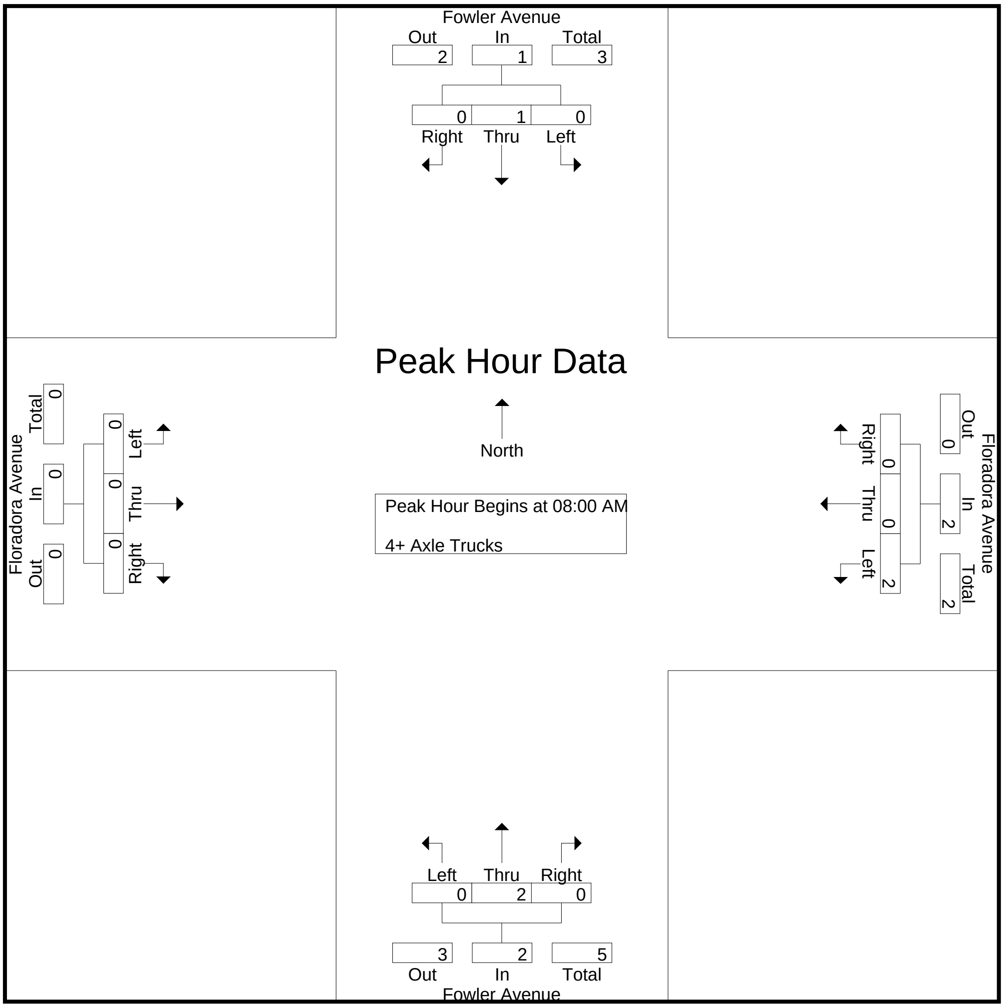

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	**2**	0	0	**2**	0	0	0	0	0	0	0	0
+30 mins.	0	**1**	0	**1**	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	1	0	1	2	0	0	2	0	2	0	2	0	0	0	0
% App. Total	0	100	0		100	0	0		0	100	0		0	0	0	
PHF	.000	.250	.000	.250	.250	.000	.000	.250	.000	.500	.000	.500	.000	.000	.000	.000

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City of Fresno
N/S: Fowler Avenue
E/W: Floradora Avenue
Weather: Clear

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Site Code : 00322994
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	4	116	0	120	0	0	5	5	0	121	2	123	0	0	0	0	248
04:15 PM	18	117	0	135	0	0	5	5	0	112	1	113	0	0	0	0	253
04:30 PM	21	106	0	127	0	0	8	8	0	133	1	134	0	0	0	0	269
04:45 PM	28	105	0	133	0	0	4	4	0	132	0	132	0	0	0	0	269
Total	71	444	0	515	0	0	22	22	0	498	4	502	0	0	0	0	1039
05:00 PM	29	112	0	141	0	0	10	10	0	144	0	144	0	0	0	0	295
05:15 PM	16	99	0	115	0	0	12	12	0	158	0	158	0	0	0	0	285
05:30 PM	11	124	0	135	1	0	12	13	0	143	1	144	0	0	0	0	292
05:45 PM	5	113	0	118	2	0	11	13	0	154	0	154	0	0	0	0	285
Total	61	448	0	509	3	0	45	48	0	599	1	600	0	0	0	0	1157
Grand Total	132	892	0	1024	3	0	67	70	0	1097	5	1102	0	0	0	0	2196
Apprch %	12.9	87.1	0		4.3	0	95.7		0	99.5	0.5		0	0	0		
Total %	6	40.6	0	46.6	0.1	0	3.1	3.2	0	50	0.2	50.2	0	0	0	0	
Passenger Vehicles	132	850	0	982	2	0	64	66	0	1071	5	1076	0	0	0	0	2124
% Passenger Vehicles	100	95.3	0	95.9	66.7	0	95.5	94.3	0	97.6	100	97.6	0	0	0	0	96.7
Large 2 Axle Vehicles	0	23	0	23	1	0	3	4	0	15	0	15	0	0	0	0	42
% Large 2 Axle Vehicles	0	2.6	0	2.2	33.3	0	4.5	5.7	0	1.4	0	1.4	0	0	0	0	1.9
3 Axle Vehicles	0	8	0	8	0	0	0	0	0	2	0	2	0	0	0	0	10
% 3 Axle Vehicles	0	0.9	0	0.8	0	0	0	0	0	0.2	0	0.2	0	0	0	0	0.5
4+ Axle Trucks	0	11	0	11	0	0	0	0	0	9	0	9	0	0	0	0	20
% 4+ Axle Trucks	0	1.2	0	1.1	0	0	0	0	0	0.8	0	0.8	0	0	0	0	0.9

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**29**	112	0	**141**	0	0	10	10	0	144	0	144	0	0	0	0	**295**
05:15 PM	16	99	0	115	0	0	**12**	12	0	**158**	0	**158**	0	0	0	0	285
05:30 PM	11	**124**	0	135	1	0	12	**13**	0	143	**1**	144	0	0	0	0	292
05:45 PM	5	113	0	118	**2**	0	11	13	0	154	0	154	0	0	0	0	285
Total Volume	61	448	0	509	3	0	45	48	0	599	1	600	0	0	0	0	1157
% App. Total	12	88	0		6.2	0	93.8		0	99.8	0.2		0	0	0		
PHF	.526	.903	.000	.902	.375	.000	.938	.923	.000	.948	.250	.949	.000	.000	.000	.000	.981

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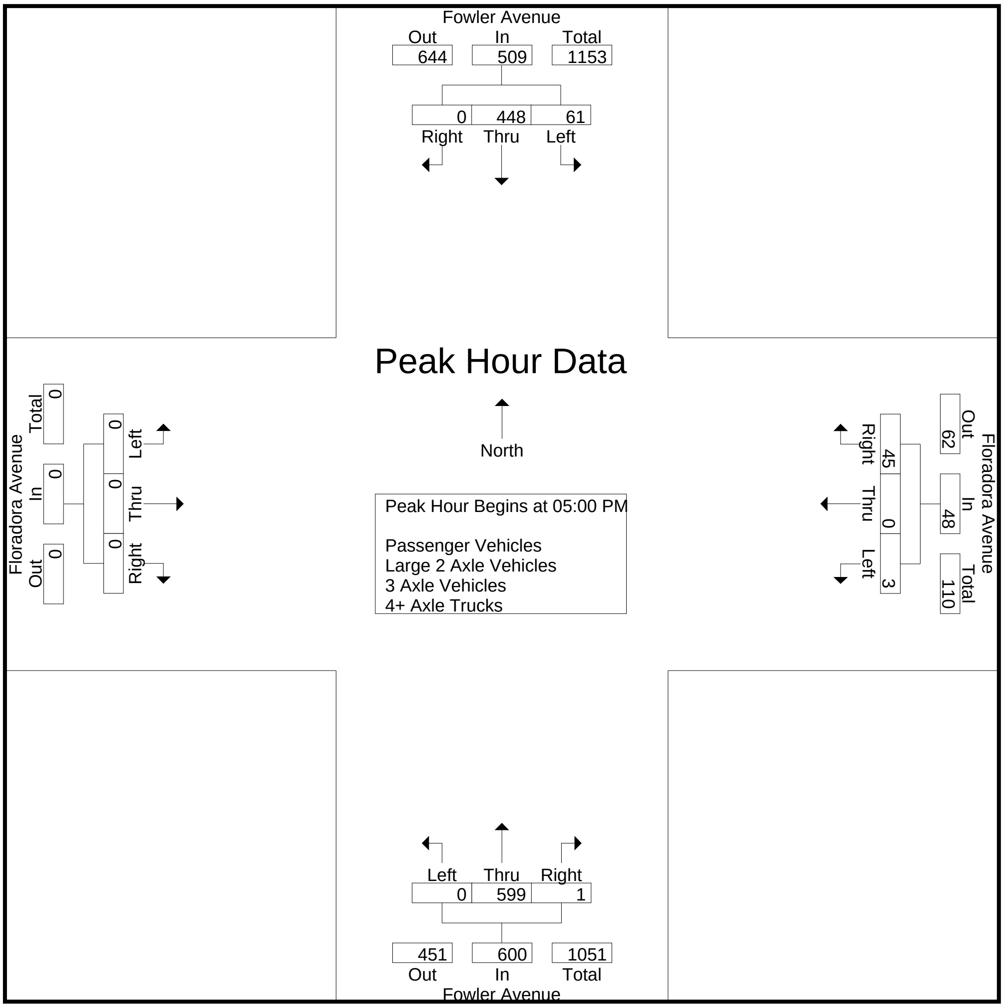

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				05:00 PM				05:00 PM				04:00 PM			
+0 mins.	18	**117**	0	135	0	0	10	10	0	144	0	144	0	0	0	0
+15 mins.	21	106	0	127	0	0	**12**	12	0	**158**	0	**158**	0	0	0	0
+30 mins.	28	105	0	133	1	0	12	**13**	0	143	**1**	144	0	0	0	0
+45 mins.	**29**	112	0	**141**	**2**	0	11	13	0	154	0	154	0	0	0	0
Total Volume	96	440	0	536	3	0	45	48	0	599	1	600	0	0	0	0
% App. Total	17.9	82.1	0		6.2	0	93.8		0	99.8	0.2		0	0	0	
PHF	.828	.940	.000	.950	.375	.000	.938	.923	.000	.948	.250	.949	.000	.000	.000	.000

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Groups Printed- Passenger Vehicles

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	4	105	0	109	0	0	4	4	0	118	2	120	0	0	0	0	233
04:15 PM	18	113	0	131	0	0	5	5	0	107	1	108	0	0	0	0	244
04:30 PM	21	101	0	122	0	0	8	8	0	131	1	132	0	0	0	0	262
04:45 PM	28	99	0	127	0	0	4	4	0	127	0	127	0	0	0	0	258
Total	71	418	0	489	0	0	21	21	0	483	4	487	0	0	0	0	997
05:00 PM	29	107	0	136	0	0	9	9	0	141	0	141	0	0	0	0	286
05:15 PM	16	96	0	112	0	0	12	12	0	157	0	157	0	0	0	0	281
05:30 PM	11	120	0	131	1	0	11	12	0	137	1	138	0	0	0	0	281
05:45 PM	5	109	0	114	1	0	11	12	0	153	0	153	0	0	0	0	279
Total	61	432	0	493	2	0	43	45	0	588	1	589	0	0	0	0	1127
Grand Total	132	850	0	982	2	0	64	66	0	1071	5	1076	0	0	0	0	2124
Apprch %	13.4	86.6	0		3	0	97		0	99.5	0.5		0	0	0		
Total %	6.2	40	0	46.2	0.1	0	3	3.1	0	50.4	0.2	50.7	0	0	0	0	

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**29**	107	0	**136**	0	0	9	9	0	141	0	141	0	0	0	0	**286**
05:15 PM	16	96	0	112	0	0	**12**	**12**	0	**157**	0	**157**	0	0	0	0	281
05:30 PM	11	**120**	0	131	**1**	0	11	12	0	137	**1**	138	0	0	0	0	281
05:45 PM	5	109	0	114	1	0	11	12	0	153	0	153	0	0	0	0	279
Total Volume	61	432	0	493	2	0	43	45	0	588	1	589	0	0	0	0	1127
% App. Total	12.4	87.6	0		4.4	0	95.6		0	99.8	0.2		0	0	0		
PHF	.526	.900	.000	.906	.500	.000	.896	.938	.000	.936	.250	.938	.000	.000	.000	.000	.985

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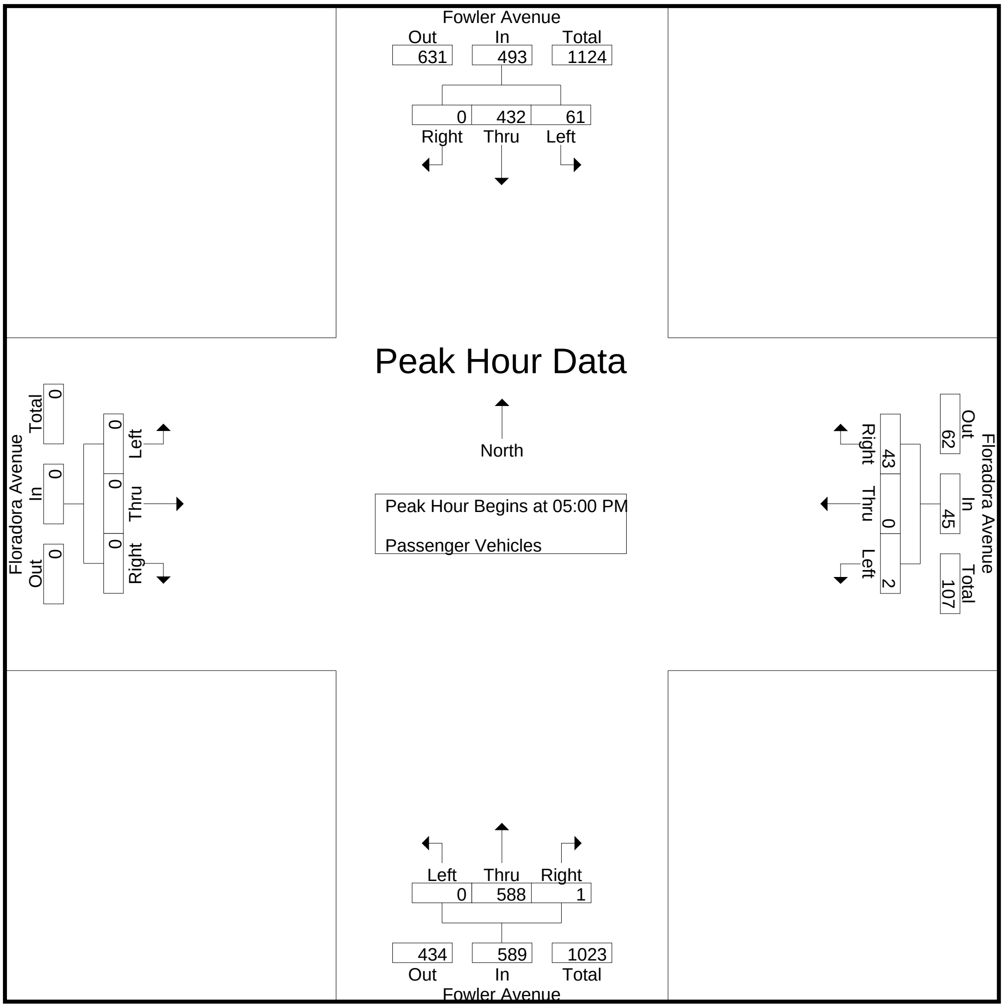

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	**29**	107	0	**136**	0	0	9	9	0	141	0	141	0	0	0	0
+15 mins.	16	96	0	112	0	0	**12**	**12**	0	**157**	0	**157**	0	0	0	0
+30 mins.	11	**120**	0	131	**1**	0	11	12	0	137	**1**	138	0	0	0	0
+45 mins.	5	109	0	114	1	0	11	12	0	153	0	153	0	0	0	0
Total Volume	61	432	0	493	2	0	43	45	0	588	1	589	0	0	0	0
% App. Total	12.4	87.6	0		4.4	0	95.6		0	99.8	0.2		0	0	0	
PHF	.526	.900	.000	.906	.500	.000	.896	.938	.000	.936	.250	.938	.000	.000	.000	.000

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Groups Printed- Large 2 Axle Vehicles

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	10	0	10	0	0	1	1	0	1	0	1	0	0	0	0	12
04:15 PM	0	2	0	2	0	0	0	0	0	5	0	5	0	0	0	0	7
04:30 PM	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0	5
04:45 PM	0	3	0	3	0	0	0	0	0	3	0	3	0	0	0	0	6
Total	0	19	0	19	0	0	1	1	0	10	0	10	0	0	0	0	30
05:00 PM	0	2	0	2	0	0	1	1	0	1	0	1	0	0	0	0	4
05:15 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
05:30 PM	0	0	0	0	0	0	1	1	0	3	0	3	0	0	0	0	4
05:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	4	0	4	1	0	2	3	0	5	0	5	0	0	0	0	12
Grand Total	0	23	0	23	1	0	3	4	0	15	0	15	0	0	0	0	42
Apprch %	0	100	0		25	0	75		0	100	0		0	0	0		
Total %	0	54.8	0	54.8	2.4	0	7.1	9.5	0	35.7	0	35.7	0	0	0	0	

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	**2**	0	**2**	0	0	**1**	**1**	0	1	0	1	0	0	0	0	**4**
05:15 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
05:30 PM	0	0	0	0	0	0	1	1	0	**3**	0	**3**	0	0	0	0	4
05:45 PM	0	0	0	0	**1**	0	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	4	0	4	1	0	2	3	0	5	0	5	0	0	0	0	12
% App. Total	0	100	0		33.3	0	66.7		0	100	0		0	0	0		
PHF	.000	.500	.000	.500	.250	.000	.500	.750	.000	.417	.000	.417	.000	.000	.000	.000	.750

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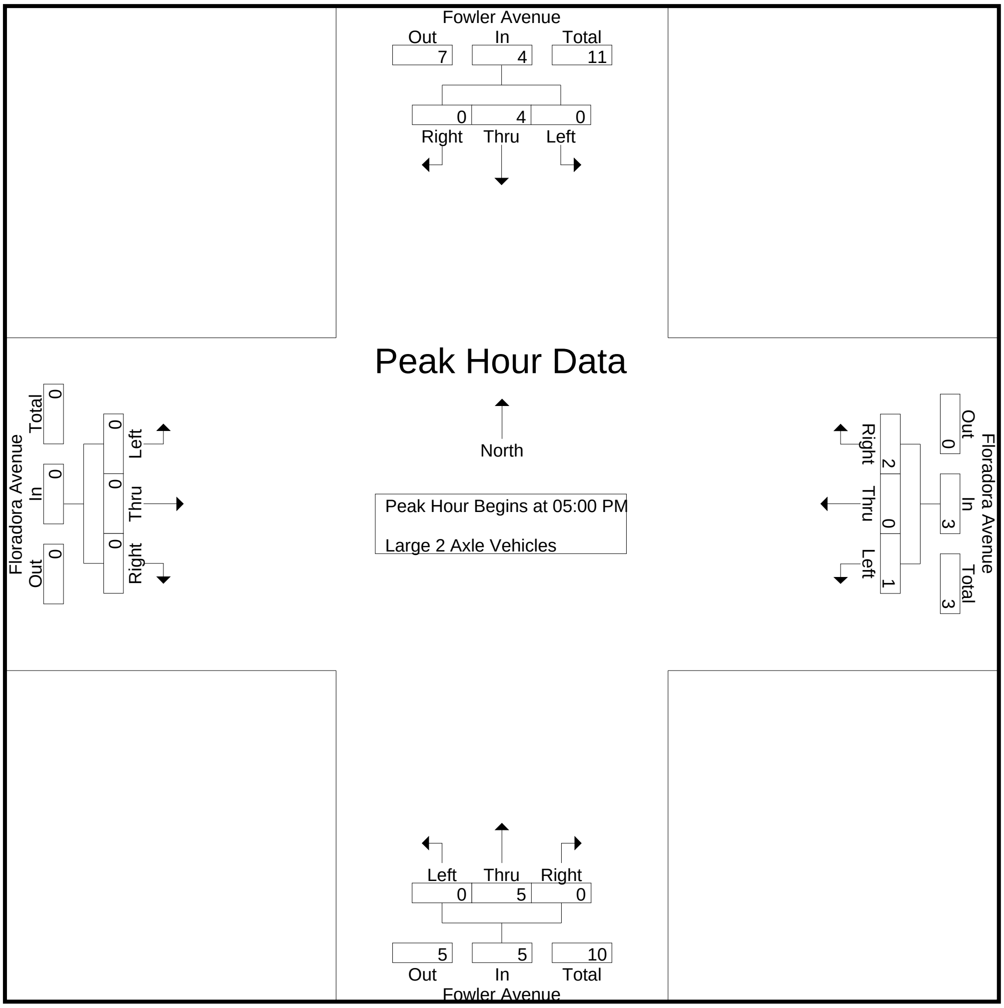

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	**2**	0	**2**	0	0	**1**	**1**	0	1	0	1	0	0	0	0
+15 mins.	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	0	0	0	0	0	1	1	0	**3**	0	**3**	0	0	0	0
+45 mins.	0	0	0	0	**1**	0	0	1	0	0	0	0	0	0	0	0
Total Volume	0	4	0	4	1	0	2	3	0	5	0	5	0	0	0	0
% App. Total	0	100	0		33.3	0	66.7		0	100	0		0	0	0	
PHF	.000	.500	.000	.500	.250	.000	.500	.750	.000	.417	.000	.417	.000	.000	.000	.000

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Groups Printed- 3 Axle Vehicles

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
05:00 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
05:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	7	0	7	0	0	0	0	0	1	0	1	0	0	0	0	8
Grand Total	0	8	0	8	0	0	0	0	0	2	0	2	0	0	0	0	10
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	80	0	80	0	0	0	0	0	20	0	20	0	0	0	0	

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	2	0	2	0	0	0	0	0	**1**	0	**1**	0	0	0	0	3
05:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:30 PM	0	**4**	0	**4**	0	0	0	0	0	0	0	0	0	0	0	0	**4**
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	7	0	7	0	0	0	0	0	1	0	1	0	0	0	0	8
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.438	.000	.438	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.500

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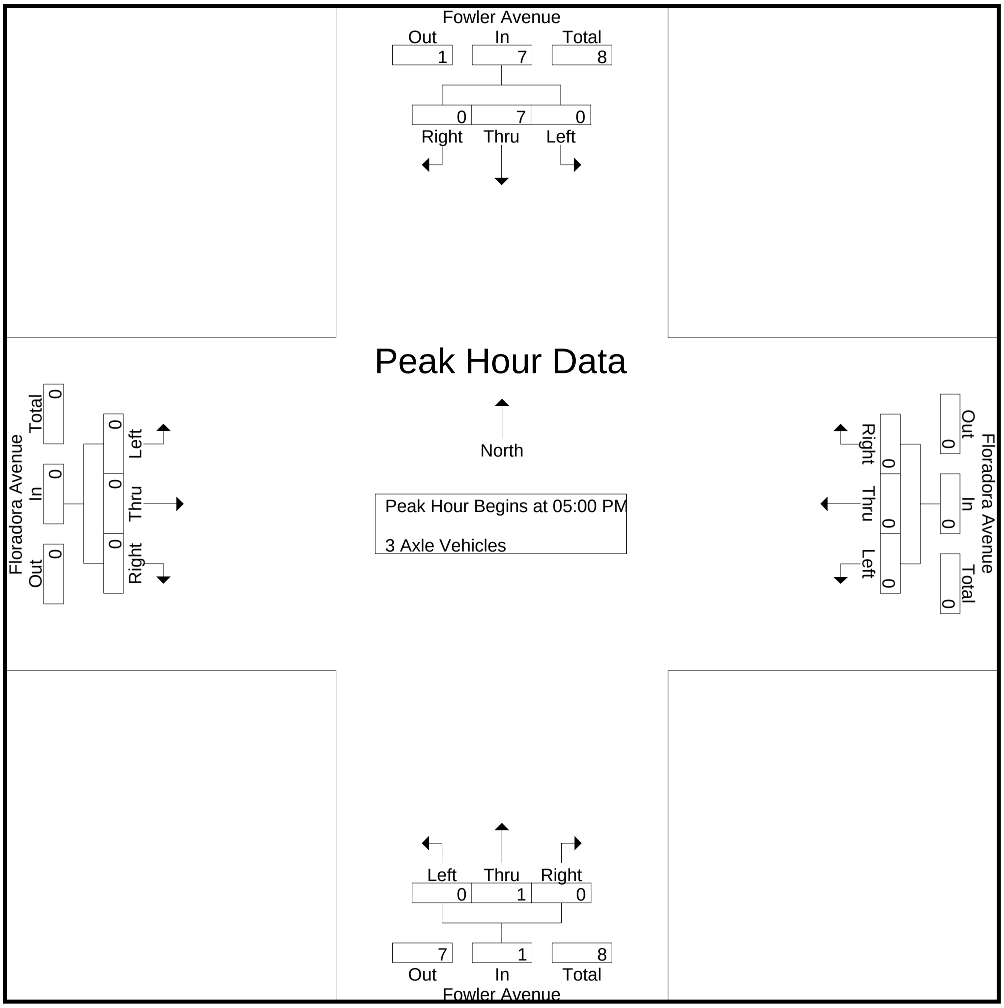

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	2	0	2	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	**4**	0	**4**	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	7	0	7	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.438	.000	.438	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
04:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:30 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
04:45 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
Total	0	6	0	6	0	0	0	0	0	4	0	4	0	0	0	0	10
05:00 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
05:45 PM	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0	5
Total	0	5	0	5	0	0	0	0	0	5	0	5	0	0	0	0	10
Grand Total	0	11	0	11	0	0	0	0	0	9	0	9	0	0	0	0	20
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	55	0	55	0	0	0	0	0	45	0	45	0	0	0	0	

	Fowler Avenue Southbound				Floradora Avenue Westbound				Fowler Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	**3**	0	**3**	0	0	0	0	3
05:45 PM	0	**4**	0	**4**	0	0	0	0	0	1	0	1	0	0	0	0	**5**
Total Volume	0	5	0	5	0	0	0	0	0	5	0	5	0	0	0	0	10
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.313	.000	.313	.000	.000	.000	.000	.000	.417	.000	.417	.000	.000	.000	.000	.500

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City of Fresno
N/S: Fowler Avenue
E/W: Floradora Avenue
Weather: Clear

File Name : 01_FSO_Fow_Flo PM
Site Code : 00322994
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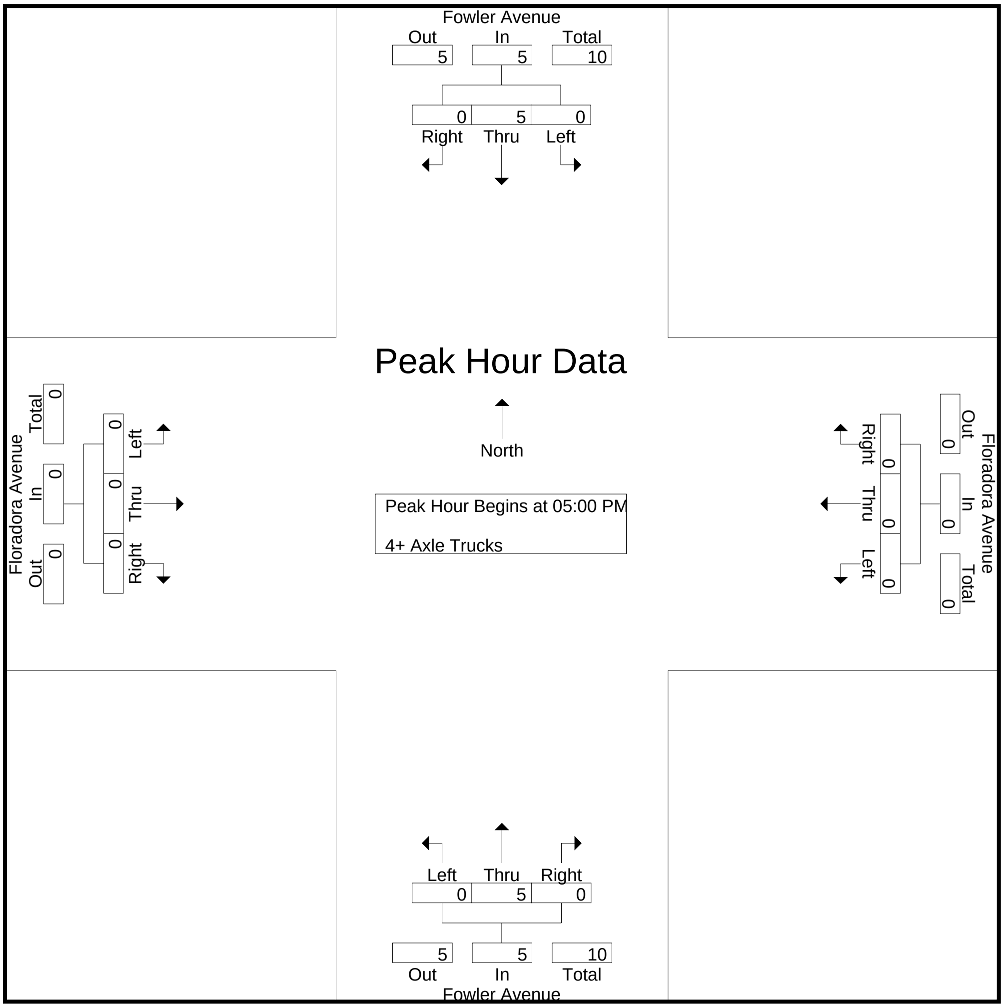

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	**3**	0	**3**	0	0	0	0
+45 mins.	0	**4**	0	**4**	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	5	0	5	0	0	0	0	0	5	0	5	0	0	0	0
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.313	.000	.313	.000	.000	.000	.000	.000	.417	.000	.417	.000	.000	.000	.000

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City of Fresno
N/S: Fowler Avenue
E/W: Olive Avenue
Weather: Clear

File Name : 02_FSO_Fow_Oli AM
Site Code : 00322994
Start Date : 11/10/2022
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	101	1	103	38	3	2	43	9	69	16	94	2	5	1	8	248
07:15 AM	4	98	1	103	54	9	1	64	8	84	39	131	7	6	1	14	312
07:30 AM	1	133	3	137	73	16	6	95	6	94	32	132	6	3	6	15	379
07:45 AM	1	131	5	137	72	11	17	100	5	79	19	103	2	8	3	13	353
Total	7	463	10	480	237	39	26	302	28	326	106	460	17	22	11	50	1292
08:00 AM	0	127	3	130	84	11	10	105	6	78	18	102	2	11	3	16	353
08:15 AM	1	118	1	120	100	22	11	133	7	81	19	107	10	13	6	29	389
08:30 AM	0	108	3	111	107	50	11	168	7	91	15	113	11	19	11	41	433
08:45 AM	2	111	4	117	95	32	8	135	7	90	20	117	15	16	3	34	403
Total	3	464	11	478	386	115	40	541	27	340	72	439	38	59	23	120	1578
Grand Total	10	927	21	958	623	154	66	843	55	666	178	899	55	81	34	170	2870
Apprch %	1	96.8	2.2		73.9	18.3	7.8		6.1	74.1	19.8		32.4	47.6	20		
Total %	0.3	32.3	0.7	33.4	21.7	5.4	2.3	29.4	1.9	23.2	6.2	31.3	1.9	2.8	1.2	5.9	
Passenger Vehicles	10	906	21	937	616	152	64	832	52	642	174	868	51	79	33	163	2800
% Passenger Vehicles	100	97.7	100	97.8	98.9	98.7	97	98.7	94.5	96.4	97.8	96.6	92.7	97.5	97.1	95.9	97.6
Large 2 Axle Vehicles	0	13	0	13	2	2	1	5	2	14	3	19	3	1	1	5	42
% Large 2 Axle Vehicles	0	1.4	0	1.4	0.3	1.3	1.5	0.6	3.6	2.1	1.7	2.1	5.5	1.2	2.9	2.9	1.5
3 Axle Vehicles	0	4	0	4	4	0	1	5	0	6	0	6	1	0	0	1	16
% 3 Axle Vehicles	0	0.4	0	0.4	0.6	0	1.5	0.6	0	0.9	0	0.7	1.8	0	0	0.6	0.6
4+ Axle Trucks	0	4	0	4	1	0	0	1	1	4	1	6	0	1	0	1	12
% 4+ Axle Trucks	0	0.4	0	0.4	0.2	0	0	0.1	1.8	0.6	0.6	0.7	0	1.2	0	0.6	0.4

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	**127**	3	**130**	84	11	10	105	6	78	18	102	2	11	3	16	353
08:15 AM	1	118	1	120	100	22	**11**	133	**7**	81	19	107	10	13	6	29	389
08:30 AM	0	108	3	111	**107**	**50**	11	**168**	7	**91**	15	113	11	**19**	**11**	**41**	**433**
08:45 AM	**2**	111	**4**	117	95	32	8	135	7	90	**20**	**117**	**15**	16	3	34	403
Total Volume	3	464	11	478	386	115	40	541	27	340	72	439	38	59	23	120	1578
% App. Total	0.6	97.1	2.3		71.3	21.3	7.4		6.2	77.4	16.4		31.7	49.2	19.2		
PHF	.375	.913	.688	.919	.902	.575	.909	.805	.964	.934	.900	.938	.633	.776	.523	.732	.911

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E/W: Olive Avenue
Weather: Clear

File Name : 02_FSO_Fow_Oli AM
Site Code : 00322994
Start Date : 11/10/2022
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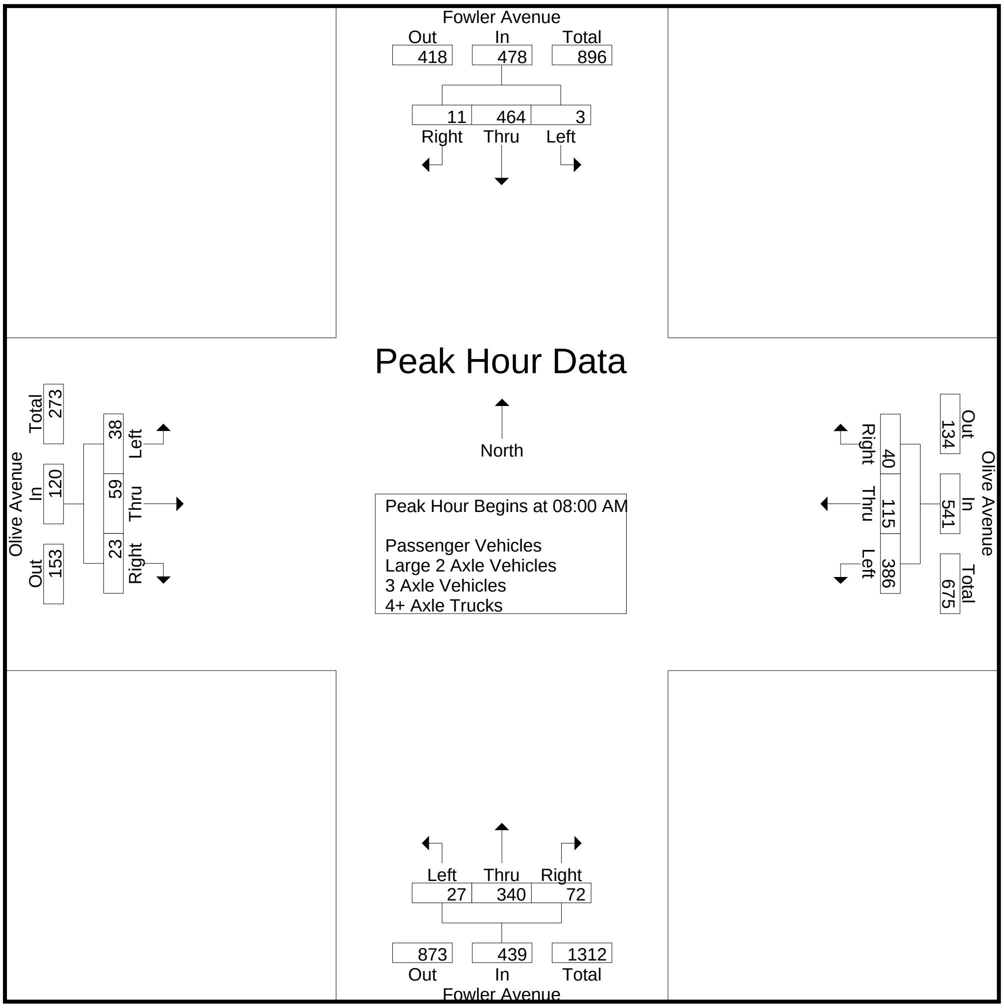

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				08:00 AM				07:15 AM				08:00 AM			
+0 mins.	**1**	**133**	3	**137**	84	11	10	105	**8**	84	**39**	131	2	11	3	16
+15 mins.	1	131	**5**	137	100	22	**11**	133	6	**94**	32	**132**	10	13	6	29
+30 mins.	0	127	3	130	**107**	**50**	11	**168**	5	79	19	103	11	**19**	**11**	**41**
+45 mins.	1	118	1	120	95	32	8	135	6	78	18	102	**15**	16	3	34
Total Volume	3	509	12	524	386	115	40	541	25	335	108	468	38	59	23	120
% App. Total	0.6	97.1	2.3		71.3	21.3	7.4		5.3	71.6	23.1		31.7	49.2	19.2	
PHF	.750	.957	.600	.956	.902	.575	.909	.805	.781	.891	.692	.886	.633	.776	.523	.732

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Groups Printed- Passenger Vehicles

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	99	1	101	36	3	2	41	9	65	16	90	1	4	1	6	238
07:15 AM	4	96	1	101	50	9	0	59	8	79	38	125	5	6	1	12	297
07:30 AM	1	130	3	134	73	16	6	95	6	92	31	129	5	3	6	14	372
07:45 AM	1	125	5	131	71	11	17	99	4	76	19	99	2	8	2	12	341
Total	7	450	10	467	230	39	25	294	27	312	104	443	13	21	10	44	1248
08:00 AM	0	126	3	129	84	10	9	103	5	75	17	97	2	11	3	16	345
08:15 AM	1	114	1	116	100	22	11	133	7	80	19	106	10	12	6	28	383
08:30 AM	0	107	3	110	107	49	11	167	6	88	15	109	11	19	11	41	427
08:45 AM	2	109	4	115	95	32	8	135	7	87	19	113	15	16	3	34	397
Total	3	456	11	470	386	113	39	538	25	330	70	425	38	58	23	119	1552
Grand Total	10	906	21	937	616	152	64	832	52	642	174	868	51	79	33	163	2800
Apprch %	1.1	96.7	2.2		74	18.3	7.7		6	74	20		31.3	48.5	20.2		
Total %	0.4	32.4	0.8	33.5	22	5.4	2.3	29.7	1.9	22.9	6.2	31	1.8	2.8	1.2	5.8	

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	**126**	3	**129**	84	10	9	103	5	75	17	97	2	11	3	16	345
08:15 AM	1	114	1	116	100	22	**11**	133	**7**	80	**19**	106	10	12	6	28	383
08:30 AM	0	107	3	110	**107**	**49**	11	**167**	6	**88**	15	109	11	**19**	**11**	**41**	**427**
08:45 AM	**2**	109	**4**	115	95	32	8	135	7	87	19	**113**	**15**	16	3	34	397
Total Volume	3	456	11	470	386	113	39	538	25	330	70	425	38	58	23	119	1552
% App. Total	0.6	97	2.3		71.7	21	7.2		5.9	77.6	16.5		31.9	48.7	19.3		
PHF	.375	.905	.688	.911	.902	.577	.886	.805	.893	.938	.921	.940	.633	.763	.523	.726	.909

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Site Code : 00322994
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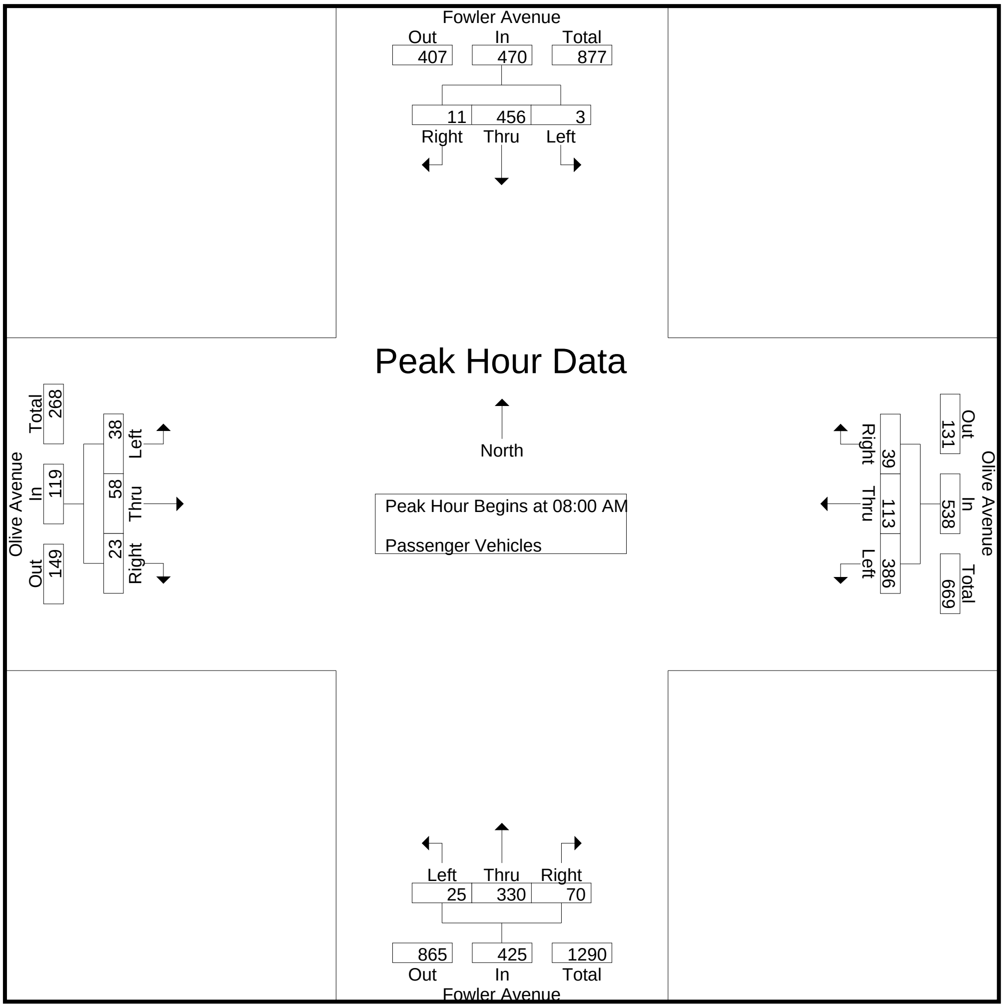

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	**126**	3	**129**	84	10	9	103	5	75	17	97	2	11	3	16
+15 mins.	1	114	1	116	100	22	**11**	133	**7**	80	**19**	106	10	12	6	28
+30 mins.	0	107	3	110	**107**	**49**	11	**167**	6	**88**	15	109	11	**19**	**11**	**41**
+45 mins.	**2**	109	**4**	115	95	32	8	135	7	87	19	**113**	**15**	16	3	34
Total Volume	3	456	11	470	386	113	39	538	25	330	70	425	38	58	23	119
% App. Total	0.6	97	2.3		71.7	21	7.2		5.9	77.6	16.5		31.9	48.7	19.3	
PHF	.375	.905	.688	.911	.902	.577	.886	.805	.893	.938	.921	.940	.633	.763	.523	.726

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Groups Printed- Large 2 Axle Vehicles

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	0	0	0	0	0	1	0	1	1	1	0	2	4
07:15 AM	0	1	0	1	2	0	0	2	0	2	1	3	2	0	0	2	8
07:30 AM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
07:45 AM	0	4	0	4	0	0	0	0	0	2	0	2	0	0	1	1	7
Total	0	8	0	8	2	0	0	2	0	7	1	8	3	1	1	5	23
08:00 AM	0	1	0	1	0	1	1	2	1	2	1	4	0	0	0	0	7
08:15 AM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
08:30 AM	0	0	0	0	0	1	0	1	1	2	0	3	0	0	0	0	4
08:45 AM	0	2	0	2	0	0	0	0	0	2	1	3	0	0	0	0	5
Total	0	5	0	5	0	2	1	3	2	7	2	11	0	0	0	0	19
Grand Total	0	13	0	13	2	2	1	5	2	14	3	19	3	1	1	5	42
Apprch %	0	100	0		40	40	20		10.5	73.7	15.8		60	20	20		
Total %	0	31	0	31	4.8	4.8	2.4	11.9	4.8	33.3	7.1	45.2	7.1	2.4	2.4	11.9	

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	1	0	1	0	**1**	**1**	**2**	**1**	**2**	**1**	**4**	0	0	0	0	**7**
08:15 AM	0	**2**	0	**2**	0	0	0	0	0	1	0	1	0	0	0	0	3
08:30 AM	0	0	0	0	0	1	0	1	1	2	0	3	0	0	0	0	4
08:45 AM	0	2	0	2	0	0	0	0	0	2	1	3	0	0	0	0	5
Total Volume	0	5	0	5	0	2	1	3	2	7	2	11	0	0	0	0	19
% App. Total	0	100	0		0	66.7	33.3		18.2	63.6	18.2		0	0	0		
PHF	.000	.625	.000	.625	.000	.500	.250	.375	.500	.875	.500	.688	.000	.000	.000	.000	.679

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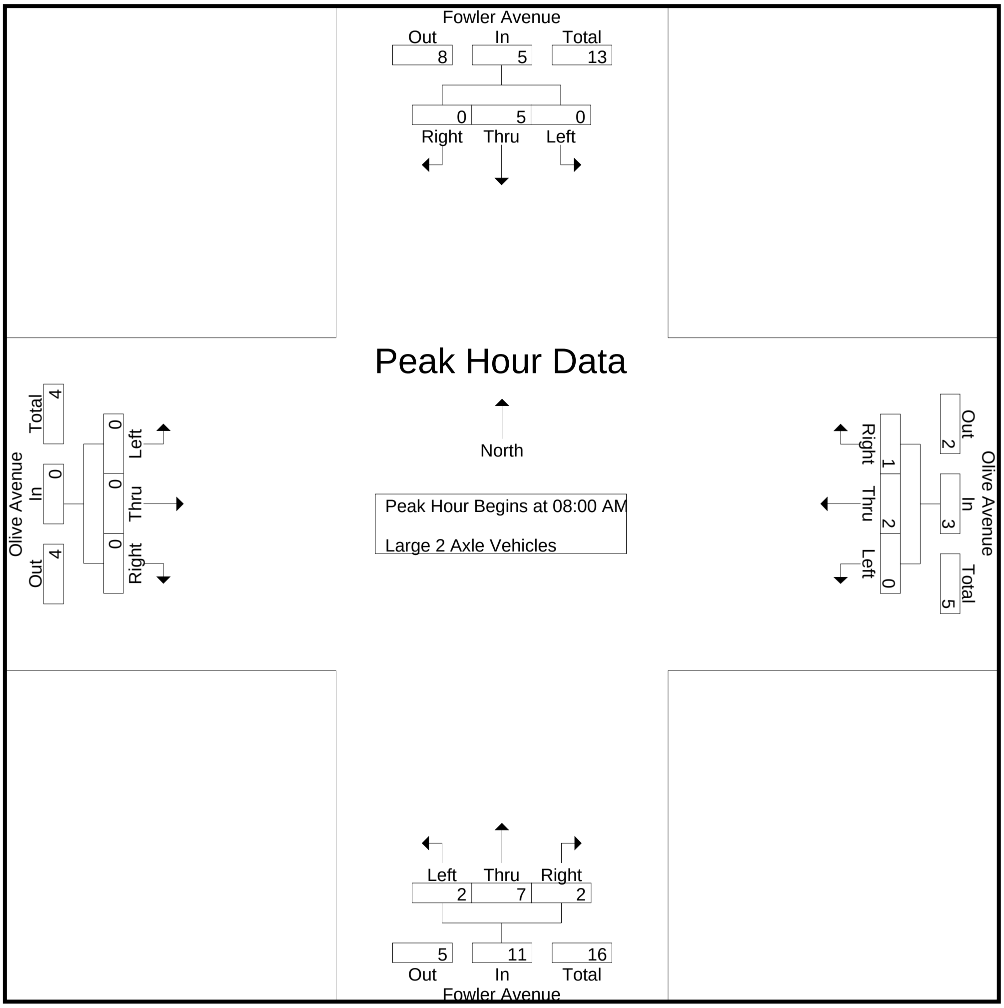

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	1	0	1	0	**1**	**1**	**2**	**1**	**2**	**1**	**4**	0	0	0	0
+15 mins.	0	**2**	0	**2**	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	0	0	0	0	1	0	1	1	2	0	3	0	0	0	0
+45 mins.	0	2	0	2	0	0	0	0	0	2	1	3	0	0	0	0
Total Volume	0	5	0	5	0	2	1	3	2	7	2	11	0	0	0	0
% App. Total	0	100	0		0	66.7	33.3		18.2	63.6	18.2		0	0	0	
PHF	.000	.625	.000	.625	.000	.500	.250	.375	.500	.875	.500	.688	.000	.000	.000	.000

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Groups Printed- 3 Axle Vehicles

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	2	0	0	2	0	3	0	3	0	0	0	0	6
07:15 AM	0	1	0	1	2	0	1	3	0	1	0	1	0	0	0	0	5
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
07:45 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total	0	4	0	4	4	0	1	5	0	5	0	5	1	0	0	1	15
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Grand Total	0	4	0	4	4	0	1	5	0	6	0	6	1	0	0	1	16
Apprch %	0	100	0		80	0	20		0	100	0		100	0	0		
Total %	0	25	0	25	25	0	6.2	31.2	0	37.5	0	37.5	6.2	0	0	6.2	

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	**1**
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250

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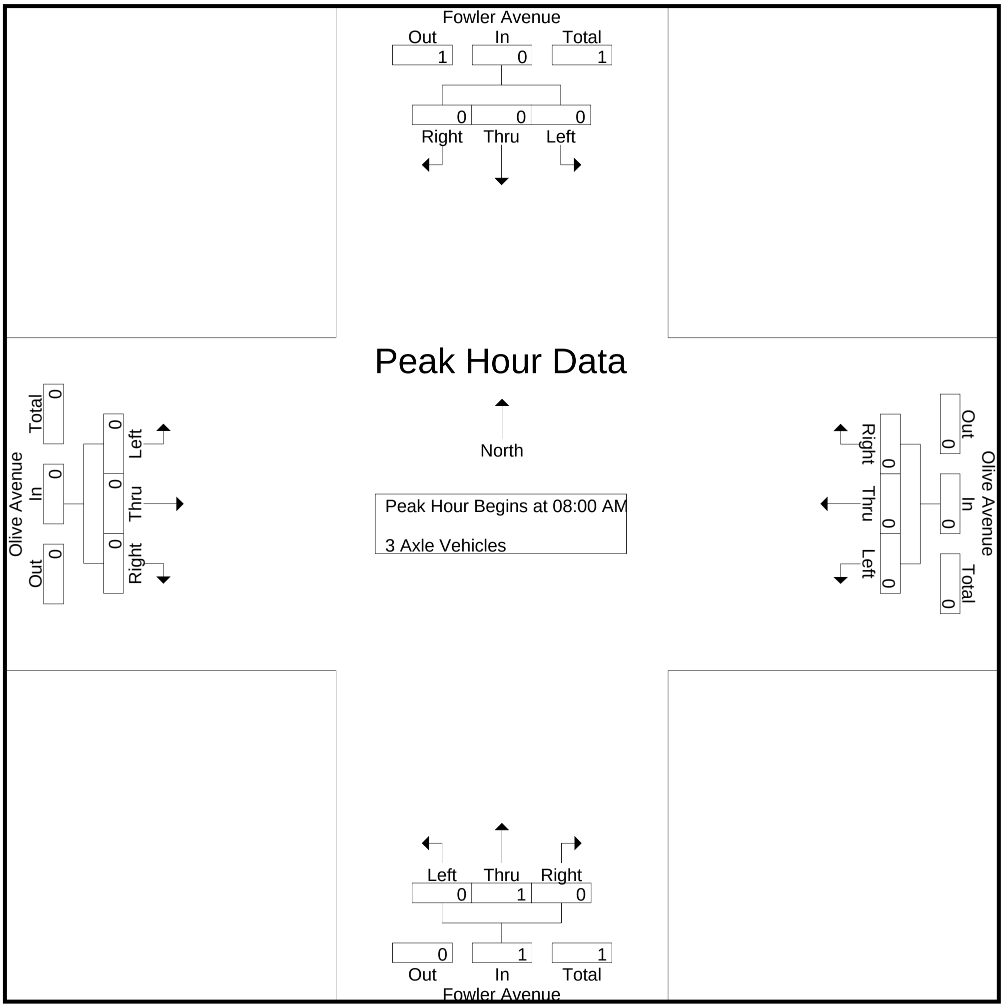

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

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Corona, CA 92878
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City of Fresno
N/S: Fowler Avenue
E/W: Olive Avenue
Weather: Clear

File Name : 02_FSO_Fow_Oli AM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
07:45 AM	0	1	0	1	1	0	0	1	1	0	0	1	0	0	0	0	3
Total	0	1	0	1	1	0	0	1	1	2	1	4	0	0	0	0	6
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	1	0	1	3
08:30 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	3	0	3	0	0	0	0	0	2	0	2	0	1	0	1	6
Grand Total	0	4	0	4	1	0	0	1	1	4	1	6	0	1	0	1	12
Apprch %	0	100	0		100	0	0		16.7	66.7	16.7		0	100	0		
Total %	0	33.3	0	33.3	8.3	0	0	8.3	8.3	33.3	8.3	50	0	8.3	0	8.3	

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	**2**	0	**2**	0	0	0	0	0	0	0	0	0	**1**	0	**1**	**3**
08:30 AM	0	1	0	1	0	0	0	0	0	**1**	0	**1**	0	0	0	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	3	0	3	0	0	0	0	0	2	0	2	0	1	0	1	6
% App. Total	0	100	0		0	0	0		0	100	0		0	100	0		
PHF	.000	.375	.000	.375	.000	.000	.000	.000	.000	.500	.000	.500	.000	.250	.000	.250	.500

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City of Fresno
N/S: Fowler Avenue
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File Name : 02_FSO_Fow_Oli AM
Site Code : 00322994
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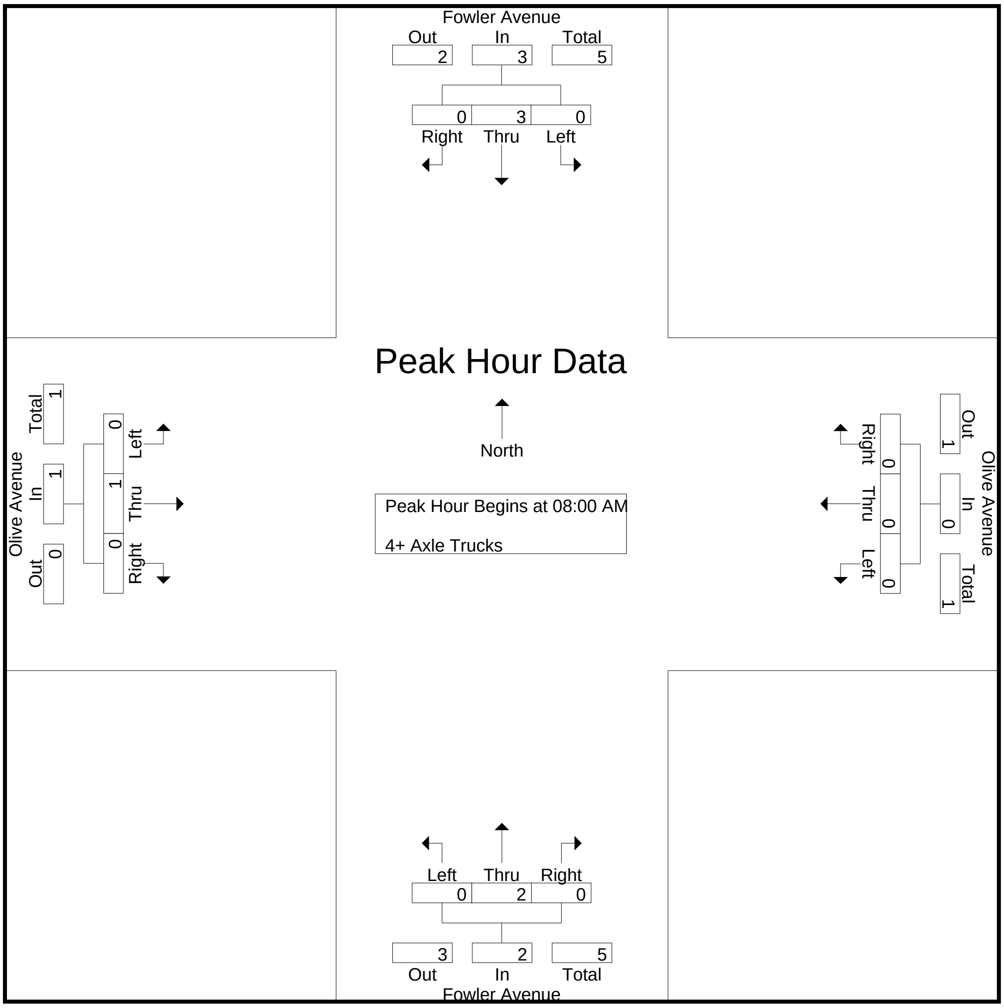
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	**2**	0	**2**	0	0	0	0	0	0	0	0	0	**1**	0	**1**
+30 mins.	0	1	0	1	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	3	0	3	0	0	0	0	0	2	0	2	0	1	0	1
% App. Total	0	100	0		0	0	0		0	100	0		0	100	0	
PHF	.000	.375	.000	.375	.000	.000	.000	.000	.000	.500	.000	.500	.000	.250	.000	.250

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City of Fresno
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Weather: Clear

File Name : 02_FSO_Fow_Oli PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	2	105	2	109	47	10	12	69	4	92	14	110	20	26	9	55	343
04:15 PM	2	113	4	119	44	16	12	72	2	82	21	105	20	23	10	53	349
04:30 PM	0	97	3	100	68	21	11	100	3	85	25	113	35	18	15	68	381
04:45 PM	2	105	3	110	52	23	16	91	3	87	33	123	30	22	10	62	386
Total	6	420	12	438	211	70	51	332	12	346	93	451	105	89	44	238	1459
05:00 PM	2	103	3	108	45	18	15	78	0	93	29	122	33	25	14	72	380
05:15 PM	7	104	6	117	47	9	17	73	0	102	21	123	41	24	4	69	382
05:30 PM	3	113	2	118	33	7	14	54	2	101	22	125	30	31	14	75	372
05:45 PM	6	108	3	117	34	8	13	55	3	98	26	127	42	35	14	91	390
Total	18	428	14	460	159	42	59	260	5	394	98	497	146	115	46	307	1524
Grand Total	24	848	26	898	370	112	110	592	17	740	191	948	251	204	90	545	2983
Apprch %	2.7	94.4	2.9		62.5	18.9	18.6		1.8	78.1	20.1		46.1	37.4	16.5		
Total %	0.8	28.4	0.9	30.1	12.4	3.8	3.7	19.8	0.6	24.8	6.4	31.8	8.4	6.8	3	18.3	
Passenger Vehicles	24	810	26	860	363	110	106	579	16	714	186	916	248	198	89	535	2890
% Passenger Vehicles	100	95.5	100	95.8	98.1	98.2	96.4	97.8	94.1	96.5	97.4	96.6	98.8	97.1	98.9	98.2	96.9
Large 2 Axle Vehicles	0	19	0	19	3	1	2	6	1	18	4	23	2	3	1	6	54
% Large 2 Axle Vehicles	0	2.2	0	2.1	0.8	0.9	1.8	1	5.9	2.4	2.1	2.4	0.8	1.5	1.1	1.1	1.8
3 Axle Vehicles	0	8	0	8	1	1	2	4	0	1	1	2	0	3	0	3	17
% 3 Axle Vehicles	0	0.9	0	0.9	0.3	0.9	1.8	0.7	0	0.1	0.5	0.2	0	1.5	0	0.6	0.6
4+ Axle Trucks	0	11	0	11	3	0	0	3	0	7	0	7	1	0	0	1	22
% 4+ Axle Trucks	0	1.3	0	1.2	0.8	0	0	0.5	0	0.9	0	0.7	0.4	0	0	0.2	0.7

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	97	3	100	**68**	21	11	**100**	**3**	85	25	113	35	18	**15**	68	381
04:45 PM	2	**105**	3	110	52	**23**	16	91	3	87	**33**	**123**	30	22	10	62	**386**
05:00 PM	2	103	3	108	45	18	15	78	0	93	29	122	33	**25**	14	**72**	380
05:15 PM	**7**	104	**6**	**117**	47	9	**17**	73	0	**102**	21	123	**41**	24	4	69	382
Total Volume	11	409	15	435	212	71	59	342	6	367	108	481	139	89	43	271	1529
% App. Total	2.5	94	3.4		62	20.8	17.3		1.2	76.3	22.5		51.3	32.8	15.9		
PHF	.393	.974	.625	.929	.779	.772	.868	.855	.500	.900	.818	.978	.848	.890	.717	.941	.990

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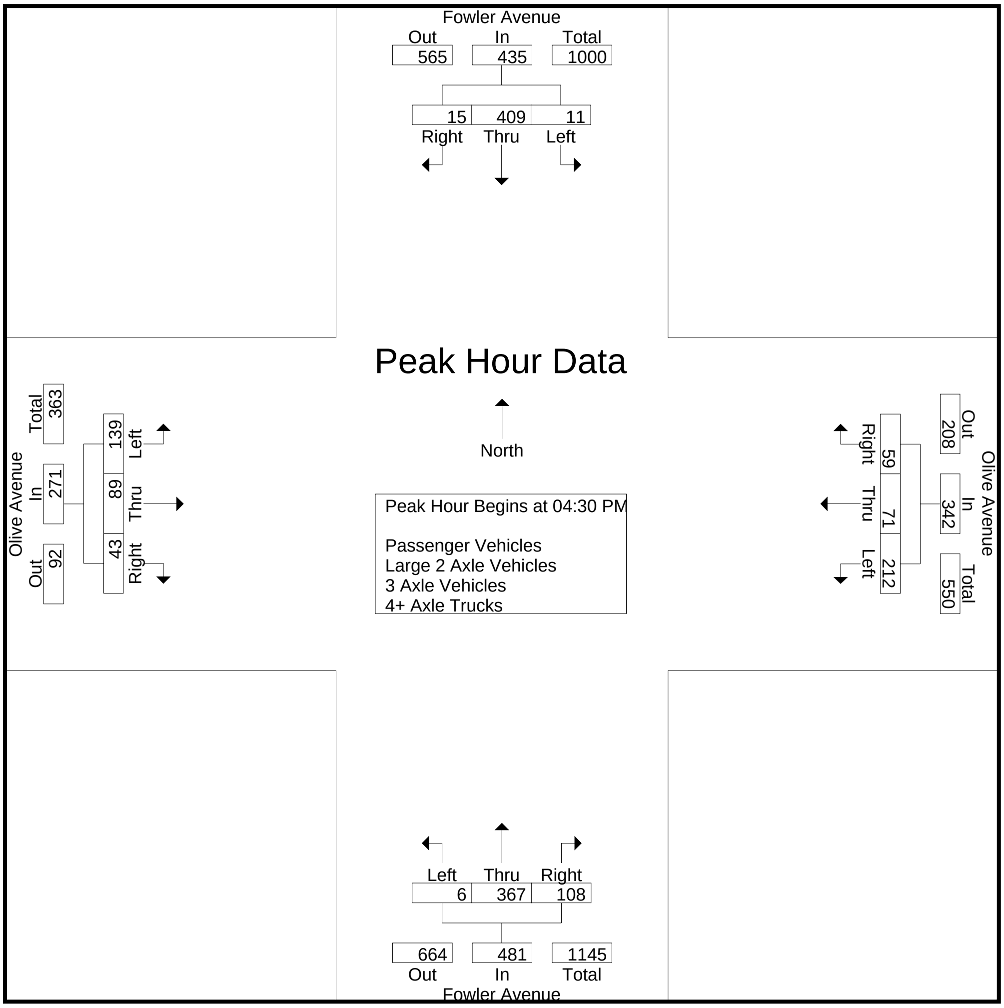
City of Fresno
N/S: Fowler Avenue
E/W: Olive Avenue
Weather: Clear

File Name : 02_FSO_Fow_Oli PM
Site Code : 00322994
Start Date : 11/10/2022



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:30 PM				05:00 PM				05:00 PM			
+0 mins.	2	103	3	108	**68**	21	11	**100**	0	93	**29**	122	33	25	**14**	72
+15 mins.	**7**	104	**6**	117	52	**23**	16	91	0	**102**	21	123	41	24	4	69
+30 mins.	3	**113**	2	**118**	45	18	15	78	2	101	22	125	30	31	14	75
+45 mins.	6	108	3	117	47	9	**17**	73	**3**	98	26	**127**	**42**	**35**	14	**91**
Total Volume	18	428	14	460	212	71	59	342	5	394	98	497	146	115	46	307
% App. Total	3.9	93	3		62	20.8	17.3		1	79.3	19.7		47.6	37.5	15	
PHF	.643	.947	.583	.975	.779	.772	.868	.855	.417	.966	.845	.978	.869	.821	.821	.843

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File Name : 02_FSO_Fow_Oli PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- Passenger Vehicles

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	2	98	2	102	47	10	10	67	3	88	14	105	20	25	9	54	328
04:15 PM	2	111	4	117	43	16	11	70	2	78	20	100	18	22	10	50	337
04:30 PM	0	91	3	94	65	20	11	96	3	83	24	110	35	17	14	66	366
04:45 PM	2	99	3	104	52	23	16	91	3	83	32	118	29	22	10	61	374
Total	6	399	12	417	207	69	48	324	11	332	90	433	102	86	43	231	1405
05:00 PM	2	98	3	103	43	17	14	74	0	90	27	117	33	25	14	72	366
05:15 PM	7	102	6	115	47	9	17	73	0	100	21	121	41	23	4	68	377
05:30 PM	3	108	2	113	33	7	14	54	2	95	22	119	30	31	14	75	361
05:45 PM	6	103	3	112	33	8	13	54	3	97	26	126	42	33	14	89	381
Total	18	411	14	443	156	41	58	255	5	382	96	483	146	112	46	304	1485
Grand Total	24	810	26	860	363	110	106	579	16	714	186	916	248	198	89	535	2890
Apprch %	2.8	94.2	3		62.7	19	18.3		1.7	77.9	20.3		46.4	37	16.6		
Total %	0.8	28	0.9	29.8	12.6	3.8	3.7	20	0.6	24.7	6.4	31.7	8.6	6.9	3.1	18.5	

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	91	3	94	**65**	20	11	**96**	**3**	83	24	110	35	17	**14**	66	366
04:45 PM	2	99	3	104	52	**23**	16	91	3	83	**32**	118	29	22	10	61	374
05:00 PM	2	98	3	103	43	17	14	74	0	90	27	117	33	**25**	14	**72**	366
05:15 PM	**7**	**102**	**6**	**115**	47	9	**17**	73	0	**100**	21	**121**	**41**	23	4	68	**377**
Total Volume	11	390	15	416	207	69	58	334	6	356	104	466	138	87	42	267	1483
% App. Total	2.6	93.8	3.6		62	20.7	17.4		1.3	76.4	22.3		51.7	32.6	15.7		
PHF	.393	.956	.625	.904	.796	.750	.853	.870	.500	.890	.813	.963	.841	.870	.750	.927	.983

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File Name : 02_FSO_Fow_Oli PM
Site Code : 00322994
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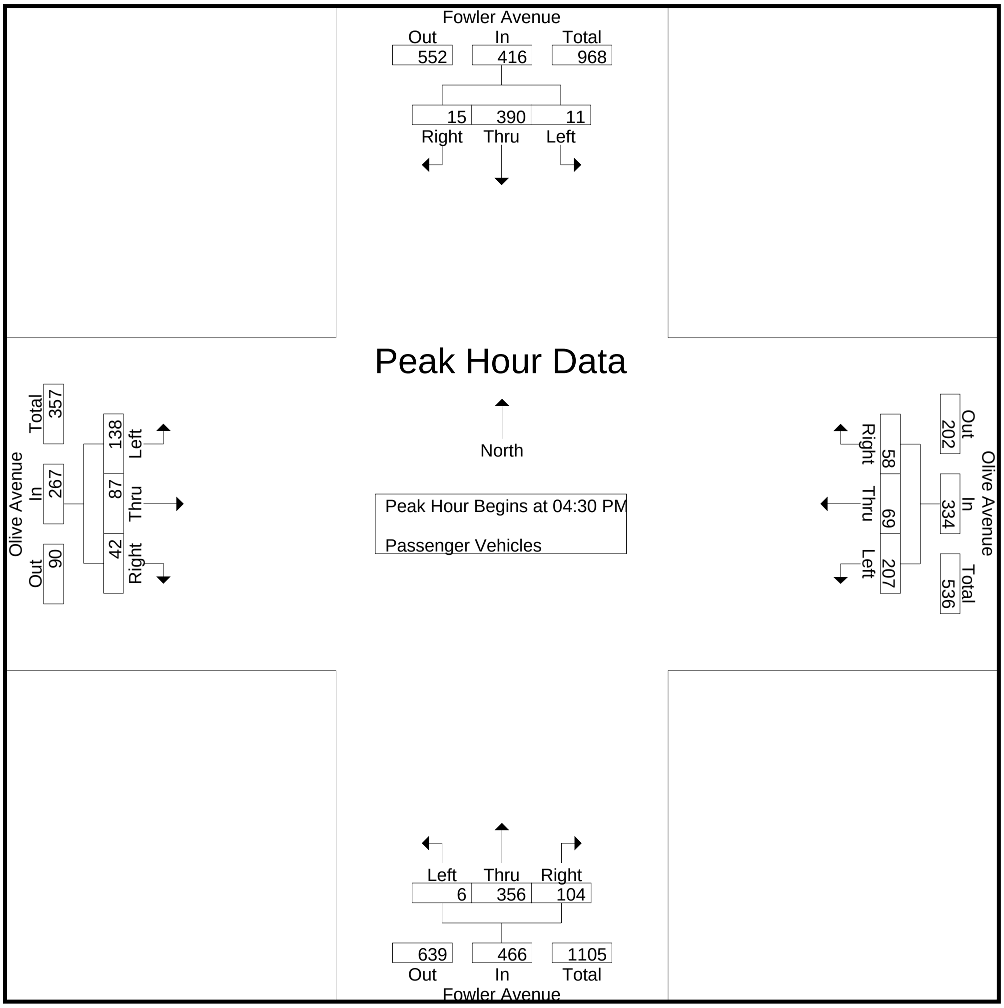
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	91	3	94	**65**	20	11	**96**	**3**	83	24	110	35	17	**14**	66
+15 mins.	2	99	3	104	52	**23**	16	91	3	83	**32**	118	29	22	10	61
+30 mins.	2	98	3	103	43	17	14	74	0	90	27	117	33	**25**	14	**72**
+45 mins.	**7**	**102**	**6**	**115**	47	9	**17**	73	0	**100**	21	**121**	**41**	23	4	68
Total Volume	11	390	15	416	207	69	58	334	6	356	104	466	138	87	42	267
% App. Total	2.6	93.8	3.6		62	20.7	17.4		1.3	76.4	22.3		51.7	32.6	15.7	
PHF	.393	.956	.625	.904	.796	.750	.853	.870	.500	.890	.813	.963	.841	.870	.750	.927

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File Name : 02_FSO_Fow_Oli PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	7	0	7	0	0	1	1	1	3	0	4	0	1	0	1	13
04:15 PM	0	0	0	0	1	0	1	2	0	4	1	5	2	0	0	2	9
04:30 PM	0	4	0	4	0	1	0	1	0	1	0	1	0	0	1	1	7
04:45 PM	0	4	0	4	0	0	0	0	0	3	1	4	0	0	0	0	8
Total	0	15	0	15	1	1	2	4	1	11	2	14	2	1	1	4	37
05:00 PM	0	1	0	1	2	0	0	2	0	2	2	4	0	0	0	0	7
05:15 PM	0	2	0	2	0	0	0	0	0	2	0	2	0	1	0	1	5
05:30 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
05:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
Total	0	4	0	4	2	0	0	2	0	7	2	9	0	2	0	2	17
Grand Total	0	19	0	19	3	1	2	6	1	18	4	23	2	3	1	6	54
Apprch %	0	100	0		50	16.7	33.3		4.3	78.3	17.4		33.3	50	16.7		
Total %	0	35.2	0	35.2	5.6	1.9	3.7	11.1	1.9	33.3	7.4	42.6	3.7	5.6	1.9	11.1	

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	**4**	0	**4**	0	**1**	0	1	0	1	0	1	0	0	**1**	**1**	7
04:45 PM	0	4	0	4	0	0	0	0	0	**3**	1	**4**	0	0	0	0	**8**
05:00 PM	0	1	0	1	**2**	0	0	**2**	0	2	**2**	4	0	0	0	0	7
05:15 PM	0	2	0	2	0	0	0	0	0	2	0	2	0	**1**	0	1	5
Total Volume	0	11	0	11	2	1	0	3	0	8	3	11	0	1	1	2	27
% App. Total	0	100	0		66.7	33.3	0		0	72.7	27.3		0	50	50		
PHF	.000	.688	.000	.688	.250	.250	.000	.375	.000	.667	.375	.688	.000	.250	.250	.500	.844

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File Name : 02_FSO_Fow_Oli PM
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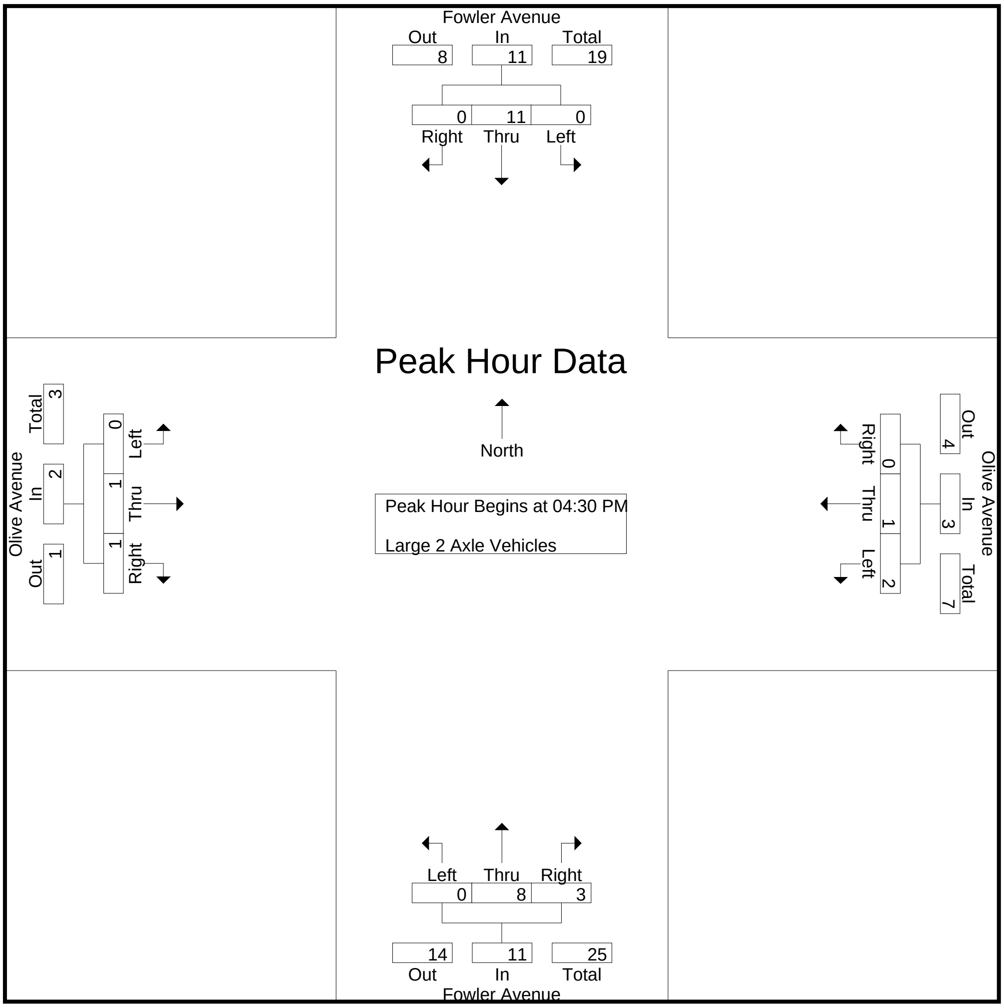

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	**4**	0	**4**	0	**1**	0	1	0	1	0	1	0	0	**1**	**1**
+15 mins.	0	4	0	4	0	0	0	0	0	**3**	1	**4**	0	0	0	0
+30 mins.	0	1	0	1	**2**	0	0	**2**	0	2	**2**	4	0	0	0	0
+45 mins.	0	2	0	2	0	0	0	0	0	2	0	2	0	**1**	0	1
Total Volume	0	11	0	11	2	1	0	3	0	8	3	11	0	1	1	2
% App. Total	0	100	0		66.7	33.3	0		0	72.7	27.3		0	50	50	
PHF	.000	.688	.000	.688	.250	.250	.000	.375	.000	.667	.375	.688	.000	.250	.250	.500

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N/S: Fowler Avenue
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File Name : 02_FSO_Fow_Oli PM
Site Code : 00322994
Start Date : 11/10/2022

Groups Printed- 3 Axle Vehicles

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:30 PM	0	0	0	0	1	0	0	1	0	0	1	1	0	1	0	1	3
04:45 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total	0	1	0	1	1	0	1	2	0	1	1	2	0	2	0	2	7
05:00 PM	0	1	0	1	0	1	1	2	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
05:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2
Total	0	7	0	7	0	1	1	2	0	0	0	0	0	1	0	1	10
Grand Total	0	8	0	8	1	1	2	4	0	1	1	2	0	3	0	3	17
Apprch %	0	100	0		25	25	50		0	50	50		0	100	0		
Total %	0	47.1	0	47.1	5.9	5.9	11.8	23.5	0	5.9	5.9	11.8	0	17.6	0	17.6	

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	**1**	0	0	1	0	0	**1**	**1**	0	**1**	0	**1**	**3**
04:45 PM	0	**1**	0	**1**	0	0	0	0	0	**1**	0	1	0	0	0	0	2
05:00 PM	0	1	0	1	0	**1**	**1**	**2**	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	1	1	1	3	0	1	1	2	0	1	0	1	8
% App. Total	0	100	0		33.3	33.3	33.3		0	50	50		0	100	0		
PHF	.000	.500	.000	.500	.250	.250	.250	.375	.000	.250	.250	.500	.000	.250	.000	.250	.667

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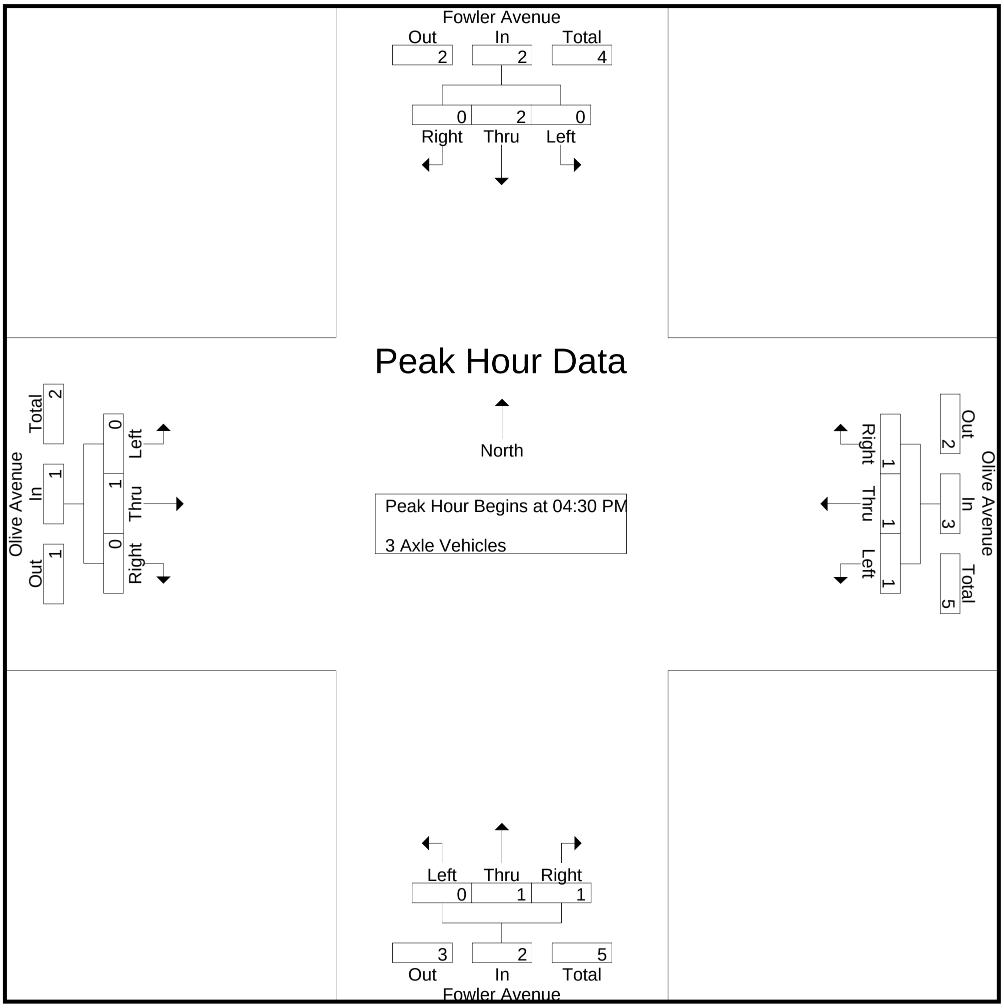
City of Fresno
N/S: Fowler Avenue
E/W: Olive Avenue
Weather: Clear

File Name : 02_FSO_Fow_Oli PM
Site Code : 00322994
Start Date : 11/10/2022



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	**1**	0	0	1	0	0	**1**	**1**	0	**1**	0	**1**
+15 mins.	0	**1**	0	**1**	0	0	0	0	0	**1**	0	1	0	0	0	0
+30 mins.	0	1	0	1	0	**1**	**1**	**2**	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	1	1	1	3	0	1	1	2	0	1	0	1
% App. Total	0	100	0		33.3	33.3	33.3		0	50	50		0	100	0	
PHF	.000	.500	.000	.500	.250	.250	.250	.375	.000	.250	.250	.500	.000	.250	.000	.250

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City of Fresno
N/S: Fowler Avenue
E/W: Olive Avenue
Weather: Clear

File Name : 02_FSO_Fow_Oli PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:30 PM	0	2	0	2	2	0	0	2	0	1	0	1	0	0	0	0	5
04:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
Total	0	5	0	5	2	0	0	2	0	2	0	2	1	0	0	1	10
05:00 PM	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0	4
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
05:45 PM	0	3	0	3	1	0	0	1	0	1	0	1	0	0	0	0	5
Total	0	6	0	6	1	0	0	1	0	5	0	5	0	0	0	0	12
Grand Total	0	11	0	11	3	0	0	3	0	7	0	7	1	0	0	1	22
Apprch %	0	100	0		100	0	0		0	100	0		100	0	0		
Total %	0	50	0	50	13.6	0	0	13.6	0	31.8	0	31.8	4.5	0	0	4.5	

	Fowler Avenue Southbound				Olive Avenue Westbound				Fowler Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	2	0	2	**2**	0	0	**2**	0	**1**	0	**1**	0	0	0	0	**5**
04:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	**1**	0	0	**1**	2
05:00 PM	0	**3**	0	**3**	0	0	0	0	0	1	0	1	0	0	0	0	4
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	6	0	6	2	0	0	2	0	2	0	2	1	0	0	1	11
% App. Total	0	100	0		100	0	0		0	100	0		100	0	0		
PHF	.000	.500	.000	.500	.250	.000	.000	.250	.000	.500	.000	.500	.250	.000	.000	.250	.550

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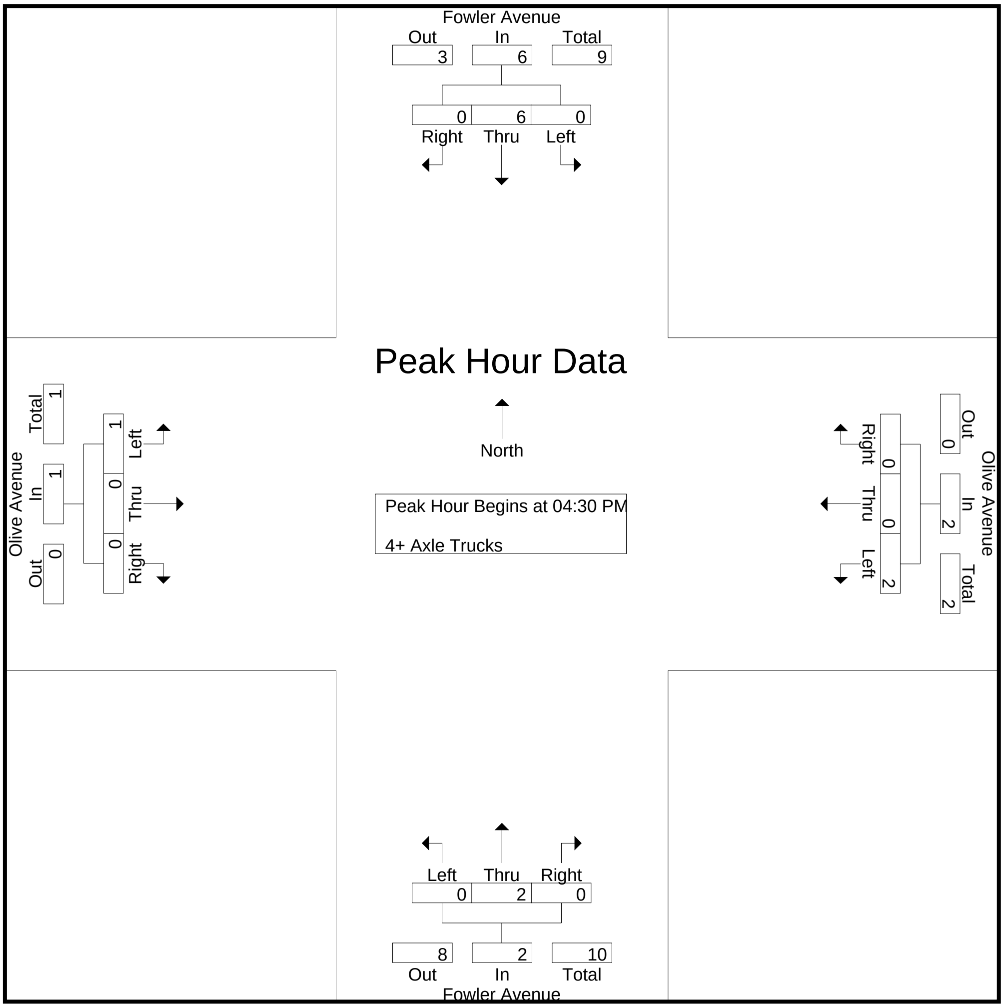
City of Fresno
N/S: Fowler Avenue
E/W: Olive Avenue
Weather: Clear

File Name : 02_FSO_Fow_Oli PM
Site Code : 00322994
Start Date : 11/10/2022



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	2	0	2	**2**	0	0	**2**	0	**1**	0	**1**	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	0	0	0	**1**	0	0	**1**
+30 mins.	0	**3**	0	**3**	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	6	0	6	2	0	0	2	0	2	0	2	1	0	0	1
% App. Total	0	100	0		100	0	0		0	100	0		100	0	0	
PHF	.000	.500	.000	.500	.250	.000	.000	.250	.000	.500	.000	.500	.250	.000	.000	.250

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City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Westbound Ramps
Weather: Clear

File Name : 03_FSO_Fow_180W AM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	31	112	143	3	0	20	23	0	79	57	136	0	0	0	0	302
07:15 AM	0	30	127	157	6	0	17	23	0	111	92	203	0	0	0	0	383
07:30 AM	0	39	165	204	3	0	21	24	0	105	105	210	0	0	0	0	438
07:45 AM	0	47	151	198	7	0	9	16	0	89	143	232	0	0	0	0	446
Total	0	147	555	702	19	0	67	86	0	384	397	781	0	0	0	0	1569
08:00 AM	0	41	167	208	5	0	11	16	0	98	154	252	0	0	0	0	476
08:15 AM	0	49	169	218	3	0	15	18	0	96	192	288	0	0	0	0	524
08:30 AM	0	37	187	224	5	0	18	23	0	114	210	324	0	0	0	0	571
08:45 AM	0	49	153	202	4	0	18	22	0	91	188	279	0	0	0	0	503
Total	0	176	676	852	17	0	62	79	0	399	744	1143	0	0	0	0	2074
Grand Total	0	323	1231	1554	36	0	129	165	0	783	1141	1924	0	0	0	0	3643
Apprch %	0	20.8	79.2		21.8	0	78.2		0	40.7	59.3		0	0	0		
Total %	0	8.9	33.8	42.7	1	0	3.5	4.5	0	21.5	31.3	52.8	0	0	0	0	
Passenger Vehicles	0	312	1213	1525	34	0	127	161	0	754	1123	1877	0	0	0	0	3563
% Passenger Vehicles	0	96.6	98.5	98.1	94.4	0	98.4	97.6	0	96.3	98.4	97.6	0	0	0	0	97.8
Large 2 Axle Vehicles	0	6	10	16	1	0	1	2	0	18	14	32	0	0	0	0	50
% Large 2 Axle Vehicles	0	1.9	0.8	1	2.8	0	0.8	1.2	0	2.3	1.2	1.7	0	0	0	0	1.4
3 Axle Vehicles	0	3	5	8	1	0	0	1	0	5	1	6	0	0	0	0	15
% 3 Axle Vehicles	0	0.9	0.4	0.5	2.8	0	0	0.6	0	0.6	0.1	0.3	0	0	0	0	0.4
4+ Axle Trucks	0	2	3	5	0	0	1	1	0	6	3	9	0	0	0	0	15
% 4+ Axle Trucks	0	0.6	0.2	0.3	0	0	0.8	0.6	0	0.8	0.3	0.5	0	0	0	0	0.4

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	41	167	208	**5**	0	11	16	0	98	154	252	0	0	0	0	476
08:15 AM	0	**49**	169	218	3	0	15	18	0	96	192	288	0	0	0	0	524
08:30 AM	0	37	**187**	**224**	5	0	**18**	**23**	0	**114**	**210**	**324**	0	0	0	0	**571**
08:45 AM	0	49	153	202	4	0	18	22	0	91	188	279	0	0	0	0	503
Total Volume	0	176	676	852	17	0	62	79	0	399	744	1143	0	0	0	0	2074
% App. Total	0	20.7	79.3		21.5	0	78.5		0	34.9	65.1		0	0	0		
PHF	.000	.898	.904	.951	.850	.000	.861	.859	.000	.875	.886	.882	.000	.000	.000	.000	.908

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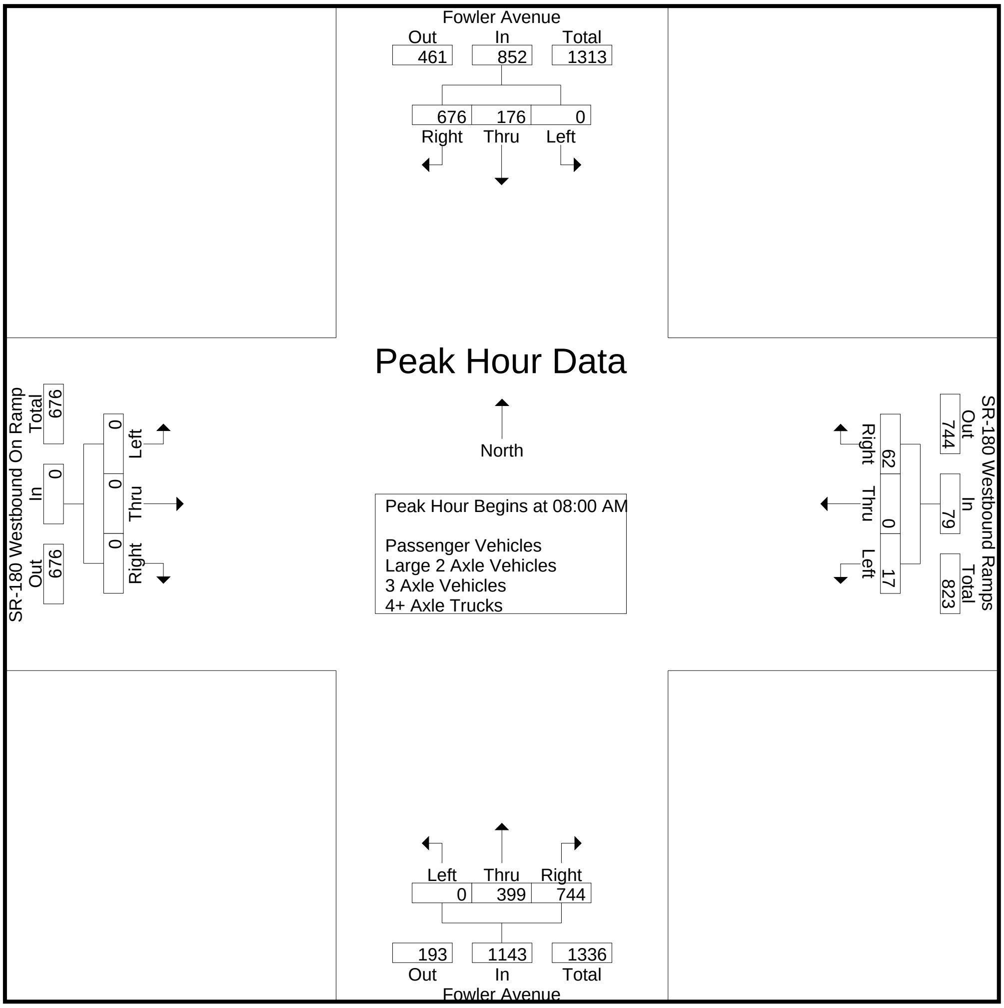
City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Westbound Ramps
Weather: Clear

File Name : 03_FSO_Fow_180W AM
Site Code : 00322994
Start Date : 11/10/2022



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:00 AM				08:00 AM				07:00 AM			
+0 mins.	0	41	167	208	3	0	20	23	0	98	154	252	0	0	0	0
+15 mins.	0	**49**	169	218	6	0	17	23	0	96	192	288	0	0	0	0
+30 mins.	0	37	**187**	**224**	3	0	**21**	**24**	0	**114**	**210**	**324**	0	0	0	0
+45 mins.	0	49	153	202	**7**	0	9	16	0	91	188	279	0	0	0	0
Total Volume	0	176	676	852	19	0	67	86	0	399	744	1143	0	0	0	0
% App. Total	0	20.7	79.3		22.1	0	77.9		0	34.9	65.1		0	0	0	
PHF	.000	.898	.904	.951	.679	.000	.798	.896	.000	.875	.886	.882	.000	.000	.000	.000

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City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Westbound Ramps
Weather: Clear

File Name : 03_FSO_Fow_180W AM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- Passenger Vehicles

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	30	109	139	3	0	20	23	0	77	56	133	0	0	0	0	295
07:15 AM	0	29	123	152	4	0	16	20	0	104	92	196	0	0	0	0	368
07:30 AM	0	37	164	201	3	0	21	24	0	103	103	206	0	0	0	0	431
07:45 AM	0	44	146	190	7	0	9	16	0	84	142	226	0	0	0	0	432
Total	0	140	542	682	17	0	66	83	0	368	393	761	0	0	0	0	1526
08:00 AM	0	40	167	207	5	0	11	16	0	96	151	247	0	0	0	0	470
08:15 AM	0	48	165	213	3	0	15	18	0	92	187	279	0	0	0	0	510
08:30 AM	0	37	186	223	5	0	18	23	0	111	208	319	0	0	0	0	565
08:45 AM	0	47	153	200	4	0	17	21	0	87	184	271	0	0	0	0	492
Total	0	172	671	843	17	0	61	78	0	386	730	1116	0	0	0	0	2037
Grand Total	0	312	1213	1525	34	0	127	161	0	754	1123	1877	0	0	0	0	3563
Apprch %	0	20.5	79.5		21.1	0	78.9		0	40.2	59.8		0	0	0		
Total %	0	8.8	34	42.8	1	0	3.6	4.5	0	21.2	31.5	52.7	0	0	0	0	

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	40	167	207	**5**	0	11	16	0	96	151	247	0	0	0	0	470
08:15 AM	0	**48**	165	213	3	0	15	18	0	92	187	279	0	0	0	0	510
08:30 AM	0	37	**186**	**223**	5	0	**18**	**23**	0	**111**	**208**	**319**	0	0	0	0	**565**
08:45 AM	0	47	153	200	4	0	17	21	0	87	184	271	0	0	0	0	492
Total Volume	0	172	671	843	17	0	61	78	0	386	730	1116	0	0	0	0	2037
% App. Total	0	20.4	79.6		21.8	0	78.2		0	34.6	65.4		0	0	0		
PHF	.000	.896	.902	.945	.850	.000	.847	.848	.000	.869	.877	.875	.000	.000	.000	.000	.901

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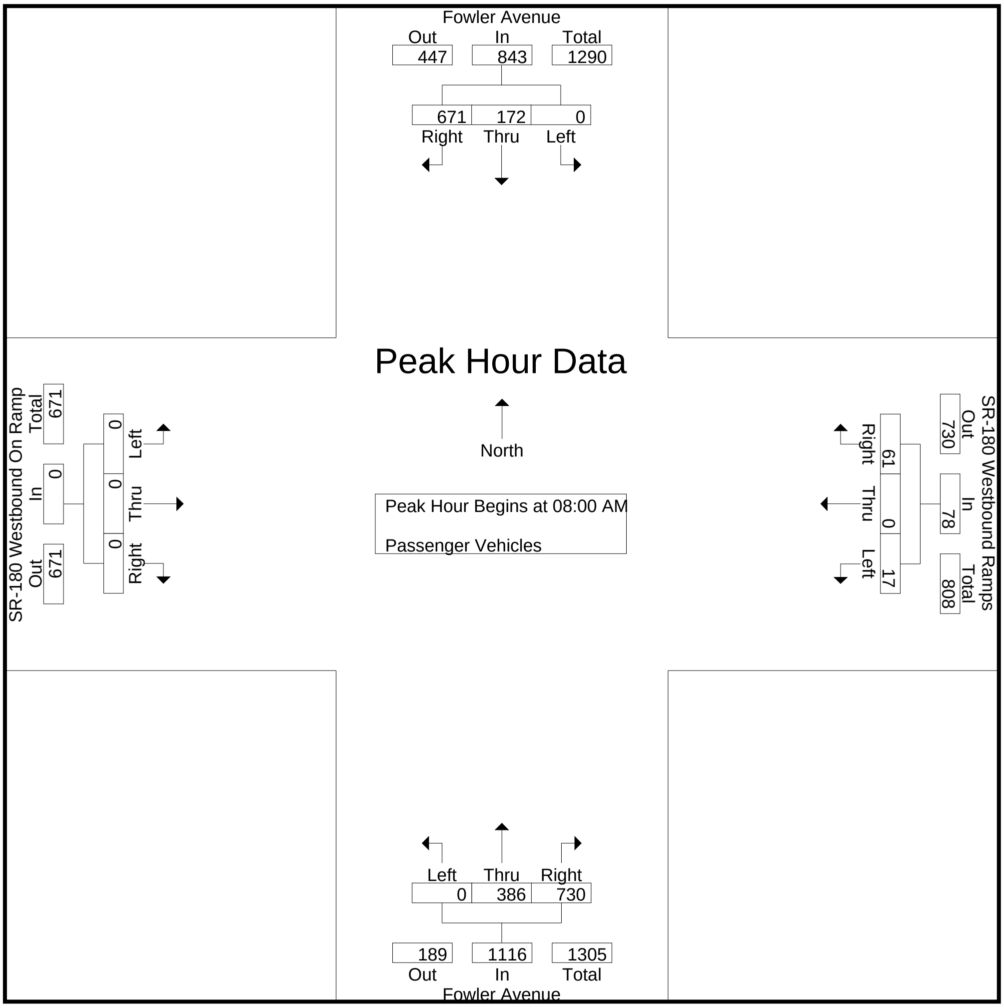
City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Westbound Ramps
Weather: Clear

File Name : 03_FSO_Fow_180W AM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	40	167	207	**5**	0	11	16	0	96	151	247	0	0	0	0
+15 mins.	0	**48**	165	213	3	0	15	18	0	92	187	279	0	0	0	0
+30 mins.	0	37	**186**	**223**	5	0	**18**	**23**	0	**111**	**208**	**319**	0	0	0	0
+45 mins.	0	47	153	200	4	0	17	21	0	87	184	271	0	0	0	0
Total Volume	0	172	671	843	17	0	61	78	0	386	730	1116	0	0	0	0
% App. Total	0	20.4	79.6		21.8	0	78.2		0	34.6	65.4		0	0	0	
PHF	.000	.896	.902	.945	.850	.000	.847	.848	.000	.869	.877	.875	.000	.000	.000	.000

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City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Westbound Ramps
Weather: Clear

File Name : 03_FSO_Fow_180W AM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
07:15 AM	0	0	3	3	1	0	1	2	0	3	0	3	0	0	0	0	8
07:30 AM	0	1	1	2	0	0	0	0	0	1	0	1	0	0	0	0	3
07:45 AM	0	1	4	5	0	0	0	0	0	2	1	3	0	0	0	0	8
Total	0	2	8	10	1	0	1	2	0	6	2	8	0	0	0	0	20
08:00 AM	0	1	0	1	0	0	0	0	0	2	3	5	0	0	0	0	6
08:15 AM	0	1	2	3	0	0	0	0	0	4	5	9	0	0	0	0	12
08:30 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:45 AM	0	2	0	2	0	0	0	0	0	4	4	8	0	0	0	0	10
Total	0	4	2	6	0	0	0	0	0	12	12	24	0	0	0	0	30
Grand Total	0	6	10	16	1	0	1	2	0	18	14	32	0	0	0	0	50
Apprch %	0	37.5	62.5		50	0	50		0	56.2	43.8		0	0	0		
Total %	0	12	20	32	2	0	2	4	0	36	28	64	0	0	0	0	

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	1	0	1	0	0	0	0	0	2	3	5	0	0	0	0	6
08:15 AM	0	1	**2**	**3**	0	0	0	0	0	**4**	**5**	**9**	0	0	0	0	**12**
08:30 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
08:45 AM	0	**2**	0	2	0	0	0	0	0	4	4	8	0	0	0	0	10
Total Volume	0	4	2	6	0	0	0	0	0	12	12	24	0	0	0	0	30
% App. Total	0	66.7	33.3		0	0	0		0	50	50		0	0	0		
PHF	.000	.500	.250	.500	.000	.000	.000	.000	.000	.750	.600	.667	.000	.000	.000	.000	.625

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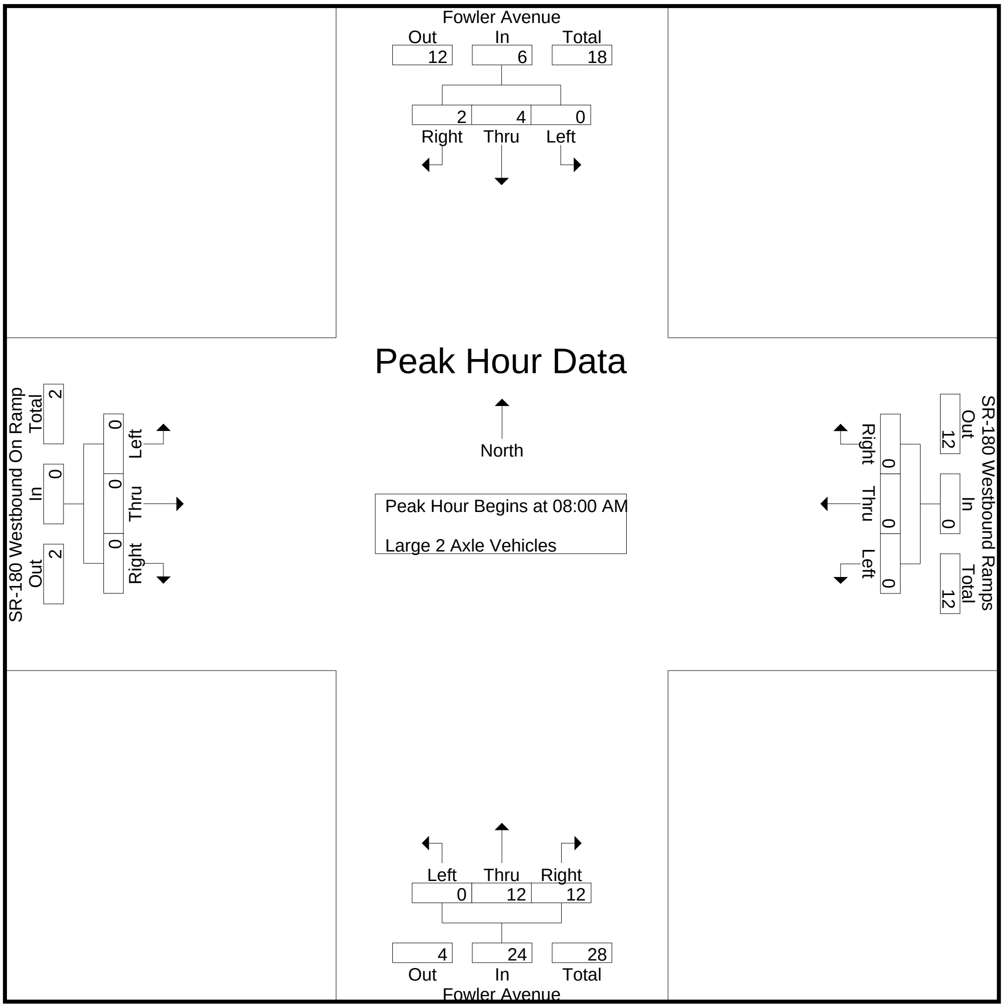
City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Westbound Ramps
Weather: Clear

File Name : 03_FSO_Fow_180W AM
Site Code : 00322994
Start Date : 11/10/2022



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	1	0	1	0	0	0	0	0	2	3	5	0	0	0	0
+15 mins.	0	1	**2**	**3**	0	0	0	0	0	**4**	**5**	**9**	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
+45 mins.	0	**2**	0	2	0	0	0	0	0	4	4	8	0	0	0	0
Total Volume	0	4	2	6	0	0	0	0	0	12	12	24	0	0	0	0
% App. Total	0	66.7	33.3		0	0	0		0	50	50		0	0	0	
PHF	.000	.500	.250	.500	.000	.000	.000	.000	.000	.750	.600	.667	.000	.000	.000	.000

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City of Fresno
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Weather: Clear

File Name : 03_FSO_Fow_180W AM
Site Code : 00322994
Start Date : 11/10/2022
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Groups Printed- 3 Axle Vehicles

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	3	3	0	0	0	0	0	2	0	2	0	0	0	0	5
07:15 AM	0	1	1	2	1	0	0	1	0	1	0	1	0	0	0	0	4
07:30 AM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
07:45 AM	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
Total	0	3	4	7	1	0	0	1	0	5	1	6	0	0	0	0	14
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	3	5	8	1	0	0	1	0	5	1	6	0	0	0	0	15
Apprch %	0	37.5	62.5		100	0	0		0	83.3	16.7		0	0	0		
Total %	0	20	33.3	53.3	6.7	0	0	6.7	0	33.3	6.7	40	0	0	0	0	

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0	**1**
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	0	100		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

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City of Fresno
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E/W: SR-180 Westbound Ramps
Weather: Clear

File Name : 03_FSO_Fow_180W AM
Site Code : 00322994
Start Date : 11/10/2022
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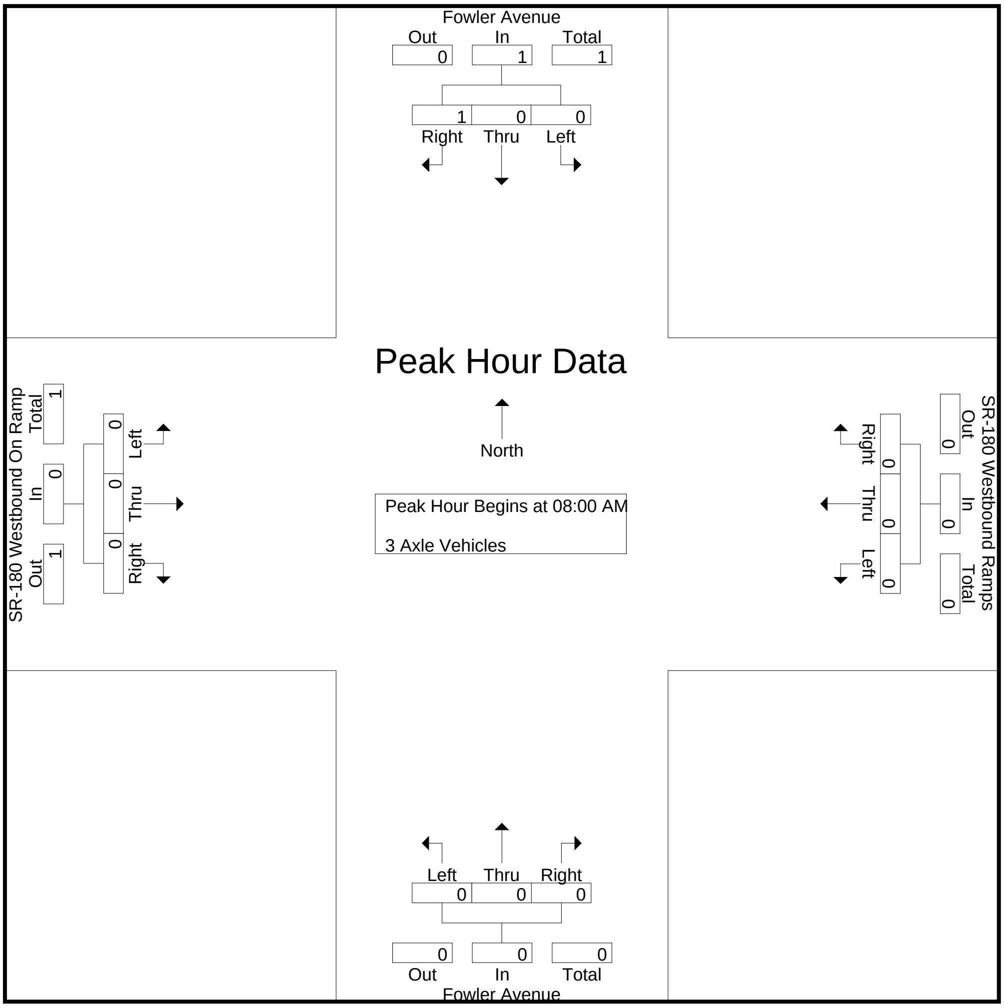

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	100		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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E/W: SR-180 Westbound Ramps
Weather: Clear

File Name : 03_FSO_Fow_180W AM
Site Code : 00322994
Start Date : 11/10/2022
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Groups Printed- 4+ Axle Trucks

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
07:30 AM	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	2
07:45 AM	0	1	1	2	0	0	0	0	0	1	0	1	0	0	0	0	3
Total	0	2	1	3	0	0	0	0	0	5	1	6	0	0	0	0	9
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	3
08:45 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
Total	0	0	2	2	0	0	1	1	0	1	2	3	0	0	0	0	6
Grand Total	0	2	3	5	0	0	1	1	0	6	3	9	0	0	0	0	15
Apprch %	0	40	60		0	0	100		0	66.7	33.3		0	0	0		
Total %	0	13.3	20	33.3	0	0	6.7	6.7	0	40	20	60	0	0	0	0	

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	**2**	**2**	0	0	0	0	0	0	0	0	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	0	0	**1**	**2**	**3**	0	0	0	0	**3**
08:45 AM	0	0	0	0	0	0	**1**	**1**	0	0	0	0	0	0	0	0	1
Total Volume	0	0	2	2	0	0	1	1	0	1	2	3	0	0	0	0	6
% App. Total	0	0	100		0	0	100		0	33.3	66.7		0	0	0		
PHF	.000	.000	.250	.250	.000	.000	.250	.250	.000	.250	.250	.250	.000	.000	.000	.000	.500

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File Name : 03_FSO_Fow_180W AM
Site Code : 00322994
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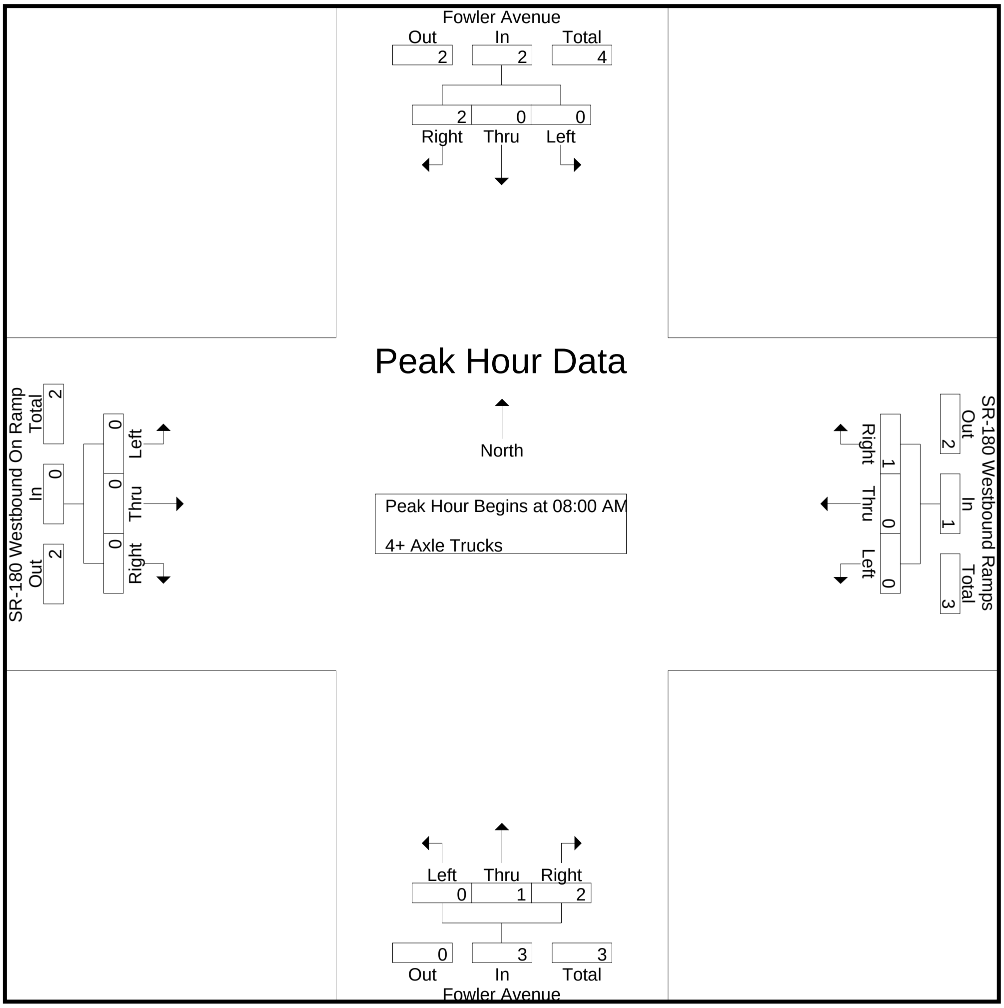

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	**2**	**2**	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	**1**	**2**	**3**	0	0	0	0
+45 mins.	0	0	0	0	0	0	**1**	**1**	0	0	0	0	0	0	0	0
Total Volume	0	0	2	2	0	0	1	1	0	1	2	3	0	0	0	0
% App. Total	0	0	100		0	0	100		0	33.3	66.7		0	0	0	
PHF	.000	.000	.250	.250	.000	.000	.250	.250	.000	.250	.250	.250	.000	.000	.000	.000

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City of Fresno
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Weather: Clear

File Name : 03_FSO_Fow_180W PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	66	96	162	4	0	8	12	0	86	76	162	0	0	0	0	336
04:15 PM	0	77	88	165	4	0	7	11	0	96	59	155	0	0	0	0	331
04:30 PM	0	68	112	180	3	0	15	18	0	109	69	178	0	0	0	0	376
04:45 PM	0	72	85	157	9	0	12	21	0	112	65	177	0	0	0	0	355
Total	0	283	381	664	20	0	42	62	0	403	269	672	0	0	0	0	1398
05:00 PM	0	86	78	164	9	0	10	19	0	112	62	174	0	0	0	0	357
05:15 PM	0	71	81	152	9	0	6	15	0	126	75	201	0	0	0	0	368
05:30 PM	0	91	68	159	4	0	8	12	0	103	108	211	0	0	0	0	382
05:45 PM	0	84	75	159	11	0	12	23	0	130	100	230	0	0	0	0	412
Total	0	332	302	634	33	0	36	69	0	471	345	816	0	0	0	0	1519
Grand Total	0	615	683	1298	53	0	78	131	0	874	614	1488	0	0	0	0	2917
Apprch %	0	47.4	52.6		40.5	0	59.5		0	58.7	41.3		0	0	0		
Total %	0	21.1	23.4	44.5	1.8	0	2.7	4.5	0	30	21	51	0	0	0	0	
Passenger Vehicles	0	599	651	1250	50	0	75	125	0	856	599	1455	0	0	0	0	2830
% Passenger Vehicles	0	97.4	95.3	96.3	94.3	0	96.2	95.4	0	97.9	97.6	97.8	0	0	0	0	97
Large 2 Axle Vehicles	0	9	16	25	3	0	3	6	0	9	10	19	0	0	0	0	50
% Large 2 Axle Vehicles	0	1.5	2.3	1.9	5.7	0	3.8	4.6	0	1	1.6	1.3	0	0	0	0	1.7
3 Axle Vehicles	0	2	9	11	0	0	0	0	0	2	2	4	0	0	0	0	15
% 3 Axle Vehicles	0	0.3	1.3	0.8	0	0	0	0	0	0.2	0.3	0.3	0	0	0	0	0.5
4+ Axle Trucks	0	5	7	12	0	0	0	0	0	7	3	10	0	0	0	0	22
% 4+ Axle Trucks	0	0.8	1	0.9	0	0	0	0	0	0.8	0.5	0.7	0	0	0	0	0.8

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	86	78	**164**	9	0	10	19	0	112	62	174	0	0	0	0	357
05:15 PM	0	71	**81**	152	9	0	6	15	0	126	75	201	0	0	0	0	368
05:30 PM	0	**91**	68	159	4	0	8	12	0	103	**108**	211	0	0	0	0	382
05:45 PM	0	84	75	159	**11**	0	**12**	**23**	0	**130**	100	**230**	0	0	0	0	**412**
Total Volume	0	332	302	634	33	0	36	69	0	471	345	816	0	0	0	0	1519
% App. Total	0	52.4	47.6		47.8	0	52.2		0	57.7	42.3		0	0	0		
PHF	.000	.912	.932	.966	.750	.000	.750	.750	.000	.906	.799	.887	.000	.000	.000	.000	.922

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File Name : 03_FSO_Fow_180W PM
Site Code : 00322994
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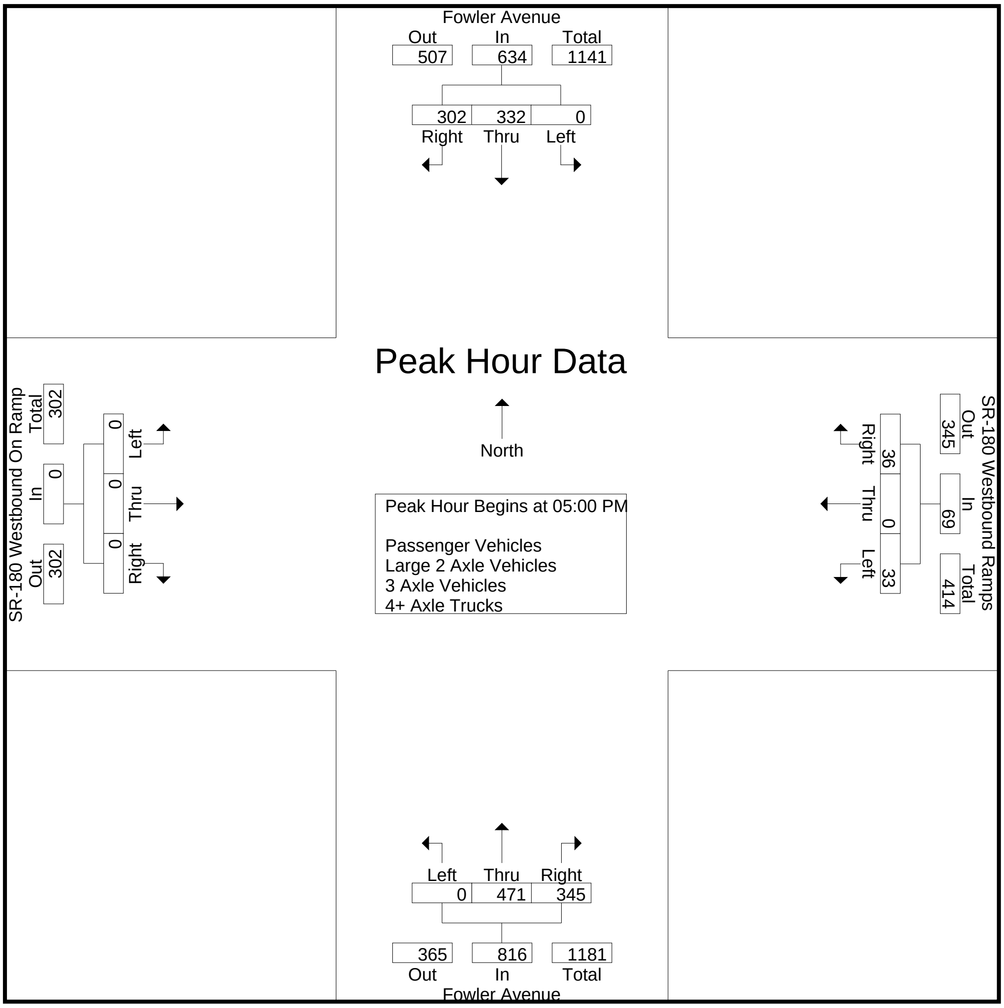

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:30 PM				05:00 PM				04:00 PM			
+0 mins.	0	77	88	165	3	0	**15**	18	0	112	62	174	0	0	0	0
+15 mins.	0	68	**112**	**180**	**9**	0	12	**21**	0	126	75	201	0	0	0	0
+30 mins.	0	72	85	157	9	0	10	19	0	103	**108**	211	0	0	0	0
+45 mins.	0	**86**	78	164	9	0	6	15	0	**130**	100	**230**	0	0	0	0
Total Volume	0	303	363	666	30	0	43	73	0	471	345	816	0	0	0	0
% App. Total	0	45.5	54.5		41.1	0	58.9		0	57.7	42.3		0	0	0	
PHF	.000	.881	.810	.925	.833	.000	.717	.869	.000	.906	.799	.887	.000	.000	.000	.000

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File Name : 03_FSO_Fow_180W PM
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Groups Printed- Passenger Vehicles

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	64	90	154	4	0	8	12	0	84	76	160	0	0	0	0	326
04:15 PM	0	76	86	162	3	0	7	10	0	93	57	150	0	0	0	0	322
04:30 PM	0	65	105	170	3	0	15	18	0	106	67	173	0	0	0	0	361
04:45 PM	0	68	82	150	9	0	10	19	0	109	62	171	0	0	0	0	340
Total	0	273	363	636	19	0	40	59	0	392	262	654	0	0	0	0	1349
05:00 PM	0	84	73	157	8	0	9	17	0	111	62	173	0	0	0	0	347
05:15 PM	0	71	78	149	8	0	6	14	0	125	72	197	0	0	0	0	360
05:30 PM	0	89	65	154	4	0	8	12	0	99	106	205	0	0	0	0	371
05:45 PM	0	82	72	154	11	0	12	23	0	129	97	226	0	0	0	0	403
Total	0	326	288	614	31	0	35	66	0	464	337	801	0	0	0	0	1481
Grand Total	0	599	651	1250	50	0	75	125	0	856	599	1455	0	0	0	0	2830
Apprch %	0	47.9	52.1		40	0	60		0	58.8	41.2		0	0	0		
Total %	0	21.2	23	44.2	1.8	0	2.7	4.4	0	30.2	21.2	51.4	0	0	0	0	

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	84	73	**157**	8	0	9	17	0	111	62	173	0	0	0	0	347
05:15 PM	0	71	**78**	149	8	0	6	14	0	125	72	197	0	0	0	0	360
05:30 PM	0	**89**	65	154	4	0	8	12	0	99	**106**	205	0	0	0	0	371
05:45 PM	0	82	72	154	**11**	0	**12**	**23**	0	**129**	97	**226**	0	0	0	0	**403**
Total Volume	0	326	288	614	31	0	35	66	0	464	337	801	0	0	0	0	1481
% App. Total	0	53.1	46.9		47	0	53		0	57.9	42.1		0	0	0		
PHF	.000	.916	.923	.978	.705	.000	.729	.717	.000	.899	.795	.886	.000	.000	.000	.000	.919

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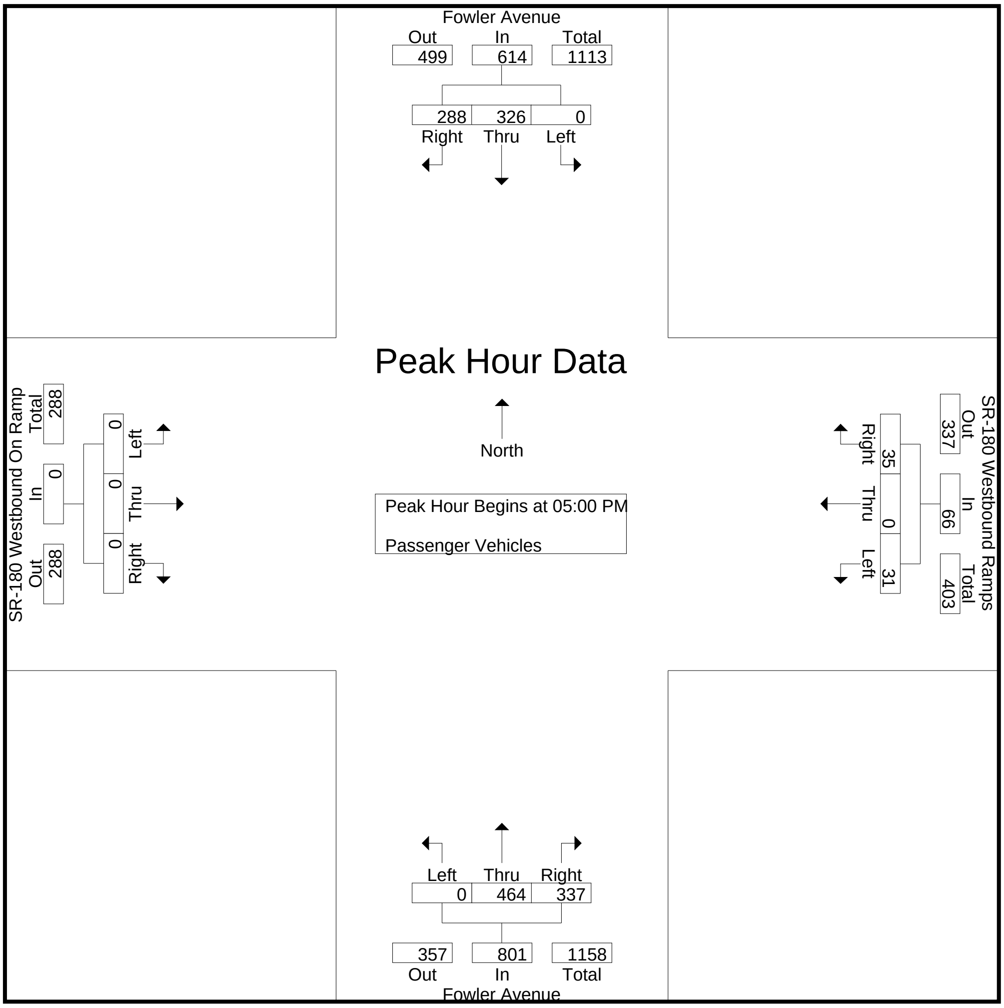

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	84	73	**157**	8	0	9	17	0	111	62	173	0	0	0	0
+15 mins.	0	71	**78**	149	8	0	6	14	0	125	72	197	0	0	0	0
+30 mins.	0	**89**	65	154	4	0	8	12	0	99	**106**	205	0	0	0	0
+45 mins.	0	82	72	154	**11**	0	**12**	**23**	0	**129**	97	**226**	0	0	0	0
Total Volume	0	326	288	614	31	0	35	66	0	464	337	801	0	0	0	0
% App. Total	0	53.1	46.9		47	0	53		0	57.9	42.1		0	0	0	
PHF	.000	.916	.923	.978	.705	.000	.729	.717	.000	.899	.795	.886	.000	.000	.000	.000

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City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Westbound Ramps
Weather: Clear

File Name : 03_FSO_Fow_180W PM
Site Code : 00322994
Start Date : 11/10/2022
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Groups Printed- Large 2 Axle Vehicles

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	2	5	7	0	0	0	0	0	1	0	1	0	0	0	0	8
04:15 PM	0	0	1	1	1	0	0	1	0	3	2	5	0	0	0	0	7
04:30 PM	0	3	2	5	0	0	0	0	0	1	1	2	0	0	0	0	7
04:45 PM	0	3	2	5	0	0	2	2	0	1	3	4	0	0	0	0	11
Total	0	8	10	18	1	0	2	3	0	6	6	12	0	0	0	0	33
05:00 PM	0	1	2	3	1	0	1	2	0	1	0	1	0	0	0	0	6
05:15 PM	0	0	3	3	1	0	0	1	0	0	3	3	0	0	0	0	7
05:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
05:45 PM	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	2
Total	0	1	6	7	2	0	1	3	0	3	4	7	0	0	0	0	17
Grand Total	0	9	16	25	3	0	3	6	0	9	10	19	0	0	0	0	50
Apprch %	0	36	64		50	0	50		0	47.4	52.6		0	0	0		
Total %	0	18	32	50	6	0	6	12	0	18	20	38	0	0	0	0	

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	**1**	2	**3**	**1**	0	**1**	**2**	0	1	0	1	0	0	0	0	6
05:15 PM	0	0	**3**	3	1	0	0	1	0	0	**3**	**3**	0	0	0	0	**7**
05:30 PM	0	0	0	0	0	0	0	0	0	**2**	0	2	0	0	0	0	2
05:45 PM	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	2
Total Volume	0	1	6	7	2	0	1	3	0	3	4	7	0	0	0	0	17
% App. Total	0	14.3	85.7		66.7	0	33.3		0	42.9	57.1		0	0	0		
PHF	.000	.250	.500	.583	.500	.000	.250	.375	.000	.375	.333	.583	.000	.000	.000	.000	.607

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Weather: Clear

File Name : 03_FSO_Fow_180W PM
Site Code : 00322994
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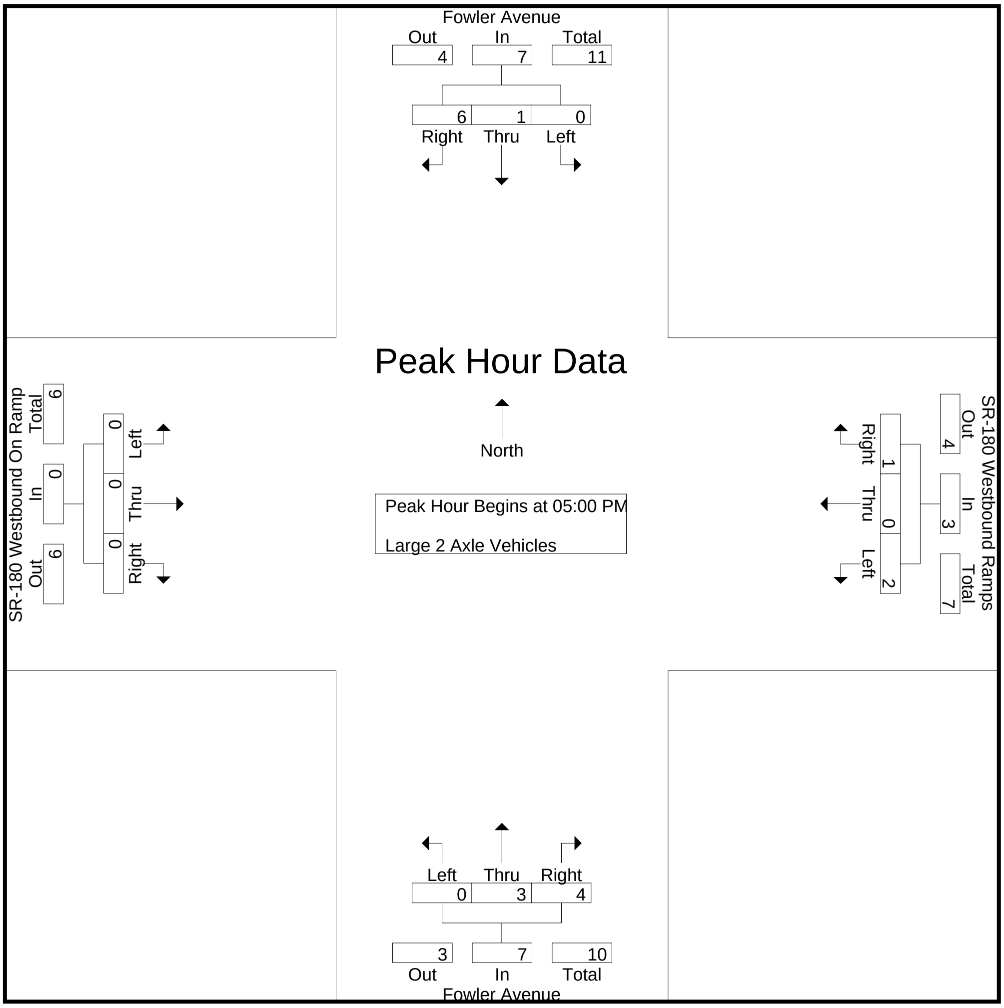

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	**1**	2	**3**	**1**	0	**1**	**2**	0	1	0	1	0	0	0	0
+15 mins.	0	0	**3**	3	1	0	0	1	0	0	**3**	**3**	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	**2**	0	2	0	0	0	0
+45 mins.	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0
Total Volume	0	1	6	7	2	0	1	3	0	3	4	7	0	0	0	0
% App. Total	0	14.3	85.7		66.7	0	33.3		0	42.9	57.1		0	0	0	
PHF	.000	.250	.500	.583	.500	.000	.250	.375	.000	.375	.333	.583	.000	.000	.000	.000

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E/W: SR-180 Westbound Ramps
Weather: Clear

File Name : 03_FSO_Fow_180W PM
Site Code : 00322994
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Groups Printed- 3 Axle Vehicles

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	3	3	0	0	0	0	0	1	1	2	0	0	0	0	5
04:45 PM	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total	0	0	5	5	0	0	0	0	0	2	1	3	0	0	0	0	8
05:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	2	3	5	0	0	0	0	0	0	1	1	0	0	0	0	6
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	4	6	0	0	0	0	0	0	1	1	0	0	0	0	7
Grand Total	0	2	9	11	0	0	0	0	0	2	2	4	0	0	0	0	15
Apprch %	0	18.2	81.8		0	0	0		0	50	50		0	0	0		
Total %	0	13.3	60	73.3	0	0	0	0	0	13.3	13.3	26.7	0	0	0	0	

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	**2**	**3**	**5**	0	0	0	0	0	0	**1**	**1**	0	0	0	0	**6**
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	4	6	0	0	0	0	0	0	1	1	0	0	0	0	7
% App. Total	0	33.3	66.7		0	0	0		0	0	100		0	0	0		
PHF	.000	.250	.333	.300	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000	.292

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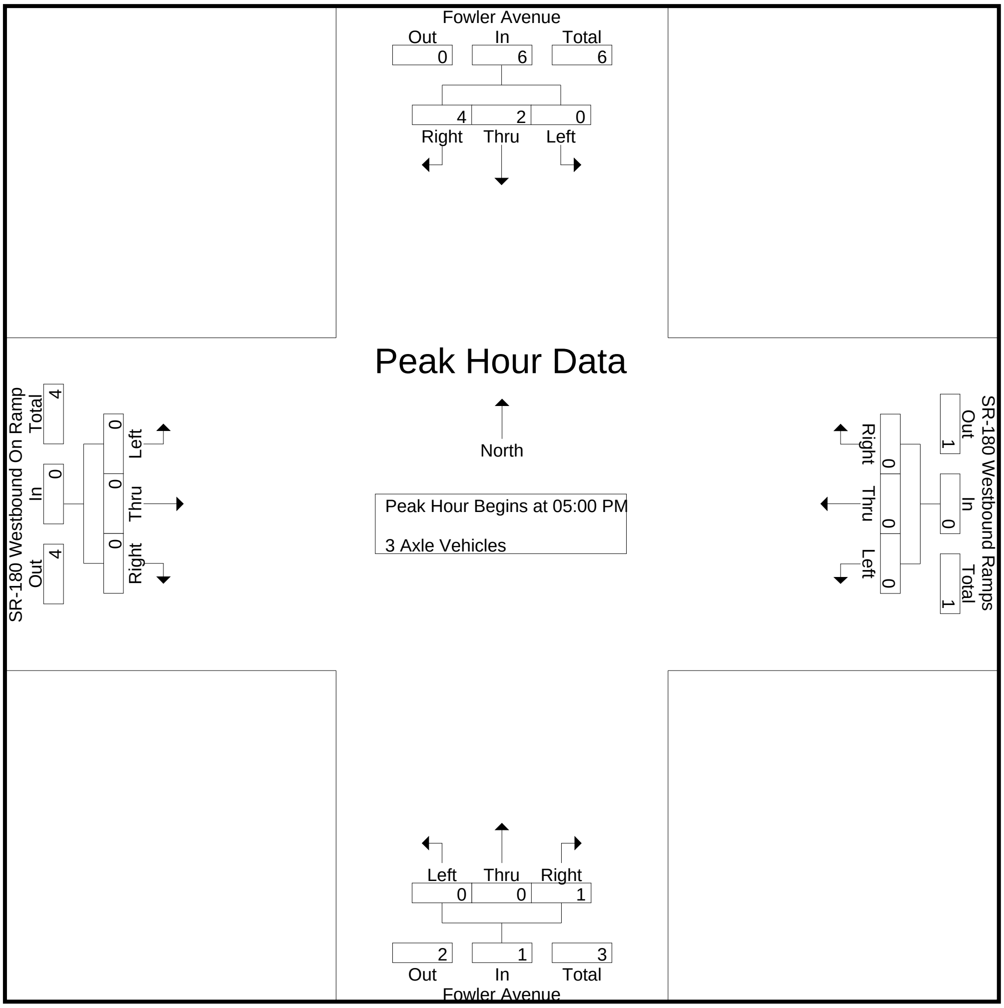
Weather: Clear

File Name : 03_FSO_Fow_180W PM
Site Code : 00322994
Start Date : 11/10/2022



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	**2**	**3**	**5**	0	0	0	0	0	0	**1**	**1**	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	4	6	0	0	0	0	0	0	1	1	0	0	0	0
% App. Total	0	33.3	66.7		0	0	0		0	0	100		0	0	0	
PHF	.000	.250	.333	.300	.000	.000	.000	.000	.000	.000	.250	.250	.000	.000	.000	.000

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City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Westbound Ramps
Weather: Clear

File Name : 03_FSO_Fow_180W PM
Site Code : 00322994
Start Date : 11/10/2022
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Groups Printed- 4+ Axle Trucks

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:15 PM	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:30 PM	0	0	2	2	0	0	0	0	0	1	0	1	0	0	0	0	3
04:45 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total	0	2	3	5	0	0	0	0	0	3	0	3	0	0	0	0	8
05:00 PM	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	3
05:45 PM	0	2	2	4	0	0	0	0	0	1	2	3	0	0	0	0	7
Total	0	3	4	7	0	0	0	0	0	4	3	7	0	0	0	0	14
Grand Total	0	5	7	12	0	0	0	0	0	7	3	10	0	0	0	0	22
Apprch %	0	41.7	58.3		0	0	0		0	70	30		0	0	0		
Total %	0	22.7	31.8	54.5	0	0	0	0	0	31.8	13.6	45.5	0	0	0	0	

	Fowler Avenue Southbound				SR-180 Westbound Ramps Westbound				Fowler Avenue Northbound				SR-180 Westbound On Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	1	**2**	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	**2**	1	**3**	0	0	0	0	3
05:45 PM	0	**2**	2	**4**	0	0	0	0	0	1	**2**	3	0	0	0	0	**7**
Total Volume	0	3	4	7	0	0	0	0	0	4	3	7	0	0	0	0	14
% App. Total	0	42.9	57.1		0	0	0		0	57.1	42.9		0	0	0		
PHF	.000	.375	.500	.438	.000	.000	.000	.000	.000	.500	.375	.583	.000	.000	.000	.000	.500

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City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Westbound Ramps
Weather: Clear

File Name : 03_FSO_Fow_180W PM
Site Code : 00322994
Start Date : 11/10/2022
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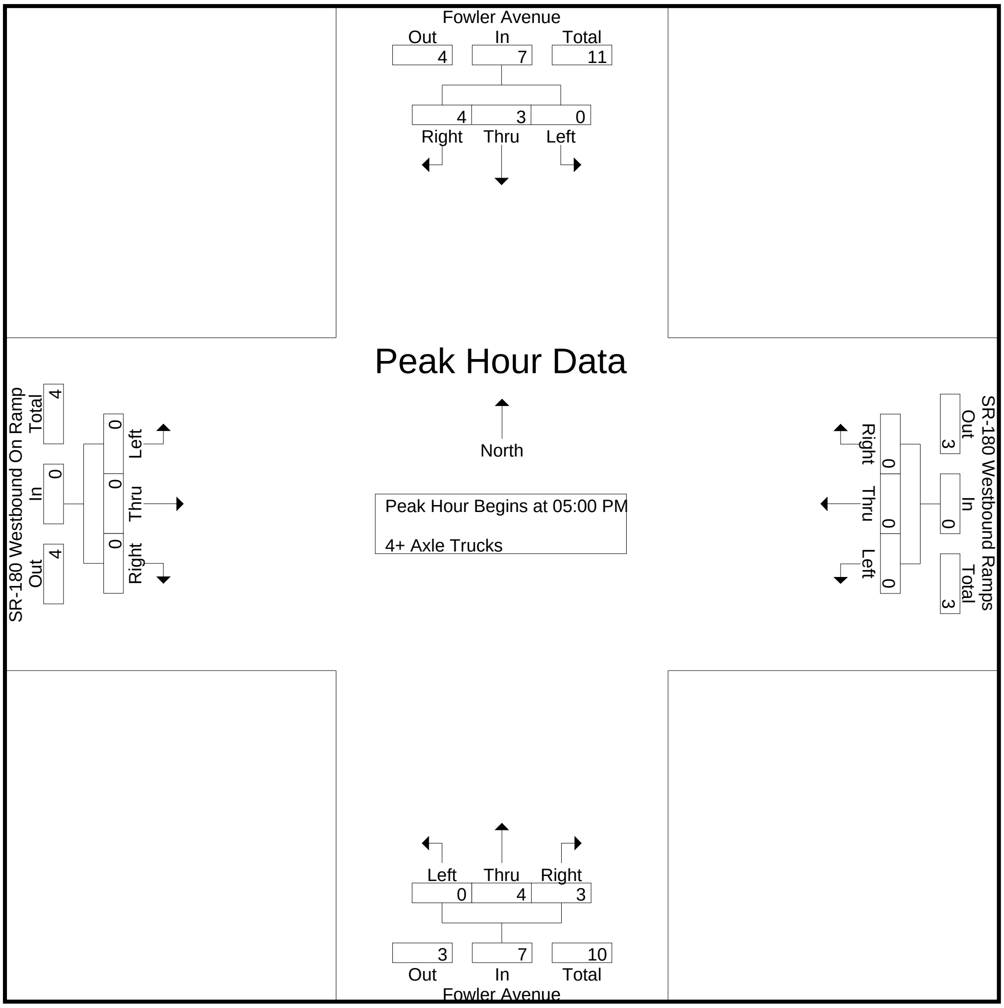

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	1	**2**	3	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	**2**	1	**3**	0	0	0	0
+45 mins.	0	**2**	2	**4**	0	0	0	0	0	1	**2**	3	0	0	0	0
Total Volume	0	3	4	7	0	0	0	0	0	4	3	7	0	0	0	0
% App. Total	0	42.9	57.1		0	0	0		0	57.1	42.9		0	0	0	
PHF	.000	.375	.500	.438	.000	.000	.000	.000	.000	.500	.375	.583	.000	.000	.000	.000

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City of Fresno
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E/W: SR-180 Eastbound Ramps
Weather: Clear

File Name : 04_FSO_Fow_180E AM
Site Code : 00322994
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	5	28	0	33	0	0	0	0	0	88	2	90	62	0	61	123	246
07:15 AM	10	27	0	37	0	0	0	0	0	125	2	127	73	0	39	112	276
07:30 AM	9	30	0	39	0	0	0	0	0	156	3	159	64	0	90	154	352
07:45 AM	7	47	0	54	0	0	0	0	0	185	3	188	46	0	97	143	385
Total	31	132	0	163	0	0	0	0	0	554	10	564	245	0	287	532	1259
08:00 AM	12	33	0	45	0	0	0	0	0	203	10	213	58	0	81	139	397
08:15 AM	6	42	0	48	0	0	0	0	0	255	7	262	47	0	79	126	436
08:30 AM	6	41	0	47	0	0	0	0	0	261	10	271	52	0	93	145	463
08:45 AM	5	55	0	60	0	0	0	0	0	220	7	227	57	0	86	143	430
Total	29	171	0	200	0	0	0	0	0	939	34	973	214	0	339	553	1726
Grand Total	60	303	0	363	0	0	0	0	0	1493	44	1537	459	0	626	1085	2985
Apprch %	16.5	83.5	0		0	0	0		0	97.1	2.9		42.3	0	57.7		
Total %	2	10.2	0	12.2	0	0	0	0	0	50	1.5	51.5	15.4	0	21	36.3	
Passenger Vehicles	59	291	0	350	0	0	0	0	0	1460	43	1503	435	0	598	1033	2886
% Passenger Vehicles	98.3	96	0	96.4	0	0	0	0	0	97.8	97.7	97.8	94.8	0	95.5	95.2	96.7
Large 2 Axle Vehicles	0	8	0	8	0	0	0	0	0	27	0	27	15	0	17	32	67
% Large 2 Axle Vehicles	0	2.6	0	2.2	0	0	0	0	0	1.8	0	1.8	3.3	0	2.7	2.9	2.2
3 Axle Vehicles	1	3	0	4	0	0	0	0	0	2	0	2	4	0	3	7	13
% 3 Axle Vehicles	1.7	1	0	1.1	0	0	0	0	0	0.1	0	0.1	0.9	0	0.5	0.6	0.4
4+ Axle Trucks	0	1	0	1	0	0	0	0	0	4	1	5	5	0	8	13	19
% 4+ Axle Trucks	0	0.3	0	0.3	0	0	0	0	0	0.3	2.3	0.3	1.1	0	1.3	1.2	0.6

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**12**	33	0	45	0	0	0	0	0	203	**10**	213	**58**	0	81	139	397
08:15 AM	6	42	0	48	0	0	0	0	0	255	7	262	47	0	79	126	436
08:30 AM	6	41	0	47	0	0	0	0	0	**261**	10	**271**	52	0	**93**	**145**	**463**
08:45 AM	5	**55**	0	**60**	0	0	0	0	0	220	7	227	57	0	86	143	430
Total Volume	29	171	0	200	0	0	0	0	0	939	34	973	214	0	339	553	1726
% App. Total	14.5	85.5	0		0	0	0		0	96.5	3.5		38.7	0	61.3		
PHF	.604	.777	.000	.833	.000	.000	.000	.000	.000	.899	.850	.898	.922	.000	.911	.953	.932

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File Name : 04_FSO_Fow_180E AM
Site Code : 00322994
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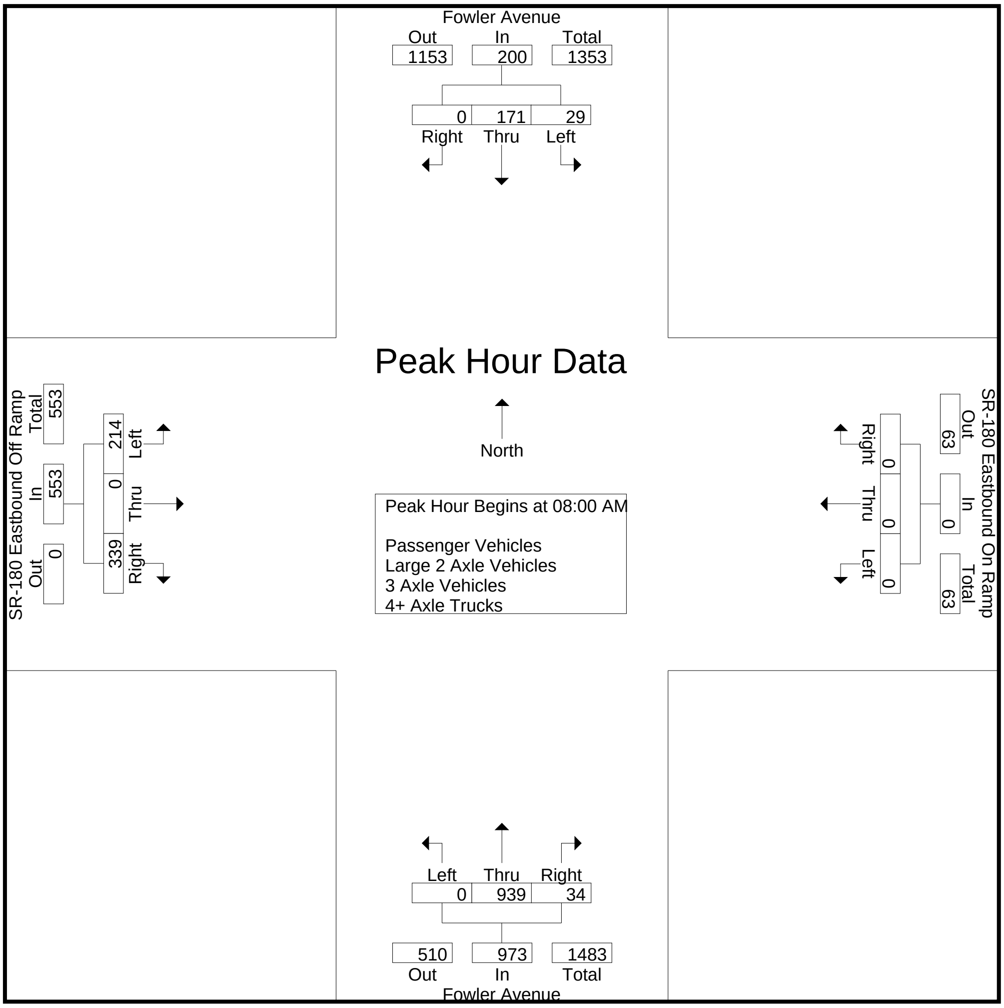

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:00 AM				08:00 AM				07:30 AM			
+0 mins.	**12**	33	0	45	0	0	0	0	0	203	**10**	213	**64**	0	90	**154**
+15 mins.	6	42	0	48	0	0	0	0	0	255	7	262	46	0	**97**	143
+30 mins.	6	41	0	47	0	0	0	0	0	**261**	10	**271**	58	0	81	139
+45 mins.	5	**55**	0	**60**	0	0	0	0	0	220	7	227	47	0	79	126
Total Volume	29	171	0	200	0	0	0	0	0	939	34	973	215	0	347	562
% App. Total	14.5	85.5	0		0	0	0		0	96.5	3.5		38.3	0	61.7	
PHF	.604	.777	.000	.833	.000	.000	.000	.000	.000	.899	.850	.898	.840	.000	.894	.912

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City of Fresno
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E/W: SR-180 Eastbound Ramps
Weather: Clear

File Name : 04_FSO_Fow_180E AM
Site Code : 00322994
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Groups Printed- Passenger Vehicles

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	5	28	0	33	0	0	0	0	0	86	2	88	59	0	60	119	240
07:15 AM	10	23	0	33	0	0	0	0	0	124	2	126	65	0	38	103	262
07:30 AM	9	28	0	37	0	0	0	0	0	154	3	157	62	0	83	145	339
07:45 AM	6	45	0	51	0	0	0	0	0	181	3	184	43	0	92	135	370
Total	30	124	0	154	0	0	0	0	0	545	10	555	229	0	273	502	1211
08:00 AM	12	32	0	44	0	0	0	0	0	199	10	209	57	0	80	137	390
08:15 AM	6	41	0	47	0	0	0	0	0	247	7	254	45	0	76	121	422
08:30 AM	6	41	0	47	0	0	0	0	0	258	9	267	50	0	89	139	453
08:45 AM	5	53	0	58	0	0	0	0	0	211	7	218	54	0	80	134	410
Total	29	167	0	196	0	0	0	0	0	915	33	948	206	0	325	531	1675
Grand Total	59	291	0	350	0	0	0	0	0	1460	43	1503	435	0	598	1033	2886
Apprch %	16.9	83.1	0		0	0	0		0	97.1	2.9		42.1	0	57.9		
Total %	2	10.1	0	12.1	0	0	0	0	0	50.6	1.5	52.1	15.1	0	20.7	35.8	

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**12**	32	0	44	0	0	0	0	0	199	**10**	209	**57**	0	80	137	390
08:15 AM	6	41	0	47	0	0	0	0	0	247	7	254	45	0	76	121	422
08:30 AM	6	41	0	47	0	0	0	0	0	**258**	9	**267**	50	0	**89**	**139**	**453**
08:45 AM	5	**53**	0	**58**	0	0	0	0	0	211	7	218	54	0	80	134	410
Total Volume	29	167	0	196	0	0	0	0	0	915	33	948	206	0	325	531	1675
% App. Total	14.8	85.2	0		0	0	0		0	96.5	3.5		38.8	0	61.2		
PHF	.604	.788	.000	.845	.000	.000	.000	.000	.000	.887	.825	.888	.904	.000	.913	.955	.924

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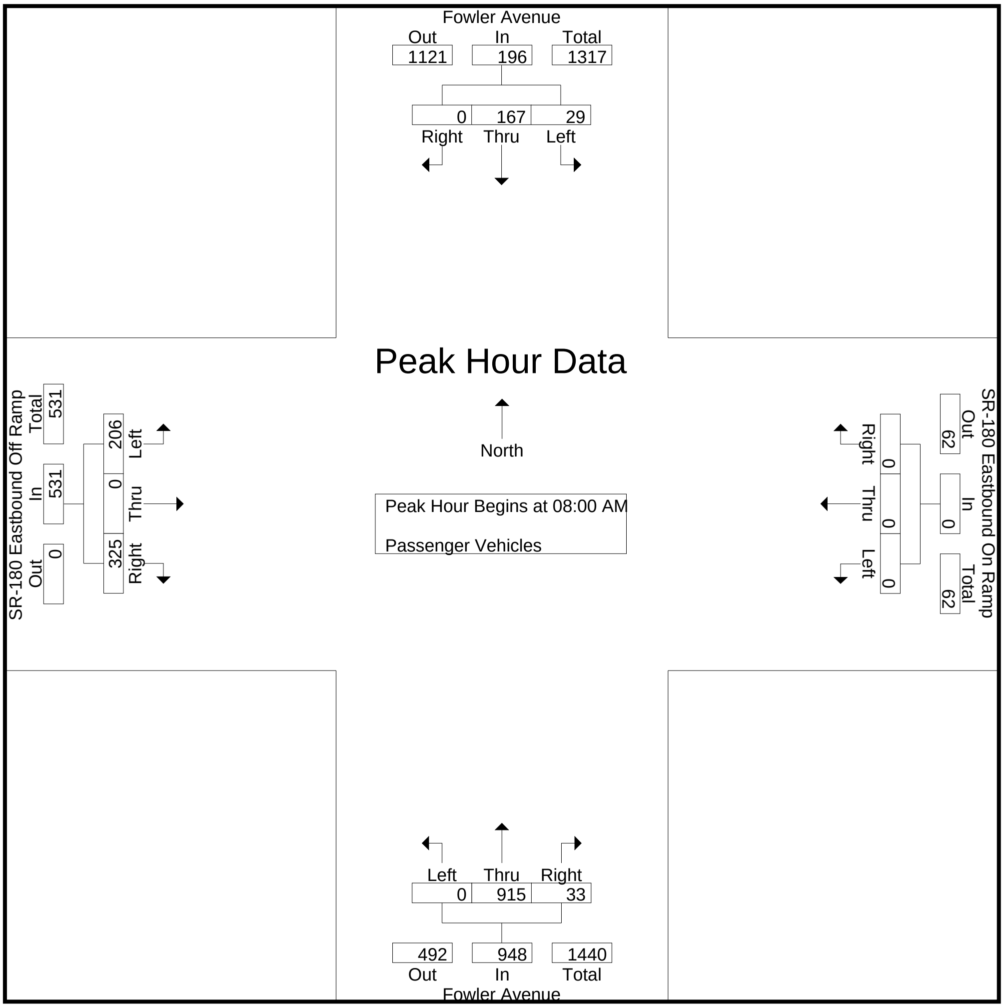
City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Eastbound Ramps
Weather: Clear

File Name : 04_FSO_Fow_180E AM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	**12**	32	0	44	0	0	0	0	0	199	**10**	209	**57**	0	80	137
+15 mins.	6	41	0	47	0	0	0	0	0	247	7	254	45	0	76	121
+30 mins.	6	41	0	47	0	0	0	0	0	**258**	9	**267**	50	0	**89**	**139**
+45 mins.	5	**53**	0	**58**	0	0	0	0	0	211	7	218	54	0	80	134
Total Volume	29	167	0	196	0	0	0	0	0	915	33	948	206	0	325	531
% App. Total	14.8	85.2	0		0	0	0		0	96.5	3.5		38.8	0	61.2	
PHF	.604	.788	.000	.845	.000	.000	.000	.000	.000	.887	.825	.888	.904	.000	.913	.955

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City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Eastbound Ramps
Weather: Clear

File Name : 04_FSO_Fow_180E AM
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Groups Printed- Large 2 Axle Vehicles

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	1	0	0	1	3
07:15 AM	0	2	0	2	0	0	0	0	0	0	0	0	4	0	1	5	7
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	5	6	7
07:45 AM	0	1	0	1	0	0	0	0	0	3	0	3	2	0	3	5	9
Total	0	4	0	4	0	0	0	0	0	5	0	5	8	0	9	17	26
08:00 AM	0	1	0	1	0	0	0	0	0	4	0	4	1	0	1	2	7
08:15 AM	0	1	0	1	0	0	0	0	0	7	0	7	2	0	2	4	12
08:30 AM	0	0	0	0	0	0	0	0	0	2	0	2	1	0	3	4	6
08:45 AM	0	2	0	2	0	0	0	0	0	9	0	9	3	0	2	5	16
Total	0	4	0	4	0	0	0	0	0	22	0	22	7	0	8	15	41
Grand Total	0	8	0	8	0	0	0	0	0	27	0	27	15	0	17	32	67
Apprch %	0	100	0		0	0	0		0	100	0		46.9	0	53.1		
Total %	0	11.9	0	11.9	0	0	0	0	0	40.3	0	40.3	22.4	0	25.4	47.8	

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	1	0	1	0	0	0	0	0	4	0	4	1	0	1	2	7
08:15 AM	0	1	0	1	0	0	0	0	0	7	0	7	2	0	2	4	12
08:30 AM	0	0	0	0	0	0	0	0	0	2	0	2	1	0	**3**	4	6
08:45 AM	0	**2**	0	**2**	0	0	0	0	0	**9**	0	**9**	**3**	0	2	**5**	**16**
Total Volume	0	4	0	4	0	0	0	0	0	22	0	22	7	0	8	15	41
% App. Total	0	100	0		0	0	0		0	100	0		46.7	0	53.3		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.611	.000	.611	.583	.000	.667	.750	.641

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City of Fresno
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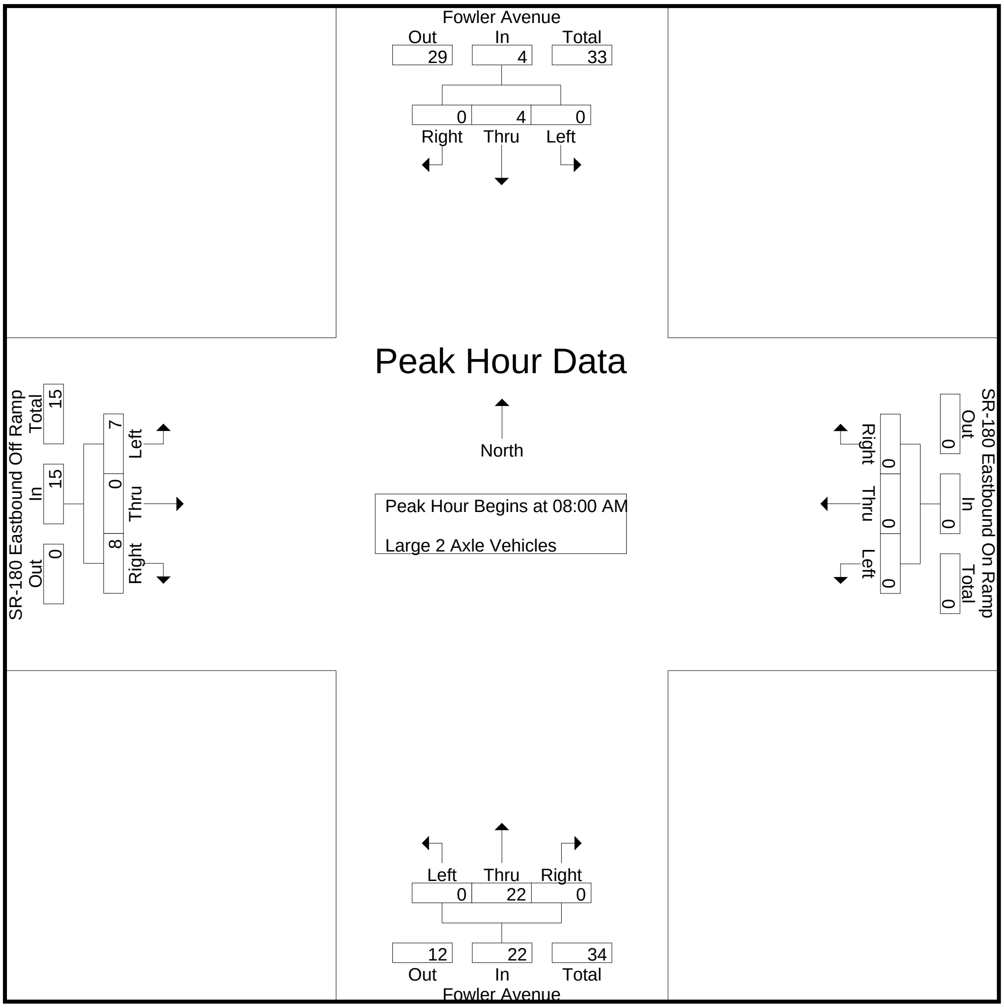
Weather: Clear

File Name : 04_FSO_Fow_180E AM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	1	0	1	0	0	0	0	0	4	0	4	1	0	1	2
+15 mins.	0	1	0	1	0	0	0	0	0	7	0	7	2	0	2	4
+30 mins.	0	0	0	0	0	0	0	0	0	2	0	2	1	0	**3**	4
+45 mins.	0	**2**	0	**2**	0	0	0	0	0	**9**	0	**9**	**3**	0	2	**5**
Total Volume	0	4	0	4	0	0	0	0	0	22	0	22	7	0	8	15
% App. Total	0	100	0		0	0	0		0	100	0		46.7	0	53.3	
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.611	.000	.611	.583	.000	.667	.750

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Weather: Clear

File Name : 04_FSO_Fow_180E AM
Site Code : 00322994
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Page No : 1

Groups Printed- 3 Axle Vehicles

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
07:15 AM	0	2	0	2	0	0	0	0	0	0	0	0	1	0	0	1	3
07:30 AM	0	1	0	1	0	0	0	0	0	1	0	1	1	0	1	2	4
07:45 AM	1	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total	1	3	0	4	0	0	0	0	0	2	0	2	4	0	1	5	11
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
Grand Total	1	3	0	4	0	0	0	0	0	2	0	2	4	0	3	7	13
Apprch %	25	75	0		0	0	0		0	100	0		57.1	0	42.9		
Total %	7.7	23.1	0	30.8	0	0	0	0	0	15.4	0	15.4	30.8	0	23.1	53.8	

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	**2**	**2**
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
% App. Total	0	0	0		0	0	0		0	0	0		0	0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.250

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City of Fresno
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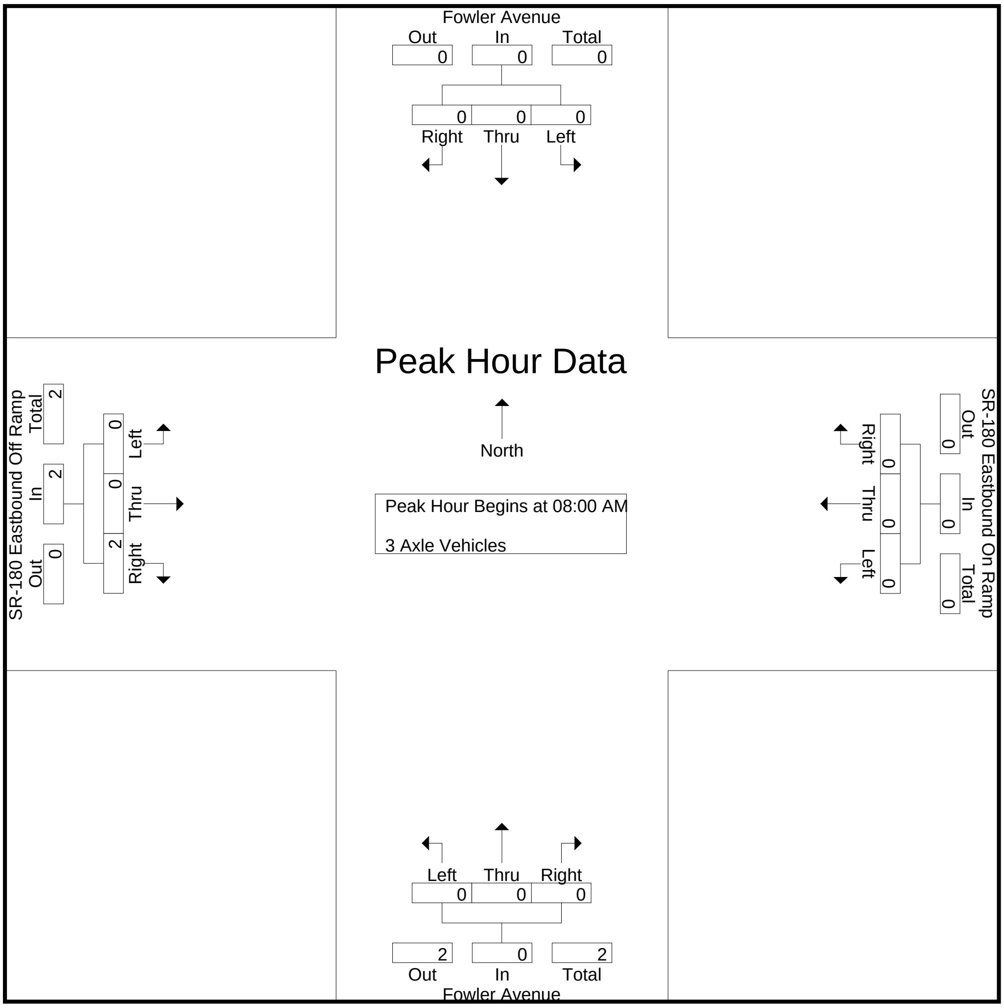
Weather: Clear

File Name : 04_FSO_Fow_180E AM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	**2**
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
% App. Total	0	0	0		0	0	0		0	0	0		0	0	100	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250

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City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Eastbound Ramps
Weather: Clear

File Name : 04_FSO_Fow_180E AM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
07:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	3	0	0	3	4
07:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
07:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	2	3	4
Total	0	1	0	1	0	0	0	0	0	2	0	2	4	0	4	8	11
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
08:30 AM	0	0	0	0	0	0	0	0	0	1	1	2	1	0	1	2	4
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
Total	0	0	0	0	0	0	0	0	0	2	1	3	1	0	4	5	8
Grand Total	0	1	0	1	0	0	0	0	0	4	1	5	5	0	8	13	19
Apprch %	0	100	0		0	0	0		0	80	20		38.5	0	61.5		
Total %	0	5.3	0	5.3	0	0	0	0	0	21.1	5.3	26.3	26.3	0	42.1	68.4	

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	**1**	0	1	0	0	1	1	2
08:30 AM	0	0	0	0	0	0	0	0	0	1	**1**	**2**	**1**	0	1	**2**	**4**
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	2	2
Total Volume	0	0	0	0	0	0	0	0	0	2	1	3	1	0	4	5	8
% App. Total	0	0	0		0	0	0		0	66.7	33.3		20	0	80		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.250	.375	.250	.000	.500	.625	.500

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City of Fresno
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E/W: SR-180 Eastbound Ramps
Weather: Clear

File Name : 04_FSO_Fow_180E AM
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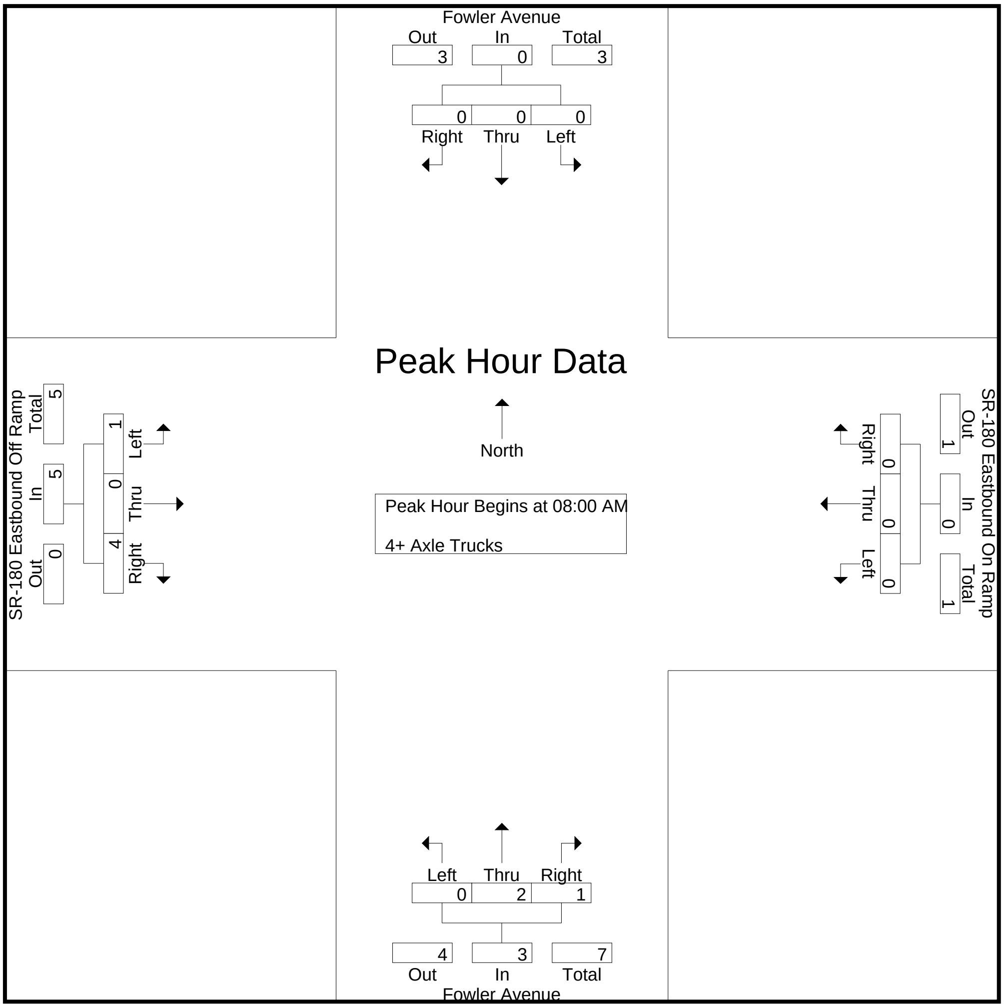
Start Date : 11/10/2022
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	**1**	0	1	0	0	1	1
+30 mins.	0	0	0	0	0	0	0	0	0	1	**1**	**2**	**1**	0	1	**2**
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	2
Total Volume	0	0	0	0	0	0	0	0	0	2	1	3	1	0	4	5
% App. Total	0	0	0		0	0	0		0	66.7	33.3		20	0	80	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.250	.375	.250	.000	.500	.625

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City of Fresno
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E/W: SR-180 Eastbound Ramps
Weather: Clear

File Name : 04_FSO_Fow_180E PM
Site Code : 00322994
Start Date : 11/10/2022
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	12	61	0	73	0	0	0	0	0	93	4	97	52	0	136	188	358
04:15 PM	15	59	0	74	0	0	0	0	0	87	6	93	84	0	169	253	420
04:30 PM	16	62	0	78	0	0	0	0	0	79	9	88	83	0	158	241	407
04:45 PM	14	77	0	91	0	0	0	0	0	90	5	95	91	0	133	224	410
Total	57	259	0	316	0	0	0	0	0	349	24	373	310	0	596	906	1595
05:00 PM	15	70	0	85	0	0	0	0	0	84	4	88	90	0	165	255	428
05:15 PM	17	72	0	89	0	0	0	0	0	127	5	132	76	1	176	253	474
05:30 PM	22	67	0	89	0	0	0	0	0	145	5	150	81	0	193	274	513
05:45 PM	21	76	0	97	0	0	0	0	0	157	8	165	82	0	192	274	536
Total	75	285	0	360	0	0	0	0	0	513	22	535	329	1	726	1056	1951
Grand Total	132	544	0	676	0	0	0	0	0	862	46	908	639	1	1322	1962	3546
Apprch %	19.5	80.5	0		0	0	0		0	94.9	5.1		32.6	0.1	67.4		
Total %	3.7	15.3	0	19.1	0	0	0	0	0	24.3	1.3	25.6	18	0	37.3	55.3	
Passenger Vehicles	132	525	0	657	0	0	0	0	0	838	46	884	630	1	1303	1934	3475
% Passenger Vehicles	100	96.5	0	97.2	0	0	0	0	0	97.2	100	97.4	98.6	100	98.6	98.6	98
Large 2 Axle Vehicles	0	11	0	11	0	0	0	0	0	16	0	16	2	0	9	11	38
% Large 2 Axle Vehicles	0	2	0	1.6	0	0	0	0	0	1.9	0	1.8	0.3	0	0.7	0.6	1.1
3 Axle Vehicles	0	4	0	4	0	0	0	0	0	3	0	3	1	0	5	6	13
% 3 Axle Vehicles	0	0.7	0	0.6	0	0	0	0	0	0.3	0	0.3	0.2	0	0.4	0.3	0.4
4+ Axle Trucks	0	4	0	4	0	0	0	0	0	5	0	5	6	0	5	11	20
% 4+ Axle Trucks	0	0.7	0	0.6	0	0	0	0	0	0.6	0	0.6	0.9	0	0.4	0.6	0.6

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	15	70	0	85	0	0	0	0	0	84	4	88	**90**	0	165	255	428
05:15 PM	17	72	0	89	0	0	0	0	0	127	5	132	76	**1**	176	253	474
05:30 PM	**22**	67	0	89	0	0	0	0	0	145	5	150	81	0	**193**	**274**	513
05:45 PM	21	**76**	0	**97**	0	0	0	0	0	**157**	**8**	**165**	82	0	192	274	**536**
Total Volume	75	285	0	360	0	0	0	0	0	513	22	535	329	1	726	1056	1951
% App. Total	20.8	79.2	0		0	0	0		0	95.9	4.1		31.2	0.1	68.8		
PHF	.852	.938	.000	.928	.000	.000	.000	.000	.000	.817	.688	.811	.914	.250	.940	.964	.910

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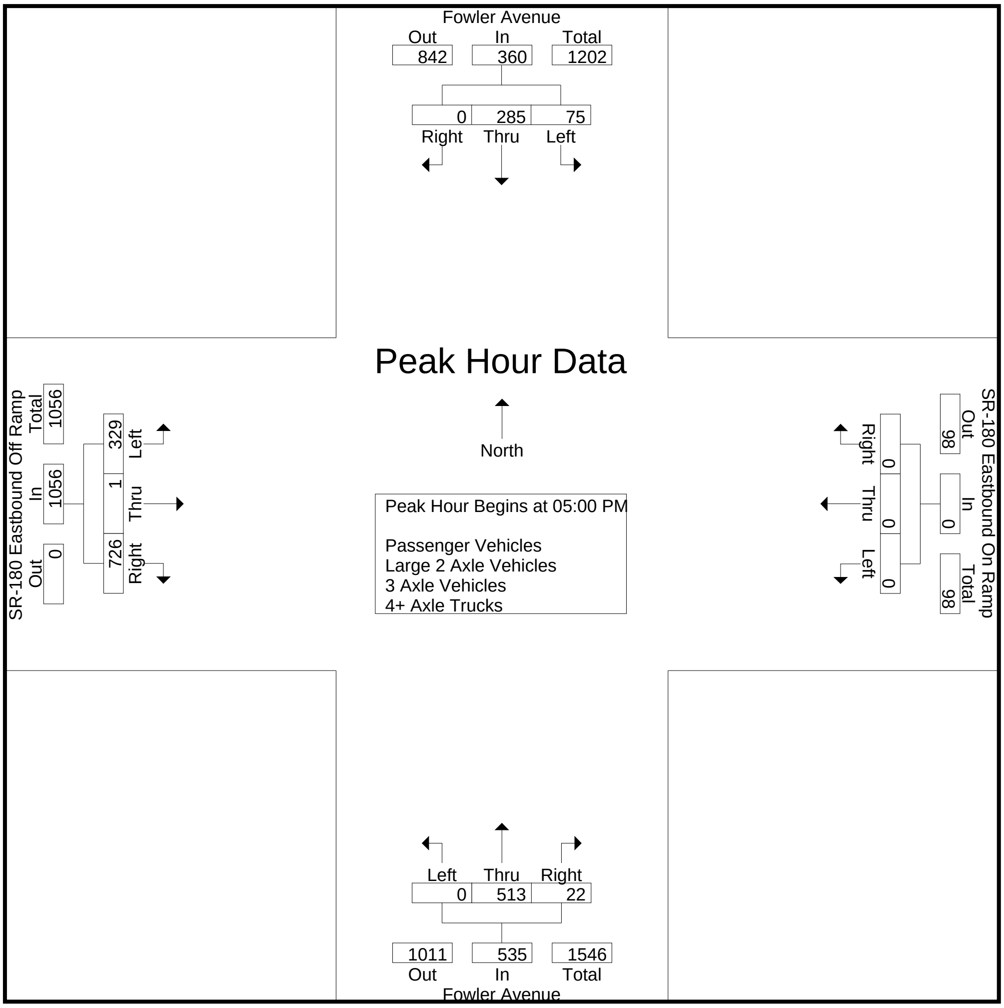
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Eastbound Ramps
Weather: Clear

File Name : 04_FSO_Fow_180E PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				05:00 PM				05:00 PM			
+0 mins.	15	70	0	85	0	0	0	0	0	84	4	88	**90**	0	165	255
+15 mins.	17	72	0	89	0	0	0	0	0	127	5	132	76	**1**	176	253
+30 mins.	**22**	67	0	89	0	0	0	0	0	145	5	150	81	0	**193**	**274**
+45 mins.	21	**76**	0	**97**	0	0	0	0	0	**157**	**8**	**165**	82	0	192	274
Total Volume	75	285	0	360	0	0	0	0	0	513	22	535	329	1	726	1056
% App. Total	20.8	79.2	0		0	0	0		0	95.9	4.1		31.2	0.1	68.8	
PHF	.852	.938	.000	.928	.000	.000	.000	.000	.000	.817	.688	.811	.914	.250	.940	.964

Counts Unlimited, Inc.
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City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Eastbound Ramps
Weather: Clear

File Name : 04_FSO_Fow_180E PM
Site Code : 00322994
Start Date : 11/10/2022

Groups Printed- Passenger Vehicles

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	12	59	0	71	0	0	0	0	0	92	4	96	51	0	135	186	353
04:15 PM	15	57	0	72	0	0	0	0	0	84	6	90	81	0	162	243	405
04:30 PM	16	59	0	75	0	0	0	0	0	75	9	84	83	0	155	238	397
04:45 PM	14	71	0	85	0	0	0	0	0	87	5	92	89	0	131	220	397
Total	57	246	0	303	0	0	0	0	0	338	24	362	304	0	583	887	1552
05:00 PM	15	68	0	83	0	0	0	0	0	83	4	87	90	0	163	253	423
05:15 PM	17	71	0	88	0	0	0	0	0	122	5	127	74	1	174	249	464
05:30 PM	22	66	0	88	0	0	0	0	0	141	5	146	80	0	191	271	505
05:45 PM	21	74	0	95	0	0	0	0	0	154	8	162	82	0	192	274	531
Total	75	279	0	354	0	0	0	0	0	500	22	522	326	1	720	1047	1923
Grand Total	132	525	0	657	0	0	0	0	0	838	46	884	630	1	1303	1934	3475
Apprch %	20.1	79.9	0		0	0	0		0	94.8	5.2		32.6	0.1	67.4		
Total %	3.8	15.1	0	18.9	0	0	0	0	0	24.1	1.3	25.4	18.1	0	37.5	55.7	

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	15	68	0	83	0	0	0	0	0	83	4	87	**90**	0	163	253	423
05:15 PM	17	71	0	88	0	0	0	0	0	122	5	127	74	**1**	174	249	464
05:30 PM	**22**	66	0	88	0	0	0	0	0	141	5	146	80	0	191	271	505
05:45 PM	21	**74**	0	**95**	0	0	0	0	0	**154**	**8**	**162**	82	0	**192**	**274**	**531**
Total Volume	75	279	0	354	0	0	0	0	0	500	22	522	326	1	720	1047	1923
% App. Total	21.2	78.8	0		0	0	0		0	95.8	4.2		31.1	0.1	68.8		
PHF	.852	.943	.000	.932	.000	.000	.000	.000	.000	.812	.688	.806	.906	.250	.938	.955	.905

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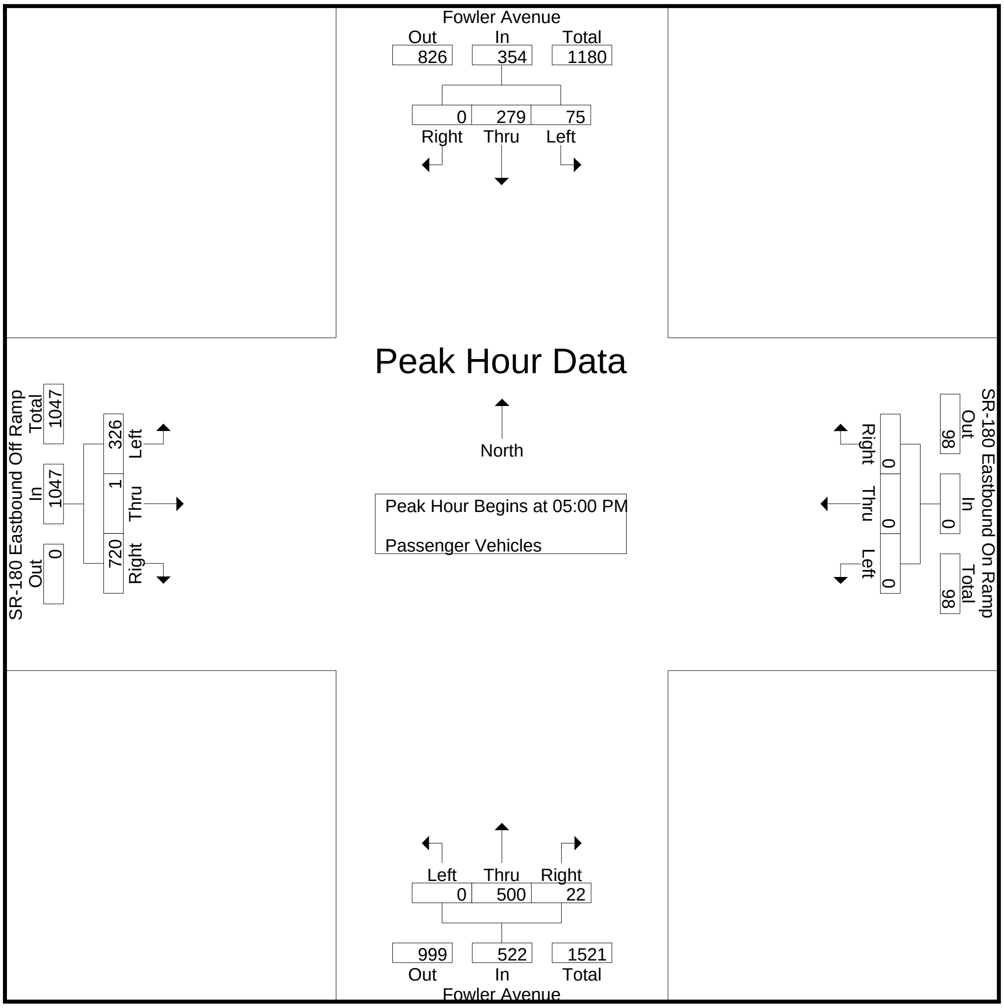
City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Eastbound Ramps
Weather: Clear

File Name : 04_FSO_Fow_180E PM
Site Code : 00322994
Start Date : 11/10/2022



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	15	68	0	83	0	0	0	0	0	83	4	87	**90**	0	163	253
+15 mins.	17	71	0	88	0	0	0	0	0	122	5	127	74	**1**	174	249
+30 mins.	**22**	66	0	88	0	0	0	0	0	141	5	146	80	0	191	271
+45 mins.	21	**74**	0	**95**	0	0	0	0	0	**154**	**8**	**162**	82	0	**192**	**274**
Total Volume	75	279	0	354	0	0	0	0	0	500	22	522	326	1	720	1047
% App. Total	21.2	78.8	0		0	0	0		0	95.8	4.2		31.1	0.1	68.8	
PHF	.852	.943	.000	.932	.000	.000	.000	.000	.000	.812	.688	.806	.906	.250	.938	.955

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City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Eastbound Ramps
Weather: Clear

File Name : 04_FSO_Fow_180E PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
04:15 PM	0	1	0	1	0	0	0	0	0	2	0	2	2	0	3	5	8
04:30 PM	0	3	0	3	0	0	0	0	0	3	0	3	0	0	2	2	8
04:45 PM	0	5	0	5	0	0	0	0	0	3	0	3	0	0	1	1	9
Total	0	11	0	11	0	0	0	0	0	9	0	9	2	0	6	8	28
05:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
05:15 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	1	1	4
05:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	1	1	3
05:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	7	0	7	0	0	3	3	10
Grand Total	0	11	0	11	0	0	0	0	0	16	0	16	2	0	9	11	38
Apprch %	0	100	0		0	0	0		0	100	0		18.2	0	81.8		
Total %	0	28.9	0	28.9	0	0	0	0	0	42.1	0	42.1	5.3	0	23.7	28.9	

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	**1**	**1**	2
05:15 PM	0	0	0	0	0	0	0	0	0	**3**	0	**3**	0	0	1	1	**4**
05:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	1	1	3
05:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	7	0	7	0	0	3	3	10
% App. Total	0	0	0		0	0	0		0	100	0		0	0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.583	.000	.583	.000	.000	.750	.750	.625

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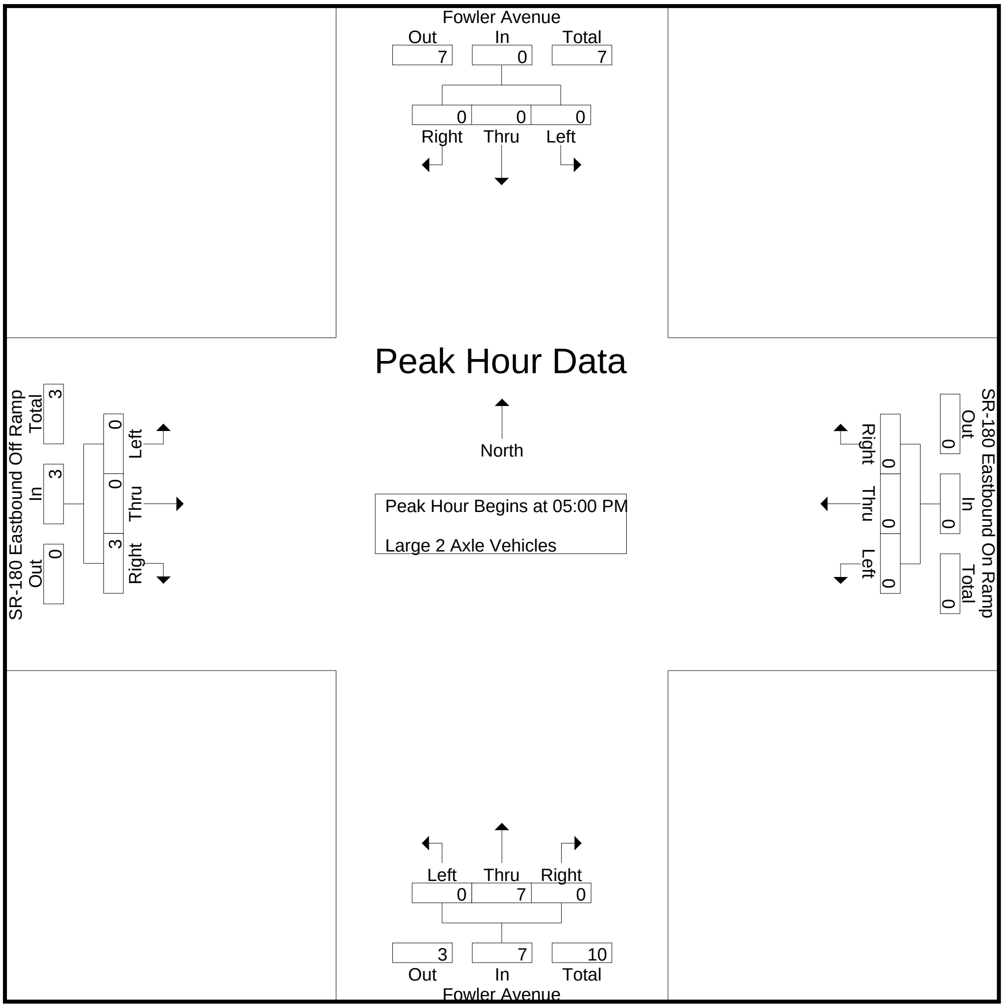
City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Eastbound Ramps
Weather: Clear

File Name : 04_FSO_Fow_180E PM
Site Code : 00322994
Start Date : 11/10/2022



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	**1**	**1**
+15 mins.	0	0	0	0	0	0	0	0	0	**3**	0	**3**	0	0	1	1
+30 mins.	0	0	0	0	0	0	0	0	0	2	0	2	0	0	1	1
+45 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	7	0	7	0	0	3	3
% App. Total	0	0	0		0	0	0		0	100	0		0	0	100	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.583	.000	.583	.000	.000	.750	.750

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City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Eastbound Ramps
Weather: Clear

File Name : 04_FSO_Fow_180E PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	2	3
04:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	2	0	2	1	0	4	5	7
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
05:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
05:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	4	0	4	0	0	0	0	0	1	0	1	0	0	1	1	6
Grand Total	0	4	0	4	0	0	0	0	0	3	0	3	1	0	5	6	13
Apprch %	0	100	0		0	0	0		0	100	0		16.7	0	83.3		
Total %	0	30.8	0	30.8	0	0	0	0	0	23.1	0	23.1	7.7	0	38.5	46.2	

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**2**
05:15 PM	0	1	0	1	0	0	0	0	0	**1**	0	**1**	0	0	0	0	2
05:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	4	0	4	0	0	0	0	0	1	0	1	0	0	1	1	6
% App. Total	0	100	0		0	0	0		0	100	0		0	0	100		
PHF	.000	1.00	.000	1.00	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.250	.250	.750

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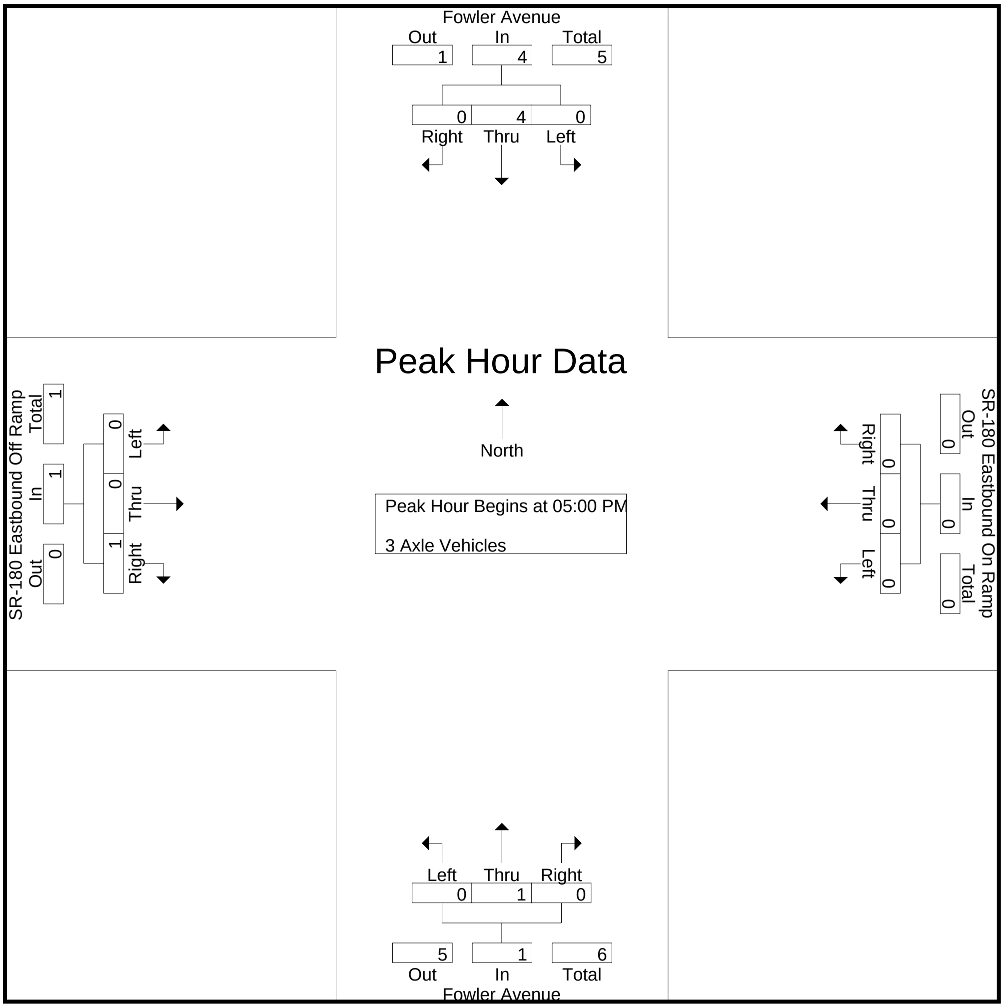
City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Eastbound Ramps
Weather: Clear

File Name : 04_FSO_Fow_180E PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	**1**	**1**
+15 mins.	0	1	0	1	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	4	0	4	0	0	0	0	0	1	0	1	0	0	1	1
% App. Total	0	100	0		0	0	0		0	100	0		0	0	100	
PHF	.000	1.000	.000	1.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.250	.250

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City of Fresno
N/S: Fowler Avenue
E/W: SR-180 Eastbound Ramps
Weather: Clear

File Name : 04_FSO_Fow_180E PM
Site Code : 00322994
Start Date : 11/10/2022

Groups Printed- 4+ Axle Trucks

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	2	3	4
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	1	2	3
Total	0	2	0	2	0	0	0	0	0	0	0	0	3	0	3	6	8
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	2	0	1	3	4
05:30 PM	0	0	0	0	0	0	0	0	0	2	0	2	1	0	1	2	4
05:45 PM	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
Total	0	2	0	2	0	0	0	0	0	5	0	5	3	0	2	5	12
Grand Total	0	4	0	4	0	0	0	0	0	5	0	5	6	0	5	11	20
Apprch %	0	100	0		0	0	0		0	100	0		54.5	0	45.5		
Total %	0	20	0	20	0	0	0	0	0	25	0	25	30	0	25	55	

	Fowler Avenue Southbound				SR-180 Eastbound On Ramp Westbound				Fowler Avenue Northbound				SR-180 Eastbound Off Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	**2**	0	**1**	**3**	**4**
05:30 PM	0	0	0	0	0	0	0	0	0	**2**	0	**2**	1	0	1	2	4
05:45 PM	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
Total Volume	0	2	0	2	0	0	0	0	0	5	0	5	3	0	2	5	12
% App. Total	0	100	0		0	0	0		0	100	0		60	0	40		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.625	.000	.625	.375	.000	.500	.417	.750

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City of Fresno
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File Name : 04_FSO_Fow_180E PM
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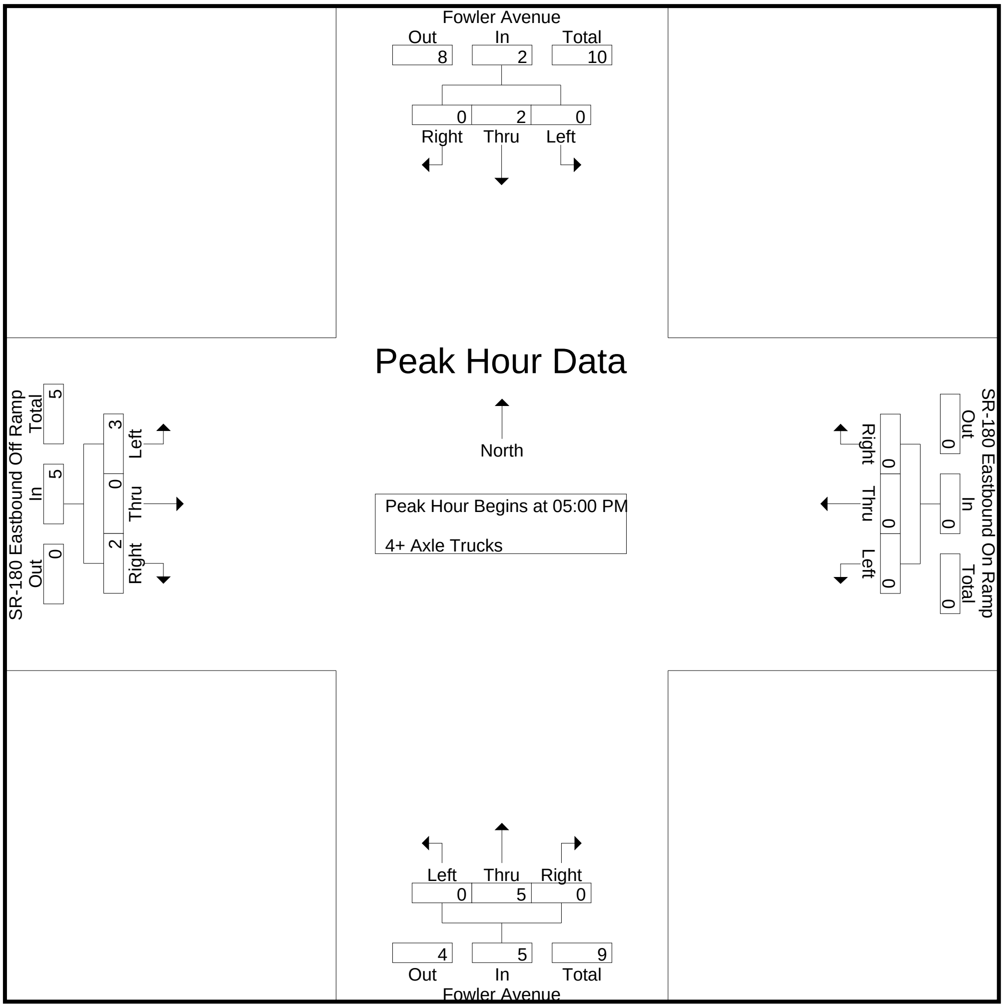
Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	1	0	1	**2**	0	**1**	**3**
+30 mins.	0	0	0	0	0	0	0	0	0	**2**	0	**2**	1	0	1	2
+45 mins.	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	0	5	0	5	3	0	2	5
% App. Total	0	100	0		0	0	0		0	100	0		60	0	40	
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.625	.000	.625	.375	.000	.500	.417

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City of Fresno
N/S: Fowler Avenue
E/W: Belmont Avenue
Weather: Clear

File Name : 05_FSO_Fow_Bel AM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	18	63	1	82	7	7	6	20	6	69	5	80	4	17	1	22	204
07:15 AM	19	60	2	81	3	6	9	18	10	103	10	123	6	20	2	28	250
07:30 AM	22	78	3	103	9	10	13	32	7	130	10	147	8	24	3	35	317
07:45 AM	48	89	4	141	12	9	22	43	5	127	18	150	14	30	10	54	388
Total	107	290	10	407	31	32	50	113	28	429	43	500	32	91	16	139	1159
08:00 AM	31	82	4	117	9	13	21	43	13	177	14	204	14	28	3	45	409
08:15 AM	22	98	6	126	25	34	27	86	21	203	33	257	10	37	7	54	523
08:30 AM	43	87	2	132	30	37	36	103	38	215	39	292	24	44	21	89	616
08:45 AM	37	94	10	141	27	30	29	86	36	199	34	269	18	31	16	65	561
Total	133	361	22	516	91	114	113	318	108	794	120	1022	66	140	47	253	2109
Grand Total	240	651	32	923	122	146	163	431	136	1223	163	1522	98	231	63	392	3268
Apprch %	26	70.5	3.5		28.3	33.9	37.8		8.9	80.4	10.7		25	58.9	16.1		
Total %	7.3	19.9	1	28.2	3.7	4.5	5	13.2	4.2	37.4	5	46.6	3	7.1	1.9	12	
Passenger Vehicles	226	632	32	890	115	138	150	403	133	1213	161	1507	94	217	60	371	3171
% Passenger Vehicles	94.2	97.1	100	96.4	94.3	94.5	92	93.5	97.8	99.2	98.8	99	95.9	93.9	95.2	94.6	97
Large 2 Axle Vehicles	8	10	0	18	7	6	9	22	2	8	2	12	4	11	3	18	70
% Large 2 Axle Vehicles	3.3	1.5	0	2	5.7	4.1	5.5	5.1	1.5	0.7	1.2	0.8	4.1	4.8	4.8	4.6	2.1
3 Axle Vehicles	1	6	0	7	0	1	1	2	1	0	0	1	0	2	0	2	12
% 3 Axle Vehicles	0.4	0.9	0	0.8	0	0.7	0.6	0.5	0.7	0	0	0.1	0	0.9	0	0.5	0.4
4+ Axle Trucks	5	3	0	8	0	1	3	4	0	2	0	2	0	1	0	1	15
% 4+ Axle Trucks	2.1	0.5	0	0.9	0	0.7	1.8	0.9	0	0.2	0	0.1	0	0.4	0	0.3	0.5

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	31	82	4	117	9	13	21	43	13	177	14	204	14	28	3	45	409
08:15 AM	22	**98**	6	126	25	34	27	86	21	203	33	257	10	37	7	54	523
08:30 AM	**43**	87	2	132	**30**	**37**	**36**	**103**	**38**	**215**	**39**	**292**	**24**	**44**	**21**	**89**	**616**
08:45 AM	37	94	**10**	**141**	27	30	29	86	36	199	34	269	18	31	16	65	561
Total Volume	133	361	22	516	91	114	113	318	108	794	120	1022	66	140	47	253	2109
% App. Total	25.8	70	4.3		28.6	35.8	35.5		10.6	77.7	11.7		26.1	55.3	18.6		
PHF	.773	.921	.550	.915	.758	.770	.785	.772	.711	.923	.769	.875	.688	.795	.560	.711	.856

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City of Fresno
N/S: Fowler Avenue
E/W: Belmont Avenue
Weather: Clear

File Name : 05_FSO_Fow_Bel AM
Site Code : 00322994
Start Date : 11/10/2022
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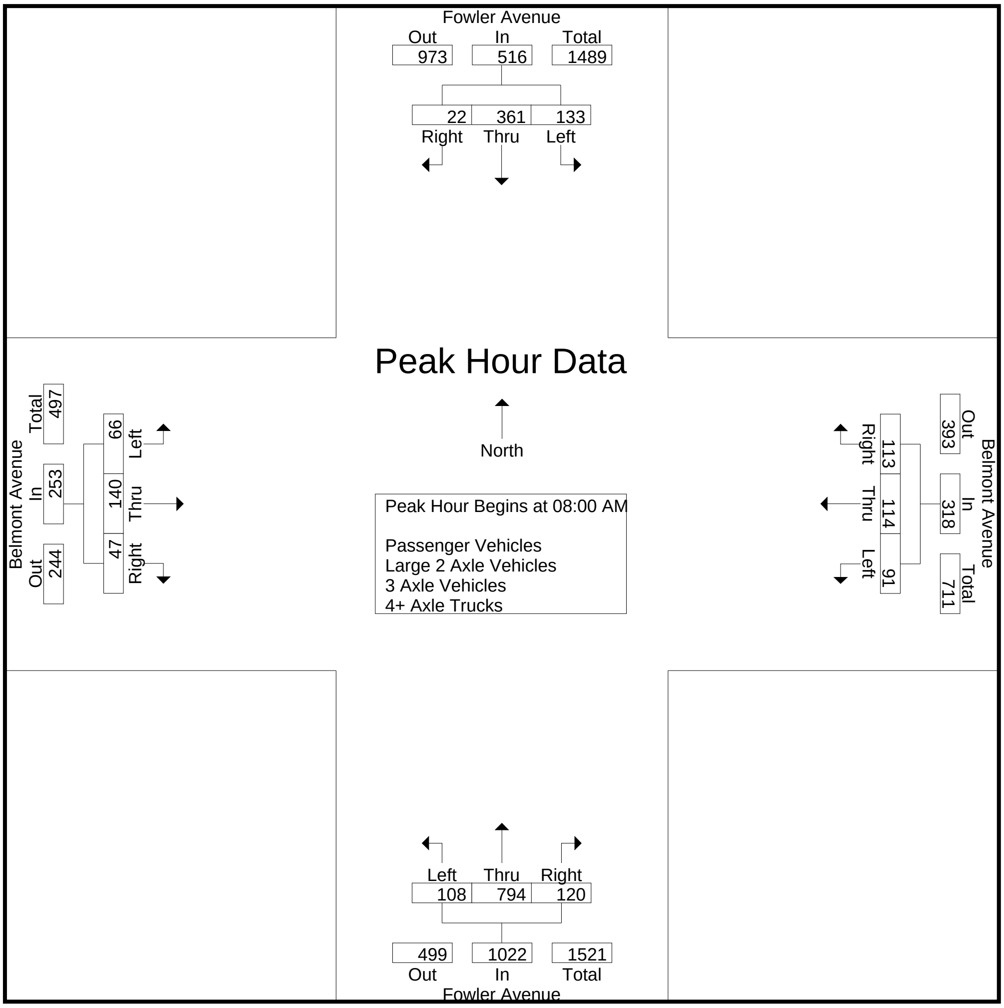

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	**48**	89	4	**141**	9	13	21	43	13	177	14	204	14	28	3	45
+15 mins.	31	82	4	117	25	34	27	86	21	203	33	257	10	37	7	54
+30 mins.	22	**98**	**6**	126	**30**	**37**	**36**	**103**	**38**	**215**	**39**	**292**	**24**	**44**	**21**	**89**
+45 mins.	43	87	2	132	27	30	29	86	36	199	34	269	18	31	16	65
Total Volume	144	356	16	516	91	114	113	318	108	794	120	1022	66	140	47	253
% App. Total	27.9	69	3.1		28.6	35.8	35.5		10.6	77.7	11.7		26.1	55.3	18.6	
PHF	.750	.908	.667	.915	.758	.770	.785	.772	.711	.923	.769	.875	.688	.795	.560	.711

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Groups Printed- Passenger Vehicles

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	18	62	1	81	7	7	6	20	6	68	5	79	4	17	1	22	202
07:15 AM	18	57	2	77	3	6	9	18	10	103	10	123	6	20	2	28	246
07:30 AM	21	76	3	100	9	9	12	30	7	129	10	146	7	23	3	33	309
07:45 AM	43	86	4	133	9	8	20	37	5	127	18	150	12	30	9	51	371
Total	100	281	10	391	28	30	47	105	28	427	43	498	29	90	15	134	1128
08:00 AM	28	80	4	112	8	13	20	41	13	174	14	201	14	25	2	41	395
08:15 AM	22	95	6	123	24	32	25	81	21	201	32	254	9	34	7	50	508
08:30 AM	42	85	2	129	28	36	32	96	37	214	39	290	24	43	21	88	603
08:45 AM	34	91	10	135	27	27	26	80	34	197	33	264	18	25	15	58	537
Total	126	351	22	499	87	108	103	298	105	786	118	1009	65	127	45	237	2043
Grand Total	226	632	32	890	115	138	150	403	133	1213	161	1507	94	217	60	371	3171
Apprch %	25.4	71	3.6		28.5	34.2	37.2		8.8	80.5	10.7		25.3	58.5	16.2		
Total %	7.1	19.9	1	28.1	3.6	4.4	4.7	12.7	4.2	38.3	5.1	47.5	3	6.8	1.9	11.7	

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	28	80	4	112	8	13	20	41	13	174	14	201	14	25	2	41	395
08:15 AM	22	**95**	6	123	24	32	25	81	21	201	32	254	9	34	7	50	508
08:30 AM	**42**	85	2	129	**28**	**36**	**32**	**96**	**37**	**214**	**39**	**290**	**24**	**43**	**21**	**88**	**603**
08:45 AM	34	91	**10**	**135**	27	27	26	80	34	197	33	264	18	25	15	58	537
Total Volume	126	351	22	499	87	108	103	298	105	786	118	1009	65	127	45	237	2043
% App. Total	25.3	70.3	4.4		29.2	36.2	34.6		10.4	77.9	11.7		27.4	53.6	19		
PHF	.750	.924	.550	.924	.777	.750	.805	.776	.709	.918	.756	.870	.677	.738	.536	.673	.847

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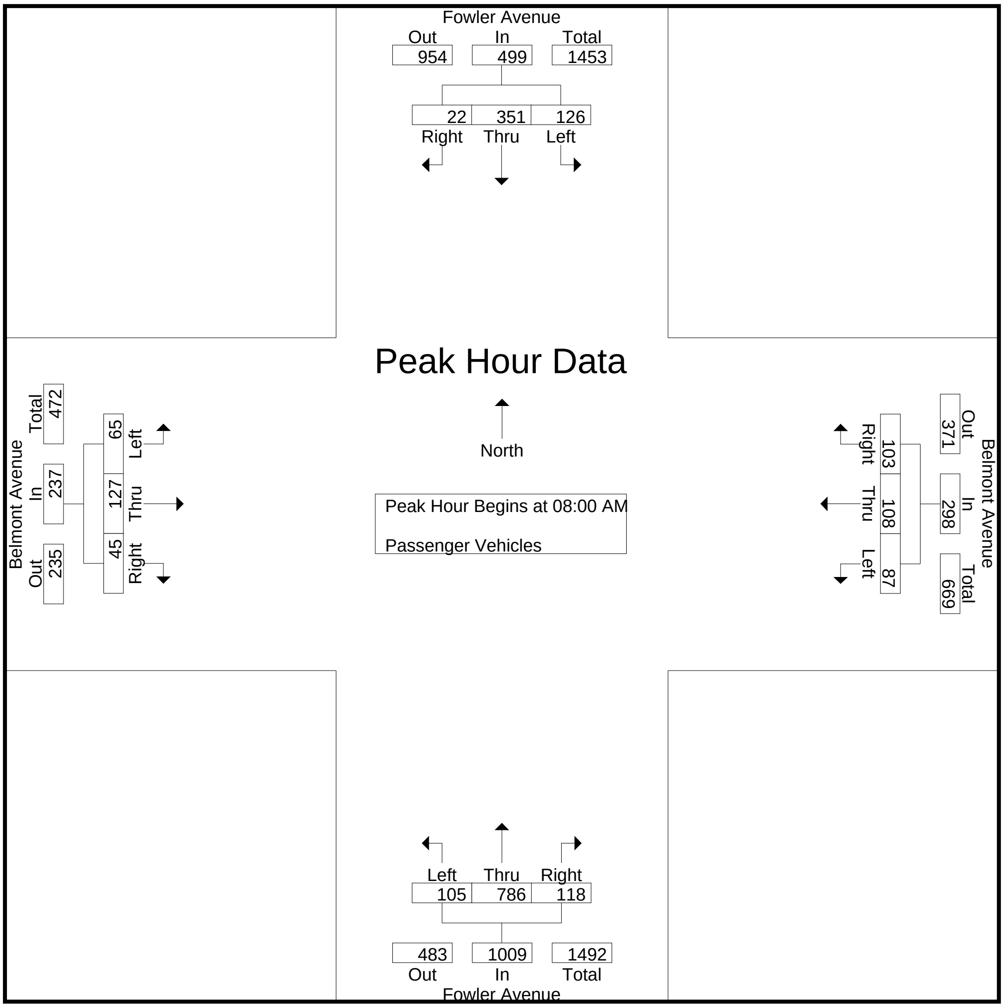

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	28	80	4	112	8	13	20	41	13	174	14	201	14	25	2	41
+15 mins.	22	**95**	6	123	24	32	25	81	21	201	32	254	9	34	7	50
+30 mins.	**42**	85	2	129	**28**	**36**	**32**	**96**	**37**	**214**	**39**	**290**	**24**	**43**	**21**	**88**
+45 mins.	34	91	**10**	**135**	27	27	26	80	34	197	33	264	18	25	15	58
Total Volume	126	351	22	499	87	108	103	298	105	786	118	1009	65	127	45	237
% App. Total	25.3	70.3	4.4		29.2	36.2	34.6		10.4	77.9	11.7		27.4	53.6	19	
PHF	.750	.924	.550	.924	.777	.750	.805	.776	.709	.918	.756	.870	.677	.738	.536	.673

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Groups Printed- Large 2 Axle Vehicles

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:15 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	1	1	0	2	0	1	0	1	0	0	0	0	1	0	0	1	4
07:45 AM	2	2	0	4	3	0	1	4	0	0	0	0	2	0	1	3	11
Total	4	3	0	7	3	1	1	5	0	1	0	1	3	0	1	4	17
08:00 AM	2	2	0	4	1	0	1	2	0	3	0	3	0	2	1	3	12
08:15 AM	0	3	0	3	1	2	2	5	0	2	1	3	1	3	0	4	15
08:30 AM	0	1	0	1	2	0	2	4	1	0	0	1	0	1	0	1	7
08:45 AM	2	1	0	3	0	3	3	6	1	2	1	4	0	5	1	6	19
Total	4	7	0	11	4	5	8	17	2	7	2	11	1	11	2	14	53
Grand Total	8	10	0	18	7	6	9	22	2	8	2	12	4	11	3	18	70
Apprch %	44.4	55.6	0		31.8	27.3	40.9		16.7	66.7	16.7		22.2	61.1	16.7		
Total %	11.4	14.3	0	25.7	10	8.6	12.9	31.4	2.9	11.4	2.9	17.1	5.7	15.7	4.3	25.7	

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**2**	2	0	**4**	1	0	1	2	0	**3**	0	3	0	2	**1**	3	12
08:15 AM	0	**3**	0	3	1	2	2	5	0	2	**1**	3	**1**	3	0	4	15
08:30 AM	0	1	0	1	**2**	0	2	4	**1**	0	0	1	0	1	0	1	7
08:45 AM	2	1	0	3	0	**3**	**3**	**6**	1	2	1	**4**	0	**5**	1	**6**	**19**
Total Volume	4	7	0	11	4	5	8	17	2	7	2	11	1	11	2	14	53
% App. Total	36.4	63.6	0		23.5	29.4	47.1		18.2	63.6	18.2		7.1	78.6	14.3		
PHF	.500	.583	.000	.688	.500	.417	.667	.708	.500	.583	.500	.688	.250	.550	.500	.583	.697

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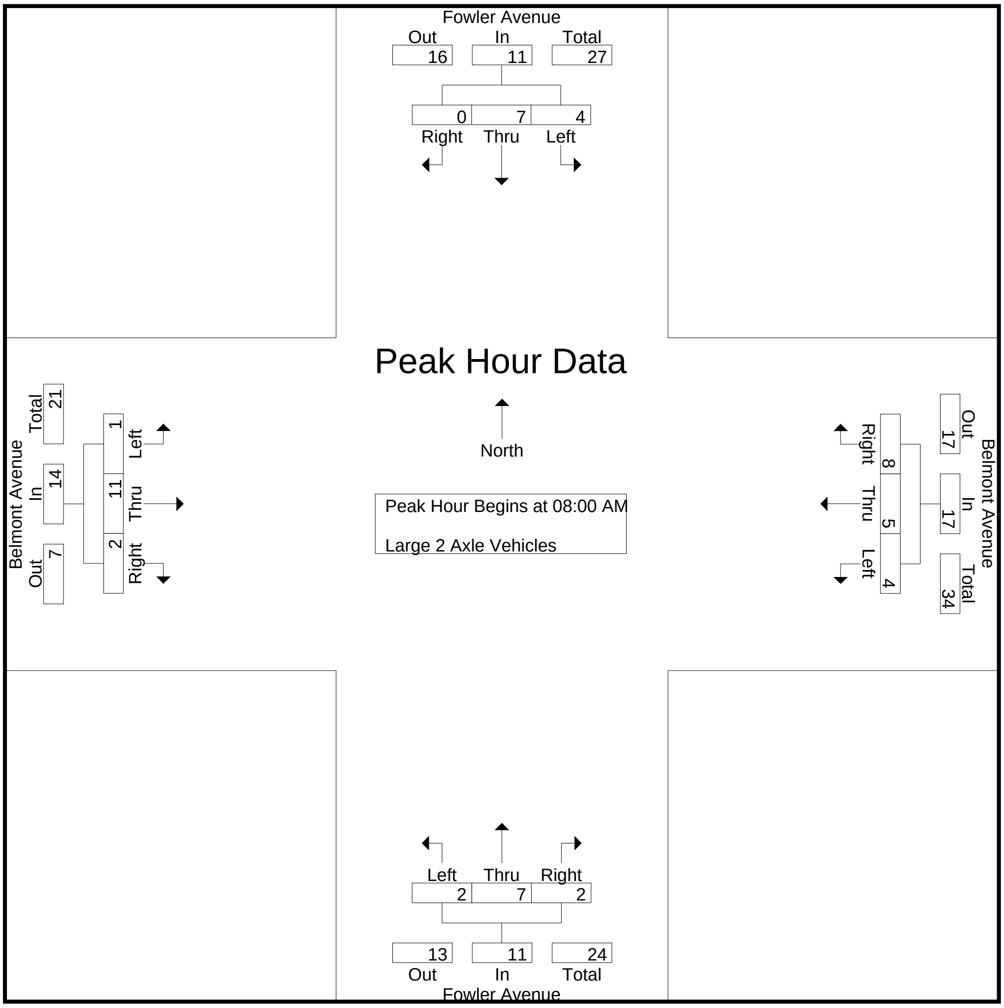

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	**2**	2	0	**4**	1	0	1	2	0	**3**	0	3	0	2	**1**	3
+15 mins.	0	**3**	0	3	1	2	2	5	0	2	**1**	3	**1**	3	0	4
+30 mins.	0	1	0	1	**2**	0	2	4	**1**	0	0	1	0	1	0	1
+45 mins.	2	1	0	3	0	**3**	**3**	**6**	1	2	1	**4**	0	**5**	1	**6**
Total Volume	4	7	0	11	4	5	8	17	2	7	2	11	1	11	2	14
% App. Total	36.4	63.6	0		23.5	29.4	47.1		18.2	63.6	18.2		7.1	78.6	14.3	
PHF	.500	.583	.000	.688	.500	.417	.667	.708	.500	.583	.500	.688	.250	.550	.500	.583

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Groups Printed- 3 Axle Vehicles

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	1	0	0	1	0	1	1	2	0	0	0	0	0	0	0	0	3
Total	1	4	0	5	0	1	1	2	0	0	0	0	0	0	0	0	7
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	2	0	2	0	0	0	0	1	0	0	1	0	1	0	1	4
Total	0	2	0	2	0	0	0	0	1	0	0	1	0	2	0	2	5
Grand Total	1	6	0	7	0	1	1	2	1	0	0	1	0	2	0	2	12
Apprch %	14.3	85.7	0		0	50	50		100	0	0		0	100	0		
Total %	8.3	50	0	58.3	0	8.3	8.3	16.7	8.3	0	0	8.3	0	16.7	0	16.7	

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	**2**	0	**2**	0	0	0	0	**1**	0	0	**1**	0	1	0	1	**4**
Total Volume	0	2	0	2	0	0	0	0	1	0	0	1	0	2	0	2	5
% App. Total	0	100	0		0	0	0		100	0	0		0	100	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.250	.000	.000	.250	.000	.500	.000	.500	.313

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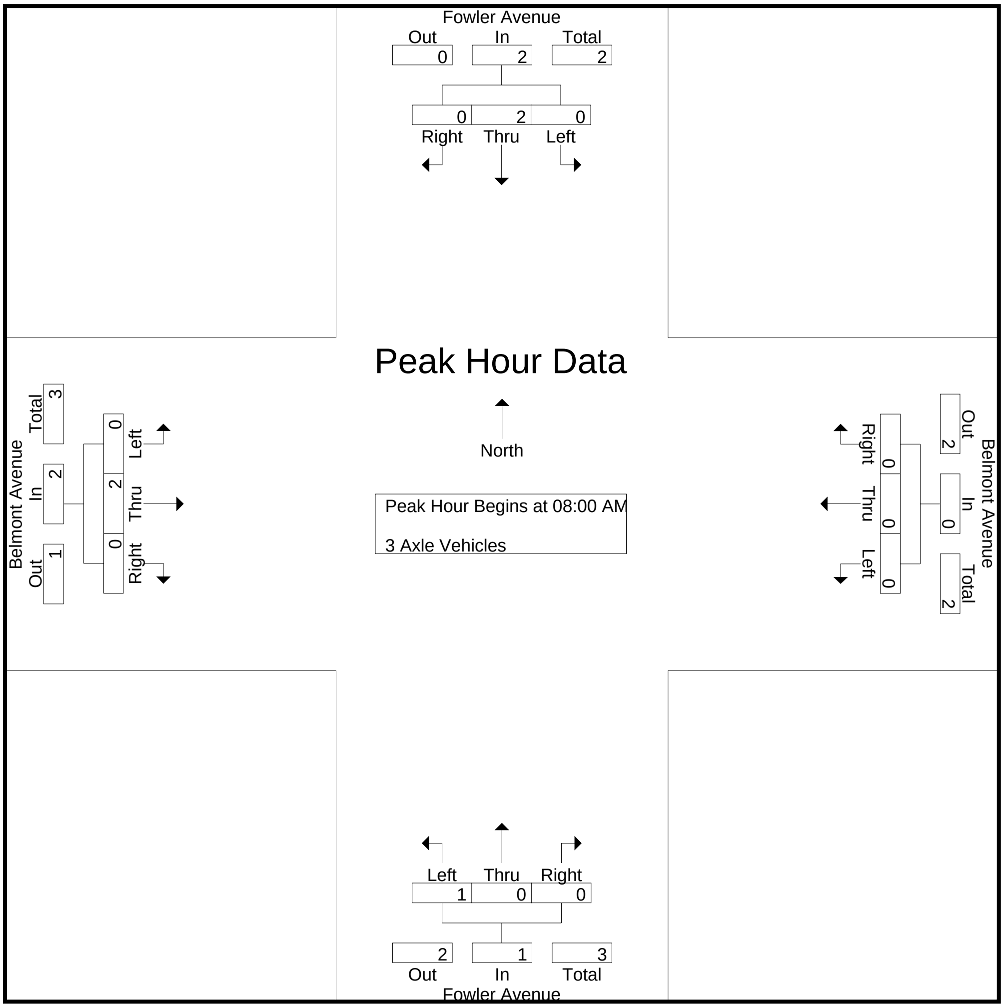

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	**2**	0	**2**	0	0	0	0	**1**	0	0	**1**	0	1	0	1
Total Volume	0	2	0	2	0	0	0	0	1	0	0	1	0	2	0	2
% App. Total	0	100	0		0	0	0		100	0	0		0	100	0	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.250	.000	.000	.250	.000	.500	.000	.500

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Groups Printed- 4+ Axle Trucks

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	1	1	0	1	0	1	0	1	0	1	3
07:45 AM	2	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	2	2	0	4	0	0	1	1	0	1	0	1	0	1	0	1	7
08:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	1	1	0	2	0	1	2	3	0	1	0	1	0	0	0	0	6
08:45 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	3	1	0	4	0	1	2	3	0	1	0	1	0	0	0	0	8
Grand Total	5	3	0	8	0	1	3	4	0	2	0	2	0	1	0	1	15
Apprch %	62.5	37.5	0		0	25	75		0	100	0		0	100	0		
Total %	33.3	20	0	53.3	0	6.7	20	26.7	0	13.3	0	13.3	0	6.7	0	6.7	

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	**1**	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	1	**1**	0	**2**	0	**1**	**2**	**3**	0	**1**	0	**1**	0	0	0	0	**6**
08:45 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	3	1	0	4	0	1	2	3	0	1	0	1	0	0	0	0	8
% App. Total	75	25	0		0	33.3	66.7		0	100	0		0	0	0		
PHF	.750	.250	.000	.500	.000	.250	.250	.250	.000	.250	.000	.250	.000	.000	.000	.000	.333

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City of Fresno
N/S: Fowler Avenue
E/W: Belmont Avenue
Weather: Clear

File Name : 05_FSO_Fow_Bel AM
Site Code : 00322994
Start Date : 11/10/2022
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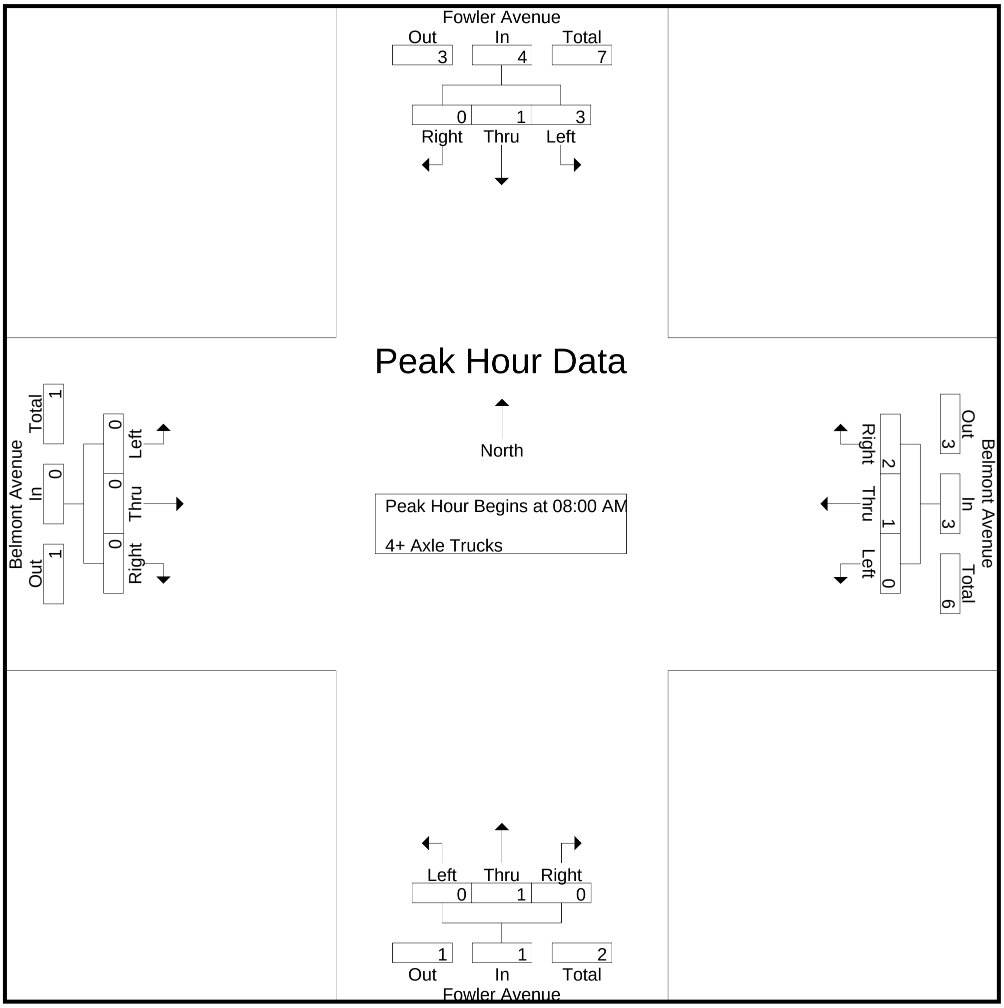

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	**1**	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	1	**1**	0	**2**	0	**1**	**2**	**3**	0	**1**	0	**1**	0	0	0	0
+45 mins.	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	3	1	0	4	0	1	2	3	0	1	0	1	0	0	0	0
% App. Total	75	25	0		0	33.3	66.7		0	100	0		0	0	0	
PHF	.750	.250	.000	.500	.000	.250	.250	.250	.000	.250	.000	.250	.000	.000	.000	.000

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City of Fresno
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	29	145	10	184	12	37	23	72	18	72	17	107	12	24	12	48	411
04:15 PM	30	159	5	194	18	27	27	72	12	50	6	68	12	24	13	49	383
04:30 PM	37	176	14	227	33	48	38	119	18	56	12	86	17	37	16	70	502
04:45 PM	26	139	12	177	28	32	22	82	11	49	9	69	18	28	24	70	398
Total	122	619	41	782	91	144	110	345	59	227	44	330	59	113	65	237	1694
05:00 PM	38	176	12	226	34	26	23	83	13	46	14	73	18	21	17	56	438
05:15 PM	39	166	12	217	21	22	14	57	15	84	18	117	14	29	16	59	450
05:30 PM	50	198	9	257	12	23	19	54	23	107	32	162	12	33	19	64	537
05:45 PM	44	183	16	243	10	22	14	46	16	140	22	178	8	33	19	60	527
Total	171	723	49	943	77	93	70	240	67	377	86	530	52	116	71	239	1952
Grand Total	293	1342	90	1725	168	237	180	585	126	604	130	860	111	229	136	476	3646
Apprch %	17	77.8	5.2		28.7	40.5	30.8		14.7	70.2	15.1		23.3	48.1	28.6		
Total %	8	36.8	2.5	47.3	4.6	6.5	4.9	16	3.5	16.6	3.6	23.6	3	6.3	3.7	13.1	
Passenger Vehicles	282	1318	87	1687	157	230	174	561	122	587	125	834	107	219	134	460	3542
% Passenger Vehicles	96.2	98.2	96.7	97.8	93.5	97	96.7	95.9	96.8	97.2	96.2	97	96.4	95.6	98.5	96.6	97.1
Large 2 Axle Vehicles	6	16	3	25	11	5	3	19	4	12	4	20	3	10	2	15	79
% Large 2 Axle Vehicles	2	1.2	3.3	1.4	6.5	2.1	1.7	3.2	3.2	2	3.1	2.3	2.7	4.4	1.5	3.2	2.2
3 Axle Vehicles	4	4	0	8	0	1	0	1	0	3	1	4	0	0	0	0	13
% 3 Axle Vehicles	1.4	0.3	0	0.5	0	0.4	0	0.2	0	0.5	0.8	0.5	0	0	0	0	0.4
4+ Axle Trucks	1	4	0	5	0	1	3	4	0	2	0	2	1	0	0	1	12
% 4+ Axle Trucks	0.3	0.3	0	0.3	0	0.4	1.7	0.7	0	0.3	0	0.2	0.9	0	0	0.2	0.3

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	38	176	12	226	**34**	**26**	**23**	**83**	13	46	14	73	**18**	21	17	56	438
05:15 PM	39	166	12	217	21	22	14	57	15	84	18	117	14	29	16	59	450
05:30 PM	**50**	**198**	9	**257**	12	23	19	54	**23**	107	**32**	162	12	**33**	**19**	**64**	**537**
05:45 PM	44	183	**16**	243	10	22	14	46	16	**140**	22	**178**	8	33	19	60	527
Total Volume	171	723	49	943	77	93	70	240	67	377	86	530	52	116	71	239	1952
% App. Total	18.1	76.7	5.2		32.1	38.8	29.2		12.6	71.1	16.2		21.8	48.5	29.7		
PHF	.855	.913	.766	.917	.566	.894	.761	.723	.728	.673	.672	.744	.722	.879	.934	.934	.909

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Weather: Clear

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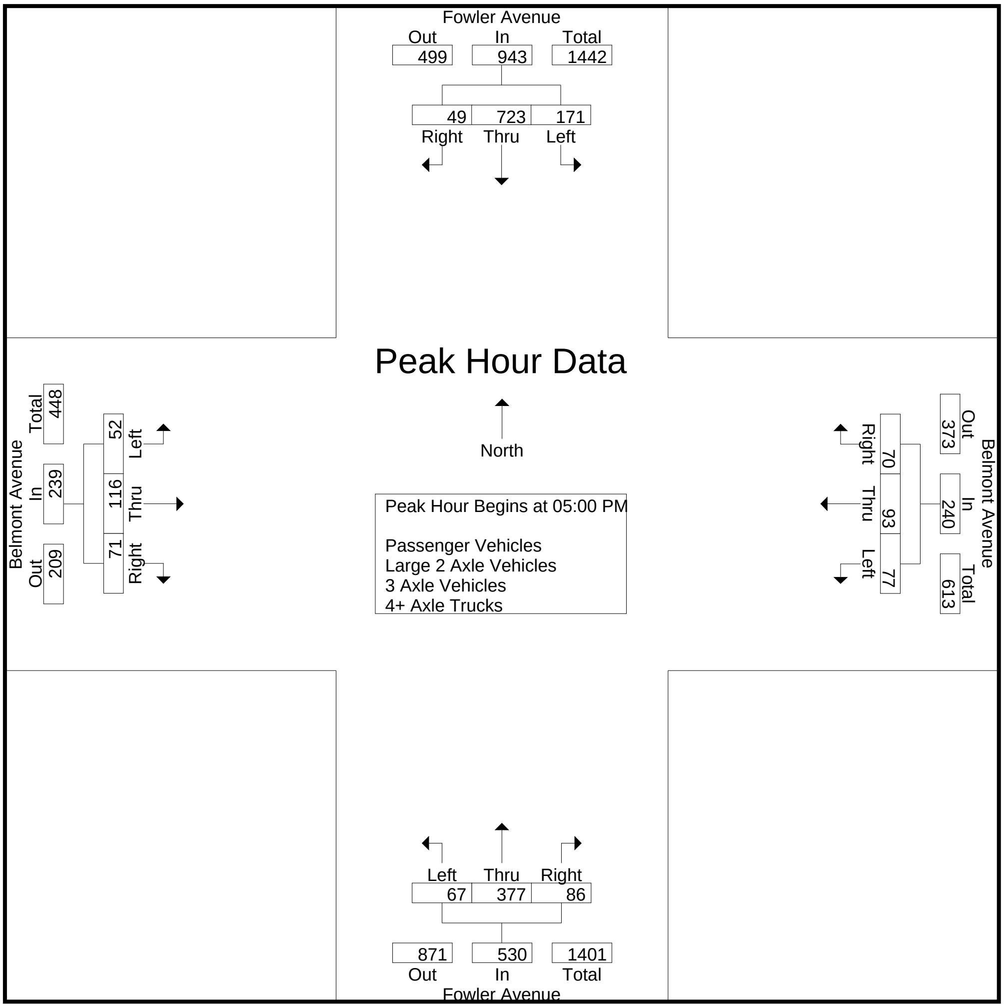

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:15 PM				05:00 PM				04:30 PM			
+0 mins.	38	176	12	226	18	27	27	72	13	46	14	73	17	**37**	16	**70**
+15 mins.	39	166	12	217	33	**48**	**38**	**119**	15	84	18	117	**18**	28	**24**	70
+30 mins.	**50**	**198**	9	**257**	28	32	22	82	**23**	107	**32**	162	18	21	17	56
+45 mins.	44	183	**16**	243	**34**	26	23	83	16	**140**	22	**178**	14	29	16	59
Total Volume	171	723	49	943	113	133	110	356	67	377	86	530	67	115	73	255
% App. Total	18.1	76.7	5.2		31.7	37.4	30.9		12.6	71.1	16.2		26.3	45.1	28.6	
PHF	.855	.913	.766	.917	.831	.693	.724	.748	.728	.673	.672	.744	.931	.777	.760	.911

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Groups Printed- Passenger Vehicles

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	28	142	10	180	10	36	22	68	17	71	14	102	12	22	12	46	396
04:15 PM	28	154	5	187	17	26	26	69	12	47	6	65	12	23	13	48	369
04:30 PM	35	172	12	219	31	45	38	114	17	53	12	82	15	36	15	66	481
04:45 PM	25	134	12	171	24	31	20	75	10	48	8	66	17	26	23	66	378
Total	116	602	39	757	82	138	106	326	56	219	40	315	56	107	63	226	1624
05:00 PM	37	173	12	222	33	26	23	82	12	45	14	71	18	20	17	55	430
05:15 PM	38	166	11	215	20	21	14	55	15	81	18	114	14	27	16	57	441
05:30 PM	47	194	9	250	12	23	18	53	23	104	31	158	11	33	19	63	524
05:45 PM	44	183	16	243	10	22	13	45	16	138	22	176	8	32	19	59	523
Total	166	716	48	930	75	92	68	235	66	368	85	519	51	112	71	234	1918
Grand Total	282	1318	87	1687	157	230	174	561	122	587	125	834	107	219	134	460	3542
Apprch %	16.7	78.1	5.2		28	41	31		14.6	70.4	15		23.3	47.6	29.1		
Total %	8	37.2	2.5	47.6	4.4	6.5	4.9	15.8	3.4	16.6	3.5	23.5	3	6.2	3.8	13	

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	37	173	12	222	**33**	**26**	**23**	**82**	12	45	14	71	**18**	20	17	55	430
05:15 PM	38	166	11	215	20	21	14	55	15	81	18	114	14	27	16	57	441
05:30 PM	**47**	**194**	9	**250**	12	23	18	53	**23**	104	**31**	158	11	**33**	**19**	**63**	**524**
05:45 PM	44	183	**16**	243	10	22	13	45	16	**138**	22	**176**	8	32	19	59	523
Total Volume	166	716	48	930	75	92	68	235	66	368	85	519	51	112	71	234	1918
% App. Total	17.8	77	5.2		31.9	39.1	28.9		12.7	70.9	16.4		21.8	47.9	30.3		
PHF	.883	.923	.750	.930	.568	.885	.739	.716	.717	.667	.685	.737	.708	.848	.934	.929	.915

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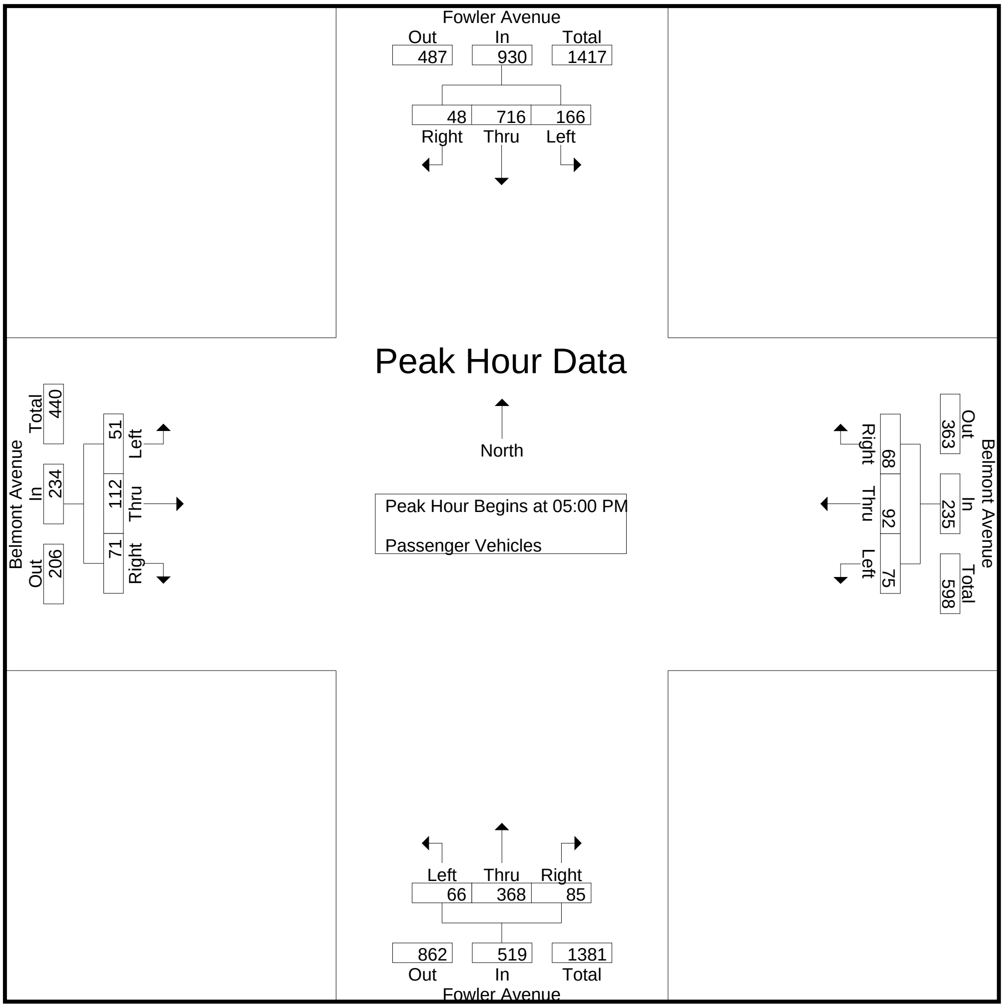

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	37	173	12	222	**33**	**26**	**23**	**82**	12	45	14	71	**18**	20	17	55
+15 mins.	38	166	11	215	20	21	14	55	15	81	18	114	14	27	16	57
+30 mins.	**47**	**194**	9	**250**	12	23	18	53	**23**	104	**31**	158	11	**33**	**19**	**63**
+45 mins.	44	183	**16**	243	10	22	13	45	16	**138**	22	**176**	8	32	19	59
Total Volume	166	716	48	930	75	92	68	235	66	368	85	519	51	112	71	234
% App. Total	17.8	77	5.2		31.9	39.1	28.9		12.7	70.9	16.4		21.8	47.9	30.3	
PHF	.883	.923	.750	.930	.568	.885	.739	.716	.717	.667	.685	.737	.708	.848	.934	.929

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Groups Printed- Large 2 Axle Vehicles

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	2	0	2	2	0	1	3	1	1	3	5	0	2	0	2	12
04:15 PM	1	2	0	3	1	0	0	1	0	3	0	3	0	1	0	1	8
04:30 PM	1	4	2	7	2	3	0	5	1	1	0	2	2	1	1	4	18
04:45 PM	0	4	0	4	4	1	1	6	1	1	1	3	1	2	1	4	17
Total	2	12	2	16	9	4	2	15	3	6	4	13	3	6	2	11	55
05:00 PM	1	3	0	4	1	0	0	1	1	1	0	2	0	1	0	1	8
05:15 PM	1	0	1	2	1	1	0	2	0	3	0	3	0	2	0	2	9
05:30 PM	2	1	0	3	0	0	0	0	0	2	0	2	0	0	0	0	5
05:45 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	2
Total	4	4	1	9	2	1	1	4	1	6	0	7	0	4	0	4	24
Grand Total	6	16	3	25	11	5	3	19	4	12	4	20	3	10	2	15	79
Apprch %	24	64	12		57.9	26.3	15.8		20	60	20		20	66.7	13.3		
Total %	7.6	20.3	3.8	31.6	13.9	6.3	3.8	24.1	5.1	15.2	5.1	25.3	3.8	12.7	2.5	19	

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	1	**3**	0	**4**	**1**	0	0	1	**1**	1	0	2	0	1	0	1	8
05:15 PM	1	0	**1**	2	1	**1**	0	**2**	0	**3**	0	**3**	0	**2**	0	**2**	**9**
05:30 PM	**2**	1	0	3	0	0	0	0	0	2	0	2	0	0	0	0	5
05:45 PM	0	0	0	0	0	0	**1**	1	0	0	0	0	0	1	0	1	2
Total Volume	4	4	1	9	2	1	1	4	1	6	0	7	0	4	0	4	24
% App. Total	44.4	44.4	11.1		50	25	25		14.3	85.7	0		0	100	0		
PHF	.500	.333	.250	.563	.500	.250	.250	.500	.250	.500	.000	.583	.000	.500	.000	.500	.667

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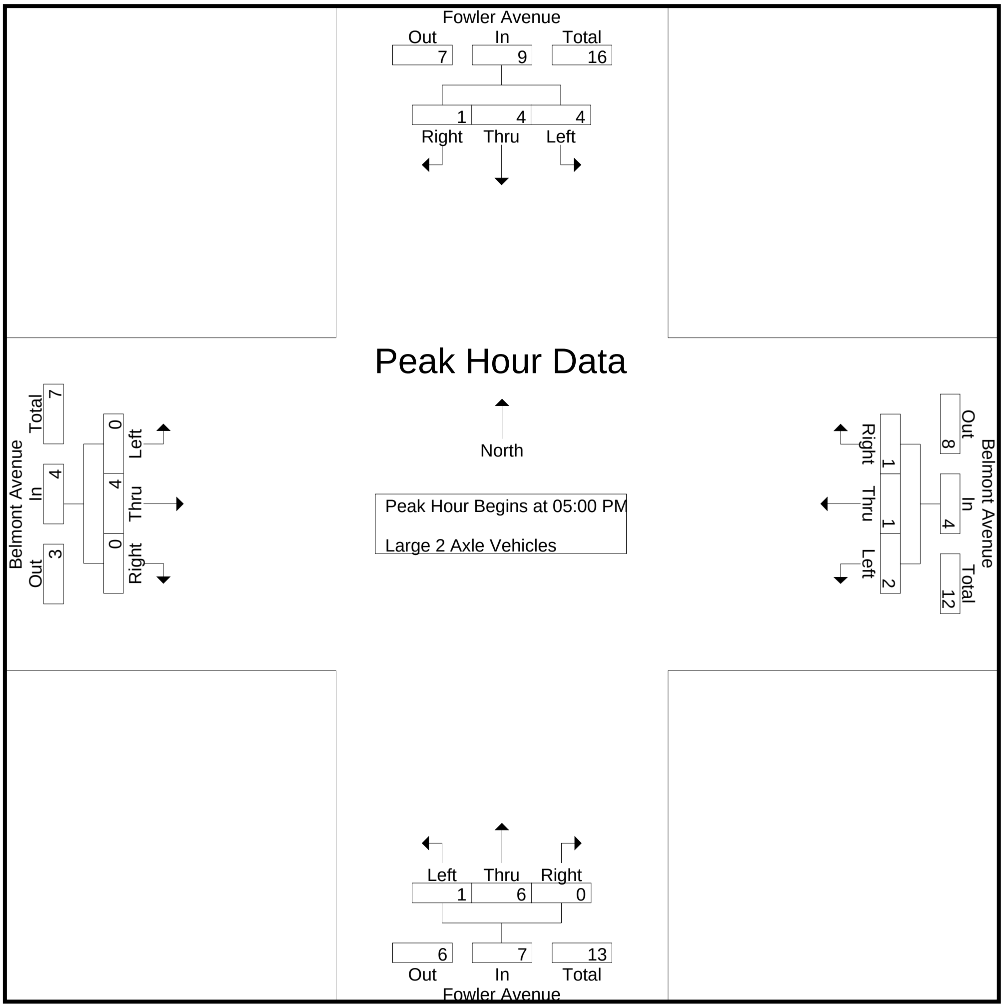

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	1	**3**	0	**4**	**1**	0	0	1	**1**	1	0	2	0	1	0	1
+15 mins.	1	0	**1**	2	1	**1**	0	**2**	0	**3**	0	**3**	0	**2**	0	**2**
+30 mins.	**2**	1	0	3	0	0	0	0	0	2	0	2	0	0	0	0
+45 mins.	0	0	0	0	0	0	**1**	1	0	0	0	0	0	1	0	1
Total Volume	4	4	1	9	2	1	1	4	1	6	0	7	0	4	0	4
% App. Total	44.4	44.4	11.1		50	25	25		14.3	85.7	0		0	100	0	
PHF	.500	.333	.250	.563	.500	.250	.250	.500	.250	.500	.000	.583	.000	.500	.000	.500

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Groups Printed- 3 Axle Vehicles

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	1	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	1	0	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
04:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	3	2	0	5	0	1	0	1	0	2	0	2	0	0	0	0	8
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	1	2	0	3	0	0	0	0	0	1	1	2	0	0	0	0	5
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	2	0	3	0	0	0	0	0	1	1	2	0	0	0	0	5
Grand Total	4	4	0	8	0	1	0	1	0	3	1	4	0	0	0	0	13
Apprch %	50	50	0		0	100	0		0	75	25		0	0	0		
Total %	30.8	30.8	0	61.5	0	7.7	0	7.7	0	23.1	7.7	30.8	0	0	0	0	

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	**1**	**2**	0	**3**	0	0	0	0	0	**1**	**1**	**2**	0	0	0	0	**5**
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	2	0	3	0	0	0	0	0	1	1	2	0	0	0	0	5
% App. Total	33.3	66.7	0		0	0	0		0	50	50		0	0	0		
PHF	.250	.250	.000	.250	.000	.000	.000	.000	.000	.250	.250	.250	.000	.000	.000	.000	.250

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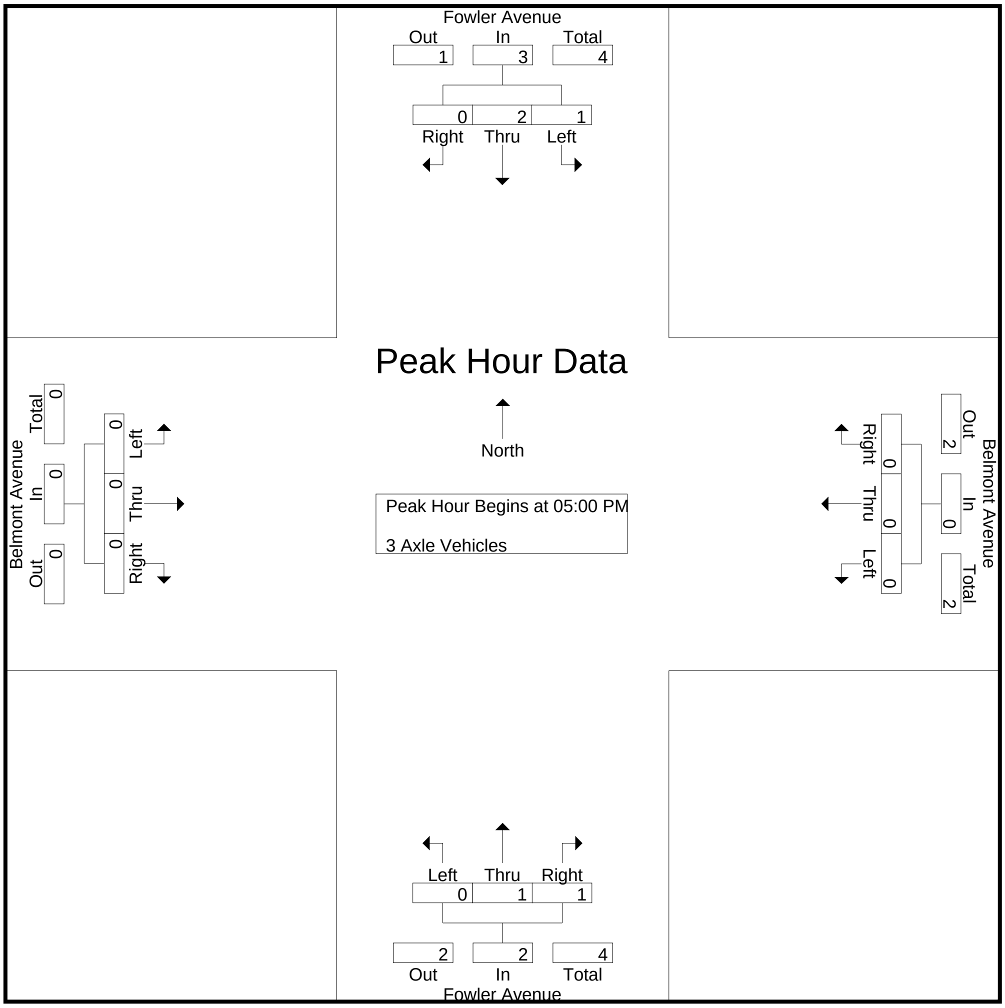

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	**1**	**2**	0	**3**	0	0	0	0	0	**1**	**1**	**2**	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	2	0	3	0	0	0	0	0	1	1	2	0	0	0	0
% App. Total	33.3	66.7	0		0	0	0		0	50	50		0	0	0	
PHF	.250	.250	.000	.250	.000	.000	.000	.000	.000	.250	.250	.250	.000	.000	.000	.000

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City of Fresno
N/S: Fowler Avenue
E/W: Belmont Avenue
Weather: Clear

File Name : 05_FSO_Fow_Bel PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	1	2	0	3	0	1	1	2	0	0	0	0	0	0	0	0	5
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	2
Total	1	3	0	4	0	1	2	3	0	0	0	0	0	0	0	0	7
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	1	0	0	1	1	0	0	0	0	1	0	0	1	3
05:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
Total	0	1	0	1	0	0	1	1	0	2	0	2	1	0	0	1	5
Grand Total	1	4	0	5	0	1	3	4	0	2	0	2	1	0	0	1	12
Apprch %	20	80	0		0	25	75		0	100	0		100	0	0		
Total %	8.3	33.3	0	41.7	0	8.3	25	33.3	0	16.7	0	16.7	8.3	0	0	8.3	

	Fowler Avenue Southbound				Belmont Avenue Westbound				Fowler Avenue Northbound				Belmont Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	**1**	0	**1**	0	0	**1**	**1**	0	0	0	0	**1**	0	0	**1**	**3**
05:45 PM	0	0	0	0	0	0	0	0	0	**2**	0	**2**	0	0	0	0	2
Total Volume	0	1	0	1	0	0	1	1	0	2	0	2	1	0	0	1	5
% App. Total	0	100	0		0	0	100		0	100	0		100	0	0		
PHF	.000	.250	.000	.250	.000	.000	.250	.250	.000	.250	.000	.250	.250	.000	.000	.250	.417

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File Name : 05_FSO_Fow_Bel PM
Site Code : 00322994
Start Date : 11/10/2022
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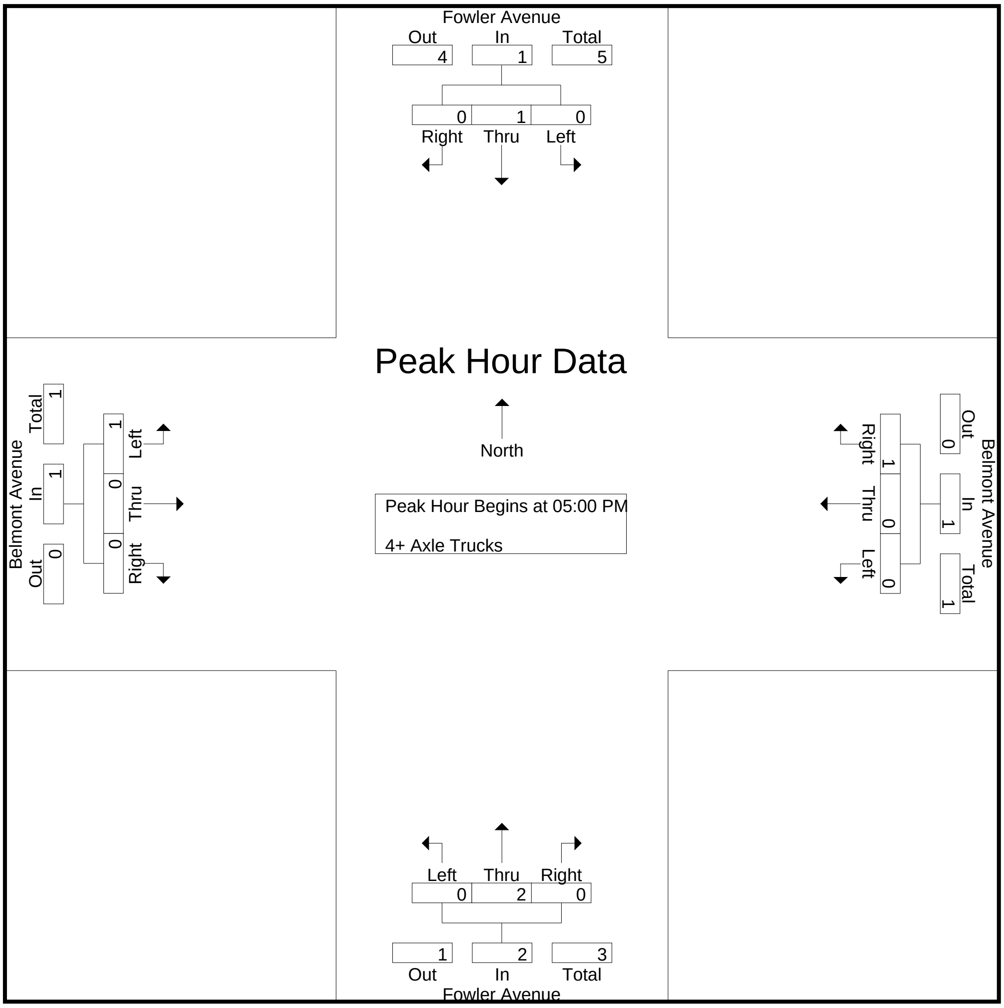

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	**1**	0	**1**	0	0	**1**	**1**	0	0	0	0	**1**	0	0	**1**
+45 mins.	0	0	0	0	0	0	0	0	0	**2**	0	**2**	0	0	0	0
Total Volume	0	1	0	1	0	0	1	1	0	2	0	2	1	0	0	1
% App. Total	0	100	0		0	0	100		0	100	0		100	0	0	
PHF	.000	.250	.000	.250	.000	.000	.250	.250	.000	.250	.000	.250	.250	.000	.000	.250

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File Name : Armstrong Floradora 08292018
Site Code : 00082918
Start Date : 8/29/2018
Page No : 1

Groups Printed- Unshifted

	Armstrong Southbound					Floradora Westbound					Armstrong Northbound					Floradora Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	119	0	1	120	5	1	5	0	11	0	37	0	0	37	1	2	0	0	3	171
07:15 AM	0	168	0	0	168	2	2	2	0	6	1	41	4	0	46	1	0	3	0	4	224
07:30 AM	0	163	1	0	164	10	1	2	0	13	1	46	0	0	47	0	1	5	0	6	230
07:45 AM	0	114	1	0	115	25	2	0	0	27	1	63	2	0	66	1	2	4	0	7	215
Total	0	564	2	1	567	42	6	9	0	57	3	187	6	0	196	3	5	12	0	20	840
08:00 AM	3	105	1	0	109	1	0	1	1	3	2	41	1	0	44	0	1	1	0	2	158
08:15 AM	0	81	1	0	82	3	0	0	1	4	3	13	1	0	17	0	0	3	0	3	106
08:30 AM	1	49	0	0	50	0	1	1	0	2	1	11	0	0	12	1	2	0	0	3	67
08:45 AM	0	43	0	0	43	2	2	2	0	6	0	14	1	0	15	3	0	0	0	3	67
Total	4	278	2	0	284	6	3	4	2	15	6	79	3	0	88	4	3	4	0	11	398
******																					
04:00 PM	1	46	1	1	49	0	3	2	0	5	1	69	1	0	71	0	2	1	0	3	128
04:15 PM	0	31	1	0	32	0	1	1	0	2	0	69	2	0	71	0	1	1	0	2	107
04:30 PM	2	36	0	0	38	1	1	0	0	2	0	66	3	0	69	1	0	2	0	3	112
04:45 PM	0	44	0	0	44	2	1	2	0	5	0	82	3	0	85	0	1	1	0	2	136
Total	3	157	2	1	163	3	6	5	0	14	1	286	9	0	296	1	4	5	0	10	483
05:00 PM	0	63	1	0	64	0	0	1	0	1	0	92	2	0	94	1	0	0	0	1	160
05:15 PM	1	40	0	0	41	1	0	1	0	2	0	110	1	0	111	0	0	0	0	0	154
05:30 PM	2	50	0	0	52	0	1	0	0	1	1	88	2	0	91	2	2	0	0	4	148
05:45 PM	1	45	0	0	46	1	0	1	0	2	0	79	1	0	80	1	0	0	0	1	129
Total	4	198	1	0	203	2	1	3	0	6	1	369	6	0	376	4	2	0	0	6	591
Grand Total	11	1197	7	2	1217	53	16	21	2	92	11	921	24	0	956	12	14	21	0	47	2312
Apprch %	0.9	98.4	0.6	0.2		57.6	17.4	22.8	2.2		1.2	96.3	2.5	0		25.5	29.8	44.7	0		
Total %	0.5	51.8	0.3	0.1	52.6	2.3	0.7	0.9	0.1	4	0.5	39.8	1	0	41.3	0.5	0.6	0.9	0	2	

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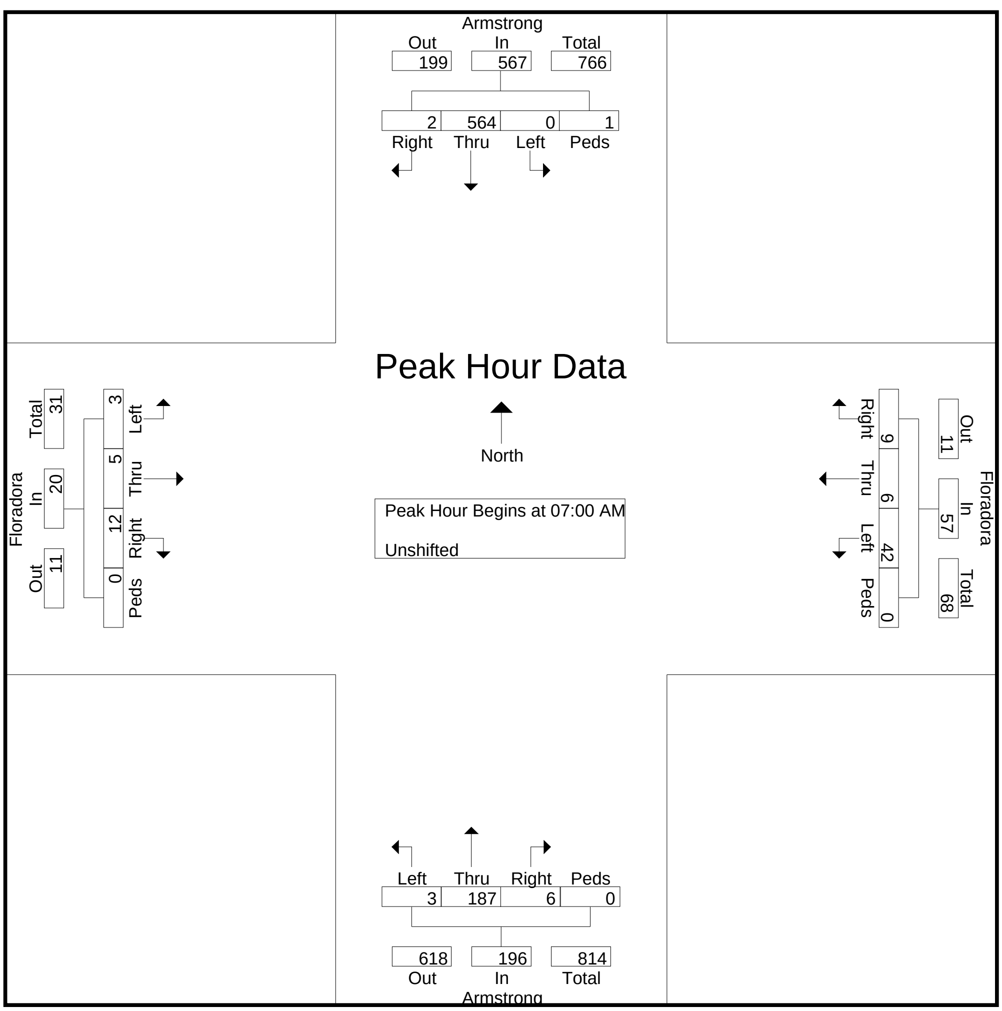
Site Code : 00082918
Start Date : 8/29/2018
Page No : 2

	Armstrong Southbound					Floradora Westbound					Armstrong Northbound					Floradora Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	119	0	**1**	120	5	1	**5**	0	11	0	37	0	0	37	**1**	**2**	0	0	3	171
07:15 AM	0	**168**	0	0	**168**	2	**2**	2	0	6	**1**	41	**4**	0	46	1	0	3	0	4	224
07:30 AM	0	163	**1**	0	164	10	1	2	0	13	1	46	0	0	47	0	1	**5**	0	6	**230**
07:45 AM	0	114	1	0	115	**25**	2	0	0	**27**	1	**63**	2	0	**66**	1	2	4	0	**7**	215
Total Volume	0	564	2	1	567	42	6	9	0	57	3	187	6	0	196	3	5	12	0	20	840
% App. Total	0	99.5	0.4	0.2		73.7	10.5	15.8	0		1.5	95.4	3.1	0		15	25	60	0		
PHF	.000	.839	.500	.250	.844	.420	.750	.450	.000	.528	.750	.742	.375	.000	.742	.750	.625	.600	.000	.714	.913



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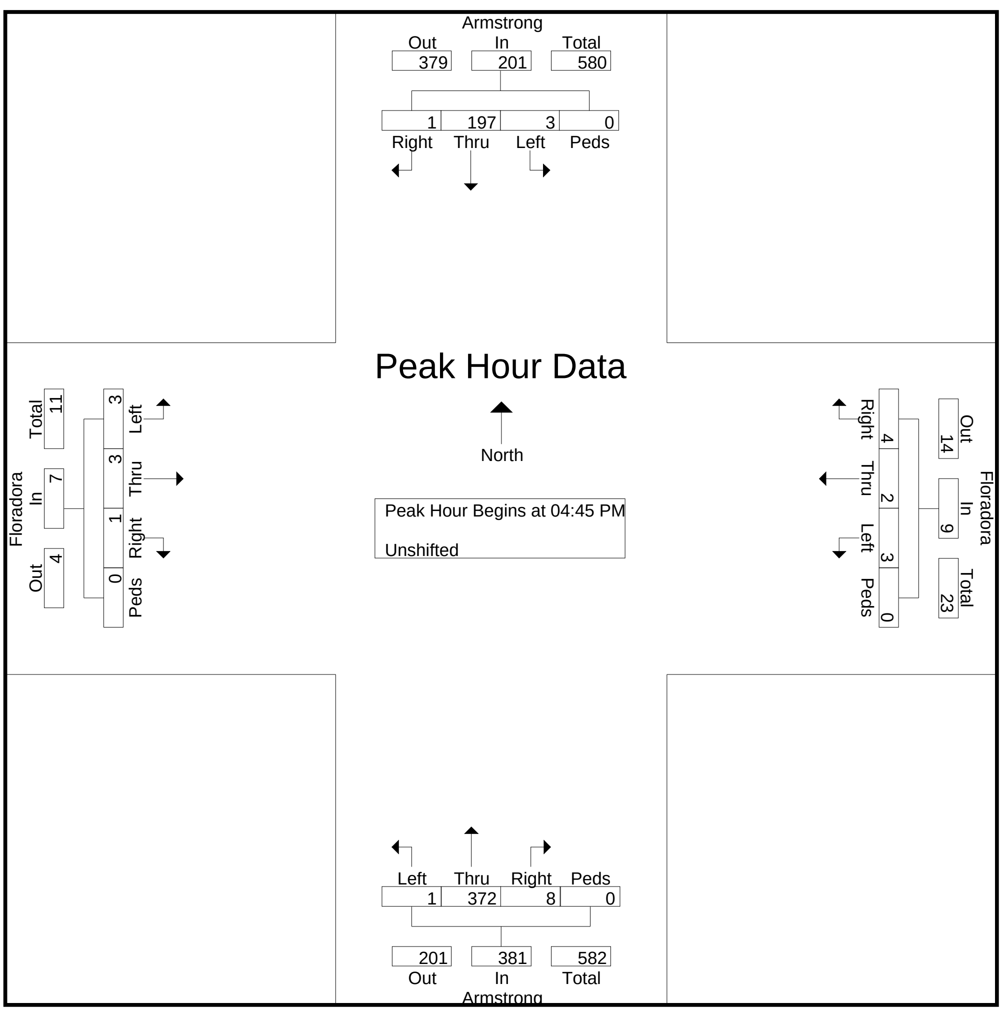
File Name : Armstrong Floradora 08292018
Site Code : 00082918
Start Date : 8/29/2018
Page No : 3

	Armstrong Southbound					Floradora Westbound					Armstrong Northbound					Floradora Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	44	0	0	44	**2**	**1**	**2**	0	**5**	0	82	**3**	0	85	0	1	**1**	0	2	136
05:00 PM	0	**63**	**1**	0	**64**	0	0	1	0	1	0	92	2	0	94	1	0	0	0	1	**160**
05:15 PM	1	40	0	0	41	1	0	1	0	2	0	**110**	1	0	**111**	0	0	0	0	0	154
05:30 PM	**2**	50	0	0	52	0	1	0	0	1	**1**	88	2	0	91	**2**	**2**	0	0	**4**	148
Total Volume	3	197	1	0	201	3	2	4	0	9	1	372	8	0	381	3	3	1	0	7	598
% App. Total	1.5	98	0.5	0		33.3	22.2	44.4	0		0.3	97.6	2.1	0		42.9	42.9	14.3	0		
PHF	.375	.782	.250	.000	.785	.375	.500	.500	.000	.450	.250	.845	.667	.000	.858	.375	.375	.250	.000	.438	.934



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City of Fresno
N/S: Armstrong Avenue
E/W: Olive Avenue
Weather: Clear

File Name : 08_FSO_Arm_Oli AM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	3	3	2	48	0	50	2	2	1	5	1	21	1	23	81
07:15 AM	0	4	4	8	3	53	0	56	2	0	4	6	3	37	6	46	116
07:30 AM	0	6	11	17	7	89	0	96	6	8	11	25	7	26	1	34	172
07:45 AM	2	7	13	22	4	65	0	69	7	8	15	30	13	16	1	30	151
Total	2	17	31	50	16	255	0	271	17	18	31	66	24	100	9	133	520
08:00 AM	3	10	29	42	23	79	0	102	10	6	34	50	3	24	3	30	224
08:15 AM	10	15	57	82	31	87	3	121	14	7	78	99	4	25	1	30	332
08:30 AM	3	32	43	78	40	89	2	131	19	12	56	87	2	29	5	36	332
08:45 AM	1	14	31	46	13	82	0	95	12	14	26	52	5	33	3	41	234
Total	17	71	160	248	107	337	5	449	55	39	194	288	14	111	12	137	1122
Grand Total	19	88	191	298	123	592	5	720	72	57	225	354	38	211	21	270	1642
Apprch %	6.4	29.5	64.1		17.1	82.2	0.7		20.3	16.1	63.6		14.1	78.1	7.8		
Total %	1.2	5.4	11.6	18.1	7.5	36.1	0.3	43.8	4.4	3.5	13.7	21.6	2.3	12.9	1.3	16.4	
Passenger Vehicles	19	85	190	294	122	584	5	711	70	56	221	347	35	209	21	265	1617
% Passenger Vehicles	100	96.6	99.5	98.7	99.2	98.6	100	98.8	97.2	98.2	98.2	98	92.1	99.1	100	98.1	98.5
Large 2 Axle Vehicles	0	3	0	3	1	6	0	7	1	1	3	5	1	2	0	3	18
% Large 2 Axle Vehicles	0	3.4	0	1	0.8	1	0	1	1.4	1.8	1.3	1.4	2.6	0.9	0	1.1	1.1
3 Axle Vehicles	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	2
% 3 Axle Vehicles	0	0	0	0	0	0.2	0	0.1	1.4	0	0	0.3	0	0	0	0	0.1
4+ Axle Trucks	0	0	1	1	0	1	0	1	0	0	1	1	2	0	0	2	5
% 4+ Axle Trucks	0	0	0.5	0.3	0	0.2	0	0.1	0	0	0.4	0.3	5.3	0	0	0.7	0.3

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	3	10	29	42	23	79	0	102	10	6	34	50	3	24	3	30	224
08:15 AM	**10**	15	**57**	**82**	31	87	**3**	121	14	7	**78**	**99**	4	25	1	30	**332**
08:30 AM	3	**32**	43	78	**40**	**89**	2	**131**	**19**	12	56	87	2	29	**5**	36	332
08:45 AM	1	14	31	46	13	82	0	95	12	**14**	26	52	**5**	**33**	3	**41**	234
Total Volume	17	71	160	248	107	337	5	449	55	39	194	288	14	111	12	137	1122
% App. Total	6.9	28.6	64.5		23.8	75.1	1.1		19.1	13.5	67.4		10.2	81	8.8		
PHF	.425	.555	.702	.756	.669	.947	.417	.857	.724	.696	.622	.727	.700	.841	.600	.835	.845

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Site Code : 00322994
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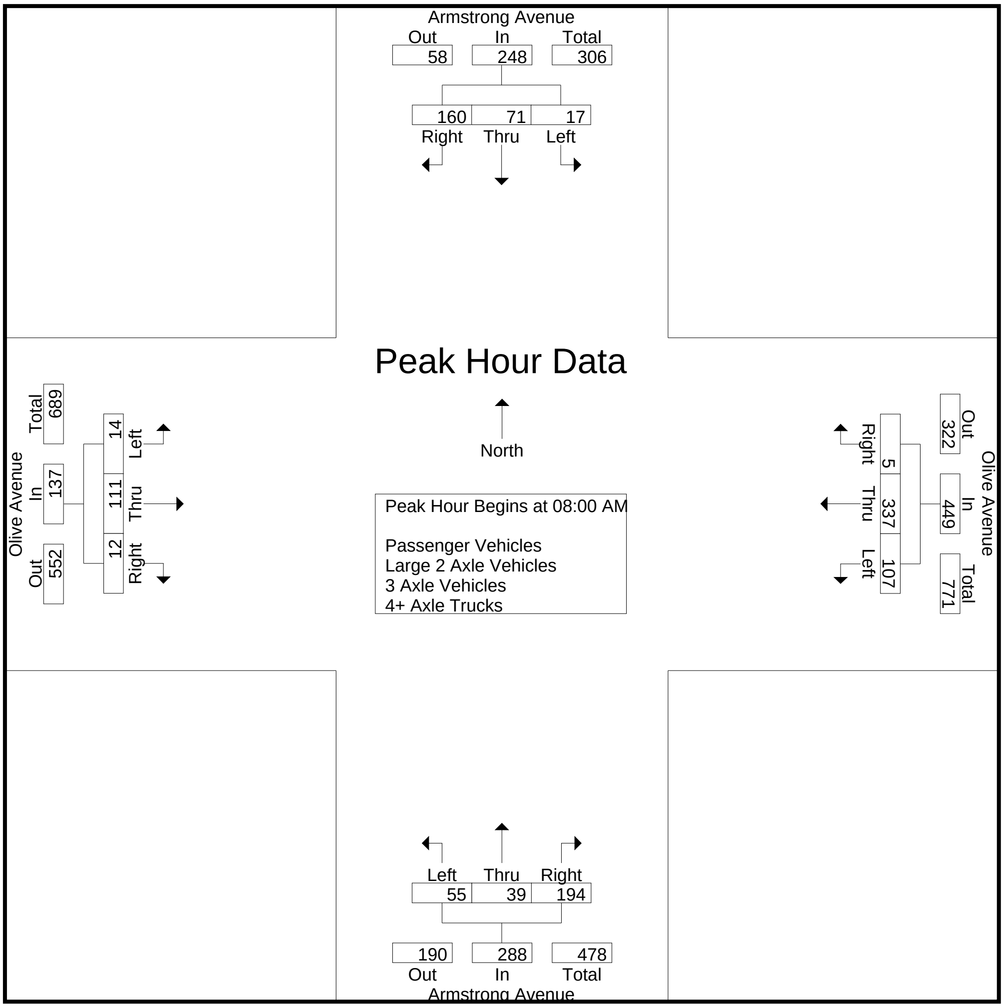

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				07:15 AM			
+0 mins.	3	10	29	42	23	79	0	102	10	6	34	50	3	**37**	**6**	**46**
+15 mins.	**10**	15	**57**	**82**	31	87	**3**	121	14	7	**78**	**99**	7	26	1	34
+30 mins.	3	**32**	43	78	**40**	**89**	2	**131**	**19**	12	56	87	**13**	16	1	30
+45 mins.	1	14	31	46	13	82	0	95	12	**14**	26	52	3	24	3	30
Total Volume	17	71	160	248	107	337	5	449	55	39	194	288	26	103	11	140
% App. Total	6.9	28.6	64.5		23.8	75.1	1.1		19.1	13.5	67.4		18.6	73.6	7.9	
PHF	.425	.555	.702	.756	.669	.947	.417	.857	.724	.696	.622	.727	.500	.696	.458	.761

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City of Fresno
N/S: Armstrong Avenue
E/W: Olive Avenue
Weather: Clear

File Name : 08_FSO_Arm_Oli AM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- Passenger Vehicles

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	3	3	2	47	0	49	2	2	1	5	1	20	1	22	79
07:15 AM	0	4	4	8	3	51	0	54	2	0	4	6	3	37	6	46	114
07:30 AM	0	6	11	17	7	88	0	95	6	8	11	25	6	26	1	33	170
07:45 AM	2	7	12	21	4	65	0	69	7	7	14	28	13	16	1	30	148
Total	2	17	30	49	16	251	0	267	17	17	30	64	23	99	9	131	511
08:00 AM	3	10	29	42	23	78	0	101	8	6	34	48	3	23	3	29	220
08:15 AM	10	12	57	79	31	86	3	120	14	7	77	98	3	25	1	29	326
08:30 AM	3	32	43	78	39	88	2	129	19	12	56	87	2	29	5	36	330
08:45 AM	1	14	31	46	13	81	0	94	12	14	24	50	4	33	3	40	230
Total	17	68	160	245	106	333	5	444	53	39	191	283	12	110	12	134	1106
Grand Total	19	85	190	294	122	584	5	711	70	56	221	347	35	209	21	265	1617
Apprch %	6.5	28.9	64.6		17.2	82.1	0.7		20.2	16.1	63.7		13.2	78.9	7.9		
Total %	1.2	5.3	11.8	18.2	7.5	36.1	0.3	44	4.3	3.5	13.7	21.5	2.2	12.9	1.3	16.4	

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	3	10	29	42	23	78	0	101	8	6	34	48	3	23	3	29	220
08:15 AM	**10**	12	**57**	**79**	31	86	**3**	120	14	7	**77**	**98**	3	25	1	29	326
08:30 AM	3	**32**	43	78	**39**	**88**	2	**129**	**19**	12	56	87	2	29	**5**	36	**330**
08:45 AM	1	14	31	46	13	81	0	94	12	**14**	24	50	**4**	**33**	3	**40**	230
Total Volume	17	68	160	245	106	333	5	444	53	39	191	283	12	110	12	134	1106
% App. Total	6.9	27.8	65.3		23.9	75	1.1		18.7	13.8	67.5		9	82.1	9		
PHF	.425	.531	.702	.775	.679	.946	.417	.860	.697	.696	.620	.722	.750	.833	.600	.838	.838

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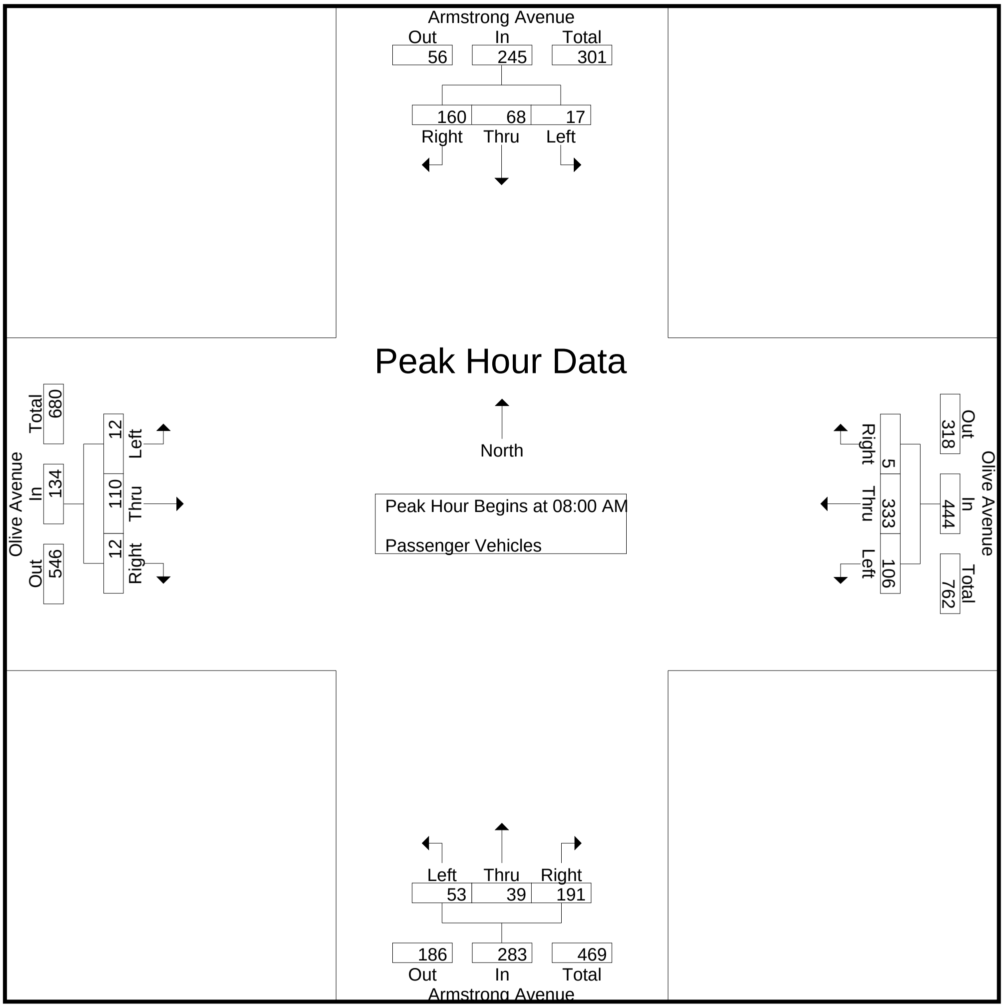
City of Fresno
N/S: Armstrong Avenue
E/W: Olive Avenue
Weather: Clear

File Name : 08_FSO_Arm_Oli AM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 2



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	3	10	29	42	23	78	0	101	8	6	34	48	3	23	3	29
+15 mins.	**10**	12	**57**	**79**	31	86	**3**	120	14	7	**77**	**98**	3	25	1	29
+30 mins.	3	**32**	43	78	**39**	**88**	2	**129**	**19**	12	56	87	2	29	**5**	36
+45 mins.	1	14	31	46	13	81	0	94	12	**14**	24	50	**4**	**33**	3	**40**
Total Volume	17	68	160	245	106	333	5	444	53	39	191	283	12	110	12	134
% App. Total	6.9	27.8	65.3		23.9	75	1.1		18.7	13.8	67.5		9	82.1	9	
PHF	.425	.531	.702	.775	.679	.946	.417	.860	.697	.696	.620	.722	.750	.833	.600	.838

Counts Unlimited, Inc.
PO Box 1178
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City of Fresno
N/S: Armstrong Avenue
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File Name : 08_FSO_Arm_Oli AM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
07:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	3	0	3	0	1	0	1	0	1	0	1	5
08:00 AM	0	0	0	0	0	1	0	1	1	0	0	1	0	1	0	1	3
08:15 AM	0	3	0	3	0	1	0	1	0	0	1	1	0	0	0	0	5
08:30 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	2	2	1	0	0	1	3
Total	0	3	0	3	1	3	0	4	1	0	3	4	1	1	0	2	13
Grand Total	0	3	0	3	1	6	0	7	1	1	3	5	1	2	0	3	18
Apprch %	0	100	0		14.3	85.7	0		20	20	60		33.3	66.7	0		
Total %	0	16.7	0	16.7	5.6	33.3	0	38.9	5.6	5.6	16.7	27.8	5.6	11.1	0	16.7	

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	**1**	0	1	**1**	0	0	1	0	**1**	0	**1**	3
08:15 AM	0	**3**	0	**3**	0	1	0	1	0	0	1	1	0	0	0	0	**5**
08:30 AM	0	0	0	0	**1**	1	0	**2**	0	0	0	0	0	0	0	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	0	**2**	**2**	**1**	0	0	1	3
Total Volume	0	3	0	3	1	3	0	4	1	0	3	4	1	1	0	2	13
% App. Total	0	100	0		25	75	0		25	0	75		50	50	0		
PHF	.000	.250	.000	.250	.250	.750	.000	.500	.250	.000	.375	.500	.250	.250	.000	.500	.650

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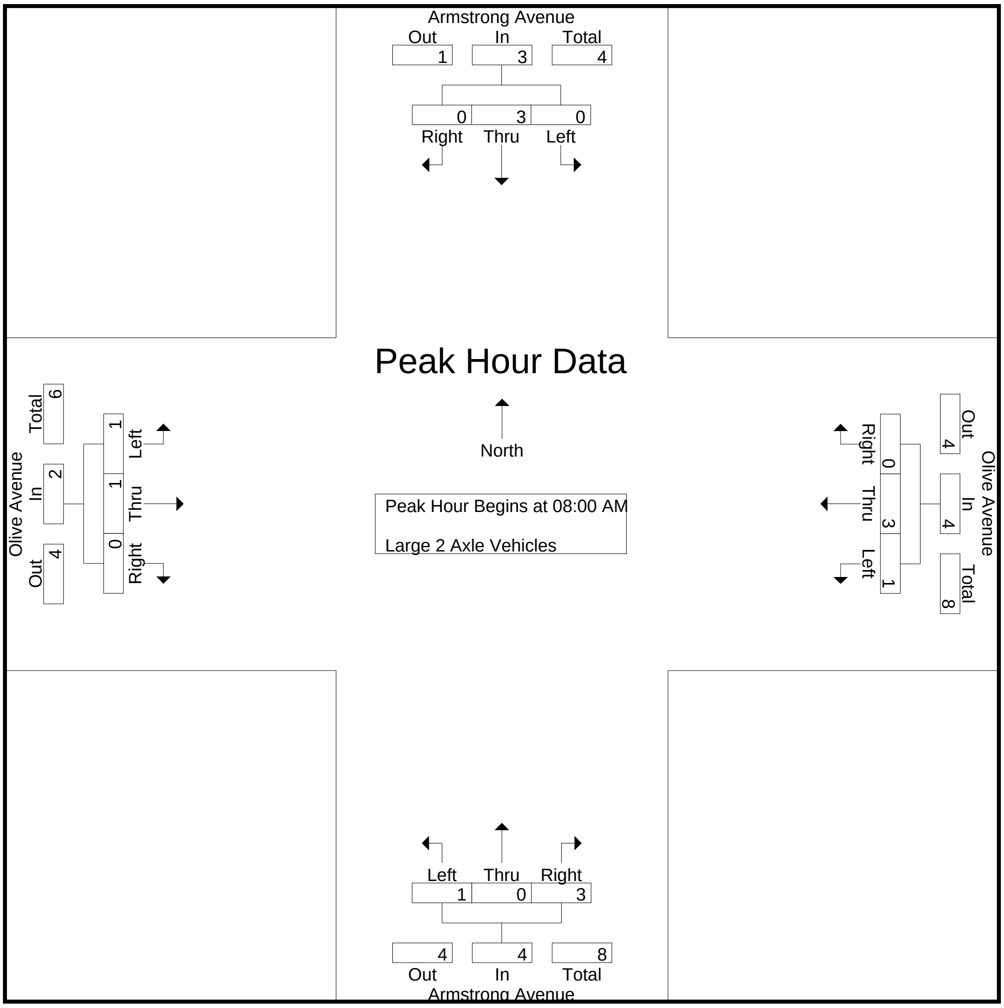

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	**1**	0	1	**1**	0	0	1	0	**1**	0	**1**
+15 mins.	0	**3**	0	**3**	0	1	0	1	0	0	1	1	0	0	0	0
+30 mins.	0	0	0	0	**1**	1	0	**2**	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	**2**	**2**	**1**	0	0	1
Total Volume	0	3	0	3	1	3	0	4	1	0	3	4	1	1	0	2
% App. Total	0	100	0		25	75	0		25	0	75		50	50	0	
PHF	.000	.250	.000	.250	.250	.750	.000	.500	.250	.000	.375	.500	.250	.250	.000	.500

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Page No : 1

Groups Printed- 3 Axle Vehicles

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Grand Total	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	2
Apprch %	0	0	0		0	100	0		100	0	0		0	0	0		
Total %	0	0	0	0	0	50	0	50	50	0	0	50	0	0	0	0	

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	**1**
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		100	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.250

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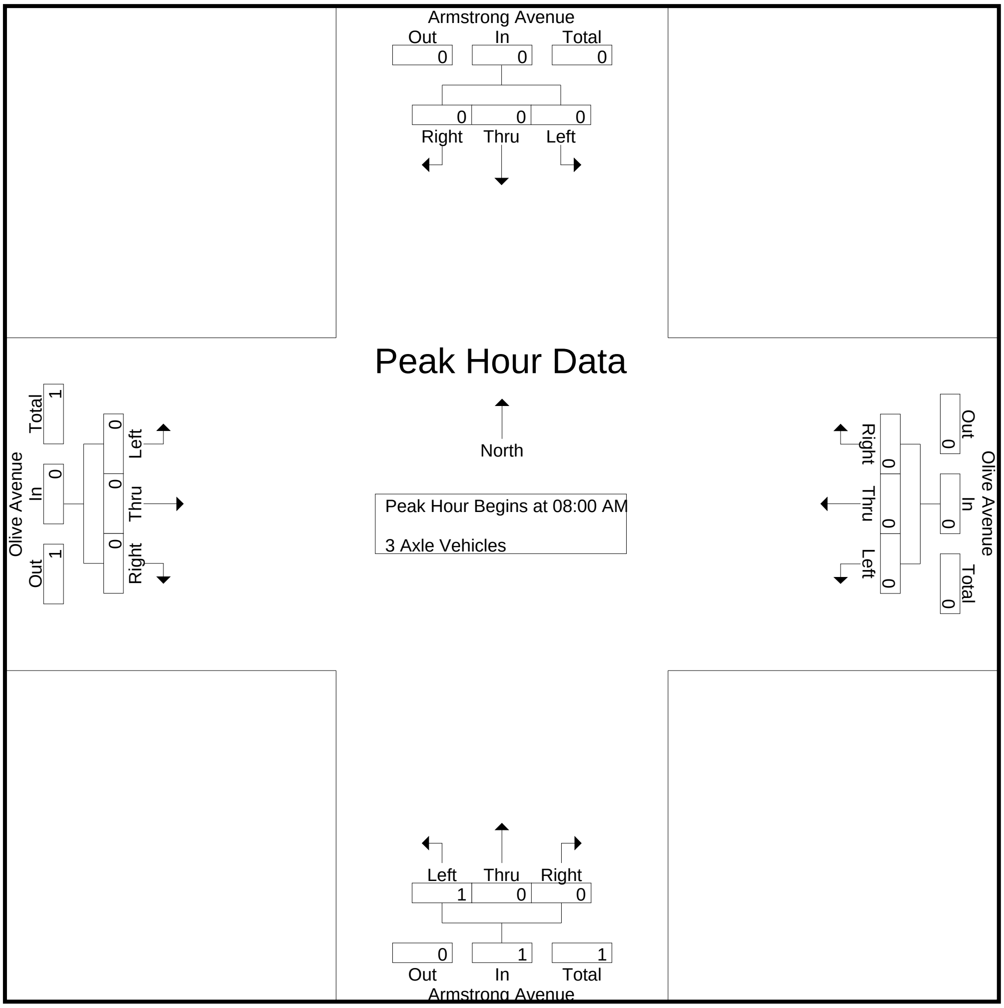
Start Date : 11/10/2022



Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
% App. Total	0	0	0		0	0	0		100	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
07:45 AM	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	2
Total	0	0	1	1	0	0	0	0	0	0	1	1	1	0	0	1	3
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	1	2
Grand Total	0	0	1	1	0	1	0	1	0	0	1	1	2	0	0	2	5
Apprch %	0	0	100		0	100	0		0	0	100		100	0	0		
Total %	0	0	20	20	0	20	0	20	0	0	20	20	40	0	0	40	

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**	**1**
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	1	2
% App. Total	0	0	0		0	100	0		0	0	0		100	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250	.000	.000	.250	.500

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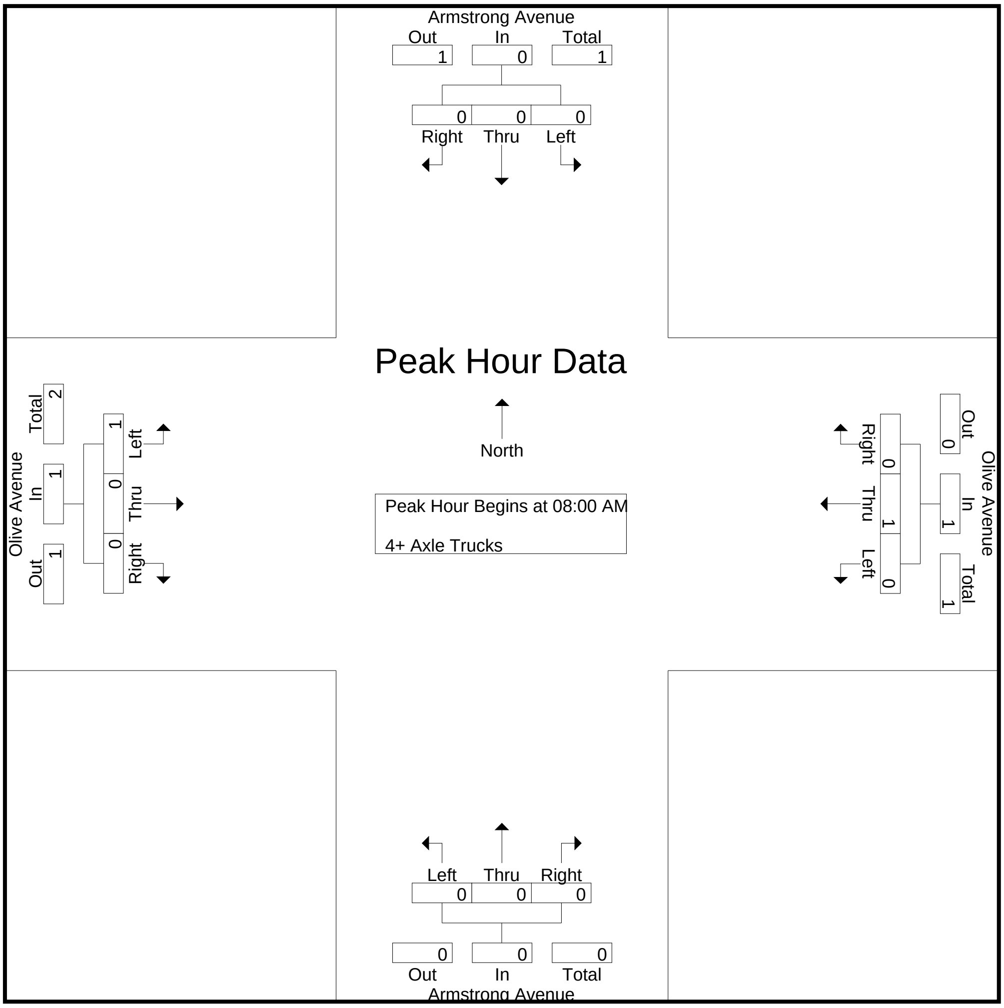

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	1
% App. Total	0	0	0		0	100	0		0	0	0		100	0	0	
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250	.000	.000	.250

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	6	8	14	1	40	0	41	13	3	20	36	3	36	2	41	132
04:15 PM	1	9	10	20	18	54	1	73	10	12	29	51	1	41	2	44	188
04:30 PM	4	20	17	41	24	72	0	96	9	6	33	48	2	34	3	39	224
04:45 PM	1	24	17	42	17	56	2	75	12	9	40	61	5	43	4	52	230
Total	6	59	52	117	60	222	3	285	44	30	122	196	11	154	11	176	774
05:00 PM	1	18	11	30	21	42	1	64	19	8	40	67	5	47	1	53	214
05:15 PM	0	15	12	27	10	39	1	50	12	12	32	56	9	33	1	43	176
05:30 PM	1	9	10	20	8	25	1	34	12	10	45	67	3	53	4	60	181
05:45 PM	1	8	7	16	7	35	1	43	14	14	41	69	6	47	3	56	184
Total	3	50	40	93	46	141	4	191	57	44	158	259	23	180	9	212	755
Grand Total	9	109	92	210	106	363	7	476	101	74	280	455	34	334	20	388	1529
Apprch %	4.3	51.9	43.8		22.3	76.3	1.5		22.2	16.3	61.5		8.8	86.1	5.2		
Total %	0.6	7.1	6	13.7	6.9	23.7	0.5	31.1	6.6	4.8	18.3	29.8	2.2	21.8	1.3	25.4	
Passenger Vehicles	9	106	91	206	106	354	7	467	99	72	278	449	34	331	19	384	1506
% Passenger Vehicles	100	97.2	98.9	98.1	100	97.5	100	98.1	98	97.3	99.3	98.7	100	99.1	95	99	98.5
Large 2 Axle Vehicles	0	3	1	4	0	3	0	3	1	2	2	5	0	3	1	4	16
% Large 2 Axle Vehicles	0	2.8	1.1	1.9	0	0.8	0	0.6	1	2.7	0.7	1.1	0	0.9	5	1	1
3 Axle Vehicles	0	0	0	0	0	2	0	2	1	0	0	1	0	0	0	0	3
% 3 Axle Vehicles	0	0	0	0	0	0.6	0	0.4	1	0	0	0.2	0	0	0	0	0.2
4+ Axle Trucks	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	4
% 4+ Axle Trucks	0	0	0	0	0	1.1	0	0.8	0	0	0	0	0	0	0	0	0.3

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	1	9	10	20	18	54	1	73	10	**12**	29	51	1	41	2	44	188
04:30 PM	**4**	20	**17**	41	**24**	**72**	0	**96**	9	6	33	48	2	34	3	39	224
04:45 PM	1	**24**	17	**42**	17	56	**2**	75	12	9	**40**	61	**5**	43	**4**	52	**230**
05:00 PM	1	18	11	30	21	42	1	64	**19**	8	40	**67**	5	**47**	1	**53**	214
Total Volume	7	71	55	133	80	224	4	308	50	35	142	227	13	165	10	188	856
% App. Total	5.3	53.4	41.4		26	72.7	1.3		22	15.4	62.6		6.9	87.8	5.3		
PHF	.438	.740	.809	.792	.833	.778	.500	.802	.658	.729	.888	.847	.650	.878	.625	.887	.930

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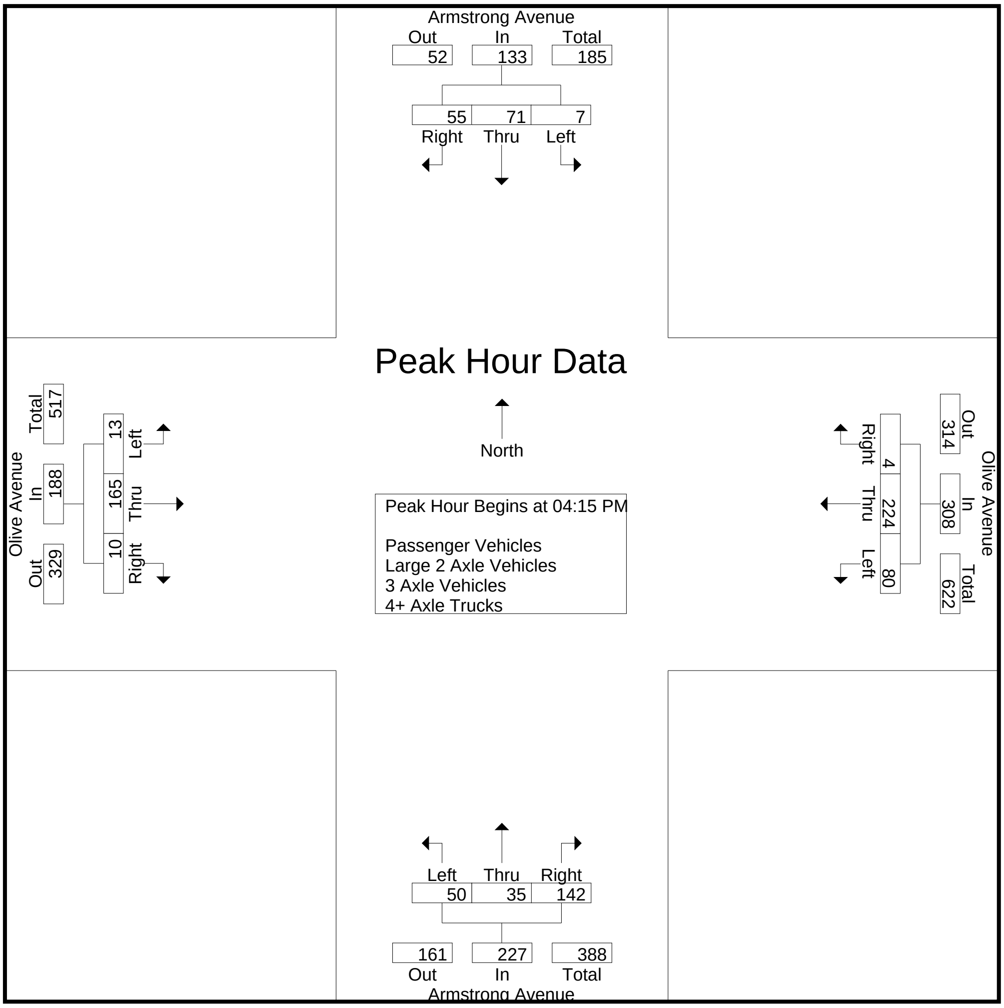

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:15 PM				05:00 PM				05:00 PM			
+0 mins.	**4**	20	**17**	41	18	54	1	73	**19**	8	40	67	5	47	1	53
+15 mins.	1	**24**	17	**42**	**24**	**72**	0	**96**	12	12	32	56	**9**	33	1	43
+30 mins.	1	18	11	30	17	56	**2**	75	12	10	**45**	67	3	**53**	**4**	**60**
+45 mins.	0	15	12	27	21	42	1	64	14	**14**	41	**69**	6	47	3	56
Total Volume	6	77	57	140	80	224	4	308	57	44	158	259	23	180	9	212
% App. Total	4.3	55	40.7		26	72.7	1.3		22	17	61		10.8	84.9	4.2	
PHF	.375	.802	.838	.833	.833	.778	.500	.802	.750	.786	.878	.938	.639	.849	.563	.883

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Groups Printed- Passenger Vehicles

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	6	8	14	1	38	0	39	13	3	20	36	3	35	2	40	129
04:15 PM	1	8	10	19	18	54	1	73	9	12	27	48	1	40	2	43	183
04:30 PM	4	18	17	39	24	68	0	92	9	6	33	48	2	34	3	39	218
04:45 PM	1	24	17	42	17	55	2	74	12	9	40	61	5	43	4	52	229
Total	6	56	52	114	60	215	3	278	43	30	120	193	11	152	11	174	759
05:00 PM	1	18	10	29	21	41	1	63	18	7	40	65	5	47	1	53	210
05:15 PM	0	15	12	27	10	39	1	50	12	12	32	56	9	32	1	42	175
05:30 PM	1	9	10	20	8	24	1	33	12	9	45	66	3	53	3	59	178
05:45 PM	1	8	7	16	7	35	1	43	14	14	41	69	6	47	3	56	184
Total	3	50	39	92	46	139	4	189	56	42	158	256	23	179	8	210	747
Grand Total	9	106	91	206	106	354	7	467	99	72	278	449	34	331	19	384	1506
Apprch %	4.4	51.5	44.2		22.7	75.8	1.5		22	16	61.9		8.9	86.2	4.9		
Total %	0.6	7	6	13.7	7	23.5	0.5	31	6.6	4.8	18.5	29.8	2.3	22	1.3	25.5	

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	1	8	10	19	18	54	1	73	9	**12**	27	48	1	40	2	43	183
04:30 PM	**4**	18	**17**	39	**24**	**68**	0	**92**	9	6	33	48	2	34	3	39	218
04:45 PM	1	**24**	17	**42**	17	55	**2**	74	12	9	**40**	61	**5**	43	**4**	52	**229**
05:00 PM	1	18	10	29	21	41	1	63	**18**	7	40	**65**	5	**47**	1	**53**	210
Total Volume	7	68	54	129	80	218	4	302	48	34	140	222	13	164	10	187	840
% App. Total	5.4	52.7	41.9		26.5	72.2	1.3		21.6	15.3	63.1		7	87.7	5.3		
PHF	.438	.708	.794	.768	.833	.801	.500	.821	.667	.708	.875	.854	.650	.872	.625	.882	.917

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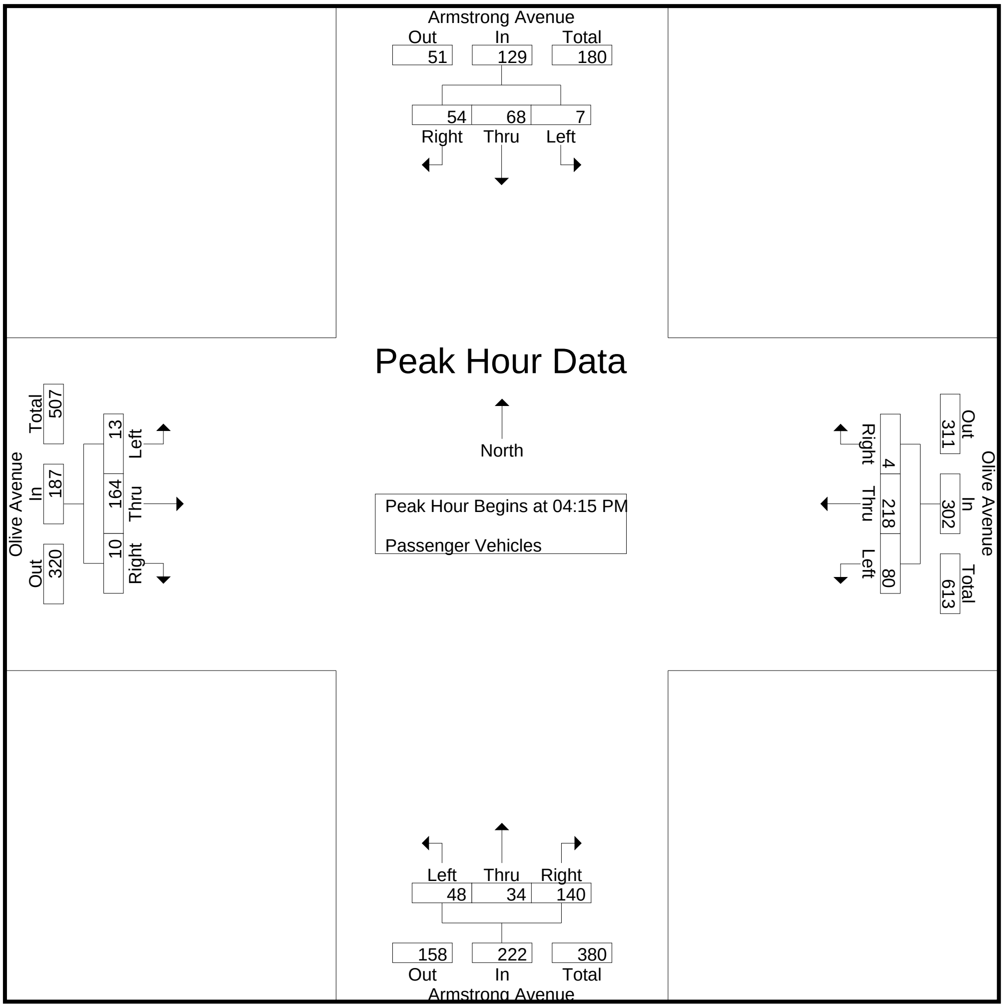
City of Fresno
N/S: Armstrong Avenue
E/W: Olive Avenue
Weather: Clear

File Name : 08_FSO_Arm_Oli PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	1	8	10	19	18	54	1	73	9	**12**	27	48	1	40	2	43
+15 mins.	**4**	18	**17**	39	**24**	**68**	0	**92**	9	6	33	48	2	34	3	39
+30 mins.	1	**24**	17	**42**	17	55	**2**	74	12	9	**40**	61	**5**	43	**4**	52
+45 mins.	1	18	10	29	21	41	1	63	**18**	7	40	**65**	5	**47**	1	**53**
Total Volume	7	68	54	129	80	218	4	302	48	34	140	222	13	164	10	187
% App. Total	5.4	52.7	41.9		26.5	72.2	1.3		21.6	15.3	63.1		7	87.7	5.3	
PHF	.438	.708	.794	.768	.833	.801	.500	.821	.667	.708	.875	.854	.650	.872	.625	.882

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File Name : 08_FSO_Arm_Oli PM
Site Code : 00322994
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Groups Printed- Large 2 Axle Vehicles

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
04:15 PM	0	1	0	1	0	0	0	0	1	0	2	3	0	1	0	1	5
04:30 PM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	3	0	3	0	2	0	2	1	0	2	3	0	2	0	2	10
05:00 PM	0	0	1	1	0	1	0	1	0	1	0	1	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	1	0	1	0	1	0	2	0	2	0	1	1	2	6
Grand Total	0	3	1	4	0	3	0	3	1	2	2	5	0	3	1	4	16
Apprch %	0	75	25		0	100	0		20	40	40		0	75	25		
Total %	0	18.8	6.2	25	0	18.8	0	18.8	6.2	12.5	12.5	31.2	0	18.8	6.2	25	

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	1	0	1	0	0	0	0	**1**	0	**2**	**3**	0	**1**	0	**1**	**5**
04:30 PM	0	**2**	0	**2**	0	**1**	0	**1**	0	0	0	0	0	0	0	0	3
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	**1**	1	0	1	0	1	0	**1**	0	1	0	0	0	0	3
Total Volume	0	3	1	4	0	2	0	2	1	1	2	4	0	1	0	1	11
% App. Total	0	75	25		0	100	0		25	25	50		0	100	0		
PHF	.000	.375	.250	.500	.000	.500	.000	.500	.250	.250	.250	.333	.000	.250	.000	.250	.550

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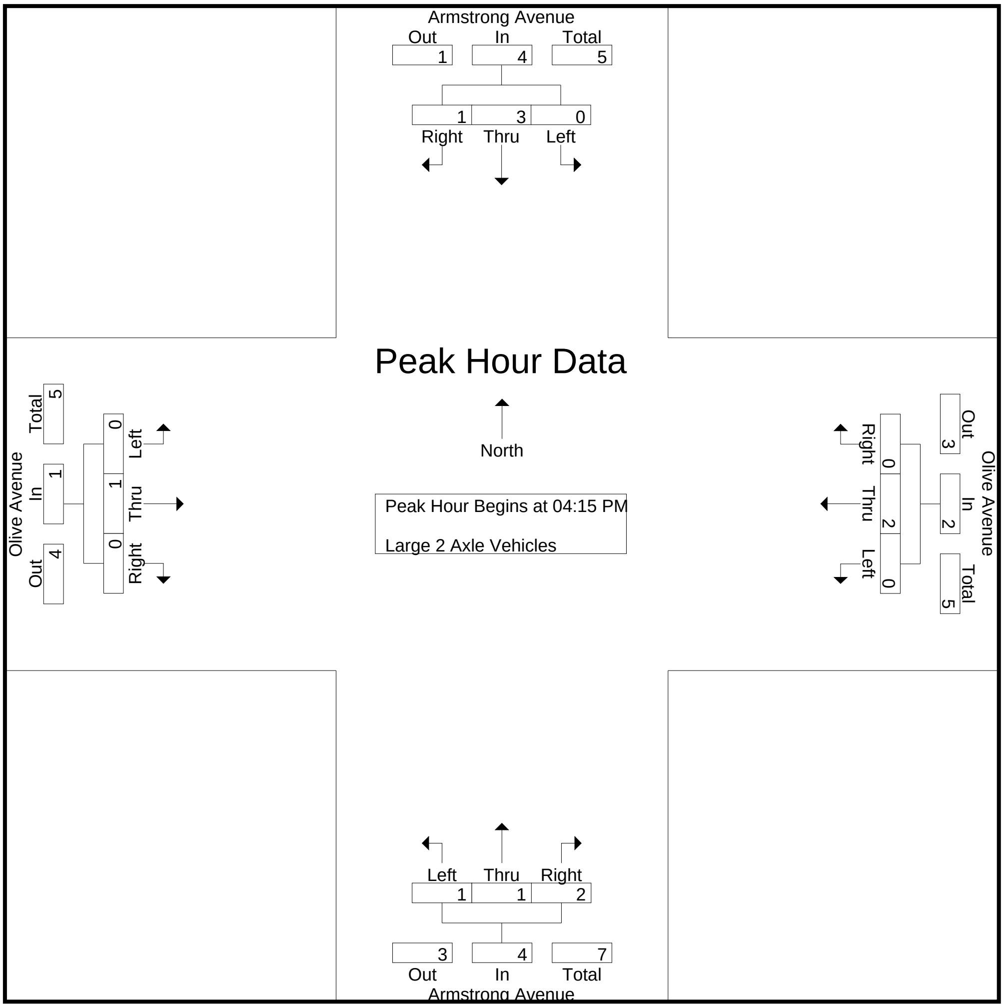
File Name : 08_FSO_Arm_Oli PM
Site Code : 00322994
Start Date : 11/10/2022



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	1	0	1	0	0	0	0	**1**	0	**2**	**3**	0	**1**	0	**1**
+15 mins.	0	**2**	0	**2**	0	**1**	0	**1**	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	**1**	1	0	1	0	1	0	**1**	0	1	0	0	0	0
Total Volume	0	3	1	4	0	2	0	2	1	1	2	4	0	1	0	1
% App. Total	0	75	25		0	100	0		25	25	50		0	100	0	
PHF	.000	.375	.250	.500	.000	.500	.000	.500	.250	.250	.250	.333	.000	.250	.000	.250

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Site Code : 00322994
Start Date : 11/10/2022
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Groups Printed- 3 Axle Vehicles

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Grand Total	0	0	0	0	0	2	0	2	1	0	0	1	0	0	0	0	3
Apprch %	0	0	0		0	100	0		100	0	0		0	0	0		
Total %	0	0	0	0	0	66.7	0	66.7	33.3	0	0	33.3	0	0	0	0	

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	**1**
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	1
Total Volume	0	0	0	0	0	2	0	2	1	0	0	1	0	0	0	0	3
% App. Total	0	0	0		0	100	0		100	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.250	.000	.000	.250	.000	.000	.000	.000	.750

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City of Fresno
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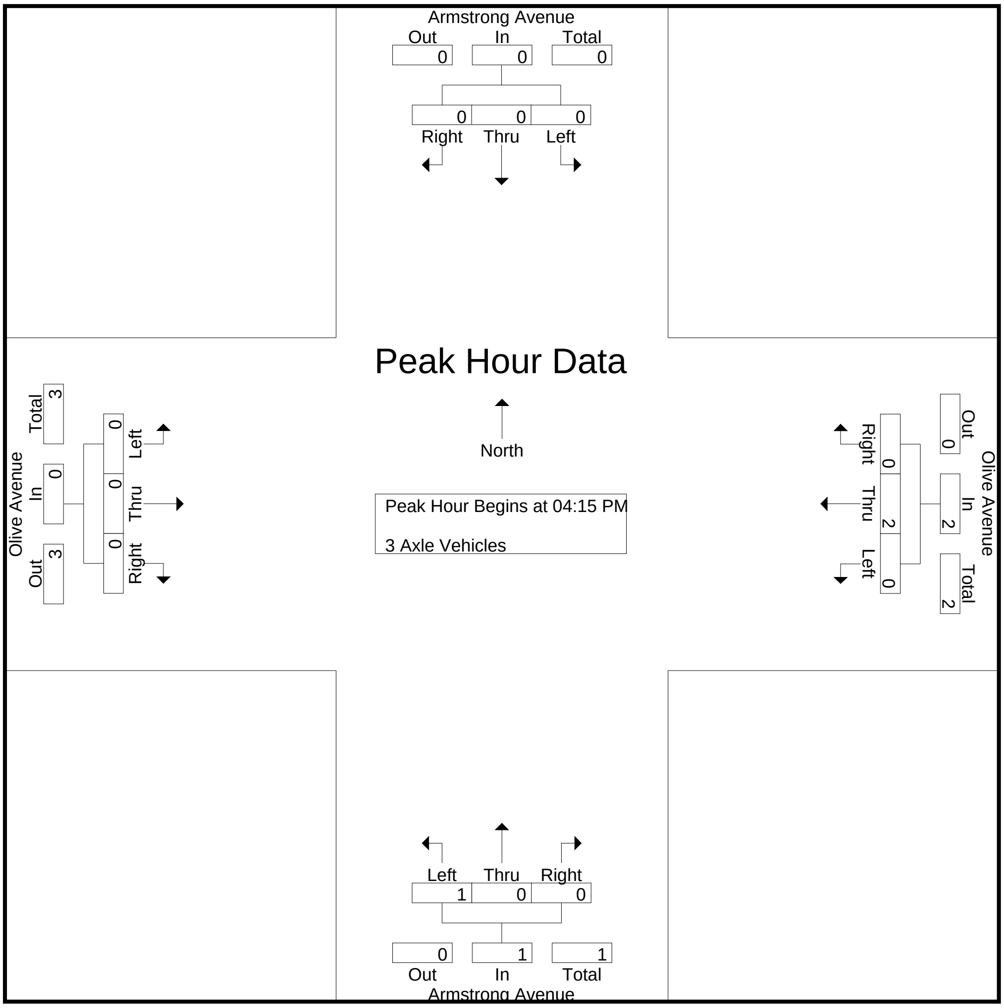
E/W: Olive Avenue
Weather: Clear

File Name : 08_FSO_Arm_Oli PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0
Total Volume	0	0	0	0	0	2	0	2	1	0	0	1	0	0	0	0
% App. Total	0	0	0		0	100	0		100	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.250	.000	.000	.250	.000	.000	.000	.000

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City of Fresno
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E/W: Olive Avenue
Weather: Clear

File Name : 08_FSO_Arm_Oli PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	4
Apprch %	0	0	0		0	100	0		0	0	0		0	0	0		
Total %	0	0	0	0	0	100	0	100	0	0	0	0	0	0	0	0	

	Armstrong Avenue Southbound				Olive Avenue Westbound				Armstrong Avenue Northbound				Olive Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	0	0	0	**2**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250

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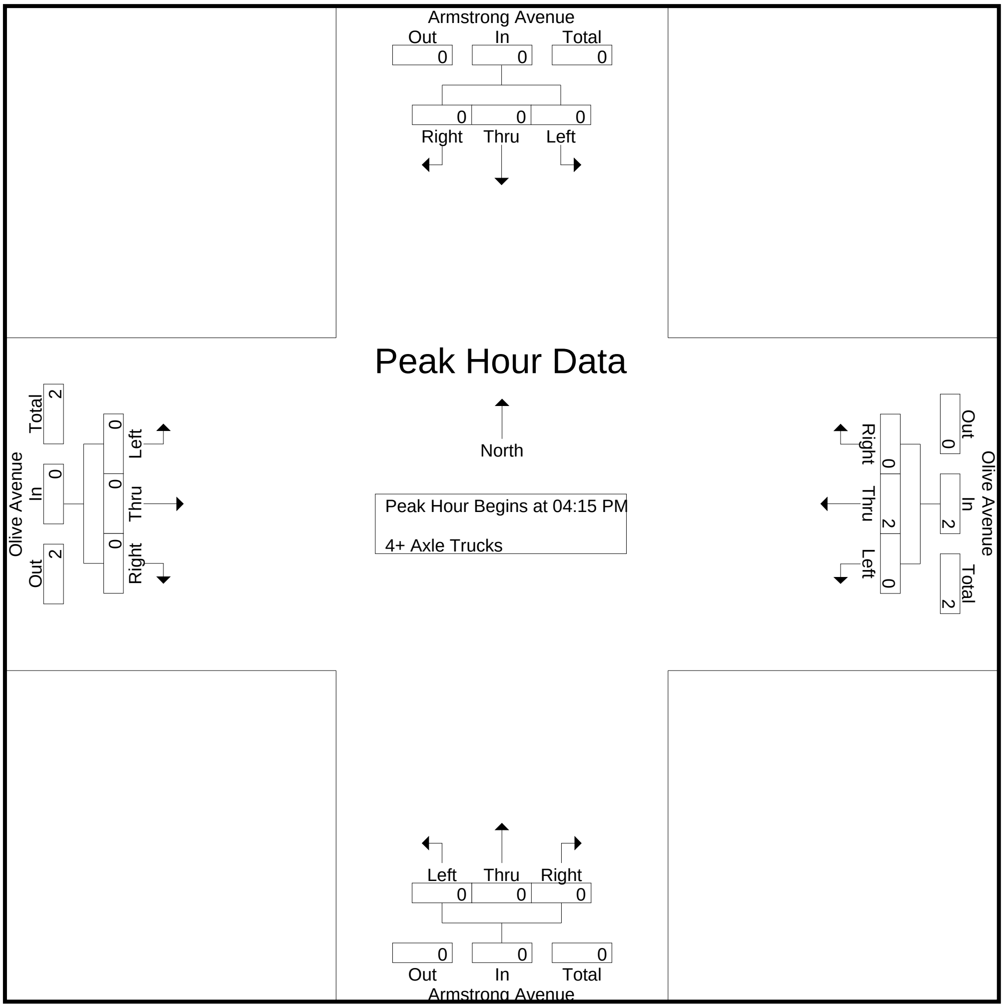
City of Fresno
N/S: Armstrong Avenue
E/W: Olive Avenue
Weather: Clear

File Name : 08_FSO_Arm_Oli PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

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City of Fresno
N/S: Temperance Avenue
E/W: McKinley Avenue
Weather: Clear

File Name : 10_FSO_Temp_McK AM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	1	72	73	12	3	15	42	6	48	136
07:15 AM	1	94	95	9	10	19	44	6	50	164
07:30 AM	4	125	129	13	15	28	61	13	74	231
07:45 AM	11	117	128	16	16	32	87	11	98	258
Total	17	408	425	50	44	94	234	36	270	789
08:00 AM	13	123	136	15	14	29	66	8	74	239
08:15 AM	18	147	165	26	28	54	94	12	106	325
08:30 AM	20	163	183	15	28	43	108	15	123	349
08:45 AM	21	126	147	16	20	36	79	32	111	294
Total	72	559	631	72	90	162	347	67	414	1207
Grand Total	89	967	1056	122	134	256	581	103	684	1996
Apprch %	8.4	91.6		47.7	52.3		84.9	15.1		
Total %	4.5	48.4	52.9	6.1	6.7	12.8	29.1	5.2	34.3	
Passenger Vehicles	85	955	1040	119	128	247	541	94	635	1922
% Passenger Vehicles	95.5	98.8	98.5	97.5	95.5	96.5	93.1	91.3	92.8	96.3
Large 2 Axle Vehicles	4	8	12	3	6	9	32	6	38	59
% Large 2 Axle Vehicles	4.5	0.8	1.1	2.5	4.5	3.5	5.5	5.8	5.6	3
3 Axle Vehicles	0	1	1	0	0	0	6	3	9	10
% 3 Axle Vehicles	0	0.1	0.1	0	0	0	1	2.9	1.3	0.5
4+ Axle Trucks	0	3	3	0	0	0	2	0	2	5
% 4+ Axle Trucks	0	0.3	0.3	0	0	0	0.3	0	0.3	0.3

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	13	123	136	15	14	29	66	8	74	239
08:15 AM	18	147	165	**26**	**28**	**54**	94	12	106	325
08:30 AM	20	**163**	**183**	15	28	43	**108**	15	**123**	**349**
08:45 AM	**21**	126	147	16	20	36	79	**32**	111	294
Total Volume	72	559	631	72	90	162	347	67	414	1207
% App. Total	11.4	88.6		44.4	55.6		83.8	16.2		
PHF	.857	.857	.862	.692	.804	.750	.803	.523	.841	.865

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Weather: Clear

File Name : 10_FSO_Temp_McK AM
Site Code : 00322994
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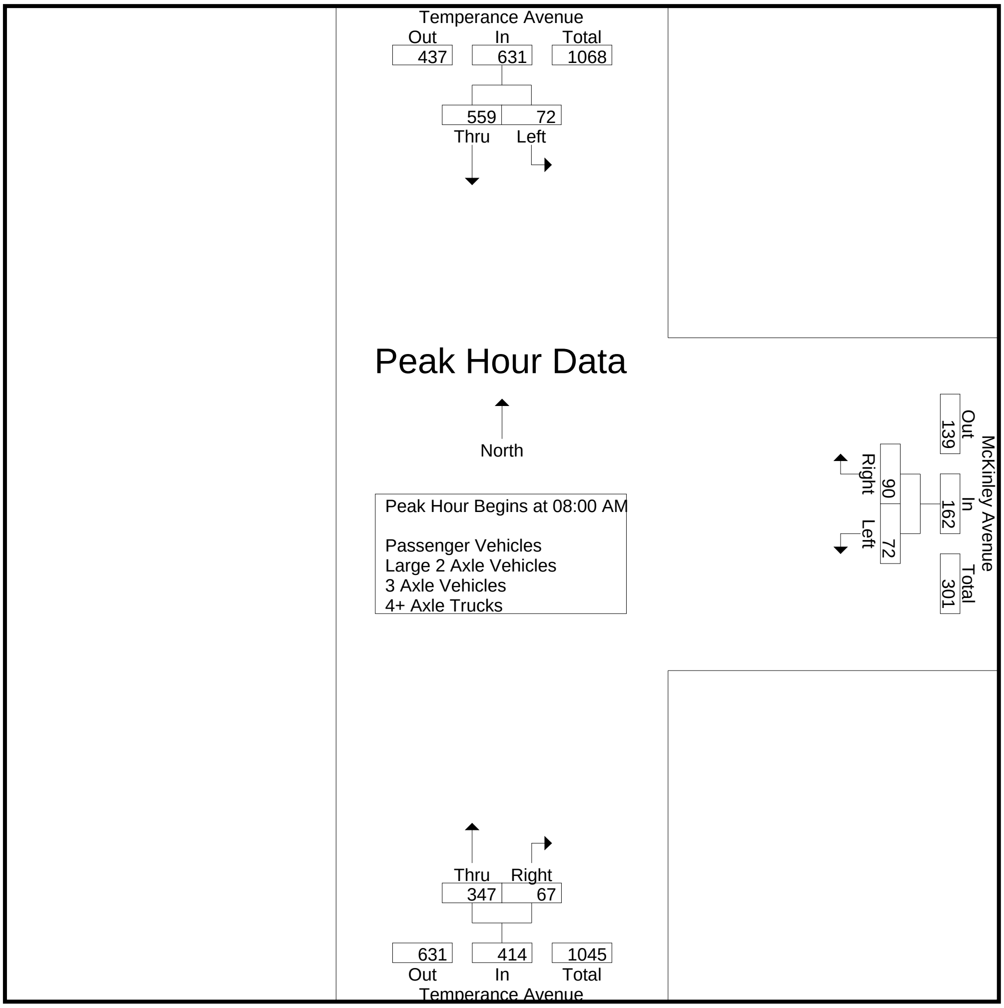

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	13	123	136	15	14	29	66	8	74
+15 mins.	18	147	165	**26**	**28**	**54**	94	12	106
+30 mins.	20	**163**	**183**	15	28	43	**108**	15	**123**
+45 mins.	**21**	126	147	16	20	36	79	**32**	111
Total Volume	72	559	631	72	90	162	347	67	414
% App. Total	11.4	88.6		44.4	55.6		83.8	16.2	
PHF	.857	.857	.862	.692	.804	.750	.803	.523	.841

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City of Fresno
N/S: Temperance Avenue
E/W: McKinley Avenue
Weather: Clear

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Groups Printed- Passenger Vehicles

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	1	71	72	11	3	14	36	6	42	128
07:15 AM	1	94	95	9	10	19	36	5	41	155
07:30 AM	4	121	125	13	15	28	60	10	70	223
07:45 AM	10	116	126	15	14	29	83	11	94	249
Total	16	402	418	48	42	90	215	32	247	755
08:00 AM	12	120	132	15	12	27	60	8	68	227
08:15 AM	16	145	161	26	27	53	89	10	99	313
08:30 AM	20	162	182	15	27	42	103	15	118	342
08:45 AM	21	126	147	15	20	35	74	29	103	285
Total	69	553	622	71	86	157	326	62	388	1167
Grand Total	85	955	1040	119	128	247	541	94	635	1922
Apprch %	8.2	91.8		48.2	51.8		85.2	14.8		
Total %	4.4	49.7	54.1	6.2	6.7	12.9	28.1	4.9	33	

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	12	120	132	15	12	27	60	8	68	227
08:15 AM	16	145	161	**26**	**27**	**53**	89	10	99	313
08:30 AM	20	**162**	**182**	15	27	42	**103**	15	**118**	**342**
08:45 AM	**21**	126	147	15	20	35	74	**29**	103	285
Total Volume	69	553	622	71	86	157	326	62	388	1167
% App. Total	11.1	88.9		45.2	54.8		84	16		
PHF	.821	.853	.854	.683	.796	.741	.791	.534	.822	.853

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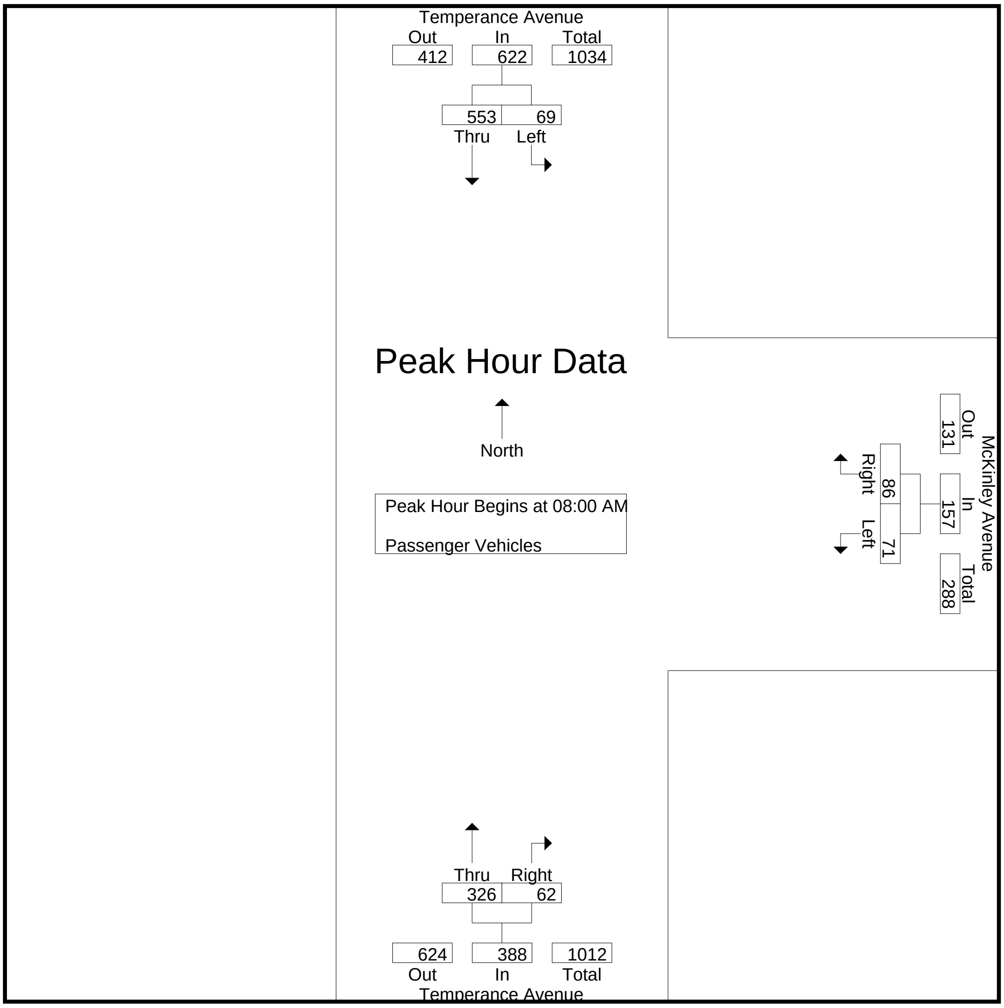

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	12	120	132	15	12	27	60	8	68
+15 mins.	16	145	161	**26**	**27**	**53**	89	10	99
+30 mins.	20	**162**	**182**	15	27	42	**103**	15	**118**
+45 mins.	**21**	126	147	15	20	35	74	**29**	103
Total Volume	69	553	622	71	86	157	326	62	388
% App. Total	11.1	88.9		45.2	54.8		84	16	
PHF	.821	.853	.854	.683	.796	.741	.791	.534	.822

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Groups Printed- Large 2 Axle Vehicles

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	1	1	0	1	3	0	3	5
07:15 AM	0	0	0	0	0	0	6	1	7	7
07:30 AM	0	2	2	0	0	0	1	0	1	3
07:45 AM	1	1	2	1	2	3	3	0	3	8
Total	1	4	5	2	2	4	13	1	14	23
08:00 AM	1	2	3	0	2	2	6	0	6	11
08:15 AM	2	2	4	0	1	1	4	2	6	11
08:30 AM	0	0	0	0	1	1	4	0	4	5
08:45 AM	0	0	0	1	0	1	5	3	8	9
Total	3	4	7	1	4	5	19	5	24	36
Grand Total	4	8	12	3	6	9	32	6	38	59
Apprch %	33.3	66.7		33.3	66.7		84.2	15.8		
Total %	6.8	13.6	20.3	5.1	10.2	15.3	54.2	10.2	64.4	

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	1	**2**	3	0	**2**	**2**	**6**	0	6	**11**
08:15 AM	**2**	2	**4**	0	1	1	4	2	6	11
08:30 AM	0	0	0	0	1	1	4	0	4	5
08:45 AM	0	0	0	**1**	0	1	5	**3**	**8**	9
Total Volume	3	4	7	1	4	5	19	5	24	36
% App. Total	42.9	57.1		20	80		79.2	20.8		
PHF	.375	.500	.438	.250	.500	.625	.792	.417	.750	.818

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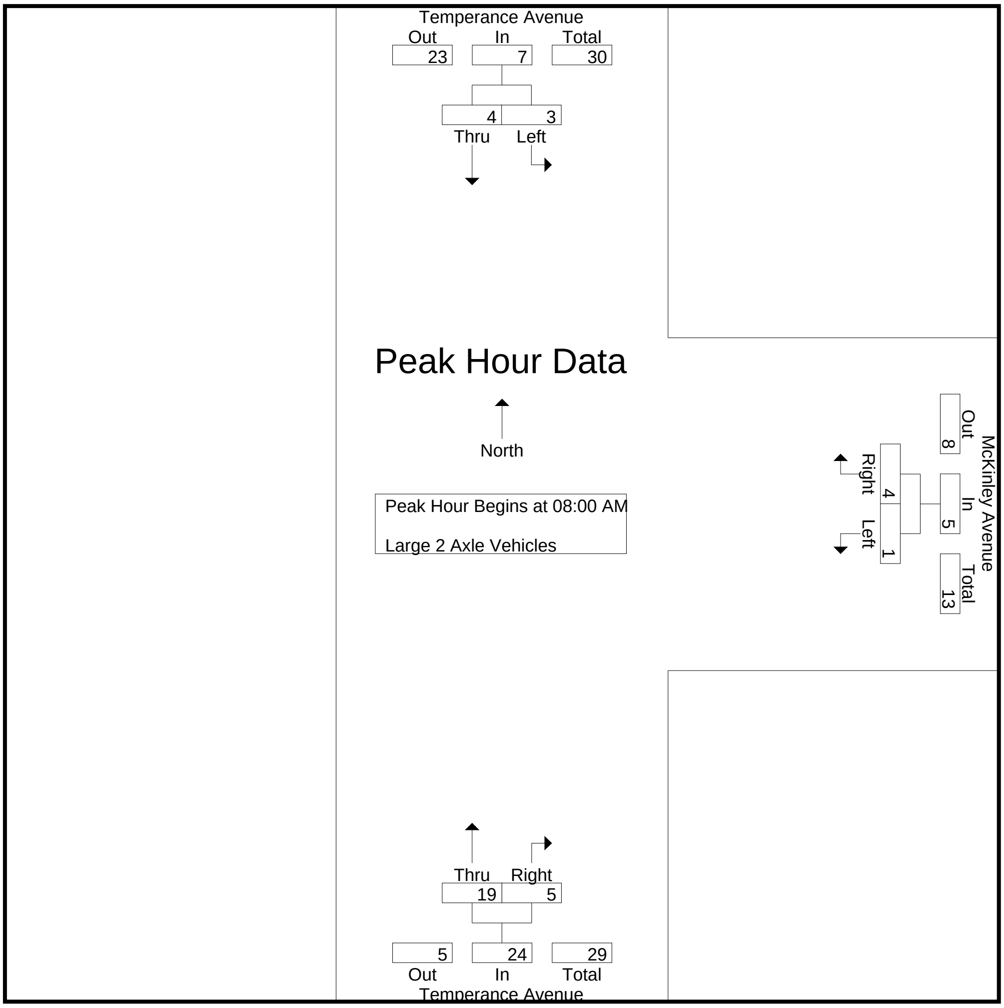

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	1	**2**	3	0	**2**	**2**	**6**	0	6
+15 mins.	**2**	2	**4**	0	1	1	4	2	6
+30 mins.	0	0	0	0	1	1	4	0	4
+45 mins.	0	0	0	**1**	0	1	5	**3**	**8**
Total Volume	3	4	7	1	4	5	19	5	24
% App. Total	42.9	57.1		20	80		79.2	20.8	
PHF	.375	.500	.438	.250	.500	.625	.792	.417	.750

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Groups Printed- 3 Axle Vehicles

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	3	0	3	3
07:15 AM	0	0	0	0	0	0	2	0	2	2
07:30 AM	0	0	0	0	0	0	0	3	3	3
07:45 AM	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	6	3	9	9
08:00 AM	0	1	1	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	0	0	0	1
Grand Total	0	1	1	0	0	0	6	3	9	10
Apprch %	0	100		0	0		66.7	33.3		
Total %	0	10	10	0	0	0	60	30	90	

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	0	**1**	**1**	0	0	0	0	0	0	**1**
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	0	0	0	1
% App. Total	0	100		0	0		0	0		
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000	.250

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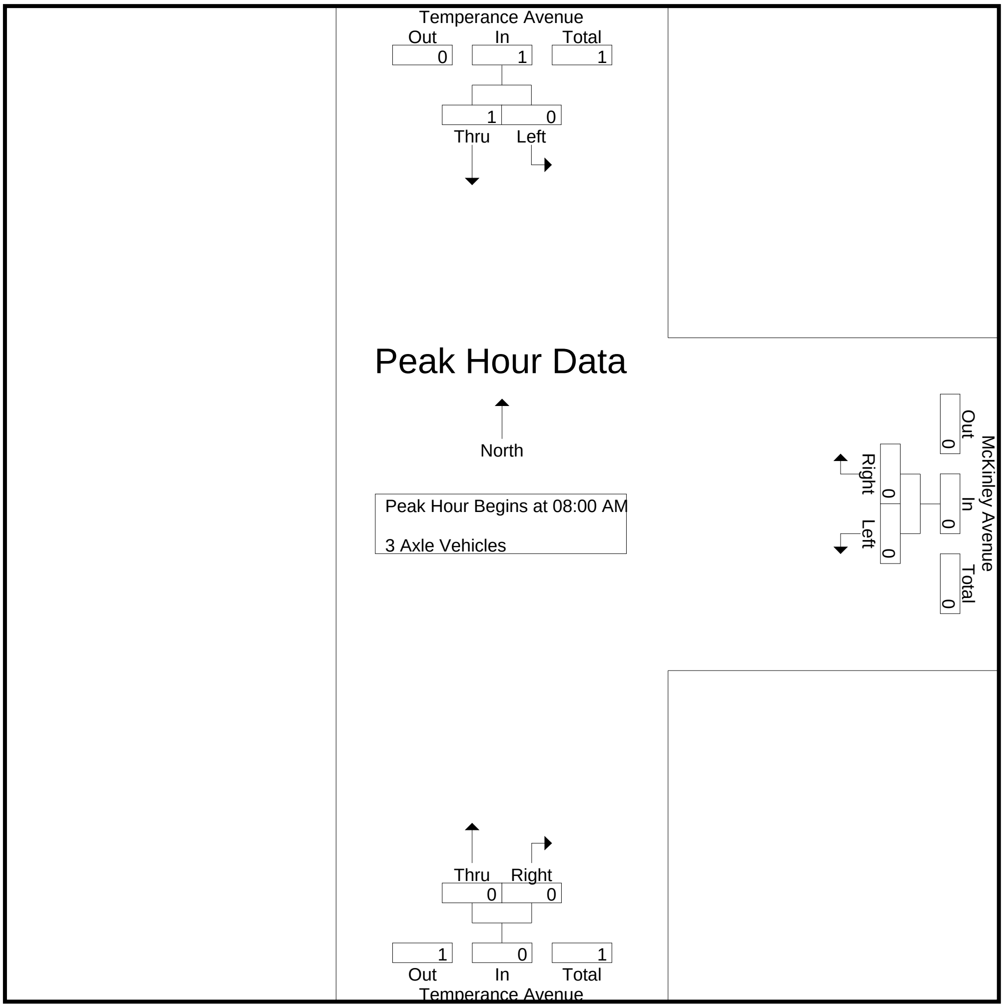

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	0	**1**	**1**	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	0	0	0
% App. Total	0	100		0	0		0	0	
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	2	2	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	2	2	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	1	0	1	1
08:30 AM	0	1	1	0	0	0	1	0	1	2
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	2	0	2	3
Grand Total	0	3	3	0	0	0	2	0	2	5
Apprch %	0	100		0	0		100	0		
Total %	0	60	60	0	0	0	40	0	40	

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	**1**	0	**1**	1
08:30 AM	0	**1**	**1**	0	0	0	1	0	1	**2**
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	2	0	2	3
% App. Total	0	100		0	0		100	0		
PHF	.000	.250	.250	.000	.000	.000	.500	.000	.500	.375

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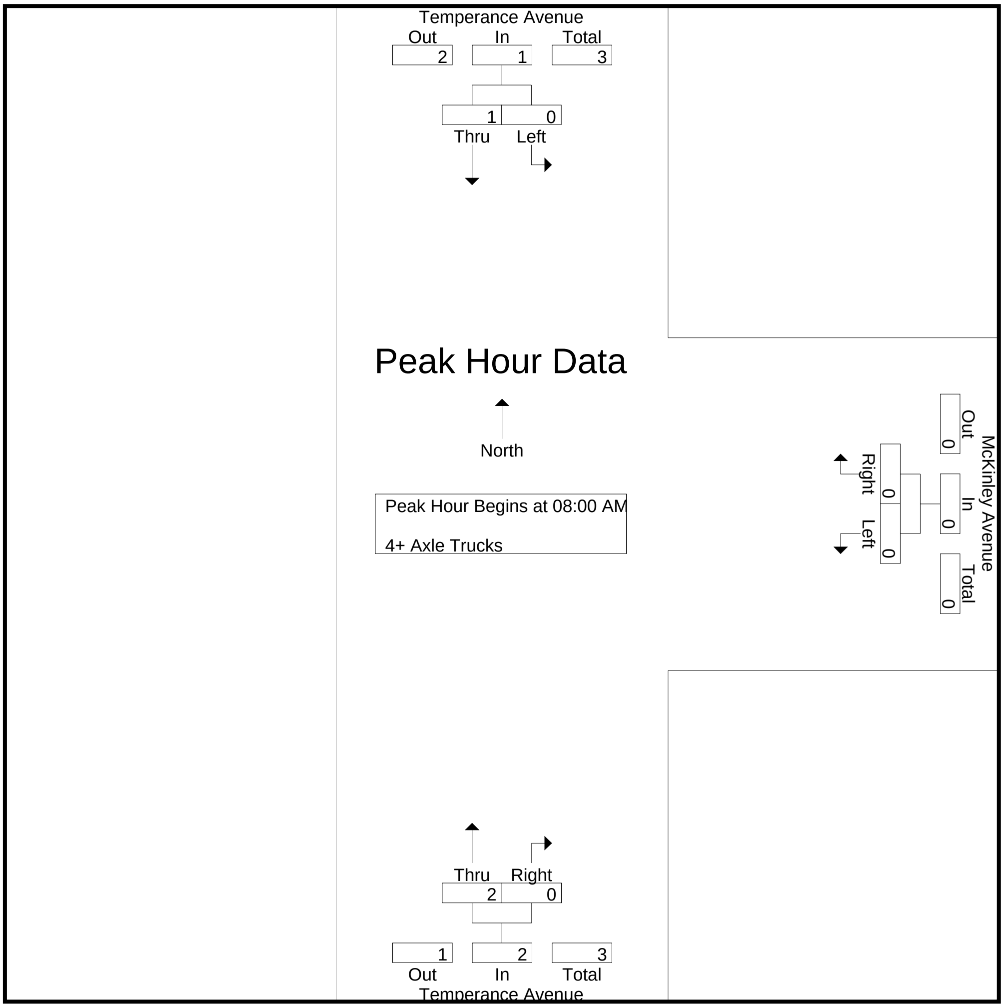

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	**1**	0	**1**
+30 mins.	0	**1**	**1**	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	2	0	2
% App. Total	0	100		0	0		100	0	
PHF	.000	.250	.250	.000	.000	.000	.500	.000	.500

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	19	86	105	8	9	17	124	17	141	263
04:15 PM	10	99	109	17	12	29	113	13	126	264
04:30 PM	33	131	164	29	17	46	108	15	123	333
04:45 PM	15	93	108	16	12	28	117	17	134	270
Total	77	409	486	70	50	120	462	62	524	1130
05:00 PM	30	104	134	10	10	20	127	13	140	294
05:15 PM	17	101	118	7	9	16	134	11	145	279
05:30 PM	25	100	125	10	7	17	145	13	158	300
05:45 PM	22	97	119	14	13	27	129	20	149	295
Total	94	402	496	41	39	80	535	57	592	1168
Grand Total	171	811	982	111	89	200	997	119	1116	2298
Apprch %	17.4	82.6		55.5	44.5		89.3	10.7		
Total %	7.4	35.3	42.7	4.8	3.9	8.7	43.4	5.2	48.6	
Passenger Vehicles	167	797	964	111	86	197	975	117	1092	2253
% Passenger Vehicles	97.7	98.3	98.2	100	96.6	98.5	97.8	98.3	97.8	98
Large 2 Axle Vehicles	4	7	11	0	2	2	17	2	19	32
% Large 2 Axle Vehicles	2.3	0.9	1.1	0	2.2	1	1.7	1.7	1.7	1.4
3 Axle Vehicles	0	6	6	0	0	0	2	0	2	8
% 3 Axle Vehicles	0	0.7	0.6	0	0	0	0.2	0	0.2	0.3
4+ Axle Trucks	0	1	1	0	1	1	3	0	3	5
% 4+ Axle Trucks	0	0.1	0.1	0	1.1	0.5	0.3	0	0.3	0.2

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	**33**	**131**	**164**	**29**	**17**	**46**	108	15	123	**333**
04:45 PM	15	93	108	16	12	28	117	**17**	134	270
05:00 PM	30	104	134	10	10	20	127	13	140	294
05:15 PM	17	101	118	7	9	16	**134**	11	**145**	279
Total Volume	95	429	524	62	48	110	486	56	542	1176
% App. Total	18.1	81.9		56.4	43.6		89.7	10.3		
PHF	.720	.819	.799	.534	.706	.598	.907	.824	.934	.883

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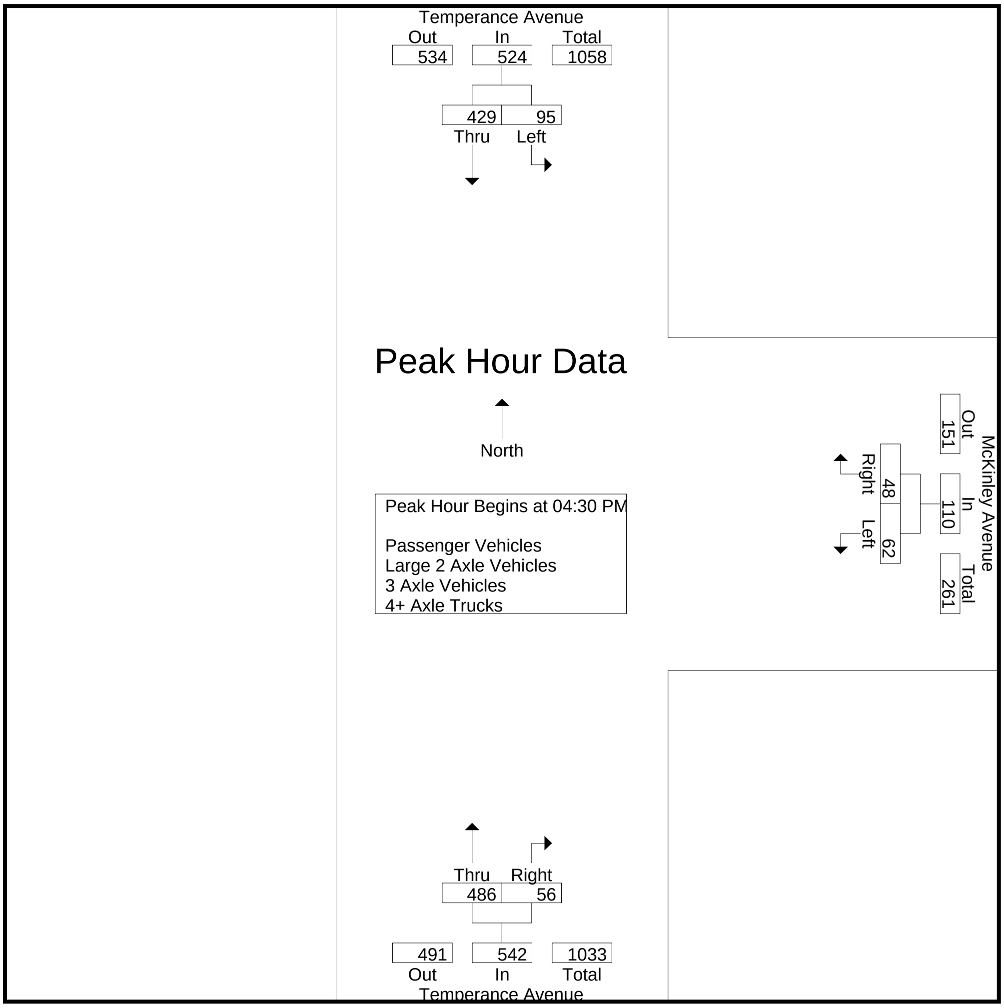

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:15 PM			05:00 PM		
+0 mins.	**33**	**131**	**164**	17	12	29	127	13	140
+15 mins.	15	93	108	**29**	**17**	**46**	134	11	145
+30 mins.	30	104	134	16	12	28	**145**	13	**158**
+45 mins.	17	101	118	10	10	20	129	**20**	149
Total Volume	95	429	524	72	51	123	535	57	592
% App. Total	18.1	81.9		58.5	41.5		90.4	9.6	
PHF	.720	.819	.799	.621	.750	.668	.922	.713	.937

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Groups Printed- Passenger Vehicles

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	19	86	105	8	8	16	120	17	137	258
04:15 PM	9	95	104	17	11	28	108	12	120	252
04:30 PM	32	129	161	29	17	46	107	14	121	328
04:45 PM	15	91	106	16	12	28	115	17	132	266
Total	75	401	476	70	48	118	450	60	510	1104
05:00 PM	30	103	133	10	9	19	125	13	138	290
05:15 PM	17	101	118	7	9	16	131	11	142	276
05:30 PM	24	98	122	10	7	17	142	13	155	294
05:45 PM	21	94	115	14	13	27	127	20	147	289
Total	92	396	488	41	38	79	525	57	582	1149
Grand Total	167	797	964	111	86	197	975	117	1092	2253
Apprch %	17.3	82.7		56.3	43.7		89.3	10.7		
Total %	7.4	35.4	42.8	4.9	3.8	8.7	43.3	5.2	48.5	

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	**32**	**129**	**161**	**29**	**17**	**46**	107	14	121	**328**
04:45 PM	15	91	106	16	12	28	115	**17**	132	266
05:00 PM	30	103	133	10	9	19	125	13	138	290
05:15 PM	17	101	118	7	9	16	**131**	11	**142**	276
Total Volume	94	424	518	62	47	109	478	55	533	1160
% App. Total	18.1	81.9		56.9	43.1		89.7	10.3		
PHF	.734	.822	.804	.534	.691	.592	.912	.809	.938	.884

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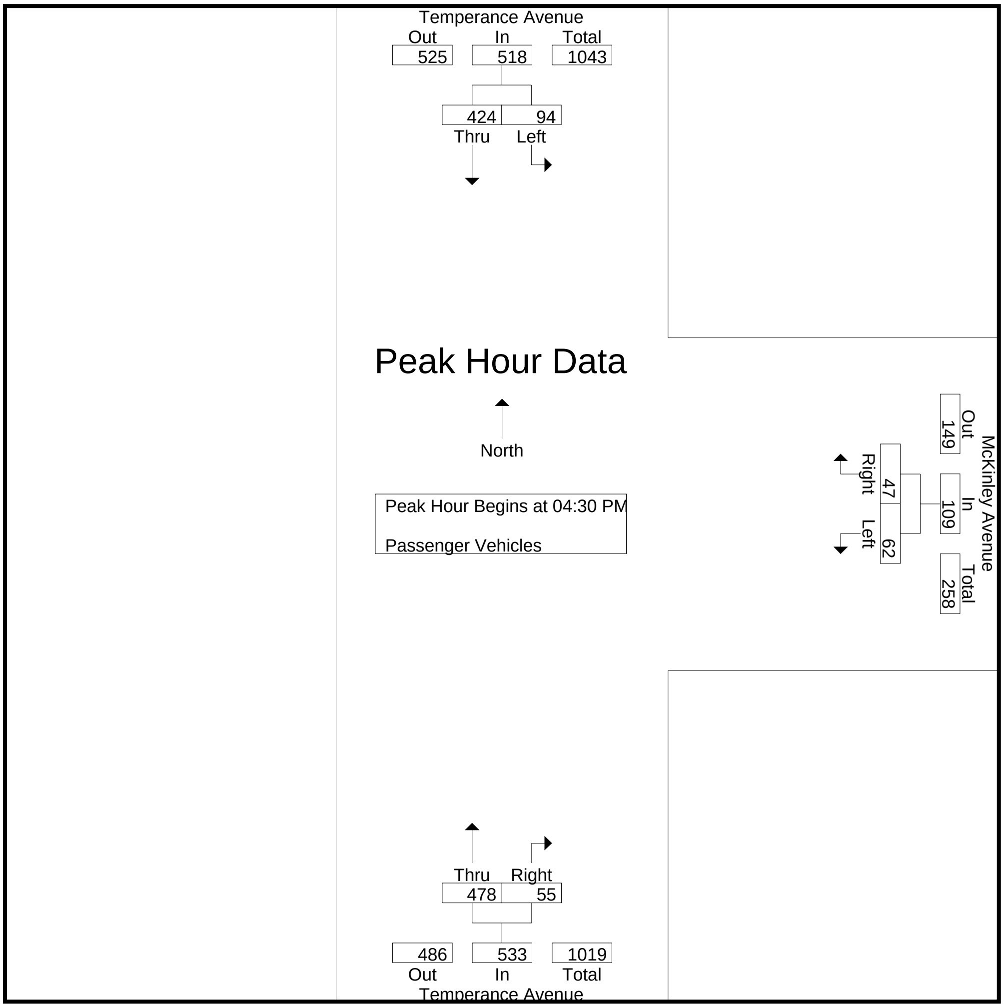

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	**32**	**129**	**161**	**29**	**17**	**46**	107	14	121
+15 mins.	15	91	106	16	12	28	115	**17**	132
+30 mins.	30	103	133	10	9	19	125	13	138
+45 mins.	17	101	118	7	9	16	**131**	11	**142**
Total Volume	94	424	518	62	47	109	478	55	533
% App. Total	18.1	81.9		56.9	43.1		89.7	10.3	
PHF	.734	.822	.804	.534	.691	.592	.912	.809	.938

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Groups Printed- Large 2 Axle Vehicles

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	1	0	1	1
04:15 PM	1	3	4	0	1	1	5	1	6	11
04:30 PM	1	1	2	0	0	0	0	1	1	3
04:45 PM	0	0	0	0	0	0	1	0	1	1
Total	2	4	6	0	1	1	7	2	9	16
05:00 PM	0	1	1	0	1	1	2	0	2	4
05:15 PM	0	0	0	0	0	0	3	0	3	3
05:30 PM	1	1	2	0	0	0	3	0	3	5
05:45 PM	1	1	2	0	0	0	2	0	2	4
Total	2	3	5	0	1	1	10	0	10	16
Grand Total	4	7	11	0	2	2	17	2	19	32
Apprch %	36.4	63.6		0	100		89.5	10.5		
Total %	12.5	21.9	34.4	0	6.2	6.2	53.1	6.2	59.4	

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	**1**	**1**	**2**	0	0	0	0	**1**	1	3
04:45 PM	0	0	0	0	0	0	1	0	1	1
05:00 PM	0	1	1	0	**1**	**1**	2	0	2	**4**
05:15 PM	0	0	0	0	0	0	**3**	0	**3**	3
Total Volume	1	2	3	0	1	1	6	1	7	11
% App. Total	33.3	66.7		0	100		85.7	14.3		
PHF	.250	.500	.375	.000	.250	.250	.500	.250	.583	.688

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Weather: Clear

File Name : 10_FSO_Temp_McK PM
Site Code : 00322994
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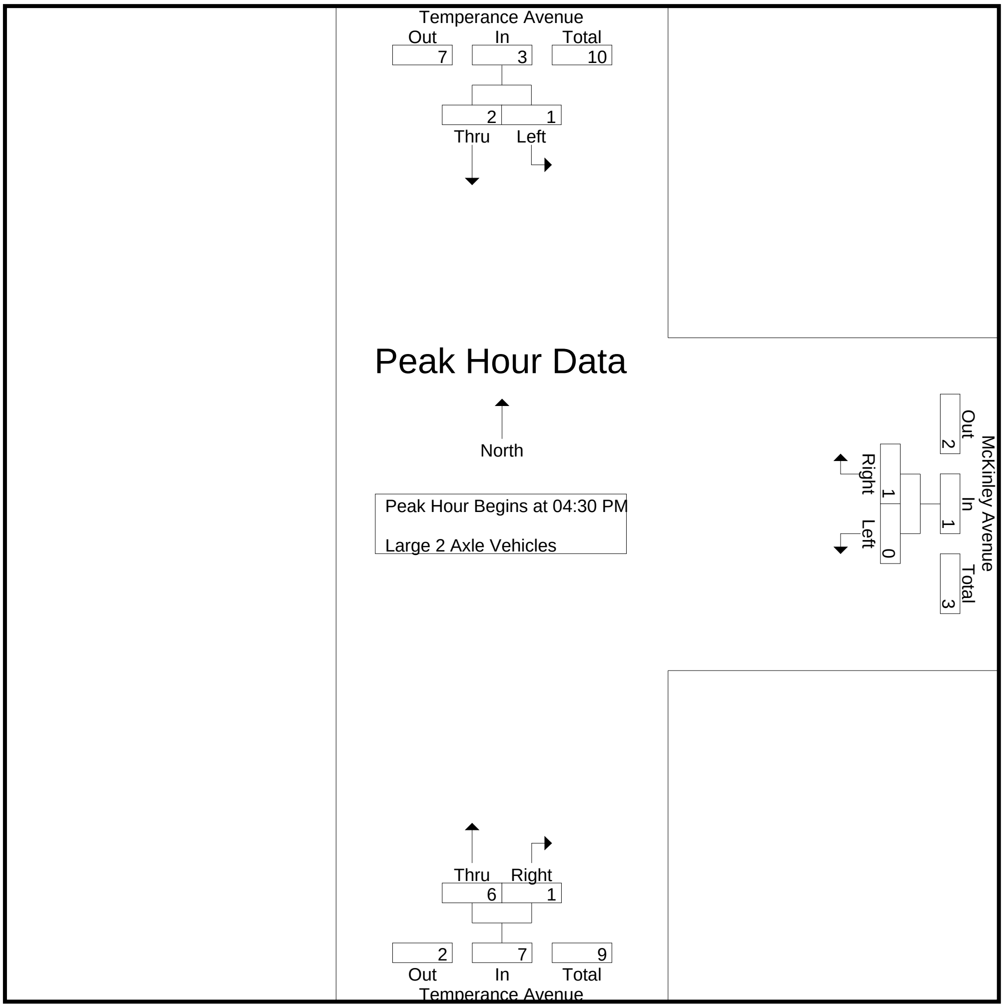

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	**1**	**1**	**2**	0	0	0	0	**1**	1
+15 mins.	0	0	0	0	0	0	1	0	1
+30 mins.	0	1	1	0	**1**	**1**	2	0	2
+45 mins.	0	0	0	0	0	0	**3**	0	**3**
Total Volume	1	2	3	0	1	1	6	1	7
% App. Total	33.3	66.7		0	100		85.7	14.3	
PHF	.250	.500	.375	.000	.250	.250	.500	.250	.583

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Groups Printed- 3 Axle Vehicles

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	2	0	2	2
04:15 PM	0	1	1	0	0	0	0	0	0	1
04:30 PM	0	1	1	0	0	0	0	0	0	1
04:45 PM	0	1	1	0	0	0	0	0	0	1
Total	0	3	3	0	0	0	2	0	2	5
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	1	0	0	0	0	0	0	1
05:45 PM	0	2	2	0	0	0	0	0	0	2
Total	0	3	3	0	0	0	0	0	0	3
Grand Total	0	6	6	0	0	0	2	0	2	8
Apprch %	0	100		0	0		100	0		
Total %	0	75	75	0	0	0	25	0	25	

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	**1**	**1**	0	0	0	0	0	0	**1**
04:45 PM	0	1	1	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	2	0	0	0	0	0	0	2
% App. Total	0	100		0	0		0	0		
PHF	.000	.500	.500	.000	.000	.000	.000	.000	.000	.500

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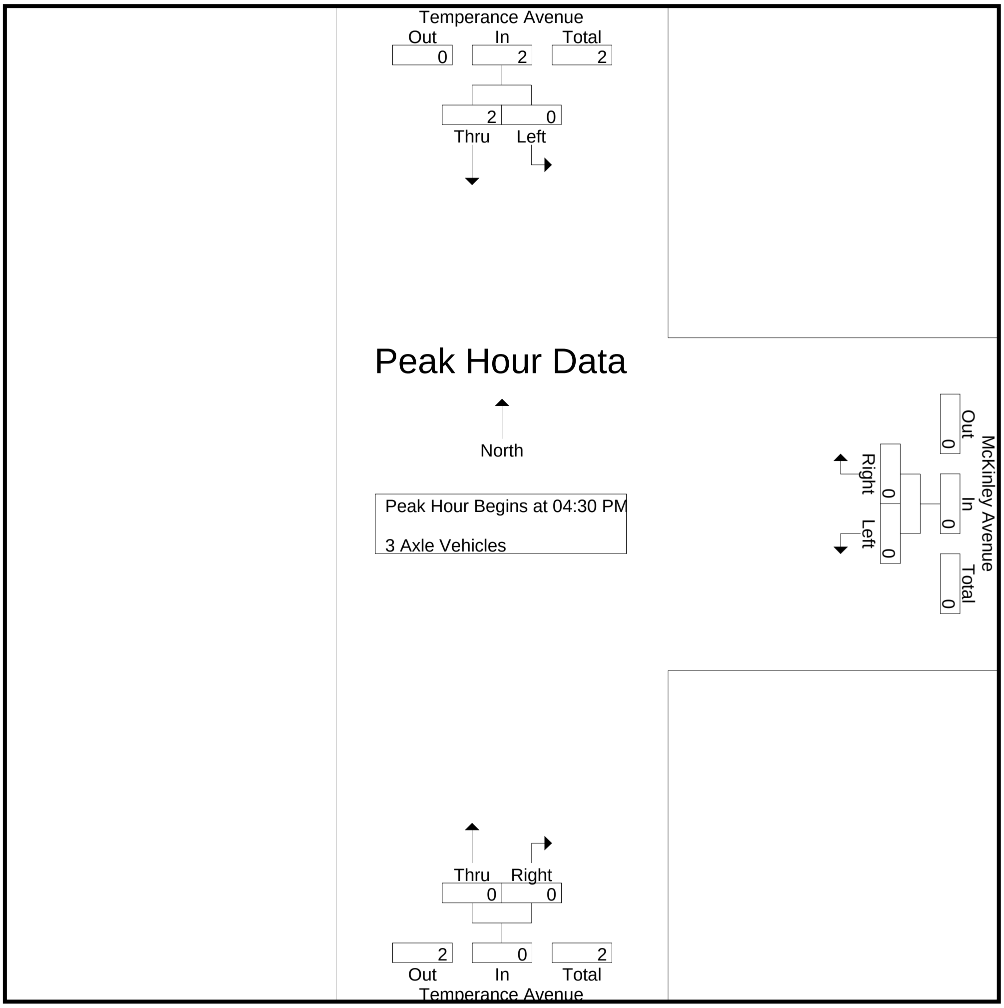

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	**1**	**1**	0	0	0	0	0	0
+15 mins.	0	1	1	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	2	2	0	0	0	0	0	0
% App. Total	0	100		0	0		0	0	
PHF	.000	.500	.500	.000	.000	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	1	1	1	0	1	2
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	1	1	0	0	0	1	0	1	2
Total	0	1	1	0	1	1	3	0	3	5
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	1	0	1	1	3	0	3	5
Apprch %	0	100		0	100		100	0		
Total %	0	20	20	0	20	20	60	0	60	

	Temperance Avenue Southbound			McKinley Avenue Westbound			Temperance Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	0	0	0	0	0	**1**	0	**1**	1
04:45 PM	0	**1**	**1**	0	0	0	1	0	1	**2**
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	2	0	2	3
% App. Total	0	100		0	0		100	0		
PHF	.000	.250	.250	.000	.000	.000	.500	.000	.500	.375

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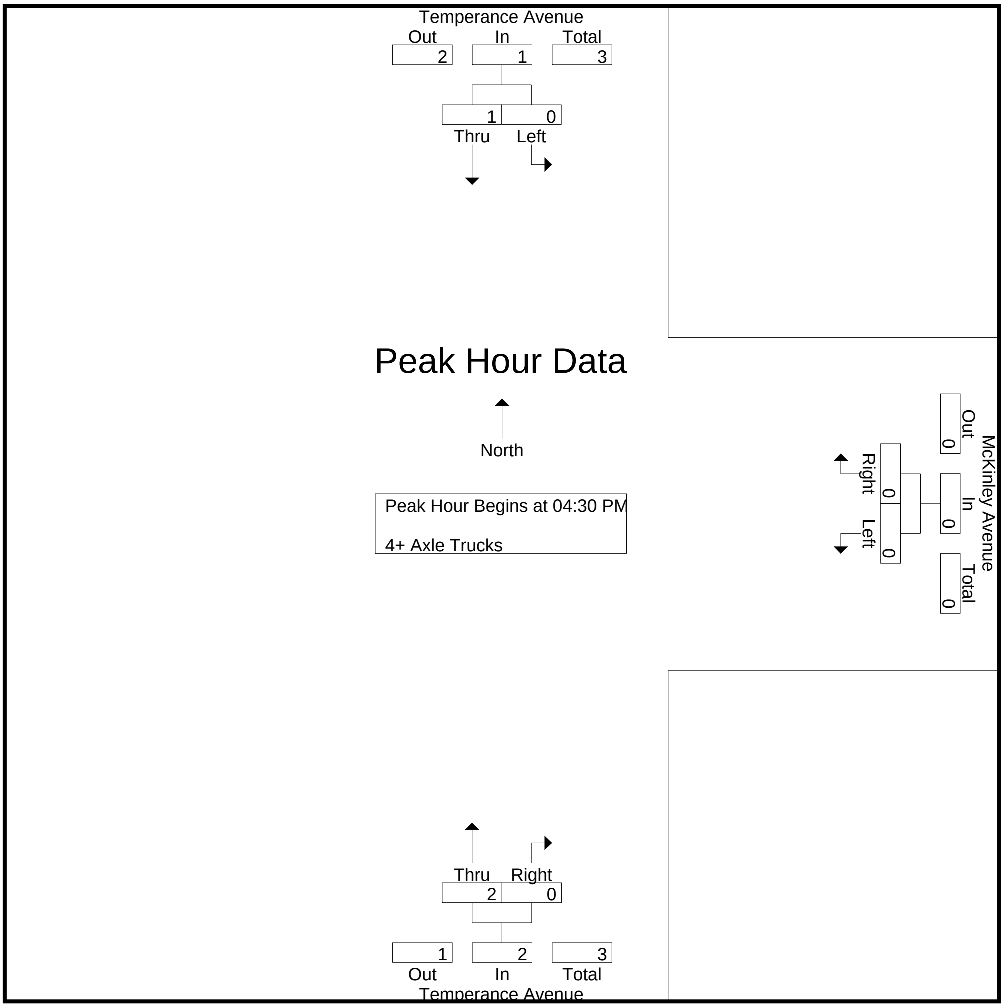

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	0	0	0	0	0	**1**	0	**1**
+15 mins.	0	**1**	**1**	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	2	0	2
% App. Total	0	100		0	0		100	0	
PHF	.000	.250	.250	.000	.000	.000	.500	.000	.500

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	68	0	68	0	0	0	0	0	36	0	36	1	0	1	2	106
07:15 AM	0	97	3	100	0	0	0	0	0	47	0	47	0	0	0	0	147
07:30 AM	0	128	3	131	0	0	0	0	0	65	0	65	3	0	0	3	199
07:45 AM	0	104	20	124	0	0	0	0	1	92	0	93	2	0	0	2	219
Total	0	397	26	423	0	0	0	0	1	240	0	241	6	0	1	7	671
08:00 AM	0	124	21	145	1	0	0	1	1	75	0	76	3	0	0	3	225
08:15 AM	0	103	42	145	0	0	0	0	0	93	0	93	3	0	1	4	242
08:30 AM	0	127	48	175	0	0	0	0	3	107	0	110	2	0	0	2	287
08:45 AM	0	136	41	177	0	0	0	0	2	115	0	117	9	0	1	10	304
Total	0	490	152	642	1	0	0	1	6	390	0	396	17	0	2	19	1058
Grand Total	0	887	178	1065	1	0	0	1	7	630	0	637	23	0	3	26	1729
Apprch %	0	83.3	16.7		100	0	0		1.1	98.9	0		88.5	0	11.5		
Total %	0	51.3	10.3	61.6	0.1	0	0	0.1	0.4	36.4	0	36.8	1.3	0	0.2	1.5	
Passenger Vehicles	0	874	173	1047	1	0	0	1	6	599	0	605	21	0	3	24	1677
% Passenger Vehicles	0	98.5	97.2	98.3	100	0	0	100	85.7	95.1	0	95	91.3	0	100	92.3	97
Large 2 Axle Vehicles	0	10	3	13	0	0	0	0	1	23	0	24	1	0	0	1	38
% Large 2 Axle Vehicles	0	1.1	1.7	1.2	0	0	0	0	14.3	3.7	0	3.8	4.3	0	0	3.8	2.2
3 Axle Vehicles	0	2	0	2	0	0	0	0	0	6	0	6	1	0	0	1	9
% 3 Axle Vehicles	0	0.2	0	0.2	0	0	0	0	0	1	0	0.9	4.3	0	0	3.8	0.5
4+ Axle Trucks	0	1	2	3	0	0	0	0	0	2	0	2	0	0	0	0	5
% 4+ Axle Trucks	0	0.1	1.1	0.3	0	0	0	0	0	0.3	0	0.3	0	0	0	0	0.3

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	124	21	145	**1**	0	0	**1**	1	75	0	76	3	0	0	3	225
08:15 AM	0	103	42	145	0	0	0	0	0	93	0	93	3	0	**1**	4	242
08:30 AM	0	127	**48**	175	0	0	0	0	**3**	107	0	110	2	0	0	2	287
08:45 AM	0	**136**	41	**177**	0	0	0	0	2	**115**	0	**117**	**9**	0	1	**10**	**304**
Total Volume	0	490	152	642	1	0	0	1	6	390	0	396	17	0	2	19	1058
% App. Total	0	76.3	23.7		100	0	0		1.5	98.5	0		89.5	0	10.5		
PHF	.000	.901	.792	.907	.250	.000	.000	.250	.500	.848	.000	.846	.472	.000	.500	.475	.870

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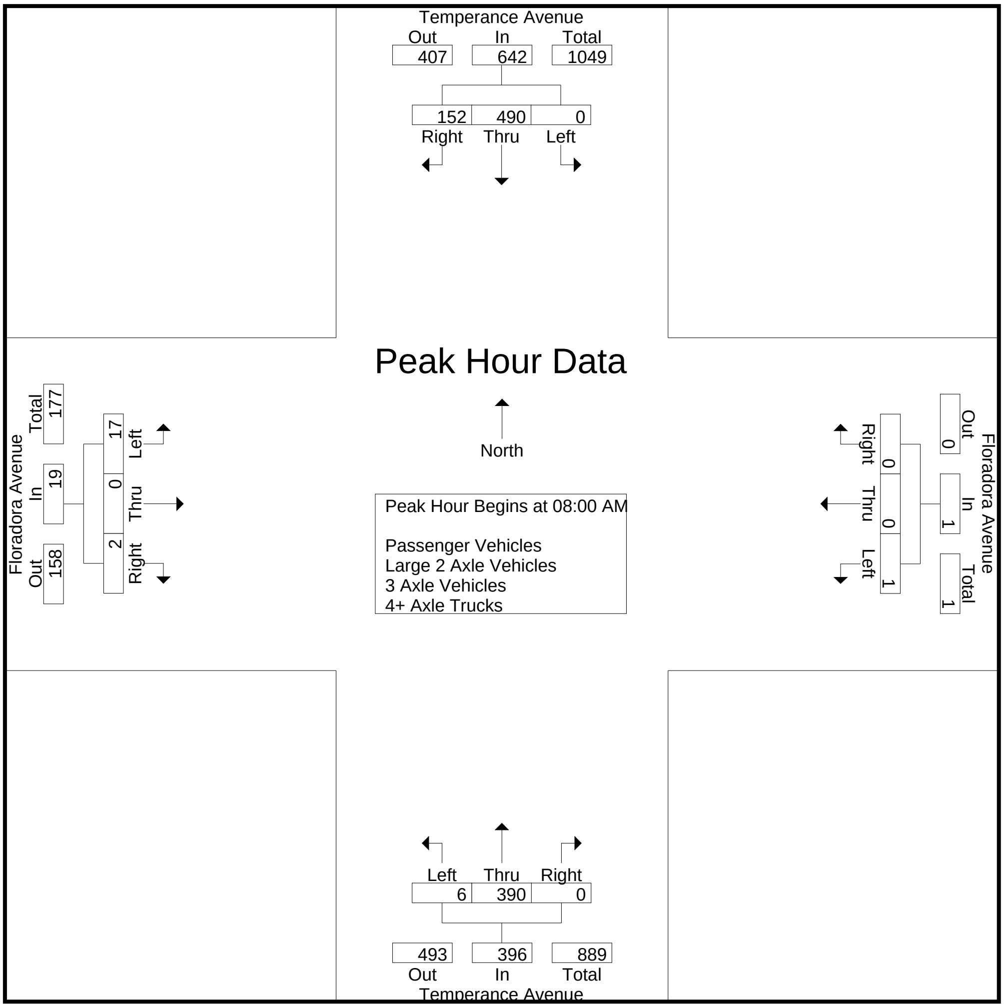

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:15 AM				08:00 AM				08:00 AM			
+0 mins.	0	124	21	145	0	0	0	0	1	75	0	76	3	0	0	3
+15 mins.	0	103	42	145	0	0	0	0	0	93	0	93	3	0	**1**	4
+30 mins.	0	127	**48**	175	0	0	0	0	**3**	107	0	110	2	0	0	2
+45 mins.	0	**136**	41	**177**	**1**	0	0	**1**	2	**115**	0	**117**	**9**	0	1	**10**
Total Volume	0	490	152	642	1	0	0	1	6	390	0	396	17	0	2	19
% App. Total	0	76.3	23.7		100	0	0		1.5	98.5	0		89.5	0	10.5	
PHF	.000	.901	.792	.907	.250	.000	.000	.250	.500	.848	.000	.846	.472	.000	.500	.475

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Groups Printed- Passenger Vehicles

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	66	0	66	0	0	0	0	0	35	0	35	0	0	1	1	102
07:15 AM	0	96	3	99	0	0	0	0	0	38	0	38	0	0	0	0	137
07:30 AM	0	128	3	131	0	0	0	0	0	64	0	64	3	0	0	3	198
07:45 AM	0	101	17	118	0	0	0	0	1	88	0	89	2	0	0	2	209
Total	0	391	23	414	0	0	0	0	1	225	0	226	5	0	1	6	646
08:00 AM	0	120	21	141	1	0	0	1	1	72	0	73	3	0	0	3	218
08:15 AM	0	101	42	143	0	0	0	0	0	89	0	89	2	0	1	3	235
08:30 AM	0	126	46	172	0	0	0	0	2	104	0	106	2	0	0	2	280
08:45 AM	0	136	41	177	0	0	0	0	2	109	0	111	9	0	1	10	298
Total	0	483	150	633	1	0	0	1	5	374	0	379	16	0	2	18	1031
Grand Total	0	874	173	1047	1	0	0	1	6	599	0	605	21	0	3	24	1677
Apprch %	0	83.5	16.5		100	0	0		1	99	0		87.5	0	12.5		
Total %	0	52.1	10.3	62.4	0.1	0	0	0.1	0.4	35.7	0	36.1	1.3	0	0.2	1.4	

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	120	21	141	**1**	0	0	**1**	1	72	0	73	3	0	0	3	218
08:15 AM	0	101	42	143	0	0	0	0	0	89	0	89	2	0	**1**	3	235
08:30 AM	0	126	**46**	172	0	0	0	0	**2**	104	0	106	2	0	0	2	280
08:45 AM	0	**136**	41	**177**	0	0	0	0	2	**109**	0	**111**	**9**	0	1	**10**	**298**
Total Volume	0	483	150	633	1	0	0	1	5	374	0	379	16	0	2	18	1031
% App. Total	0	76.3	23.7		100	0	0		1.3	98.7	0		88.9	0	11.1		
PHF	.000	.888	.815	.894	.250	.000	.000	.250	.625	.858	.000	.854	.444	.000	.500	.450	.865

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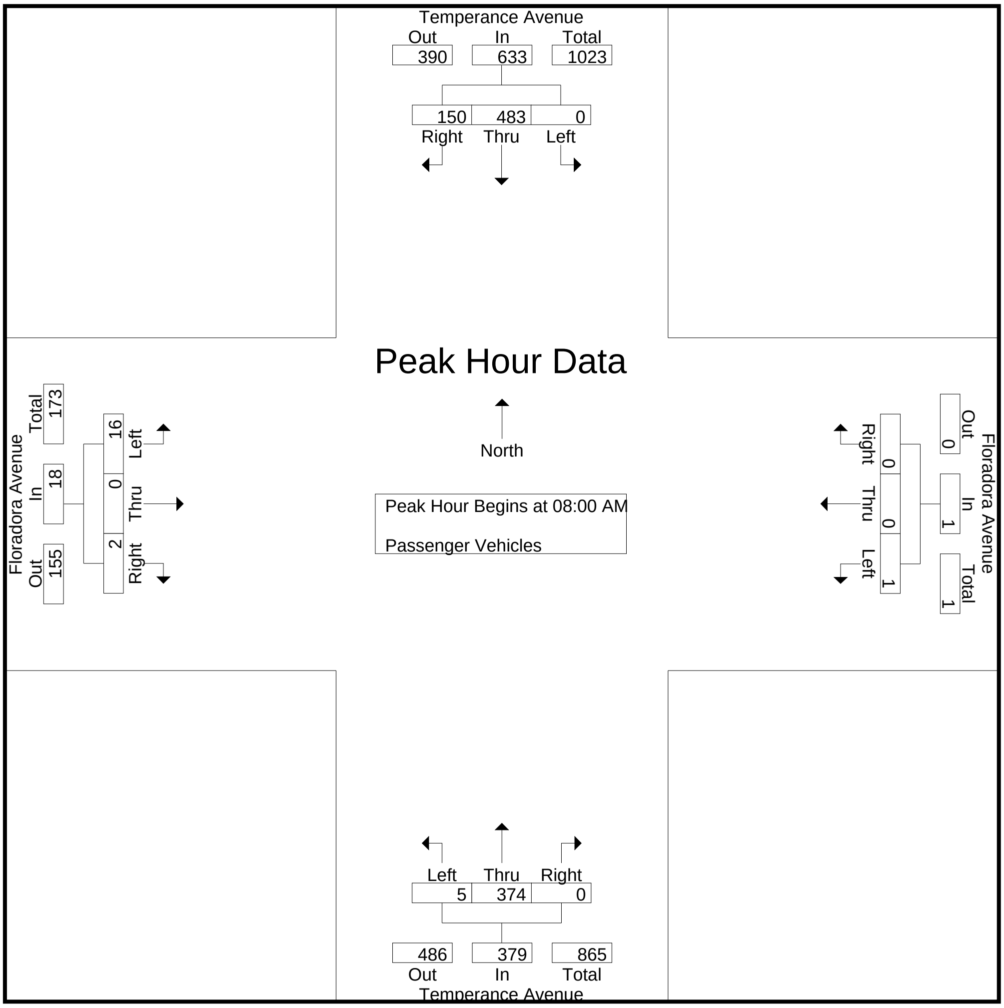

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	120	21	141	**1**	0	0	**1**	1	72	0	73	3	0	0	3
+15 mins.	0	101	42	143	0	0	0	0	0	89	0	89	2	0	**1**	3
+30 mins.	0	126	**46**	172	0	0	0	0	**2**	104	0	106	2	0	0	2
+45 mins.	0	**136**	41	**177**	0	0	0	0	2	**109**	0	**111**	**9**	0	1	**10**
Total Volume	0	483	150	633	1	0	0	1	5	374	0	379	16	0	2	18
% App. Total	0	76.3	23.7		100	0	0		1.3	98.7	0		88.9	0	11.1	
PHF	.000	.888	.815	.894	.250	.000	.000	.250	.625	.858	.000	.854	.444	.000	.500	.450

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Groups Printed- Large 2 Axle Vehicles

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
07:15 AM	0	1	0	1	0	0	0	0	0	6	0	6	0	0	0	0	7
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	3	1	4	0	0	0	0	0	2	0	2	0	0	0	0	6
Total	0	5	1	6	0	0	0	0	0	9	0	9	0	0	0	0	15
08:00 AM	0	3	0	3	0	0	0	0	0	3	0	3	0	0	0	0	6
08:15 AM	0	2	0	2	0	0	0	0	0	4	0	4	1	0	0	1	7
08:30 AM	0	0	2	2	0	0	0	0	1	2	0	3	0	0	0	0	5
08:45 AM	0	0	0	0	0	0	0	0	0	5	0	5	0	0	0	0	5
Total	0	5	2	7	0	0	0	0	1	14	0	15	1	0	0	1	23
Grand Total	0	10	3	13	0	0	0	0	1	23	0	24	1	0	0	1	38
Apprch %	0	76.9	23.1		0	0	0		4.2	95.8	0		100	0	0		
Total %	0	26.3	7.9	34.2	0	0	0	0	2.6	60.5	0	63.2	2.6	0	0	2.6	

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	**3**	0	**3**	0	0	0	0	0	3	0	3	0	0	0	0	6
08:15 AM	0	2	0	2	0	0	0	0	0	4	0	4	**1**	0	0	**1**	**7**
08:30 AM	0	0	**2**	2	0	0	0	0	**1**	2	0	3	0	0	0	0	5
08:45 AM	0	0	0	0	0	0	0	0	0	**5**	0	**5**	0	0	0	0	5
Total Volume	0	5	2	7	0	0	0	0	1	14	0	15	1	0	0	1	23
% App. Total	0	71.4	28.6		0	0	0		6.7	93.3	0		100	0	0		
PHF	.000	.417	.250	.583	.000	.000	.000	.000	.250	.700	.000	.750	.250	.000	.000	.250	.821

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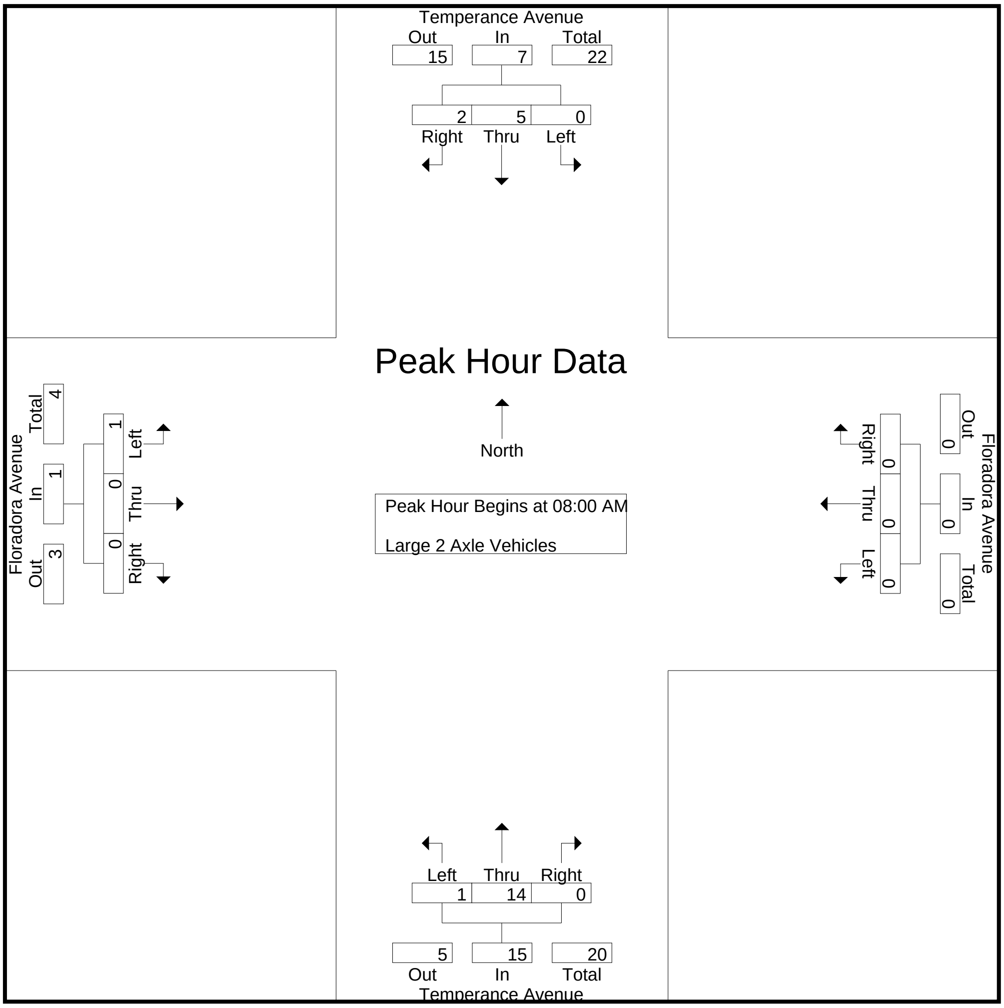

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	**3**	0	**3**	0	0	0	0	0	3	0	3	0	0	0	0
+15 mins.	0	2	0	2	0	0	0	0	0	4	0	4	**1**	0	0	**1**
+30 mins.	0	0	**2**	2	0	0	0	0	**1**	2	0	3	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	**5**	0	**5**	0	0	0	0
Total Volume	0	5	2	7	0	0	0	0	1	14	0	15	1	0	0	1
% App. Total	0	71.4	28.6		0	0	0		6.7	93.3	0		100	0	0	
PHF	.000	.417	.250	.583	.000	.000	.000	.000	.250	.700	.000	.750	.250	.000	.000	.250

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Groups Printed- 3 Axle Vehicles

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
07:15 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
07:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
Total	0	1	0	1	0	0	0	0	0	6	0	6	1	0	0	1	8
08:00 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	2	0	2	0	0	0	0	0	6	0	6	1	0	0	1	9
Apprch %	0	100	0		0	0	0		0	100	0		100	0	0		
Total %	0	22.2	0	22.2	0	0	0	0	0	66.7	0	66.7	11.1	0	0	11.1	

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	**1**
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

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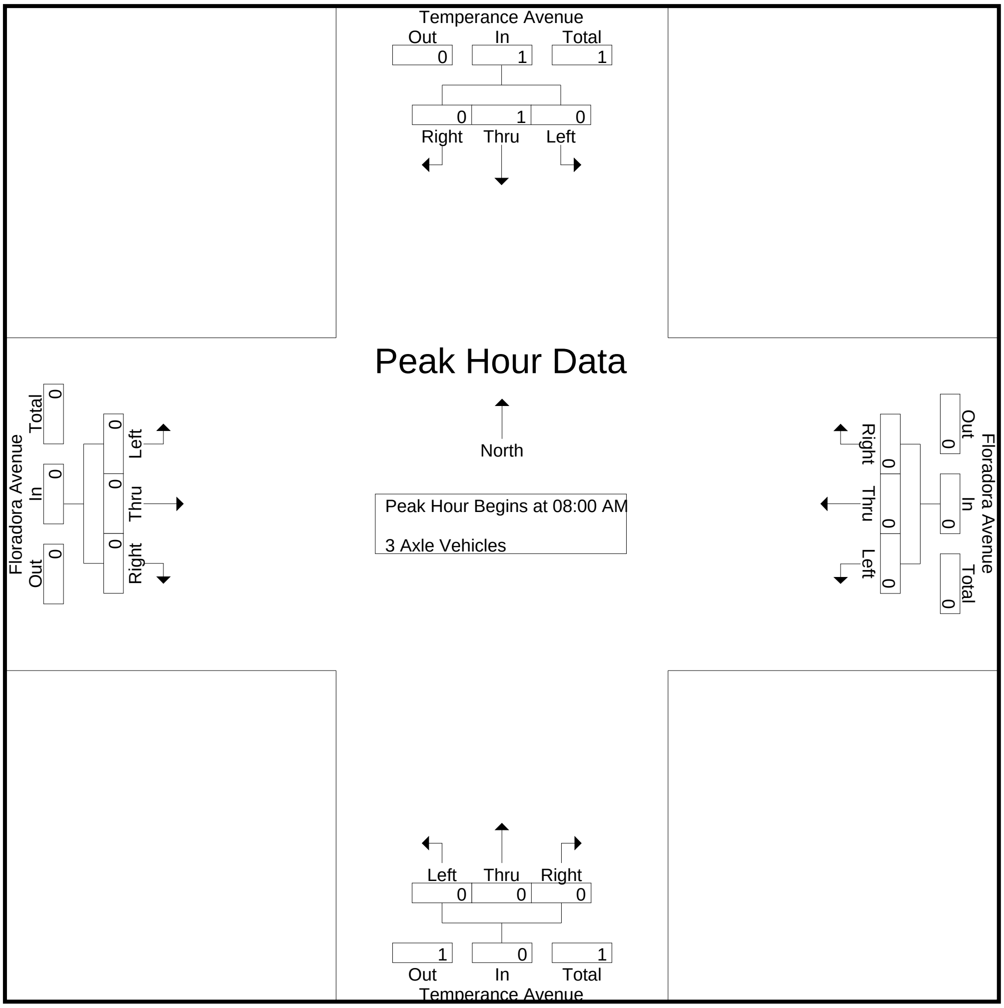

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
Grand Total	0	1	2	3	0	0	0	0	0	2	0	2	0	0	0	0	5
Apprch %	0	33.3	66.7		0	0	0		0	100	0		0	0	0		
Total %	0	20	40	60	0	0	0	0	0	40	0	40	0	0	0	0	

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	**1**	0	**1**	0	0	0	0	0	**1**	0	**1**	0	0	0	0	**2**
08:45 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.375

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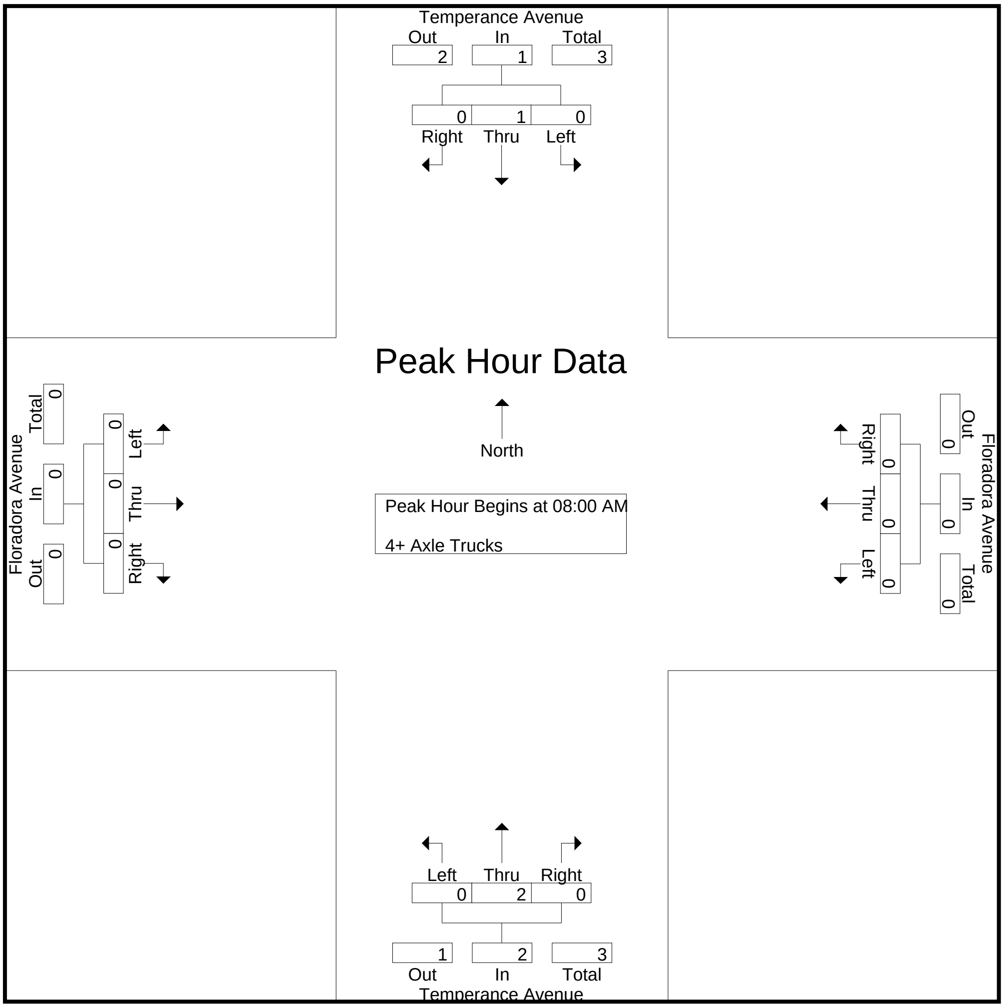

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	**1**	0	**1**	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	96	5	101	0	1	0	1	0	130	0	130	5	0	1	6	238
04:15 PM	0	105	6	111	0	0	0	0	0	130	2	132	2	0	3	5	248
04:30 PM	1	123	10	134	0	0	0	0	0	128	0	128	2	0	2	4	266
04:45 PM	0	102	19	121	0	0	0	0	1	123	0	124	2	0	5	7	252
Total	1	426	40	467	0	1	0	1	1	511	2	514	11	0	11	22	1004
05:00 PM	0	107	10	117	1	0	0	1	1	128	0	129	7	0	2	9	256
05:15 PM	0	119	7	126	0	0	0	0	0	147	0	147	3	0	2	5	278
05:30 PM	1	90	6	97	0	0	0	0	1	154	0	155	2	0	2	4	256
05:45 PM	0	102	3	105	0	0	1	1	0	142	0	142	4	0	1	5	253
Total	1	418	26	445	1	0	1	2	2	571	0	573	16	0	7	23	1043
Grand Total	2	844	66	912	1	1	1	3	3	1082	2	1087	27	0	18	45	2047
Apprch %	0.2	92.5	7.2		33.3	33.3	33.3		0.3	99.5	0.2		60	0	40		
Total %	0.1	41.2	3.2	44.6	0	0	0	0.1	0.1	52.9	0.1	53.1	1.3	0	0.9	2.2	
Passenger Vehicles	2	833	62	897	1	1	1	3	3	1058	2	1063	27	0	18	45	2008
% Passenger Vehicles	100	98.7	93.9	98.4	100	100	100	100	100	97.8	100	97.8	100	0	100	100	98.1
Large 2 Axle Vehicles	0	6	4	10	0	0	0	0	0	19	0	19	0	0	0	0	29
% Large 2 Axle Vehicles	0	0.7	6.1	1.1	0	0	0	0	0	1.8	0	1.7	0	0	0	0	1.4
3 Axle Vehicles	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0	5
% 3 Axle Vehicles	0	0.5	0	0.4	0	0	0	0	0	0.1	0	0.1	0	0	0	0	0.2
4+ Axle Trucks	0	1	0	1	0	0	0	0	0	4	0	4	0	0	0	0	5
% 4+ Axle Trucks	0	0.1	0	0.1	0	0	0	0	0	0.4	0	0.4	0	0	0	0	0.2

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**1**	**123**	10	**134**	0	0	0	0	0	128	0	128	2	0	2	4	266
04:45 PM	0	102	**19**	121	0	0	0	0	**1**	123	0	124	2	0	**5**	7	252
05:00 PM	0	107	10	117	**1**	0	0	**1**	1	128	0	129	**7**	0	2	**9**	256
05:15 PM	0	119	7	126	0	0	0	0	0	**147**	0	**147**	3	0	2	5	**278**
Total Volume	1	451	46	498	1	0	0	1	2	526	0	528	14	0	11	25	1052
% App. Total	0.2	90.6	9.2		100	0	0		0.4	99.6	0		56	0	44		
PHF	.250	.917	.605	.929	.250	.000	.000	.250	.500	.895	.000	.898	.500	.000	.550	.694	.946

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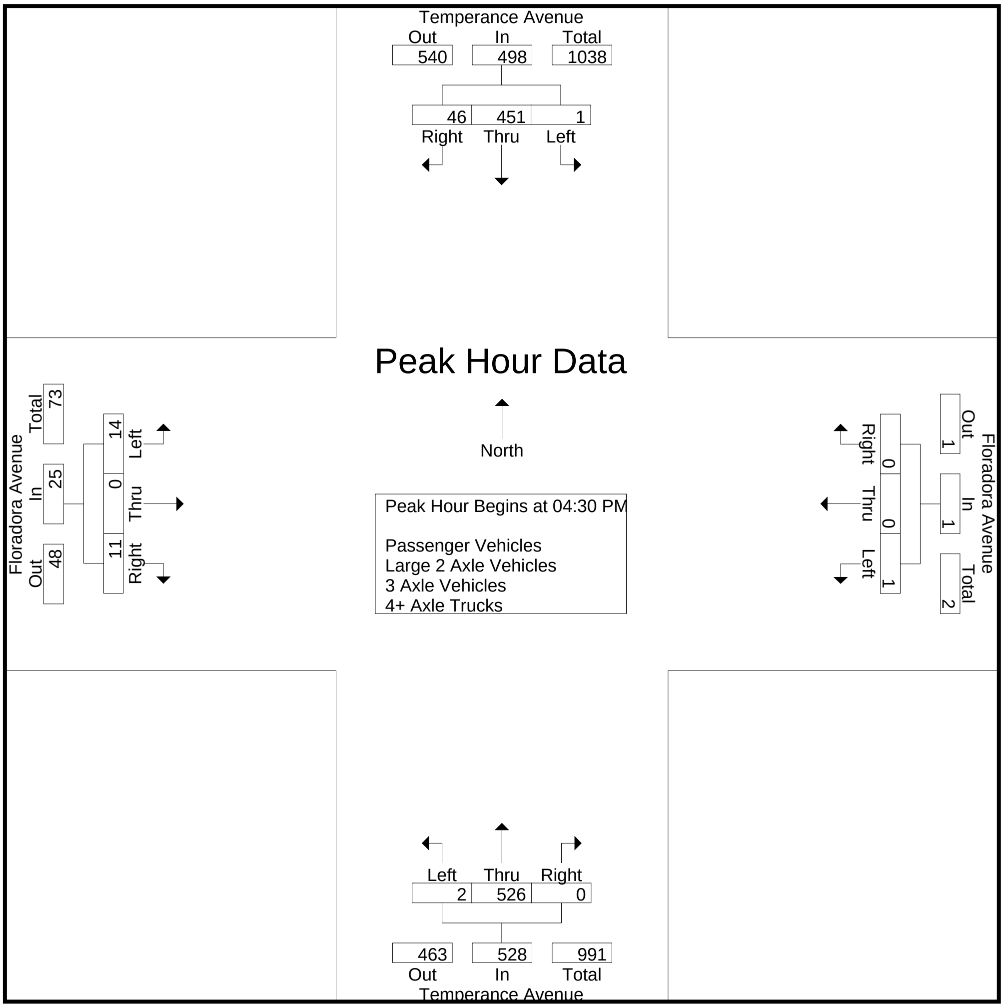

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				05:00 PM				05:00 PM				04:15 PM			
+0 mins.	**1**	**123**	10	**134**	**1**	0	0	**1**	**1**	128	0	129	2	0	3	5
+15 mins.	0	102	**19**	121	0	0	0	0	0	147	0	147	2	0	2	4
+30 mins.	0	107	10	117	0	0	0	0	1	**154**	0	**155**	2	0	**5**	7
+45 mins.	0	119	7	126	0	0	**1**	1	0	142	0	142	**7**	0	2	**9**
Total Volume	1	451	46	498	1	0	1	2	2	571	0	573	13	0	12	25
% App. Total	0.2	90.6	9.2		50	0	50		0.3	99.7	0		52	0	48	
PHF	.250	.917	.605	.929	.250	.000	.250	.500	.500	.927	.000	.924	.464	.000	.600	.694

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Groups Printed- Passenger Vehicles

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	96	5	101	0	1	0	1	0	127	0	127	5	0	1	6	235
04:15 PM	0	101	5	106	0	0	0	0	0	124	2	126	2	0	3	5	237
04:30 PM	1	123	8	132	0	0	0	0	0	123	0	123	2	0	2	4	259
04:45 PM	0	100	19	119	0	0	0	0	1	123	0	124	2	0	5	7	250
Total	1	420	37	458	0	1	0	1	1	497	2	500	11	0	11	22	981
05:00 PM	0	106	9	115	1	0	0	1	1	125	0	126	7	0	2	9	251
05:15 PM	0	119	7	126	0	0	0	0	0	144	0	144	3	0	2	5	275
05:30 PM	1	89	6	96	0	0	0	0	1	154	0	155	2	0	2	4	255
05:45 PM	0	99	3	102	0	0	1	1	0	138	0	138	4	0	1	5	246
Total	1	413	25	439	1	0	1	2	2	561	0	563	16	0	7	23	1027
Grand Total	2	833	62	897	1	1	1	3	3	1058	2	1063	27	0	18	45	2008
Apprch %	0.2	92.9	6.9		33.3	33.3	33.3		0.3	99.5	0.2		60	0	40		
Total %	0.1	41.5	3.1	44.7	0	0	0	0.1	0.1	52.7	0.1	52.9	1.3	0	0.9	2.2	

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**1**	**123**	8	**132**	0	0	0	0	0	123	0	123	2	0	2	4	259
04:45 PM	0	100	**19**	119	0	0	0	0	**1**	123	0	124	2	0	**5**	7	250
05:00 PM	0	106	9	115	**1**	0	0	**1**	1	125	0	126	**7**	0	2	**9**	251
05:15 PM	0	119	7	126	0	0	0	0	0	**144**	0	**144**	3	0	2	5	**275**
Total Volume	1	448	43	492	1	0	0	1	2	515	0	517	14	0	11	25	1035
% App. Total	0.2	91.1	8.7		100	0	0		0.4	99.6	0		56	0	44		
PHF	.250	.911	.566	.932	.250	.000	.000	.250	.500	.894	.000	.898	.500	.000	.550	.694	.941

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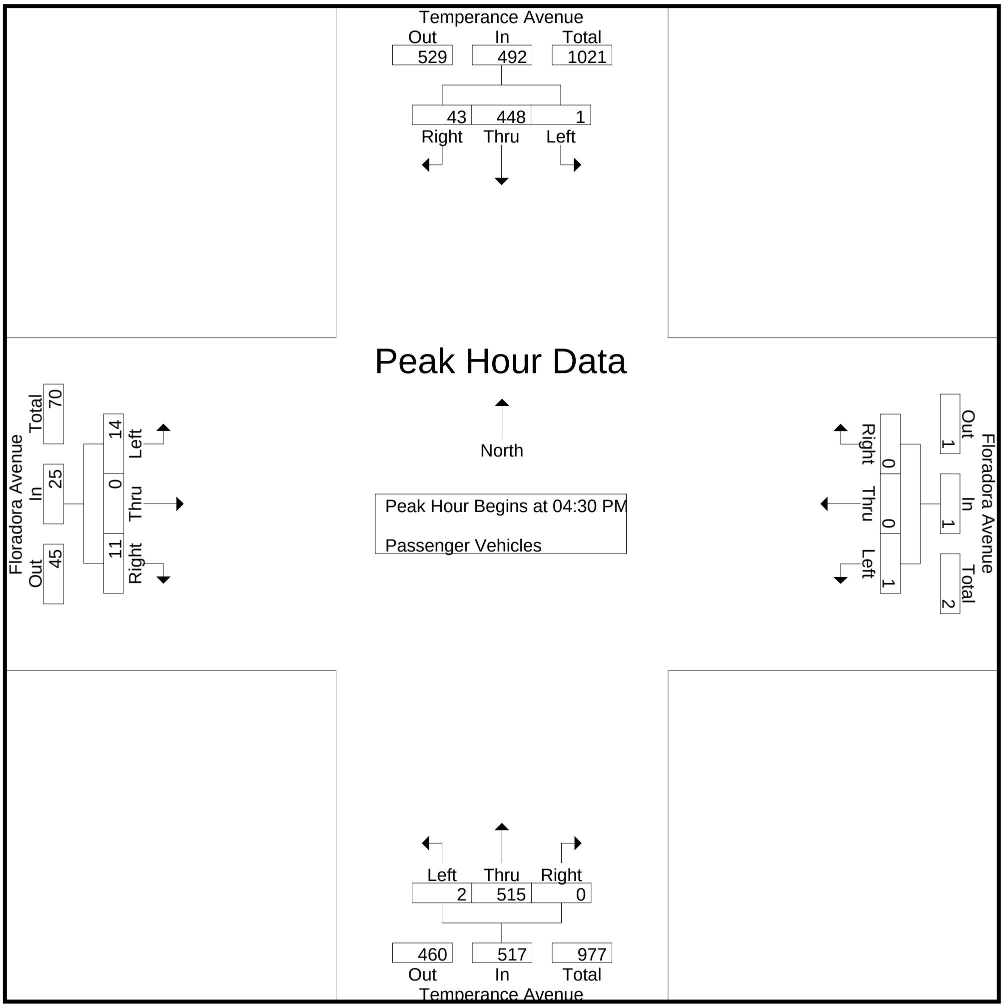

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	**1**	**123**	8	**132**	0	0	0	0	0	123	0	123	2	0	2	4
+15 mins.	0	100	**19**	119	0	0	0	0	**1**	123	0	124	2	0	**5**	7
+30 mins.	0	106	9	115	**1**	0	0	**1**	1	125	0	126	**7**	0	2	**9**
+45 mins.	0	119	7	126	0	0	0	0	0	**144**	0	**144**	3	0	2	5
Total Volume	1	448	43	492	1	0	0	1	2	515	0	517	14	0	11	25
% App. Total	0.2	91.1	8.7		100	0	0		0.4	99.6	0		56	0	44	
PHF	.250	.911	.566	.932	.250	.000	.000	.250	.500	.894	.000	.898	.500	.000	.550	.694

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Fresno
N/S: Temperance Avenue
E/W: Floradora Avenue
Weather: Clear

File Name : 09_FSO_Temp_Flo PM
Site Code : 00322994
Start Date : 11/10/2022

Groups Printed- Large 2 Axle Vehicles

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
04:15 PM	0	3	1	4	0	0	0	0	0	4	0	4	0	0	0	0	8
04:30 PM	0	0	2	2	0	0	0	0	0	4	0	4	0	0	0	0	6
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	3	3	6	0	0	0	0	0	10	0	10	0	0	0	0	16
05:00 PM	0	0	1	1	0	0	0	0	0	2	0	2	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
05:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	2	0	2	0	0	0	0	0	4	0	4	0	0	0	0	6
Total	0	3	1	4	0	0	0	0	0	9	0	9	0	0	0	0	13
Grand Total	0	6	4	10	0	0	0	0	0	19	0	19	0	0	0	0	29
Apprch %	0	60	40		0	0	0		0	100	0		0	0	0		
Total %	0	20.7	13.8	34.5	0	0	0	0	0	65.5	0	65.5	0	0	0	0	

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	**2**	**2**	0	0	0	0	0	**4**	0	**4**	0	0	0	0	**6**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	1	1	0	0	0	0	0	2	0	2	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
Total Volume	0	0	3	3	0	0	0	0	0	9	0	9	0	0	0	0	12
% App. Total	0	0	100		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.375	.375	.000	.000	.000	.000	.000	.563	.000	.563	.000	.000	.000	.000	.500

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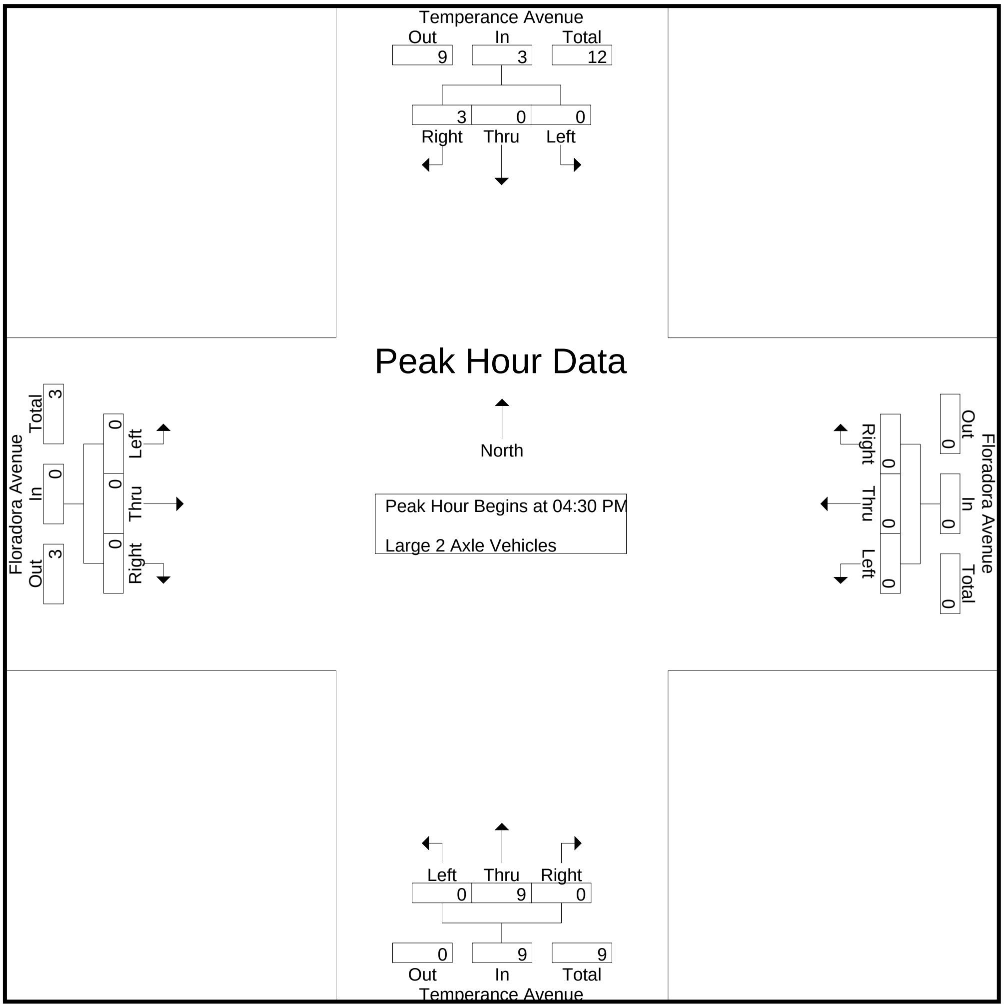
City of Fresno
N/S: Temperance Avenue
E/W: Floradora Avenue
Weather: Clear

File Name : 09_FSO_Temp_Flo PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	**2**	**2**	0	0	0	0	0	**4**	0	**4**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	1	1	0	0	0	0	0	2	0	2	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0
Total Volume	0	0	3	3	0	0	0	0	0	9	0	9	0	0	0	0
% App. Total	0	0	100		0	0	0		0	100	0		0	0	0	
PHF	.000	.000	.375	.375	.000	.000	.000	.000	.000	.563	.000	.563	.000	.000	.000	.000

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City of Fresno
N/S: Temperance Avenue
E/W: Floradora Avenue
Weather: Clear

File Name : 09_FSO_Temp_Flo PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0	4
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	4	0	4	0	0	0	0	0	1	0	1	0	0	0	0	5
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	80	0	80	0	0	0	0	0	20	0	20	0	0	0	0	

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	**2**	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	**2**
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

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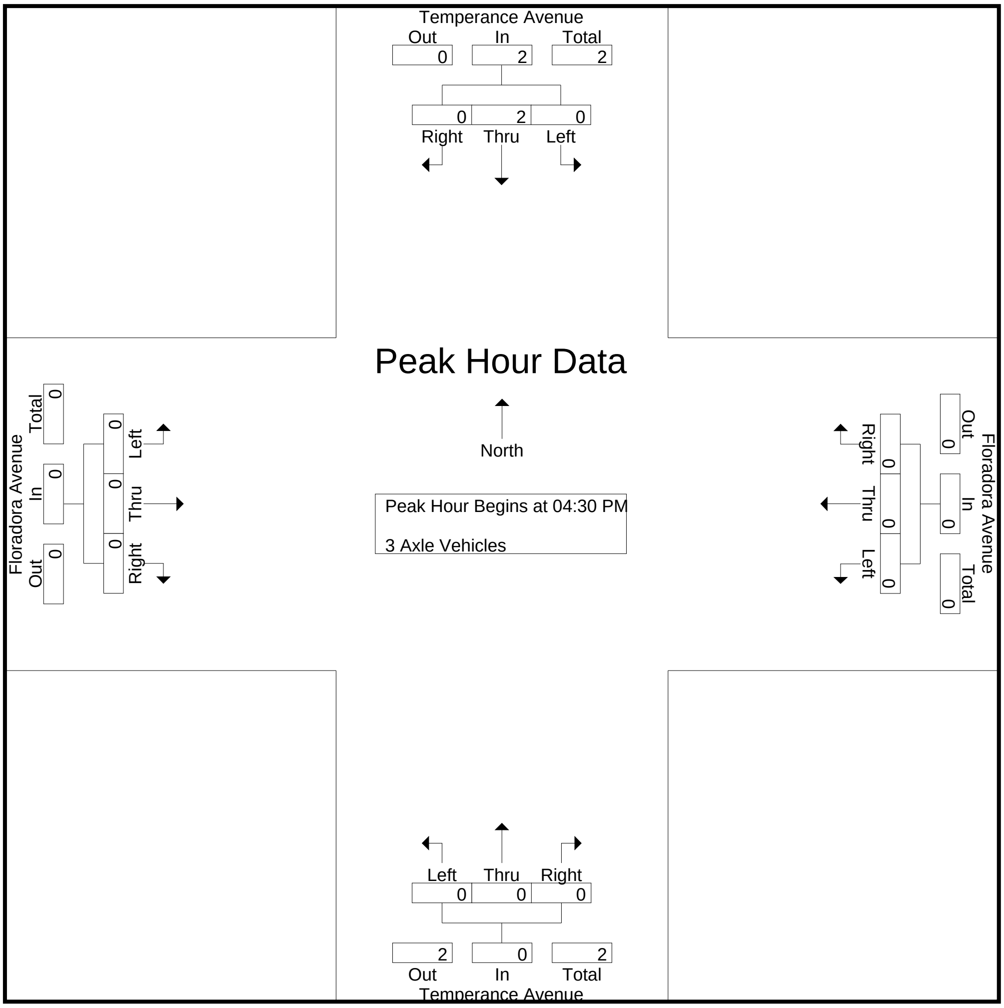
City of Fresno
N/S: Temperance Avenue
E/W: Floradora Avenue
Weather: Clear

File Name : 09_FSO_Temp_Flo PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	**2**	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Fresno
N/S: Temperance Avenue
E/W: Floradora Avenue
Weather: Clear

File Name : 09_FSO_Temp_Flo PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
05:00 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Grand Total	0	1	0	1	0	0	0	0	0	4	0	4	0	0	0	0	5
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	20	0	20	0	0	0	0	0	80	0	80	0	0	0	0	

	Temperance Avenue Southbound				Floradora Avenue Westbound				Temperance Avenue Northbound				Floradora Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	**1**	0	**1**	0	0	0	0	0	1	0	1	0	0	0	0	**2**
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.375

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
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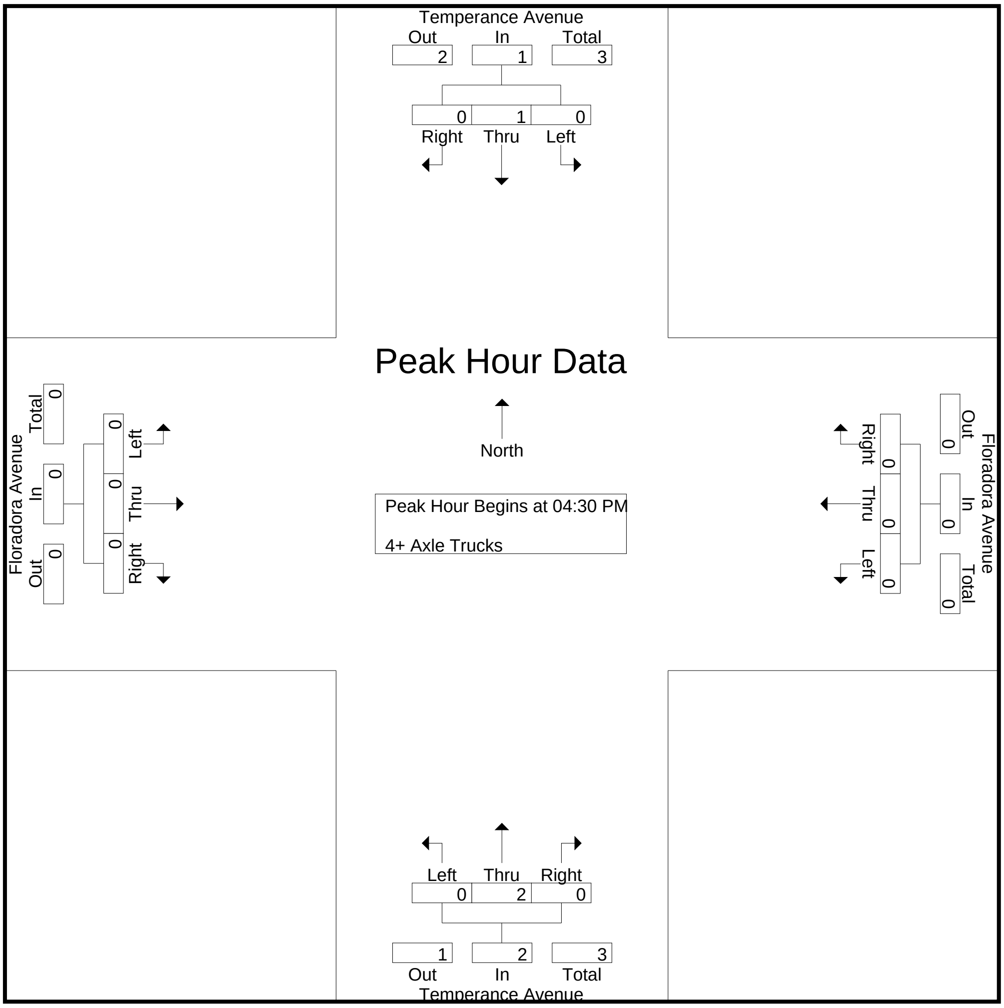
City of Fresno
N/S: Temperance Avenue
E/W: Floradora Avenue
Weather: Clear

File Name : 09_FSO_Temp_Flo PM
Site Code : 00322994
Start Date : 11/10/2022
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	**1**	0	**1**	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Fresno
Fowler Avenue
N/ Floradora Avenue
24 Hour Directional Volume Count

FSO001
Site Code: 003-22994

Start	11/10/22	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		20	102			11	90				
12:15		17	108			16	111				
12:30		21	97			19	109				
12:45		16	114	74	421	20	93	66	403	140	824
01:00		18	113			11	107				
01:15		9	105			9	120				
01:30		16	115			8	136				
01:45		6	129	49	462	5	114	33	477	82	939
02:00		8	132			7	112				
02:15		8	134			10	127				
02:30		7	128			8	123				
02:45		10	123	33	517	13	110	38	472	71	989
03:00		11	121			6	118				
03:15		5	135			5	127				
03:30		7	125			7	124				
03:45		7	133	30	514	8	117	26	486	56	1000
04:00		9	122			3	109				
04:15		7	112			13	**131**				
04:30		7	139			18	**122**				
04:45		15	131	38	504	7	**127**	41	489	79	993
05:00		10	150			19	**136**				
05:15		14	**169**			26	112				
05:30		32	**148**			56	131				
05:45		22	**164**	78	631	32	114	133	493	211	1124
06:00		29	**151**			43	131				
06:15		35	144			50	125				
06:30		62	135			95	115				
06:45		62	139	188	569	65	126	253	497	441	1066
07:00		66	144			106	122				
07:15		86	135			117	111				
07:30		99	95			**143**	89				
07:45		88	85	339	459	**127**	89	493	411	832	870
08:00		95	113			**160**	85				
08:15		118	98			**140**	69				
08:30		**110**	93			134	74				
08:45		**124**	93	447	397	118	72	552	300	999	697
09:00		**121**	85			121	76				
09:15		**138**	69			122	59				
09:30		110	53			123	66				
09:45		91	70	460	277	125	37	491	238	951	515
10:00		92	64			91	50				
10:15		98	49			117	58				
10:30		92	51			113	46				
10:45		110	35	392	199	97	21	418	175	810	374
11:00		78	37			122	40				
11:15		99	36			103	22				
11:30		99	30			119	26				
11:45		90	22	366	125	110	15	454	103	820	228
Total		2494	5075	2494	5075	2998	4544	2998	4544	5492	9619
Combined Total		7569		7569		7542		7542		15111	
AM Peak	-	08:30	-	-	-	07:30	-	-	-	-	-
Vol.	-	493	-	-	-	570	-	-	-	-	-
P.H.F.		0.893				0.891					
PM Peak	-	-	05:15	-	-	-	04:15	-	-	-	-
Vol.	-	-	632	-	-	-	516	-	-	-	-
P.H.F.			0.935				0.949				
Percentage		33.0%	67.0%			39.8%	60.2%				
ADT/AADT		ADT 15,111		AADT 15,111							

Counts Unlimited, Inc.
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City of Fresno
Fowler Avenue
B/ Floradora Avenue - Olive Avenue
24 Hour Directional Volume Count

FSO002
Site Code: 003-22994

Start	11/10/22	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		19	101			11	89				
12:15		17	105			15	112				
12:30		21	97			19	106				
12:45		16	111	73	414	20	91	65	398	138	812
01:00		18	109			11	107				
01:15		8	101			9	119				
01:30		16	110			7	**133**				
01:45		6	127	48	447	5	**111**	32	470	80	917
02:00		7	126			7	**108**				
02:15		8	129			10	**123**				
02:30		7	122			8	122				
02:45		9	122	31	499	12	109	37	462	68	961
03:00		11	120			6	118				
03:15		5	127			5	124				
03:30		6	122			6	115				
03:45		6	120	28	489	7	113	24	470	52	959
04:00		9	120			3	105				
04:15		6	108			12	113				
04:30		7	132			18	101				
04:45		15	127	37	487	7	99	40	418	77	905
05:00		8	141			19	107				
05:15		14	**157**			25	96				
05:30		32	**138**			56	121				
05:45		21	**153**	75	589	32	110	132	434	207	1023
06:00		28	**144**			43	117				
06:15		35	140			49	104				
06:30		59	124			94	103				
06:45		64	133	186	541	63	124	249	448	435	989
07:00		66	134			103	117				
07:15		83	132			113	110				
07:30		97	95			**139**	88				
07:45		85	86	331	447	**120**	88	475	403	806	850
08:00		88	110			**153**	82				
08:15		104	97			**116**	68				
08:30		104	91			108	74				
08:45		**111**	93	407	391	103	72	480	296	887	687
09:00		**106**	83			107	76				
09:15		**129**	69			115	59				
09:30		**108**	53			121	65				
09:45		81	69	424	274	121	37	464	237	888	511
10:00		89	63			90	49				
10:15		94	48			114	56				
10:30		89	51			112	44				
10:45		108	36	380	198	95	22	411	171	791	369
11:00		78	36			119	40				
11:15		98	36			101	23				
11:30		98	30			119	24				
11:45		92	22	366	124	109	15	448	102	814	226
Total		2386	4900	2386	4900	2857	4309	2857	4309	5243	9209
Combined Total		7286		7286		7166		7166		14452	
AM Peak	-	08:45	-	-	-	07:30	-	-	-	-	-
Vol.	-	454	-	-	-	528	-	-	-	-	-
P.H.F.		0.880				0.863					
PM Peak	-	-	05:15	-	-	-	01:30	-	-	-	-
Vol.	-	-	592	-	-	-	475	-	-	-	-
P.H.F.			0.943				0.893				
Percentage		32.7%	67.3%			39.9%	60.1%				
ADT/AADT		ADT 14,452		AADT 14,452							

Counts Unlimited, Inc.

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City of Fresno
Fowler Avenue
B/ Olive Avenue - State Route 180 Westbound
24 Hour Directional Volume Count

FSO003
Site Code: 003-22994

Start	11/10/22	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		26	105			14	118				
12:15		28	117			18	131				
12:30		22	117			21	142				
12:45		18	116	94	455	21	115	74	506	168	961
01:00		23	122			14	142				
01:15		8	108			13	138				
01:30		18	128			14	158				
01:45		9	126	58	484	8	147	49	585	107	1069
02:00		8	148			8	143				
02:15		6	117			8	122				
02:30		8	128			10	156				
02:45		11	**133**	33	526	11	146	37	567	70	1093
03:00		15	**124**			10	145				
03:15		6	**131**			4	153				
03:30		6	**146**			14	146				
03:45		6	123	33	524	10	152	38	596	71	1120
04:00		11	92			6	154				
04:15		9	100			16	**162**				
04:30		10	121			20	**170**				
04:45		13	119	43	432	13	**150**	55	636	98	1068
05:00		8	120			18	**157**				
05:15		19	131			36	149				
05:30		31	107			66	154				
05:45		18	141	76	499	51	154	171	614	247	1113
06:00		30	127			51	147				
06:15		35	128			76	157				
06:30		77	117			136	149				
06:45		81	127	223	499	92	149	355	602	578	1101
07:00		97	131			139	151				
07:15		120	121			152	132				
07:30		124	109			201	118				
07:45		93	125	434	486	190	95	682	496	1116	982
08:00		107	126			**207**	96				
08:15		107	138			**183**	84				
08:30		**129**	106			**223**	92				
08:45		**104**	110	447	480	**200**	88	813	360	1260	840
09:00		**139**	104			187	98				
09:15		**121**	87			172	60				
09:30		84	80			181	72				
09:45		92	81	436	352	158	79	698	309	1134	661
10:00		102	64			124	58				
10:15		100	48			124	64				
10:30		109	57			158	55				
10:45		116	48	427	217	129	21	535	198	962	415
11:00		88	41			133	45				
11:15		122	41			127	33				
11:30		111	36			130	23				
11:45		106	24	427	142	140	20	530	121	957	263
Total		2731	5096	2731	5096	4037	5590	4037	5590	6768	10686
Combined Total		7827		7827		9627		9627		17454	
AM Peak	-	08:30	-	-	-	08:00	-	-	-	-	-
Vol.	-	493	-	-	-	813	-	-	-	-	-
P.H.F.		0.887				0.911					
PM Peak	-	-	02:45	-	-	-	04:15	-	-	-	-
Vol.	-	-	534	-	-	-	639	-	-	-	-
P.H.F.			0.914				0.940				
Percentage		34.9%	65.1%			41.9%	58.1%				
ADT/AADT		ADT 17,454		AADT 17,454							

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City of Fresno
Fowler Avenue
B/ State Route 180 Eastbound - Belmont Avenue
24 Hour Directional Volume Count

FSO005
Site Code: 003-22994

Start Time	11/10/22 Thu	Northbound Morning	Northbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Southbound Morning	Southbound Afternoon	Hour Totals Morning	Hour Totals Afternoon	Combined Totals Morning	Combined Totals Afternoon
12:00		22	120			22	114				
12:15		15	138			27	104				
12:30		12	97			32	97				
12:45		19	117	68	472	21	103	102	418	170	890
01:00		15	119			25	121				
01:15		6	113			20	128				
01:30		3	122			23	106				
01:45		4	95	28	449	9	129	77	484	105	933
02:00		5	137			10	146				
02:15		7	158			10	114				
02:30		8	133			11	122				
02:45		4	124	24	552	11	134	42	516	66	1068
03:00		8	127			8	148				
03:15		3	88			10	168				
03:30		5	109			9	163				
03:45		3	120	19	444	6	180	33	659	52	1103
04:00		5	105			10	180				
04:15		5	85			5	187				
04:30		10	106			5	219				
04:45		16	85	36	381	13	171	33	757	69	1138
05:00		18	86			21	222				
05:15		15	109			23	215				
05:30		30	133			18	**250**				
05:45		27	**159**	90	487	22	**243**	84	930	174	1417
06:00		38	**164**			28	**262**				
06:15		52	**176**			31	**253**				
06:30		77	**143**			46	225				
06:45		69	147	236	630	69	183	174	923	410	1553
07:00		78	136			81	191				
07:15		118	113			77	168				
07:30		148	103			100	145				
07:45		159	102	503	454	133	128	391	632	894	1086
08:00		208	110			112	105				
08:15		**235**	97			**123**	94				
08:30		**270**	76			**129**	127				
08:45		**241**	66	954	349	**135**	113	499	439	1453	788
09:00		**209**	83			**119**	106				
09:15		189	58			123	99				
09:30		138	67			110	80				
09:45		113	58	649	266	103	101	455	386	1104	652
10:00		98	52			96	94				
10:15		127	28			90	82				
10:30		154	40			101	73				
10:45		117	41	496	161	89	52	376	301	872	462
11:00		115	26			114	69				
11:15		133	28			98	46				
11:30		137	26			105	38				
11:45		101	19	486	99	127	19	444	172	930	271
Total		3589	4744	3589	4744	2710	6617	2710	6617	6299	11361
Combined Total		8333		8333		9327		9327		17660	
AM Peak	-	08:15	-	-	-	08:15	-	-	-	-	-
Vol.	-	955	-	-	-	506	-	-	-	-	-
P.H.F.		0.884				0.937					
PM Peak	-	-	05:45	-	-	-	05:30	-	-	-	-
Vol.	-	-	642	-	-	-	1008	-	-	-	-
P.H.F.			0.912				0.962				
Percentage		43.1%	56.9%			29.1%	70.9%				
ADT/AADT		ADT 17,660		AADT 17,660							

Prepared by NDS/ATD

VOLUME

N Armstrong Ave Bet. E Clinton Ave & E Floradora Ave

Day: Thursday
Date: 9/13/2018

City: Fresno
Project #: CA18_7292_002

DAILY TOTALS	NB	SB	EB	WB	Total
	2,408	3,041	0	0	5,449

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	2		1				3		12:00	32		27				59	
00:15	2		0				2		12:15	21		36				57	
00:30	3		2				5		12:30	31		29				60	
00:45	2	9	1	4			3	13	12:45	25	109	33	125			58	234
01:00	2		1				3		13:00	22		27				49	
01:15	1		1				2		13:15	22		36				58	
01:30	3		0				3		13:30	22		38				60	
01:45	1	7	1	3			2	10	13:45	33	99	31	132			64	231
02:00	2		2				4		14:00	32		35				67	
02:15	6		0				6		14:15	28		40				68	
02:30	2		6				8		14:30	45		38				83	
02:45	2	12	1	9			3	21	14:45	55	160	53	166			108	326
03:00	1		3				4		15:00	41		58				99	
03:15	2		1				3		15:15	55		76				131	
03:30	0		6				6		15:30	65		43				108	
03:45	0	3	5	15			5	18	15:45	56	217	36	213			92	430
04:00	2		7				9		16:00	52		40				92	
04:15	0		7				7		16:15	77		48				125	
04:30	0		14				14		16:30	88		47				135	
04:45	2	4	4	32			6	36	16:45	81	298	37	172			118	470
05:00	4		21				25		17:00	97		53				150	
05:15	5		12				17		17:15	93		57				150	
05:30	8		32				40		17:30	88		51				139	
05:45	18	35	43	108			61	143	17:45	70	348	34	195			104	543
06:00	11		45				56		18:00	48		26				74	
06:15	14		45				59		18:15	49		40				89	
06:30	12		92				104		18:30	37		39				76	
06:45	33	70	87	269			120	339	18:45	31	165	28	133			59	298
07:00	27		136				163		19:00	27		17				44	
07:15	35		162				197		19:15	36		28				64	
07:30	54		155				209		19:30	35		20				55	
07:45	66	182	140	593			206	775	19:45	39	137	18	83			57	220
08:00	50		116				166		20:00	22		15				37	
08:15	24		98				122		20:15	24		21				45	
08:30	14		54				68		20:30	21		20				41	
08:45	14	102	38	306			52	408	20:45	21	88	16	72			37	160
09:00	18		19				37		21:00	15		9				24	
09:15	21		33				54		21:15	16		7				23	
09:30	18		24				42		21:30	14		7				21	
09:45	15	72	26	102			41	174	21:45	17	62	13	36			30	98
10:00	19		25				44		22:00	13		7				20	
10:15	19		25				44		22:15	8		7				15	
10:30	17		34				51		22:30	9		8				17	
10:45	16	71	33	117			49	188	22:45	4	34	4	26			8	60
11:00	10		29				39		23:00	10		5				15	
11:15	28		30				58		23:15	6		6				12	
11:30	28		27				55		23:30	2		4				6	
11:45	37	103	27	113			64	216	23:45	3	21	2	17			5	38
TOTALS		670		1671				**2341**	**TOTALS**		1738		1370				**3108**
SPLIT %		28.6%		71.4%				**43.0%**	**SPLIT %**		55.9%		44.1%				**57.0%**

DAILY TOTALS	NB	SB	EB	WB	Total
	2,408	3,041	0	0	5,449

	NB	SB	EB	WB	TOTAL		NB	SB	EB	WB	TOTAL
AM Peak Hour	07:15	07:00			**07:15**	**PM Peak Hour**	16:30	14:45			**16:45**
AM Pk Volume	205	593			**778**	**PM Pk Volume**	359	230			**557**
Pk Hr Factor	0.777	0.915			**0.931**	**Pk Hr Factor**	0.925	0.757			**0.928**
7 - 9 Volume	284	899	0	0	**1183**	**4 - 6 Volume**	646	367	0	0	**1013**
7 - 9 Peak Hour	07:15	07:00			**07:15**	**4 - 6 Peak Hour**	16:30	16:45			**16:45**
7 - 9 Pk Volume	205	593	0	0	**778**	**4 - 6 Pk Volume**	359	198	0	0	**557**
Pk Hr Factor	0.777	0.915	0.000	0.000	**0.931**	**Pk Hr Factor**	0.925	0.868	0.000	0.000	**0.928**

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City of Fresno
Armstrong Avenue
B/ Flroadora Avenue - Olive Avenue
24 Hour Directional Volume Count

FSO009
Site Code: 003-22994

Start	11/10/22	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		1	3			1	8				
12:15		0	7			0	3				
12:30		1	7			1	5				
12:45		0	6	2	23	1	3	3	19	5	42
01:00		0	5			1	6				
01:15		0	5			0	4				
01:30		0	4			0	4				
01:45		0	7	0	21	0	6	1	20	1	41
02:00		0	3			0	5				
02:15		0	10			1	7				
02:30		1	2			0	2				
02:45		0	7	1	22	0	10	1	24	2	46
03:00		0	1			0	5				
03:15		0	11			0	7				
03:30		0	9			0	11				
03:45		0	16	0	37	0	14	0	37	0	74
04:00		0	6			0	14				
04:15		0	14			0	19				
04:30		0	8			0	**39**				
04:45		0	16	0	44	0	**42**	0	114	0	158
05:00		0	13			0	**29**				
05:15		0	**22**			0	**27**				
05:30		0	**13**			1	20				
05:45		0	**21**	0	69	0	16	1	92	1	161
06:00		0	**15**			1	21				
06:15		2	8			1	26				
06:30		2	21			2	16				
06:45		1	12	5	56	2	5	6	68	11	124
07:00		3	15			3	8				
07:15		3	6			8	1				
07:30		14	3			17	1				
07:45		20	0	40	24	21	2	49	12	89	36
08:00		9	3			**42**	3				
08:15		**13**	2			**79**	1				
08:30		**16**	5			**78**	2				
08:45		**18**	6	56	16	**46**	4	245	10	301	26
09:00		**16**	3			27	4				
09:15		7	3			8	0				
09:30		6	2			9	0				
09:45		11	3	40	11	6	1	50	5	90	16
10:00		5	5			3	1				
10:15		3	4			6	2				
10:30		3	1			6	1				
10:45		9	0	20	10	2	3	17	7	37	17
11:00		10	1			4	0				
11:15		3	1			3	0				
11:30		2	1			4	1				
11:45		3	0	18	3	4	0	15	1	33	4
Total		182	336	182	336	388	409	388	409	570	745
Combined Total		518		518		797		797		1315	
AM Peak	-	08:15	-	-	-	08:00	-	-	-	-	-
Vol.	-	63	-	-	-	245	-	-	-	-	-
P.H.F.		0.875				0.775					
PM Peak	-	-	05:15	-	-	-	04:30	-	-	-	-
Vol.	-	-	71	-	-	-	137	-	-	-	-
P.H.F.			0.807				0.815				
Percentage		35.1%	64.9%			48.7%	51.3%				
ADT/AADT		ADT 1,315		AADT 1,315							

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City of Fresno
Temperance Avenue
B/ McKinley Avenue - Floradora Avenue
24 Hour Directional Volume Count

FSO012
Site Code: 003-22994

Start	11/10/22	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		14	71			8	82				
12:15		12	63			14	68				
12:30		11	70			11	72				
12:45		9	77	46	281	7	79	40	301	86	582
01:00		10	74			6	70				
01:15		8	75			6	81				
01:30		9	89			5	85				
01:45		5	82	32	320	1	77	18	313	50	633
02:00		3	76			2	84				
02:15		4	71			3	79				
02:30		2	70			7	75				
02:45		5	80	14	297	1	90	13	328	27	625
03:00		5	79			4	82				
03:15		5	98			4	86				
03:30		3	125			8	87				
03:45		1	127	14	429	4	**130**	20	385	34	814
04:00		7	137			7	**94**				
04:15		4	120			8	**112**				
04:30		8	121			11	**158**				
04:45		4	132	23	510	18	107	44	471	67	981
05:00		3	138			7	113				
05:15		4	**142**			16	108				
05:30		3	**155**			26	108				
05:45		6	**147**	16	582	31	108	80	437	96	1019
06:00		3	**145**			30	121				
06:15		9	136			53	111				
06:30		23	129			67	120				
06:45		17	137	52	547	55	76	205	428	257	975
07:00		42	120			82	92				
07:15		41	86			103	67				
07:30		70	88			134	67				
07:45		94	70	247	364	131	45	450	271	697	635
08:00		68	81			135	32				
08:15		**99**	58			**171**	47				
08:30		**118**	47			**177**	48				
08:45		**103**	47	388	233	**141**	47	624	174	1012	407
09:00		**83**	75			**136**	41				
09:15		95	51			100	28				
09:30		72	47			107	37				
09:45		54	44	304	217	83	47	426	153	730	370
10:00		52	34			67	29				
10:15		48	35			66	25				
10:30		68	36			77	35				
10:45		64	41	232	146	71	24	281	113	513	259
11:00		55	24			69	17				
11:15		73	23			80	11				
11:30		54	20			62	18				
11:45		61	20	243	87	75	12	286	58	529	145
Total		1611	4013	1611	4013	2487	3432	2487	3432	4098	7445
Combined Total		5624		5624		5919		5919		11543	
AM Peak	-	08:15	-	-	-	08:15	-	-	-	-	-
Vol.	-	403	-	-	-	625	-	-	-	-	-
P.H.F.		0.854				0.883					
PM Peak	-	-	05:15	-	-	-	03:45	-	-	-	-
Vol.	-	-	589	-	-	-	494	-	-	-	-
P.H.F.			0.950				0.782				
Percentage		28.6%	71.4%			42.0%	58.0%				
ADT/AADT		ADT 11,543		AADT 11,543							

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City of Fresno
Floradora Avenue
B/ Fowler Avenue - Armstrong Avenue
24 Hour Directional Volume Count

FSO014
Site Code: 003-22994

Start	11/10/22	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	2			1	2				
12:15		1	0			0	4				
12:30		0	5			0	2				
12:45		0	3	1	10	0	4	1	12	2	22
01:00		0	4			0	8				
01:15		0	3			1	6				
01:30		1	3			0	5				
01:45		0	3	1	13	0	2	1	21	2	34
02:00		0	5			1	7				
02:15		1	4			1	5				
02:30		0	2			0	7				
02:45		1	3	2	14	1	3	3	22	5	36
03:00		0	3			0	4				
03:15		0	5			0	10				
03:30		1	10			1	4				
03:45		1	5	2	23	1	14	2	32	4	55
04:00		0	6			0	4				
04:15		1	**19**			1	5				
04:30		0	**22**			0	8				
04:45		0	**28**	1	75	0	4	1	21	2	96
05:00		0	**29**			2	**9**				
05:15		1	16			0	**12**				
05:30		0	12			0	**12**				
05:45		0	5	1	62	1	**12**	3	45	4	107
06:00		0	15			1	8				
06:15		1	23			0	6				
06:30		1	13			3	12				
06:45		5	3	7	54	1	7	5	33	12	87
07:00		4	5			1	10				
07:15		4	1			3	3				
07:30		7	2			5	1				
07:45		8	2	23	10	4	0	13	14	36	24
08:00		7	4			7	4				
08:15		**24**	1			**14**	1				
08:30		**27**	0			**7**	2				
08:45		**15**	0	73	5	**13**	0	41	7	114	12
09:00		**14**	0			**15**	2				
09:15		7	0			9	0				
09:30		3	1			3	0				
09:45		4	0	28	1	10	1	37	3	65	4
10:00		2	1			4	1				
10:15		4	2			5	1				
10:30		3	2			5	0				
10:45		5	1	14	6	5	1	19	3	33	9
11:00		3	0			0	1				
11:15		5	0			4	1				
11:30		1	2			2	0				
11:45		6	0	15	2	3	0	9	2	24	4
Total		168	275	168	275	135	215	135	215	303	490
Combined Total		443		443		350		350		793	
AM Peak	-	08:15	-	-	-	08:15	-	-	-	-	-
Vol.	-	80	-	-	-	49	-	-	-	-	-
P.H.F.		0.741				0.817					
PM Peak	-	-	04:15	-	-	-	05:00	-	-	-	-
Vol.	-	-	98	-	-	-	45	-	-	-	-
P.H.F.			0.845				0.938				
Percentage		37.9%	62.1%			38.6%	61.4%				
ADT/AADT		ADT 793		AADT 793							

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Fresno
Olive Avenue
B/ Fowler Avenue - Armstrong Avenue
24 Hour Directional Volume Count

FSO018
Site Code: 003-22994

Start	11/10/22	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
Time	Thu	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		7	28			2	49				
12:15		11	35			5	44				
12:30		3	36			3	41				
12:45		2	25	23	124	2	40	12	174	35	298
01:00		3	29			3	36				
01:15		2	29			3	44				
01:30		6	35			2	46				
01:45		2	33	13	126	2	45	10	171	23	297
02:00		1	32			0	47				
02:15		0	27			1	41				
02:30		1	22			1	42				
02:45		3	34	5	115	1	51	3	181	8	296
03:00		6	33			2	40				
03:15		2	41			1	51				
03:30		1	49			7	48				
03:45		2	35	11	158	3	64	13	203	24	361
04:00		2	40			3	59				
04:15		1	43			4	**73**				
04:30		2	39			3	**94**				
04:45		1	52	6	174	5	**84**	15	310	21	484
05:00		0	53			3	**69**				
05:15		3	42			7	63				
05:30		2	**59**			12	46				
05:45		2	**56**	7	210	19	56	41	234	48	444
06:00		5	**71**			12	60				
06:15		0	**53**			26	57				
06:30		19	52			42	59				
06:45		14	36	38	212	32	45	112	221	150	433
07:00		22	42			52	34				
07:15		**46**	32			57	34				
07:30		**33**	37			105	32				
07:45		**30**	45	131	156	84	21	298	121	429	277
08:00		**29**	34			**115**	32				
08:15		29	32			**157**	20				
08:30		36	29			**150**	23				
08:45		40	26	134	121	**124**	19	546	94	680	215
09:00		28	32			92	23				
09:15		24	25			66	7				
09:30		27	28			79	8				
09:45		22	21	101	106	45	18	282	56	383	162
10:00		24	17			32	15				
10:15		15	13			40	10				
10:30		24	13			54	17				
10:45		24	15	87	58	38	8	164	50	251	108
11:00		27	8			34	8				
11:15		25	10			36	4				
11:30		39	11			31	5				
11:45		33	5	124	34	42	10	143	27	267	61
Total		680	1594	680	1594	1639	1842	1639	1842	2319	3436
Combined Total		2274		2274		3481		3481		5755	
AM Peak	-	07:15	-	-	-	08:00	-	-	-	-	-
Vol.	-	138	-	-	-	546	-	-	-	-	-
P.H.F.		0.750				0.869					
PM Peak	-	-	05:30	-	-	-	04:15	-	-	-	-
Vol.	-	-	239	-	-	-	320	-	-	-	-
P.H.F.			0.842				0.851				
Percentage		29.9%	70.1%			47.1%	52.9%				
ADT/AADT		ADT 5,755		AADT 5,755							

State of California
DEPARTMENT OF TRANSPORTATION

2070 Controller Timing Chart

Caltrans TSCP Ver 2.21

Location:		Designed By:
System:	District:	Intalled By:
Master At:	I/C:	Service Info:

Timing Change:	By:	Date Start:	Date End:	Designed:	Installed:

		FLASH
	1)	[ ]
P	2)	[ ]
H	3)	[ ]
A	4)	[ ]
S	5)	[ ]
E	6)	[ ]
	7)	[ ]
	8)	[ ]
OVERLAP	A)	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Intersection Layout

Comments and Notes:

RAM Checksum

Page 2:	C43D	Page 8:	85AF
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Page 6:	191A	Page 12:	EF20
Page 7:	EFC9	Page 13:	86F7

CONFIGURATION PHASE FLAGS

Phases (2-1-1-1)	
Permitted	- 2 - - - 6 - 8
Restricted	- - - - - - - -

Phase Recalls (2-1-1-2)	
Vehicle Min	- 2 - - - 6 - -
vehicle Max	- - - - - - - -
Pedestrian	- - - - - - - -
Bicyle	- - - - - - - -

Phase Locks (2-1-1-3)	
Red	- - - - - - - -
Yellow	- - - - - - - -
Force/Max	- - - - - - - -

Phase Features (2-1-1-4)	
Double Entry	- - - - - - - -
Rest In Walk	- - - - - - - -
Rest In Red	- - - - - - - -
Walk2	- - - - - - - -
Max Green 2	- 2 - - - 6 - 8
Max Green 3	- - - - - - - -

Startup (2-1-1-5)	
First Green Phases	- 2 - - - 6 - -
Yellow Start Phases	- - - - - - - -
Vehicle Calls	- 2 - - - 6 - 8
Pedestrian Calls	- 2 - - - - - -
Yellow Start Overlaps	- - - - - -
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1	- - - - - - - -	1	- - - - - - - -
2	- - - - - - - -	2	- - - - - - - -
3	- - - - - - - -	3	- - - - - - - -
4	- - - - - - - -	4	- - - - - - - -
5	- - - - - - - -	5	- - - - - - - -
6	- - - - - - - -	6	- - - - - - - -
7	- - - - - - - -	7	- - - - - - - -
8	- - - - - - - -	8	- - - - - - - -

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	- - - - - - - -
Yellow Flash Overlap	- - - - - - - -
Flash In Red Phases	- - - - - - - -
Flash In Red Overlap	- - - - - - - -

Protected Permissive (2-1-2-4)	
Protected Permissive	- - - - - - - -

Special Operation (2-1-2-3)	
Single Exit Phase	- - - - - - - -
Driveway Signal Phases	- - - - - - - -
Driveway Signal Overlaps	- - - - - - - -
Leading Ped Phases	- - - - - - - -

Pedestrian (2-1-3)	
P1	- - - - - - - -
P2	- 2 - - - - - -
P3	- - - - - - - -
P4	- - - - - - - -
P5	- - - - - - - -
P6	- - - - - - - -
P7	- - - - - - - -
P8	- - - - - - - -

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A [Arrow A]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
B [Arrow B]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
C [OL A]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
D [OL B]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
E [OL C]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
F [OL D]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -

[-] 332 Cabinet Overlap Assignment - For Reference Only

PAGE 2 CHECKSUM: C43D

PHASE TIMING

PHASE (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	0	0	0	0	0
Flash Don't Walk	0	10	0	0	0	0	0	0
Minimum Green	0	10	0	0	0	10	0	8
Det Limit	0	20	0	0	0	20	0	20
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	0	25	0	0	0	25	0	20
Max Green 2	0	35	0	0	0	35	0	30
Max Green 3	0	0	0	0	0	0	0	0
Extension	0.0	5.2	0.0	0.0	0.0	5.2	0.0	5.2
Maximum Gap	0.0	7.2	0.0	0.0	0.0	7.2	0.0	7.2
Minimum Gap	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1
Reduce Every	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.4
Yellow	3.0	4.4	3.0	3.0	3.0	4.4	3.0	4.4
All-Red	0.0	2.0	0.0	0.0	0.0	2.0	1.0	2.0
Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A [Arrow A]	B [Arrow B]	C [OL A]	D [OL B]	E [OL C]	F [OL D]
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert (2-5)	
Time	5.0

Red To Se (2-6)	
Red To Sec	OFF

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

PAGE 3 CHECKSUM: DCAC

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor		0.0	- - - - - - - -											
Plan 2	Green Factor		0.0	- - - - - - - -											
Plan 3	Green Factor		0.0	- - - - - - - -											
Plan 4	Green Factor		0.0	- - - - - - - -											
Plan 5	Green Factor		0.0	- - - - - - - -											
Plan 6	Green Factor		0.0	- - - - - - - -											
Plan 7	Green Factor		0.0	- - - - - - - -											
Plan 8	Green Factor		0.0	- - - - - - - -											
Plan 9	Green Factor		0.0	- - - - - - - -											

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 2	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 3	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 4	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 5	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 6	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 7	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 8	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 9	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -

Master Timer Sync (7-A)	
Enable in Plans	
1-9	- - - - - - - - -
11-19	- - - - - - - - -
21-29	- - - - - - - - -

Master Sub Master	
Input	0.0
Output	0

(7-E) Free	
Lag	Omit
- 2 - 4 - 6 - 8	- - - - - - - -
Veh Min	Veh Max
- 2 - - - 6 - -	- - - - - - - -
Ped	Bike
- - - - - - - -	- - - - - - - -
Cond	Cond Grn
- - - - - - - -	10

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	Offset
0	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

PAGE 4 CHECKSUM: F29E

Local Plan 11...19 (7-2) TIMING DATA COORDINATION

		Cycle	Multi	Lag Gap	[Offsets] A	B	C	Green Factors or Press [F] to Select Force-Off 1	2	3	4	5	6	7	8
Plan 11	Green Factor		0.0	- - - - - - - -											
Plan 12	Green Factor		0.0	- - - - - - - -											
Plan 13	Green Factor		0.0	- - - - - - - -											
Plan 14	Green Factor		0.0	- - - - - - - -											
Plan 15	Green Factor		0.0	- - - - - - - -											
Plan 16	Green Factor		0.0	- - - - - - - -											
Plan 17	Green Factor		0.0	- - - - - - - -											
Plan 18	Green Factor		0.0	- - - - - - - -											
Plan 19	Green Factor		0.0	- - - - - - - -											

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 12	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 13	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 14	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan15	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 16	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 17	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 18	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 19	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -

Local Plan 21...29 (7-3) TIMING DATA COORDINATION

		Cycle	Multi	Lag Gap	[Offsets] A	B	C	Green Factors or Press [F] to Select Force-Off 1	2	3	4	5	6	7	8
Plan 21	Green Factor		0.0	- - - - - - - -											
Plan 22	Green Factor		0.0	- - - - - - - -											
Plan 23	Green Factor		0.0	- - - - - - - -											
Plan 24	Green Factor		0.0	- - - - - - - -											
Plan 25	Green Factor		0.0	- - - - - - - -											
Plan 26	Green Factor		0.0	- - - - - - - -											
Plan 27	Green Factor		0.0	- - - - - - - -											
Plan 28	Green Factor		0.0	- - - - - - - -											
Plan 29	Green Factor		0.0	- - - - - - - -											

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 22	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 23	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 24	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 25	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 26	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 27	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 28	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 29	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -

PAGE 6 CHECKSUM: 191A

DETECTORS

Detector Attributes (5-1)				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	Count+Call+Extend	1 - - - - - - -	NO	I1U	1	0	0.0	10	3.2
2	Count+Call+Extend	1 - - - - - - -	NO	I1L	2	0	0.0	10	7.2
3	Count+Call+Extend	- 2 - - - - - -	NO	I2U	3	0	1.3	10	1.1
4	Count+Call+Extend	- 2 - - - - - -	NO	I2L	4	0	1.3	10	1.5
5	Count+Call+Extend	- 2 - - - - - -	NO	I3U	5	0	0.0	10	4.5
6	Call+Extend	- 2 - - - - - -	NO	I3L	6	0	0.0	10	6.2
7	Limited	- 2 - - - - - -	NO	I4U	7	0	0.0	10	2.1
8	Limited	- 2 - - - - - -	NO	I4L	8	0	0.0	10	7.4
9	Count+Call+Extend	- - 3 - - - - -	NO	I5U	9	0	0.0	10	3.4
10	Count+Call+Extend	- - 3 - - - - -	NO	I5L	10	0	0.0	10	7.6
11	Count+Call+Extend	- - - 4 - - - -	NO	I6U	11	0	0.0	10	1.3
12	Count+Call+Extend	- - - 4 - - - -	NO	I6L	12	0	0.0	10	1.7
13	Count+Call+Extend	- - - 4 - - - -	NO	I7U	13	0	0.0	10	4.7
14	Call+Extend	- - - 4 - - - -	NO	I7L	14	0	0.0	10	6.4
15	Limited	- - - 4 - - - -	NO	I8U	15	0	0.0	10	2.3
16	Limited	- - - 4 - - - -	NO	I8L	16	0	0.0	10	7.8
17	Count+Call+Extend	1 - - - - - - -	NO	I9U	17	0	0.0	10	3.6
18	Count+Call+Extend	- - 3 - - - - -	NO	I9L	18	0	0.0	10	3.8
19	None	- - - - - - - -	NO	I10U	19	0	0.0	10	4.1
20	None	- - - - - - - -	NO	I10L	20	0	0.0	10	4.2
21	Count+Call+Extend	- - - - 5 - - -	NO	J1U	21	0	0.0	10	3.1
22	Count+Call+Extend	- - - - 5 - - -	NO	J1L	22	0	0.0	10	7.1
23	Count+Call+Extend	- - - - - 6 - -	NO	J2U	23	0	1.2	10	1.2
24	Count+Call+Extend	- - - - - 6 - -	NO	J2L	24	0	1.2	10	1.6
25	Count+Call+Extend	- - - - - 6 - -	NO	J3U	25	0	0.0	10	4.6
26	Call+Extend	- - - - - 6 - -	NO	J3L	26	0	0.0	10	6.3
27	Limited	- - - - - 6 - -	NO	J4U	27	0	0.0	10	2.2
28	Limited	- - - - - 6 - -	NO	J4L	28	0	0.0	10	7.3
29	Count+Call+Extend	- - - - - - 7 -	NO	J5U	29	0	0.0	10	3.3
30	Count+Call+Extend	- - - - - - 7 -	NO	J5L	30	0	0.0	10	7.5
31	Count+Call+Extend	- - - - - - - 8	NO	J6U	31	2	1.3	10	1.4
32	Count+Call+Extend	- - - - - - - 8	NO	J6L	32	2	1.3	10	1.8
33	Count+Call+Extend	- - - - - - - 8	NO	J7U	33	0	0.0	10	4.8
34	Call+Extend	- - - - - - - 8	NO	J7L	34	10	0.0	10	6.5
35	Limited	- - - - - - - 8	NO	J8U	35	0	2.0	10	2.4
36	Limited	- - - - - - - 8	NO	J8L	36	0	2.0	10	7.7
37	Count+Call+Extend	- - - - 5 - - -	NO	J9U	37	0	0.0	10	3.5
38	Count+Call+Extend	- - - - - - 7 -	NO	J9L	38	0	0.0	10	3.7
39	None	- - - - - - - -	NO	J10U	39	0	0.0	10	4.3
40	None	- - - - - - - -	NO	J10L	40	0	0.0	10	4.4
41	Pedestrian	- 2 - - - - - -	NO	I12U	41	0	0.0	10	5.1
42	Pedestrian	- - - 4 - - - -	NO	I12L	42	0	0.0	10	5.3
43	Pedestrian	- - - - - 6 - -	NO	I13U	43	0	0.0	10	5.2
44	Pedestrian	- - - - - - - 8	NO	I13L	44	0	0.0	10	5.4

Failure Times (5-3)	Minutes
Maximum On Time	0
Fail Reset Time	0

Failure Override (5-4)	
Detectors 1-8	- - - - - - - -
Detectors 9-16	- - - - - - - -
Detectors 17-24	- - - - - - - -
Detectors 25-32	- - - - - - - -
Detectors 33-40	- - - - - - - -
Detectors 41-44	- - - - - - - -

System Detector Assignment (5-5)								
Sys Det	1	2	3	4	5	6	7	8
Det Num	0	0	0	0	0	0	0	0
Sys Det	9	10	11	12	13	14	15	16
Det Num	0	0	0	0	0	0	0	0

CIC Operation (5-6-1)	
Enable in Plans	- - - - - - - - -

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.0	

Detector-to-Phase Assignment (5-6-3)								
Sys Det	1	2	3	4	5	6	7	8
Phase	0	0	0	0	0	0	0	0
Sys Det	9	10	11	12	13	14	15	16
Phase	0	0	0	0	0	0	0	0

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

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TOD SCHEDULE

Table 1 (8-2-1)			Table 2 (8-2-2)			Table 3 (8-2-3)			Table 4 (8-2-4)			Table 5 (8-2-5)			Table 6 (8-2-6)		
Time	Plan	OS	Hour	Plan	OS	Hour	Plan	OS	Hour	Plan	OS	Hour	Plan	OS	Hour	Plan	OS
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

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HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1	0	0	- - - - - - - -	0
2	0	0	- - - - - - - -	0
3	0	0	- - - - - - - -	0
4	0	0	- - - - - - - -	0
5	0	0	- - - - - - - -	0
6	0	0	- - - - - - - -	0
7	0	0	- - - - - - - -	0
8	0	0	- - - - - - - -	0
9	0	0	- - - - - - - -	0
10	0	0	- - - - - - - -	0
11	0	0	- - - - - - - -	0
12	0	0	- - - - - - - -	0
13	0	0	- - - - - - - -	0
14	0	0	- - - - - - - -	0
15	0	0	- - - - - - - -	0
16	0	0	- - - - - - - -	0

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1	0	0	- - - - - - - -	0
2	0	0	- - - - - - - -	0
3	0	0	- - - - - - - -	0
4	0	0	- - - - - - - -	0
5	0	0	- - - - - - - -	0
6	0	0	- - - - - - - -	0
7	0	0	- - - - - - - -	0
8	0	0	- - - - - - - -	0
9	0	0	- - - - - - - -	0
10	0	0	- - - - - - - -	0
11	0	0	- - - - - - - -	0
12	0	0	- - - - - - - -	0
13	0	0	- - - - - - - -	0
14	0	0	- - - - - - - -	0
15	0	0	- - - - - - - -	0
16	0	0	- - - - - - - -	0

Solar Clock Data (8-4)	
North Latitude	37
West Longitude	120
Local Time Zone	8

Sabbatical Clock (8-5)	
Hebrew	Ped Recall
Sabbath	- - - - - - - - -
Holiday	- - - - - - - - -

Daylight Saving (8-6)	
Daylight Saving	YES

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1	0630	2030	1 2 3 4 5 6 7	17	- 2 - - - 6 - 8
2	0000	0000	- - - - - - -	0	- - - - - - - - - -
3	0000	0000	- - - - - - -	0	- - - - - - - - - -
4	0000	0000	- - - - - - -	0	- - - - - - - - - -
5	0000	0000	- - - - - - -	0	- - - - - - - - - -
6	0000	0000	- - - - - - -	0	- - - - - - - - - -
7	0000	0000	- - - - - - -	0	- - - - - - - - - -
8	0000	0000	- - - - - - -	0	- - - - - - - - - -
9	0000	0000	- - - - - - -	0	- - - - - - - - - -
10	0000	0000	- - - - - - -	0	- - - - - - - - - -
11	0000	0000	- - - - - - -	0	- - - - - - - - - -
12	0000	0000	- - - - - - -	0	- - - - - - - - - -
13	0000	0000	- - - - - - -	0	- - - - - - - - - -
14	0000	0000	- - - - - - -	0	- - - - - - - - - -
15	0000	0000	- - - - - - -	0	- - - - - - - - - -
16	0000	0000	- - - - - - -	0	- - - - - - - - - -

Action Codes:
0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11.Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped

41. Protected Permissive
42. Protected Permissive
Action Code = Phases added to normal setting

100+Action Code = Phases removed
200+Action Code = Phases replaced

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COMMUNICATIONS

C2 (6-1-1)	
Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

C20 (6-1-2)	
Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

C21 (6-1-3)	
Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

SOFT LOGIC

Soft Logic (6-2)

#	Data	OP	Data	OP	Data	OP	Data
1	00.0	00	00.0	00	00.0	00	00.0
2	00.0	00	00.0	00	00.0	00	00.0
3	00.0	00	00.0	00	00.0	00	00.0
4	00.0	00	00.0	00	00.0	00	00.0
5	00.0	00	00.0	00	00.0	00	00.0
6	00.0	00	00.0	00	00.0	00	00.0
7	00.0	00	00.0	00	00.0	00	00.0
8	00.0	00	00.0	00	00.0	00	00.0
9	00.0	00	00.0	00	00.0	00	00.0
10	00.0	00	00.0	00	00.0	00	00.0
11	00.0	00	00.0	00	00.0	00	00.0
12	00.0	00	00.0	00	00.0	00	00.0
13	00.0	00	00.0	00	00.0	00	00.0
14	00.0	00	00.0	00	00.0	00	00.0
15	00.0	00	00.0	00	00.0	00	00.0
16	00.0	00	00.0	00	00.0	00	00.0

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

NETWORK

Network (6-4)				
Address	1			
Protocol	AB3418			
Port	27000			
IP Mode	Static IP			
IP Address	10	53	52	199
Netmask	255	255	255	0
Broadcast	10	53	52	255
Gateway	10	53	52	254

RAILROAD PREEMPTION

RR 1	(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
	Delay	0	Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	- 2 - - 5 - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- 2 - 4 - 6 - 8	- - - - - -	- - - - - -	- - - - - -
	Clear 2	0	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - -	- - - - - -	- - - - - -
	Clear 3	0	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - -	- - - - - -	- - - - - -
	Hold	0	- - - - - - - -	- - - - - - - -	1 2 3 4 5 6 7 8	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - -	- - - - - -	A B C D E F
	Exit	5									
	Min Grn	0									
	Ped Clr	0									

Exit Parameters (3-1-5)			
Phase Green	Overlap Green	Vehicle Recall	Ped Call
- - - - - - - -	- - - - - -	1 2 3 4 5 6 7 8	- 2 - 4 - 6 - 8

Configuration (3-1-6)			
Port	Gate Port	Latching	Power-Up
2.5	0.0	Yes	Flashing

RR 2	(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
	Delay	0	Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	- - - 4 - - 7 -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- 2 - 4 - 6 - 8	- - - - - -	- - - - - -	- - - - - -
	Clear 2	0	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - -	- - - - - -	- - - - - -
	Clear 3	0	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - -	- - - - - -	- - - - - -
	Hold	0	1 2 3 - - 6 - -	- - - - - - - -	- - - - - - - -	- 2 - - - 6 - -	- - - - - - - -	- - - 4 - - - 8	- - - - - -	- - - - - -	- - - - - -
	Exit	0									
	Min Grn	0									
	Ped Clr	0									

Exit Parameters (3-2-5)			
Exit Ph Grn	Exit Ovl Grn	Exit Veh Recall	Exit Ped Call
- - - - - - - -	- - - - - -	- - - 4 - - 7 -	- - - - - - - -

Configuration (3-2-6)			
Port	Gate Port	Latching	Power-Up
2.6	0.0	Yes	Flashing

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)	Preempt Timers			Phase Green	Overlap Grn
	Delay	Clear	Max		
	0	30	30	- 2 - - 5 - - -	- - - - - -

Port	Latching	Phase Termination
5.5	No	Advance

EVC (3-C)	Preempt Timers			Phase Green	Overlap Grn
	Delay	Clear	Max		
	0	30	30	1 - - - - 6 - -	- - - - - -

Port	Latching	Phase Termination
5.7	No	Advance

EVB (3-B)	Preempt Timers			Phase Green	Overlap Grn
	Delay	Clear	Max		
	0	30	30	- - - 4 - - 7 -	- - - - - -

Port	Latching	Phase	Phase Termination
5.6	No		Advance

EVD (3-D)	Preempt Timers			Phase Green	Overlap Grn
	Delay	Clear	Max		
	0	30	30	- - 3 - - - - 8	- - - - - -

Port	Latching	Phase	Phase Termination
5.8	No		Advance

INPUTS

		7 Wire I/C(2-1-5-1)			
		Input	Port	Input	Port
Enable	No	R1	3.8	Free	3.6
Max ON	0	R2	3.5	D2	2.8
Max OFF	0	R3	3.7	D3	6.1

Manual Control(2-1-5-2)	
Input	Port
Manual Adv	6.6
Adv Enable	6.6

Battery Backup (2-1-5-5)	
Port	Operation
2.7	Flashing

Cabinet Staus (2-1-5-3)	
Input	Port
Flash Bus	0.0
Door Ajar	0.0
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	0.0
2	0.0
3	0.0
4	0.0

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

OUTPUTS

Loadswitch Assignments (2-1-6)							
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:
0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7

51-57 Special Functions
71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6

YELLOW YIELD COORDINATION

Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	Force-Offs 1	2	3	4	5	6	7	8	Coord	Lag	Min Recall	Restricted
Plan C	0	0	0	0	0	0	0	0	0	0	0	0	- 2 - - - 6 - -	- 2 - 4 - 6 - 8	- - - - - - - -	- - - - - - - -
Plan D	0	0	0	0	0	0	0	0	0	0	0	0	- 2 - - - 6 - -	- 2 - 4 - 6 - 8	- - - - - - - -	- - - - - - - -

TRANSIT PRIORITY

Local Plans (3-E) 1...9 1...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 2	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 3	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 4	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 5	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 6	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 7	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 8	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 9	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 11	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 12	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 13	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 14	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 15	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 16	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 17	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 18	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 19	Green Factor	0	0	0	0	0	0	0	0	0	0	0

Enable Priority in Plan (3-E-A)					
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	- - - - - - - -	0.0	OPT	0	0
Plan 11-19	- - - - - - - -	0.0	OPT	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
0	- - - - - - - -
0	- - - - - - - -

Free Plans (3-E-E)	
Max Green	Hold Phase
0	- - - - - - - -

Access Utilities (9-5)	
Password	***
Timeout	30

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
	0.0	0.0	0	0	- - - - - - - -	0.0	0.0	0.0	0	0.0	0

CONTROLLER ID

Manufacturer ID	Caltrans TSCP Ver 2.21
Model ID	Model 2070
Protocol Revision ID	AB3418

Intersection Name: 180EB @ Fowler
Controller 42180029.4 Channel: 4218 Drop: 1
System: TransCore TransSuite TCS
Controller Type: Caltrans TSCPE
Revision - Version -
TransCore Unified Controller Manager 21.4.0

Zero Tables	Non-Zero Tables
AllRedLabel	ConfigurationPhaseFlags
LocalPlan 1 9	PhaseTiming
ForceOffCalculation	OverlapTiming
LocalPlan 11 19	CoordPlanConfig
ForceOffCalculation	CoordinationPlans 1 9
LocalPlan 21 29	CoordinationPlans 11 19
ForceOffCalculation	CoordinationPlans 21 29
DetectorFail	Detectors
SystemDetectorAssignment	CICOperations
HolidayTables	TODSchedule
SoftLogic	WeekdayAssignment
TransitPriority	ClockConfig
TruckPriority	TODFunctions
	Communications
	CallbackNumbers
	Network
	RailroadPreemption
	EmergencyVehiclePreemption
	Inputs
	Outputs
	YellowYieldCoordination
	TSPConfig
	Checksum
	CONTROLLER ID

Journal Entries

2021/08/10 08:21:51: [By s128221] 20210810_OPR_NC

State of California
DEPARTMENT OF TRANSPORTATION

2070 Controller Timing Chart

Caltrans TSCP Ver 2.21

Location:		Designed By:
System:	District:	Intalled By:
Master At:	I/C:	Service Info:

Timing Change:	By:	Date Start:	Date End:	Designed:	Installed:

		FLASH
	1)	[ ]
P	2)	[ ]
H	3)	[ ]
A	4)	[ ]
S	5)	[ ]
E	6)	[ ]
	7)	[ ]
	8)	[ ]
OVERLAP	A)	[ ]
	B)	[ ]
	C)	[ ]
	D)	[ ]
	E)	[ ]
	F)	[ ]

Intersection Layout

Comments and Notes:

RAM Checksum

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Page 3:	13C0	Page 9:	ED92
Page 4:	F29E	Page 10:	A4F6
Page 5:	191A	Page 11:	93EE
Page 6:	191A	Page 12:	EF20
Page 7:	7C74	Page 13:	86F7

CONFIGURATION PHASE FLAGS

Phases (2-1-1-1)	
Permitted	1 2 - 4 - 6 - -
Restricted	- - - - - - - -

Phase Recalls (2-1-1-2)	
Vehicle Min	- 2 - - - 6 - -
vehicle Max	- - - - - - - -
Pedestrian	- - - - - - - -
Bicyle	- - - - - - - -

Phase Locks (2-1-1-3)	
Red	- - - - - - - -
Yellow	- - - - - - - -
Force/Max	- - - - - - - -

Phase Features (2-1-1-4)	
Double Entry	- - - - - - - -
Rest In Walk	- - - - - - - -
Rest In Red	- - - - - - - -
Walk2	- - - - - - - -
Max Green 2	1 2 - 4 - 6 - -
Max Green 3	- - - - - - - -

Startup (2-1-1-5)	
First Green Phases	- 2 - - - 6 - -
Yellow Start Phases	- - - - - - - -
Vehicle Calls	1 2 - 4 - 6 - -
Pedestrian Calls	- 2 - - - 6 - -
Yellow Start Overlaps	- - - - - -
Startup All-Red	6.0

Call To Phase (2-1-2-1)		Omit On Green	
1	- - - - - - - -	1	- - - - - - - -
2	- - - - - - - -	2	- - - - - - - -
3	- - - - - - - -	3	- - - - - - - -
4	- - - - - - - -	4	- - - - - - - -
5	- - - - - - - -	5	- - - - - - - -
6	- - - - - - - -	6	- - - - - - - -
7	- - - - - - - -	7	- - - - - - - -
8	- - - - - - - -	8	- - - - - - - -

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	- - - - - - - -
Yellow Flash Overlap	- - - - - - - -
Flash In Red Phases	- - - - - - - -
Flash In Red Overlap	- - - - - - - -

Protected Permissive (2-1-2-4)	
Protected Permissive	- - - - - - - -

Special Operation (2-1-2-3)	
Single Exit Phase	- - - - - - - -
Driveway Signal Phases	- - - - - - - -
Driveway Signal Overlaps	- - - - - - - -
Leading Ped Phases	- - - - - - - -

Pedestrian (2-1-3)	
P1	- - - - - - - -
P2	- 2 - - - - - -
P3	- - - - - - - -
P4	- - - - - - - -
P5	- - - - - - - -
P6	- - - - - 6 - -
P7	- - - - - - - -
P8	- - - - - - - -

Overlap	Parent	Omit	No Start	Not
A [Arrow A]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
B [Arrow B]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
C [OL A]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
D [OL B]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
E [OL C]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
F [OL D]	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -

Overlap (2-1-4)

[-] 332 Cabinet Overlap Assignment - For Reference Only

PAGE 2 CHECKSUM: 9E95

PHASE TIMING

PHASE (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	0	0	7	0	0
Flash Don't Walk	0	24	0	0	0	24	0	0
Minimum Green	6	11	0	8	0	11	0	0
Det Limit	0	30	0	20	0	30	0	0
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	15	30	0	20	0	30	0	0
Max Green 2	25	40	0	30	0	40	0	0
Max Green 3	0	0	0	0	0	0	0	0
Extension	2.0	5.2	0.0	6.3	0.0	5.2	0.0	0.0
Maximum Gap	2.0	7.2	0.0	8.7	0.0	7.2	0.0	0.0
Minimum Gap	2.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0
Reduce Every	0.0	0.5	0.0	0.3	0.0	0.5	0.0	0.0
Yellow	3.7	4.4	3.0	4.1	3.0	4.4	3.0	3.0
All-Red	2.9	2.1	0.0	2.3	0.0	2.1	0.0	0.0
Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A [Arrow A]	B [Arrow B]	C [OL A]	D [OL B]	E [OL C]	F [OL D]
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert (2-5)	
Time	5.0

Red To Se (2-6)	
Red To Sec	OFF

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

PAGE 3 CHECKSUM: 13C0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor		0.0	- - - - - - - -											
Plan 2	Green Factor		0.0	- - - - - - - -											
Plan 3	Green Factor		0.0	- - - - - - - -											
Plan 4	Green Factor		0.0	- - - - - - - -											
Plan 5	Green Factor		0.0	- - - - - - - -											
Plan 6	Green Factor		0.0	- - - - - - - -											
Plan 7	Green Factor		0.0	- - - - - - - -											
Plan 8	Green Factor		0.0	- - - - - - - -											
Plan 9	Green Factor		0.0	- - - - - - - -											

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 2	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 3	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 4	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 5	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 6	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 7	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 8	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 9	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -

Master Timer Sync (7-A)	
Enable in Plans	
1-9	- - - - - - - - -
11-19	- - - - - - - - -
21-29	- - - - - - - - -

Master Sub Master	
Input	0.0
Output	0

(7-E) Free	
Lag	Omit
- 2 - 4 - 6 - 8	- - - - - - - -
Veh Min	Veh Max
- 2 - - - 6 - -	- - - - - - - -
Ped	Bike
- - - - - - - -	- - - - - - - -
Cond	Cond Grn
- - - - - - - -	10

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	Offset
0	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

PAGE 4 CHECKSUM: F29E

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

		Cycle	Multi	Lag Gap	A	B	C	1	2	3	4	5	6	7	8
					[Offsets]			Green Factors or Press [F] to Select Force-Off							
Plan 11	Green Factor		0.0	- - - - - - - -											
Plan 12	Green Factor		0.0	- - - - - - - -											
Plan 13	Green Factor		0.0	- - - - - - - -											
Plan 14	Green Factor		0.0	- - - - - - - -											
Plan 15	Green Factor		0.0	- - - - - - - -											
Plan 16	Green Factor		0.0	- - - - - - - -											
Plan 17	Green Factor		0.0	- - - - - - - -											
Plan 18	Green Factor		0.0	- - - - - - - -											
Plan 19	Green Factor		0.0	- - - - - - - -											

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 12	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 13	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 14	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan15	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 16	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 17	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 18	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 19	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -

PAGE 5 CHECKSUM: 191A

Local Plan 21...29 (7-3) TIMING DATA COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	1	2	3	4	5	6	7	8
Plan 21	Green Factor		0.0	- - - - - - - -											
Plan 22	Green Factor		0.0	- - - - - - - -											
Plan 23	Green Factor		0.0	- - - - - - - -											
Plan 24	Green Factor		0.0	- - - - - - - -											
Plan 25	Green Factor		0.0	- - - - - - - -											
Plan 26	Green Factor		0.0	- - - - - - - -											
Plan 27	Green Factor		0.0	- - - - - - - -											
Plan 28	Green Factor		0.0	- - - - - - - -											
Plan 29	Green Factor		0.0	- - - - - - - -											

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 22	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 23	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 24	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 25	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 26	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 27	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 28	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -
Plan 29	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -

DETECTORS

Det	Type	Phases	Lock	Slot
	Detector Attributes (5-1)			
1	Count+Call+Extend	1 - - - - - - -	NO	I1U
2	Count+Call+Extend	1 - - - - - - -	NO	I1L
3	Count+Call+Extend	- 2 - - - - - -	NO	I2U
4	Count+Call+Extend	- 2 - - - - - -	NO	I2L
5	Count+Call+Extend	- 2 - - - - - -	NO	I3U
6	Call+Extend	- 2 - - - - - -	NO	I3L
7	Limited	- 2 - - - - - -	NO	I4U
8	Limited	- 2 - - - - - -	NO	I4L
9	Count+Call+Extend	- - 3 - - - - -	NO	I5U
10	Count+Call+Extend	- - 3 - - - - -	NO	I5L
11	Count+Call+Extend	- - - 4 - - - -	NO	I6U
12	Count+Call+Extend	- - - 4 - - - -	NO	I6L
13	Count+Call+Extend	- - - 4 - - - -	NO	I7U
14	Call+Extend	- - - 4 - - - -	NO	I7L
15	Limited	- - - 4 - - - -	NO	I8U
16	Limited	- - - 4 - - - -	NO	I8L
17	Count+Call+Extend	1 - - - - - - -	NO	I9U
18	Count+Call+Extend	- - 3 - - - - -	NO	I9L
19	None	- - - - - - - -	NO	I10U
20	None	- - - - - - - -	NO	I10L
21	Count+Call+Extend	- - - - 5 - - -	NO	J1U
22	Count+Call+Extend	- - - - 5 - - -	NO	J1L
23	Count+Call+Extend	- - - - - 6 - -	NO	J2U
24	Count+Call+Extend	- - - - - 6 - -	NO	J2L
25	Count+Call+Extend	- - - - - 6 - -	NO	J3U
26	Call+Extend	- - - - - 6 - -	NO	J3L
27	Limited	- - - - - 6 - -	NO	J4U
28	Limited	- - - - - 6 - -	NO	J4L
29	Count+Call+Extend	- - - - - - 7 -	NO	J5U
30	Count+Call+Extend	- - - - - - 7 -	NO	J5L
31	Count+Call+Extend	- - - - - - - 8	NO	J6U
32	Count+Call+Extend	- - - - - - - 8	NO	J6L
33	Count+Call+Extend	- - - - - - - 8	NO	J7U
34	Call+Extend	- - - - - - - 8	NO	J7L
35	Limited	- - - - - - - 8	NO	J8U
36	Limited	- - - - - - - 8	NO	J8L
37	Count+Call+Extend	- - - - 5 - - -	NO	J9U
38	Count+Call+Extend	- - - - - - 7 -	NO	J9L
39	None	- - - - - - - -	NO	J10U
40	None	- - - - - - - -	NO	J10L
41	Pedestrian	- 2 - - - - - -	NO	I12U
42	Pedestrian	- - - 4 - - - -	NO	I12L
43	Pedestrian	- - - - - 6 - -	NO	I13U
44	Pedestrian	- - - - - - - 8	NO	I13L

Detector Configuration (5-2)				
Det	Delay	Extend	Recall	Port
1	0	2.0	10	3.2
2	0	2.0	10	7.2
3	0	1.2	10	1.1
4	0	1.2	10	1.5
5	0	0.0	10	4.5
6	0	0.0	10	6.2
7	0	2.0	10	2.1
8	0	2.0	10	7.4
9	0	0.0	10	3.4
10	0	0.0	10	7.6
11	2	2.5	10	1.3
12	2	2.5	10	1.7
13	20	0.0	10	4.7
14	20	0.0	10	6.4
15	0	2.0	10	2.3
16	0	2.0	10	7.8
17	0	0.0	10	3.6
18	0	0.0	10	3.8
19	0	0.0	10	4.1
20	0	0.0	10	4.2
21	0	0.0	10	3.1
22	0	0.0	10	7.1
23	0	1.3	10	1.2
24	0	1.3	10	1.6
25	0	0.0	10	4.6
26	0	0.0	10	6.3
27	0	2.0	10	2.2
28	0	2.0	10	7.3
29	0	0.0	10	3.3
30	0	0.0	10	7.5
31	0	0.0	10	1.4
32	0	0.0	10	1.8
33	0	0.0	10	4.8
34	0	0.0	10	6.5
35	0	0.0	10	2.4
36	0	0.0	10	7.7
37	0	0.0	10	3.5
38	0	0.0	10	3.7
39	0	0.0	10	4.3
40	0	0.0	10	4.4
41	0	0.0	10	5.1
42	0	0.0	10	5.3
43	0	0.0	10	5.2
44	0	0.0	10	5.4

Failure Times (5-3)	Minutes
Maximum On Time	0
Fail Reset Time	0

Failure Override (5-4)	
Detectors 1-8	- - - - - - - -
Detectors 9-16	- - - - - - - -
Detectors 17-24	- - - - - - - -
Detectors 25-32	- - - - - - - -
Detectors 33-40	- - - - - - - -
Detectors 41-44	- - - - - - - -

System Detector Assignment (5-5)								
Sys Det	1	2	3	4	5	6	7	8
Det Num	0	0	0	0	0	0	0	0
Sys Det	9	10	11	12	13	14	15	16
Det Num	0	0	0	0	0	0	0	0

CIC Operation (5-6-1)	
Enable in Plans	- - - - - - - - -

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.0	

Detector-to-Phase Assignment (5-6-3)								
Sys Det	1	2	3	4	5	6	7	8
Phase	0	0	0	0	0	0	0	0
Sys Det	9	10	11	12	13	14	15	16
Phase	0	0	0	0	0	0	0	0

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

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TOD SCHEDULE

Table 1 (8-2-1)			Table 2 (8-2-2)			Table 3 (8-2-3)			Table 4 (8-2-4)			Table 5 (8-2-5)			Table 6 (8-2-6)		
Time	Plan	OS	Hour	Plan	OS	Hour	Plan	OS	Hour	Plan	OS	Hour	Plan	OS	Hour	Plan	OS
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A
0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A	0000	0	A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1	0	0	- - - - - - - -	0
2	0	0	- - - - - - - -	0
3	0	0	- - - - - - - -	0
4	0	0	- - - - - - - -	0
5	0	0	- - - - - - - -	0
6	0	0	- - - - - - - -	0
7	0	0	- - - - - - - -	0
8	0	0	- - - - - - - -	0
9	0	0	- - - - - - - -	0
10	0	0	- - - - - - - -	0
11	0	0	- - - - - - - -	0
12	0	0	- - - - - - - -	0
13	0	0	- - - - - - - -	0
14	0	0	- - - - - - - -	0
15	0	0	- - - - - - - -	0
16	0	0	- - - - - - - -	0

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1	0	0	- - - - - - - -	0
2	0	0	- - - - - - - -	0
3	0	0	- - - - - - - -	0
4	0	0	- - - - - - - -	0
5	0	0	- - - - - - - -	0
6	0	0	- - - - - - - -	0
7	0	0	- - - - - - - -	0
8	0	0	- - - - - - - -	0
9	0	0	- - - - - - - -	0
10	0	0	- - - - - - - -	0
11	0	0	- - - - - - - -	0
12	0	0	- - - - - - - -	0
13	0	0	- - - - - - - -	0
14	0	0	- - - - - - - -	0
15	0	0	- - - - - - - -	0
16	0	0	- - - - - - - -	0

Solar Clock Data (8-4)

North Latitude	36
West Longitude	119
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	- - - - - - - - -
Holiday	- - - - - - - - -

Daylight Saving (8-6)

Daylight Saving	YES

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1	0630	2030	1 2 3 4 5 6 7	17	1 2 - 4 - 6 - -
2	0000	0000	- - - - - - -	0	- - - - - - - -
3	0000	0000	- - - - - - -	0	- - - - - - - -
4	0000	0000	- - - - - - -	0	- - - - - - - -
5	0000	0000	- - - - - - -	0	- - - - - - - -
6	0000	0000	- - - - - - -	0	- - - - - - - -
7	0000	0000	- - - - - - -	0	- - - - - - - -
8	0000	0000	- - - - - - -	0	- - - - - - - -
9	0000	0000	- - - - - - -	0	- - - - - - - -
10	0000	0000	- - - - - - -	0	- - - - - - - -
11	0000	0000	- - - - - - -	0	- - - - - - - -
12	0000	0000	- - - - - - -	0	- - - - - - - -
13	0000	0000	- - - - - - -	0	- - - - - - - -
14	0000	0000	- - - - - - -	0	- - - - - - - -
15	0000	0000	- - - - - - -	0	- - - - - - - -
16	0000	0000	- - - - - - -	0	- - - - - - - -

Action Codes:
0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11.Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped

41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting

100+Action Code = Phases removed
200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

C20 (6-1-2)	
Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

C21 (6-1-3)	
Address	0
Protocol	AB3418
Limit Access	None
Baud	1200
Parity	None
Data Bits	8 data bits
Stop Bits	1 stop bit
RTS On Time	20
RTS Off Time	20
Handshaking	Normal

SOFT LOGIC

Soft Logic (6-2)							
#	Data	OP	Data	OP	Data	OP	Data
1	00.0	00	00.0	00	00.0	00	00.0
2	00.0	00	00.0	00	00.0	00	00.0
3	00.0	00	00.0	00	00.0	00	00.0
4	00.0	00	00.0	00	00.0	00	00.0
5	00.0	00	00.0	00	00.0	00	00.0
6	00.0	00	00.0	00	00.0	00	00.0
7	00.0	00	00.0	00	00.0	00	00.0
8	00.0	00	00.0	00	00.0	00	00.0
9	00.0	00	00.0	00	00.0	00	00.0
10	00.0	00	00.0	00	00.0	00	00.0
11	00.0	00	00.0	00	00.0	00	00.0
12	00.0	00	00.0	00	00.0	00	00.0
13	00.0	00	00.0	00	00.0	00	00.0
14	00.0	00	00.0	00	00.0	00	00.0
15	00.0	00	00.0	00	00.0	00	00.0
16	00.0	00	00.0	00	00.0	00	00.0

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

Line Out	0
Local Toll	0
Long Distance	0
Delay	10
Area Code	0
Phone Number	0 - 0

NETWORK

Network (6-4)				
Address	1			
Protocol	AB3418			
Port	27000			
IP Mode	Static IP			
IP Address	10	53	52	203
Netmask	255	255	255	0
Broadcast	10	53	52	255
Gateway	10	53	52	254

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RAILROAD PREEMPTION

RR 1	(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
	Delay	0	Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	- 2 - - 5 - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- 2 - 4 - 6 - 8	- - - - - -	- - - - - -	- - - - - -
	Clear 2	0	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - -	- - - - - -	- - - - - -
	Clear 3	0	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - -	- - - - - -	- - - - - -
	Hold	0	- - - - - - - -	- - - - - - - -	1 2 3 4 5 6 7 8	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - -	- - - - - -	A B C D E F
	Exit	5									
	Min Grn	0									
	Ped Clr	0									

Exit Parameters (3-1-5)			
Phase Green	Overlap Green	Vehicle Recall	Ped Call
- - - - - - - -	- - - - - -	1 2 3 4 5 6 7 8	- 2 - 4 - 6 - 8

Configuration (3-1-6)			
Port	Gate Port	Latching	Power-Up
2.5	0.0	Yes	Flashing

RR 2	(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
	Delay	0	Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
	Clear 1	10	- - - 4 - - 7 -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- 2 - 4 - 6 - 8	- - - - - -	- - - - - -	- - - - - -
	Clear 2	0	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - -	- - - - - -	- - - - - -
	Clear 3	0	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - - - -	- - - - - -	- - - - - -	- - - - - -
	Hold	0	1 2 3 - - 6 - -	- - - - - - - -	- - - - - - - -	- 2 - - - 6 - -	- - - - - - - -	- - - 4 - - - 8	- - - - - -	- - - - - -	- - - - - -
	Exit	0									
	Min Grn	0									
	Ped Clr	0									

Exit Parameters (3-2-5)			
Exit Ph Grn	Exit Ovl Grn	Exit Veh Recall	Exit Ped Call
- - - - - - - -	- - - - - -	- - - 4 - - 7 -	- - - - - - - -

Configuration (3-2-6)			
Port	Gate Port	Latching	Power-Up
2.6	0.0	Yes	Flashing

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)	Preempt Timers			Phase Green	Overlap Grn
	Delay	Clear	Max		
	0	30	30	- 2 - - 5 - - -	- - - - - -

Port	Latching	Phase Termination
5.5	No	Advance

EVB (3-B)	Preempt Timers			Phase Green	Overlap Grn
	Delay	Clear	Max		
	0	30	30	- - - 4 - - 7 -	- - - - - -

Port	Latching	Phase	Phase Termination
5.6	No		Advance

EVC (3-C)	Preempt Timers			Phase Green	Overlap Grn
	Delay	Clear	Max		
	0	30	30	1 - - - - 6 - -	- - - - - -

Port	Latching	Phase Termination
5.7	No	Advance

EVD (3-D)	Preempt Timers			Phase Green	Overlap Grn
	Delay	Clear	Max		
	0	30	30	- - 3 - - - - 8	- - - - - -

Port	Latching	Phase	Phase Termination
5.8	No		Advance

INPUTS

		7 Wire I/C(2-1-5-1)			
		Input	Port	Input	Port
Enable	No	R1	3.8	Free	3.6
Max ON	0	R2	3.5	D2	2.8
Max OFF	0	R3	3.7	D3	6.1

Manual Control(2-1-5-2)	
Input	Port
Manual Adv	6.6
Adv Enable	6.6

Battery Backup (2-1-5-5)	
Port	Operation
2.7	Flashing

Cabinet Staus (2-1-5-3)	
Input	Port
Flash Bus	0.0
Door Ajar	0.0
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	0.0
2	0.0
3	0.0
4	0.0

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

OUTPUTS

Loadswitch Assignments (2-1-6)							
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:
0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7
51-57 Special Functions
71-72 Seven Wire I/C

+ middle output of
loadswitches 3 and 6

YELLOW YIELD COORDINATION

Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	Force-Offs 1	2	3	4	5	6	7	8	Coord	Lag	Min Recall	Restricted
Plan C	0	0	0	0	0	0	0	0	0	0	0	0	- 2 - - - 6 - -	- 2 - 4 - 6 - 8	- - - - - - - -	- - - - - - - -
Plan D	0	0	0	0	0	0	0	0	0	0	0	0	- 2 - - - 6 - -	- 2 - 4 - 6 - 8	- - - - - - - -	- - - - - - - -

TRANSIT PRIORITY

Local Plans (3-E) 1...9 1...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 2	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 3	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 4	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 5	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 6	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 7	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 8	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 9	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 11	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 12	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 13	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 14	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 15	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 16	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 17	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 18	Green Factor	0	0	0	0	0	0	0	0	0	0	0
Plan 19	Green Factor	0	0	0	0	0	0	0	0	0	0	0

Enable Priority in Plan (3-E-A)					
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	- - - - - - - -	0.0	OPT	0	0
Plan 11-19	- - - - - - - -	0.0	OPT	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
0	- - - - - - - -
0	- - - - - - - -

Free Plans (3-E-E)	
Max Green	Hold Phase
0	- - - - - - - -

Access Utilities (9-5)	
Password	***
Timeout	30

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
	0.0	0.0	0	0	- - - - - - - -	0.0	0.0	0.0	0	0.0	0

CONTROLLER ID

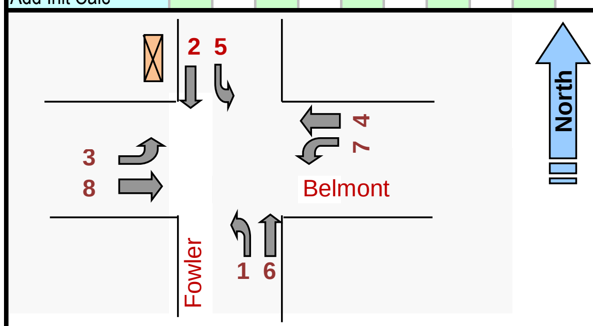
Manufacturer ID	Caltrans TSCP Ver 2.21
Model ID	Model 2070
Protocol Revision ID	AB3418

Times [1.1.1]

Movement	NL	ST	EL	WT	SL	NT	WL	ET		
Times [1.1.1]	1	2	3	4	5	6	7	8	9	10
Min Green	8	8	8	8	8	8	8	8		0
Gap, Ext	2	6.5	2	5.5	2	6.5	2	5.6		0
Max 1	20	35	20	25	20	35	20	25		0
Max 2	12	25	12	15	12	25	12	15		0
Yel Clearance	3.6	3.9	3.9	4.3	3.6	3.9	3.9	4.3		0
Red Clearance	1	1	1	1	2	1	1	1		0
Walk	0	5	0	5		5		5		0
Ped Clearance	0	27	0	35		30		32		0
Red Revert	2	2	2	2	2	2	2	2		0
Add Initial	0		0			0		0		0
Max Initial	0		0			0		0		0
Time B4 Reduct	0	8	0	8		8		8		0
Cars B4 Reduct	0		0			0		0		0
Time To Reduce	0	18	0	11		18		11		0
Reduce By	0		0			0		0		0
Min Gap	2	2	2	2	2	2	2	2		0
DyMaxLim	0		0			0		0		0
Max Step	0		0			0		0		0

Options [1.1.2]

Options [1.1.2]	1	2	3	4	5	6	7	8	9	10
Enable	X	X	X	X	X	X	X	X		
Min Recall										
Max Recall										
Ped Recall										
Soft Recall		X				X				
Lock Calls										
Auto Flash Entry										
Auto Flash Exit										
Dual Entry		X		X		X		X		
Enable Simul Gap										
Gaurantee Passage										
Rest In Walk										
Conditonal Service										
Non-Actuated 1										
Non-Actuated 2										
Add Init Calc										



Phase Options+ [1.1.3]

Options+	1	2	3	4	5	6	7	8	9	10
Reservice										
PedClr Thru Yel										
SkipRed-NoCall										
Red Rest										
Max II										
*Max III										
Max Inhibit										
Ped Delay										
Red Rest on Gap										
Conflicting Phase	0	0	0	0	0	0	0	0	0	0
Grn/Ped Delay										
Omit Yel, Yel P	0	0	0	0	0	0	0	0	0	0
Ped Out/Olp Ped										
StartYel, Next P	0	0	0	0	0	0	0	0	0	0
*StartupVehCall	1	2	3	4	5	6	7	8		
*StartupPedCall										

Phase Concurrency [1.1.4]

Phase	Ring	StartUp	Concurrent Phases						
1	1	RED	5	6	0	0			
2	1	GREEN	5	6	0	0			
3	1	RED	7	8	0	0			
4	1	RED	7	8	0	0			
5	2	RED	1	2	0	0			
6	2	GREEN	1	2	0	0			
7	2	RED	3	4	0	0			
8	2	RED	3	4	0	0			
9	0	RED	0	0	0	0			
10	0	RED	0	0	0	0			
11	0	RED	0	0	0	0			
12	0	RED	0	0	0	0			

Unit Params [1.2.1]

Screen Size	8	Metric	OFF
Startup Flash	0	Red Revert	2
MCE Timeout	0	Auto Ped Clear	OFF
Loc Flsh Start	RSt	Display Time	60
Yellow < 3"	OFF	Tone Disable	ON
Allow Skip Yel	OFF	AudioPedTime	0
Start Red Tm	6	Phase Mode	STD8
Startup Calls	UseProg	CNA FreeTime	0
TOD Dimming	OFF	Diamond Mode	4Ph
ST over Prmpt	OFF	Free Ring Seq	1
Feature Profile	1	IO Mode	USER
Mx Seek TrkTm	0	Max Cyc Timer	0
Mx Seek Dwell	0	CycFlt Actn	ALARM
Prmpt/Ext Coor	EXT	Clrnc Decide	OFF
Aux Switch	STOPTM	LPAlt Srs	3-6
*InhFYA Red St	OFF	Security Delay	0
RingA1go	0		

* - 76.12B or newer

Times+ [1.1.7]

	1	2	3	4	5	6	7	8
Walk2	0	0	0	0	0	0	0	0
BikeClr	0	0	0	0	0	0	0	0
GrnFlash	0	0	0	0	0	0	0	0
SfClrMn	0	0	0	0	0	0	0	0
SfClrNoFlsh	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
NoPed Reserv								

Phase Seq. (2 ring) Chart [1.2.4]

Seq #	Ring	Phases					
1	1	1	2	3	4	0	0
	2	5	6	7	8	0	0
2	1	1	2	3	4	0	0
	2	6	5	7	8	0	0
3	1	2	1	3	4	0	0
	2	5	6	7	8	0	0
4	1	2	1	3	4	0	0
	2	6	5	7	8	0	0
5	1	1	2	3	4	0	0
	2	5	6	8	7	0	0
6	1	1	2	3	4	0	0
	2	6	5	8	7	0	0
7	1	2	1	3	4	0	0
	2	5	6	8	7	0	0
8	1	2	1	3	4	0	0
	2	6	5	8	7	0	0
9	1	1	2	4	3	0	0
	2	5	6	7	8	0	0
10	1	1	2	4	3	0	0
	2	6	5	7	8	0	0
11	1	2	1	4	3	0	0
	2	5	6	7	8	0	0
12	1	2	1	4	3	0	0
	2	6	5	7	8	0	0
13	1	1	2	4	3	0	0
	2	5	6	8	7	0	0
14	1	1	2	4	3	0	0
	2	6	5	8	7	0	0
15	1	2	1	4	3	0	0
	2	5	6	8	7	0	0
16	1	2	1	4	3	0	0
	2	6	5	8	7	0	0

Comm Ports [6.6]

Channel	Port	Echo	Mode
Async 1	SP1	NONE	0
Async 2	SP2	NONE	0
Async 3	SP8	NONE	0
Async 4	OFF	NONE	0
Sync 1	SP5S		
Sync 2	OFF		
TS2CVM	NONE		
Opticom	NONE		
GPS	NONE		

Comm [6.2]

Port	Baud Rate	FCM
1	38400	6
2	9600	6
3	9600	6
4	9600	6

Comm [6.5]

					Host IPs			
IP Address:	192	168	1	20	ATMS			
Mask:	255	255	255	0	10	50	10	22
Gateway:	192	168	1	1	SG			
Port #:	5001				0	0	0	0

Advance Warning [1.1.9]

	Ph	Tm
Aux Out #1	0	0
Aux Out #2	0	0

NAME:	Belmont & Fowler	ID: 166	Configuration: Standard File
Prepared by:	PG	Date Installed / By:	2/24/2021
Checked by:	PG	Date Superseded:	

V76.12/13
Updated 12/6/17

Date Printed:
2/24/21

[2.1] Coord Modes+

Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX INH
Force Mode	FIXED
Flash Mode	CHANNEL

Coord Modes+ (Page 2)

FreeonSeqCh	ON
Closed Loop	OFF
External	OFF
Latch Sec Frc	OFF
Stop-in-Walk	OFF
Ped Recycle	P1256_INH
Expand Splt	OFF
Easy Float	OFF
Auto Reset	ON
NTCIP Yield	+ 0
Leave Walk	
Before	TIMED
After	TIMED

Intersection Name: **Belmont & Fowler**

City of FRESNO

ID: **166**

Date Printed: 2/24/2021

[2.4] Patterns

Pat#	Cyc	Off	Split	Seq
1	0	0	1	1
2	0	0	2	1
3	0	0	3	1
4	0	0	4	1
5	0	0	5	1
6	0	0	6	1
7	0	0	7	1
8	0	0	8	1
9	0	0	9	1
10	0	0	10	1
11	0	0	0	1
12	0	0	0	1
13	0	0	0	1

[2.7.1-24] Splits

Split	[2.7]	1	2	3	4	5	6	7	8	9	10
1	Split	0	0	0	0	0	0	0	0	0	0
	Crd-P										
	Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
2	Split	0	0	0	0	0	0	0	0	0	0
	Crd-P										
	Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
3	Split	0	0	0	0	0	0	0	0	0	0
	Crd-P										
	Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
4	Split	0	0	0	0	0	0	0	0	0	0
	Crd-P										
	Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
5	Split	0	0	0	0	0	0	0	0	0	0
	Crd-P										
	Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
6	Split	0	0	0	0	0	0	0	0	0	0
	Crd-P										
	Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
7	Split	0	0	0	0	0	0	0	0	0	0
	Crd-P										
	Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
8	Split	0	0	0	0	0	0	0	0	0	0
	Crd-P										
	Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
9	Split	0	0	0	0	0	0	0	0	0	0
	Crd-P										
	Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
10	Split	0	0	0	0	0	0	0	0	0	0
	Crd-P										
	Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
11	Split	0	0	0	0	0	0	0	0	0	0
	Crd-P										
	Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
12	Split	0	0	0	0	0	0	0	0	0	0
	Crd-P										
	Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON
13	Split	0	0	0	0	0	0	0	0	0	0
	Crd-P										
	Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON

[2.5] Transition

Pat#	Short	Long	Dwell	No Shortway Ø				E-Yld	Offset	Ret Hold	Flt	Min Veh	Min Ped	MI
1	10	25	0	0	0	0	0	0	EndGRN	-	-	-	X	OFF
2	10	25	0	0	0	0	0	0	EndGRN	-	-	-	X	OFF
3	10	25	0	0	0	0	0	0	EndGRN	-	-	-	X	OFF
4	10	25	0	0	0	0	0	0	EndGRN	-	-	-	X	OFF
5	10	25	0	0	0	0	0	0	EndGRN	-	-	-	X	OFF
6	10	25	0	0	0	0	0	0	EndGRN	-	-	-	X	OFF
7	10	25	0	0	0	0	0	0	EndGRN	-	-	-	X	OFF
8	10	25	0	0	0	0	0	0	EndGRN	-	-	-	X	OFF
9	10	25	0	0	0	0	0	0	EndGRN	-	-	-	-	OFF
10	10	25	0	0	0	0	0	0	EndGRN	-	-	-	-	OFF
11		17	0	0	0	0	0	0	BegGRN	-	-	-	-	OFF
12	0	17	0	0	0	0	0	0	BegGRN	-	-	-	-	OFF
13		17	0	0	0	0	0	0	BegGRN	-	-	-	-	OFF

[2.1] Coord Modes+

Test OpMode	0
Correction	SHRT/LNG
Maximum	MAX INH
Force Mode	FIXED
Flash Mode	CHANNEL
Coord Modes+ (Page 2)	
FreeonSeqCh	ON
Closed Loop	OFF
External	OFF
Latch Sec Frc	OFF
Stop-in-Walk	OFF
Ped Recycle	P1256_INH
Expand Splt	OFF
Easy Float	OFF
Auto Reset	ON
NTCIP Yield	+ 0
Leave Walk	
Before	TIMED
After	TIMED

Intersection Name: Belmont & Fowler

ID: 166

City of FRESNO

Date Printed: 2/24/2021

[2.4] Patterns / [2.7.1-24] Splits / [2.5] Transition

Pat#	Cyc	Off	Split	Seq	Split	[2.7]	1	2	3	4	5	6	7	8	9	10	Pat#	Short	Long	Dwell	No Shortway Ø				E-Yld	Offset	Ret Hold	Flt	Min Veh	Min Ped	MI
20	0	0	0	1	20	Split	0	0	0	0	0	0	0	0	0	0	20		17	0	0	0	0	0	0	BegGRN	-	-	-	-	OFF
						Crd-P																									
						Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON															
21	0	0	0	1	21	Split	0	0	0	0	0	0	0	0	0	0	21	0	17	0	0	0	0	0	0	BegGRN	-	-	-	-	OFF
						Crd-P																									
						Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON															
22	0	0	0	1	22	Split	0	0	0	0	0	0	0	0	0	0	22		17	0	0	0	0	0	0	BegGRN	-	-	-	-	OFF
						Crd-P																									
						Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON															
23	0	0	0	1	23	Split	0	0	0	0	0	0	0	0	0	0	23	0	17	0	0	0	0	0	0	BegGRN	-	-	-	-	OFF
						Crd-P																									
						Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON															
24	0	0	0	1	24	Split	0	0	0	0	0	0	0	0	0	0	24		17	0	0	0	0	0	0	BegGRN	-	-	-	-	OFF
						Crd-P																									
						Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON															
25	0	0	0	1	25	Split	0	0	0	0	0	0	0	0	0	0	25	0	17	0	0	0	0	0	0	BegGRN	-	-	-	-	OFF
						Crd-P																									
						Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON															
26	0	0	0	1	26	Split	0	0	0	0	0	0	0	0	0	0	26		17	0	0	0	0	0	0	BegGRN	-	-	-	-	OFF
						Crd-P																									
						Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON															
27	0	0	0	1	27	Split	0	0	0	0	0	0	0	0	0	0	27	0	17	0	0	0	0	0	0	BegGRN	-	-	-	-	OFF
						Crd-P																									
						Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON															
28	0	0	0	1	28	Split	0	0	0	0	0	0	0	0	0	0	28		17	0	0	0	0	0	0	BegGRN	-	-	-	-	OFF
						Crd-P																									
						Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON															
29	0	0	0	1	29	Split	0	0	0	0	0	0	0	0	0	0	29	0	17	0	0	0	0	0	0	BegGRN	-	-	-	-	OFF
						Crd-P																									
						Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON															
30	0	0	0	1	30	Split	0	0	0	0	0	0	0	0	0	0	30		17	0	0	0	0	0	0	BegGRN	-	-	-	-	OFF
						Crd-P																									
						Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON															
31	0	0	0	1	31	Split	0	0	0	0	0	0	0	0	0	0	31	0	17	0	0	0	0	0	0	BegGRN	-	-	-	-	OFF
						Crd-P																									
						Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON															
32	0	0	0	1	32	Split	0	0	0	0	0	0	0	0	0	0	32		17	0	0	0	0	0	0	BegGRN	-	-	-	-	OFF
						Crd-P																									
						Mode	NON	NON	NON	NON	NON	NON	NON	NON	NON	NON															

[2.7.X.3] TSP Split Table

Pat#	Cyc	Off	Split	Seq	SPLITS	1	2	3	4	5	6	7	8	9	10
1	0	0	1	1		0	0	0	0	0	0	0	0	0	0
					TSP - Max Reduction	0	0	0	0	0	0	0	0	0	0
					TSP - Max Extend	0	0	0	0	0	0	0	0	0	0
					Request	1	2	3	4						
					Strategy	0	0	0	0						
					TimSvcDes	0	0	0	0						
					TimEstDep	0	0	0	0						

Pat#	Cyc	Off	Split	Seq	SPLITS	1	2	3	4	5	6	7	8	9	10
2	0	0	2	1		0	0	0	0	0	0	0	0	0	0
					TSP - Max Reduction	0	0	0	0	0	0	0	0	0	0
					TSP - Max Extend	0	0	0	0	0	0	0	0	0	0
					Request	1	2	3	4						
					Strategy	0	0	0	0						
					TimSvcDes	0	0	0	0						
					TimEstDep	0	0	0	0						

Pat#	Cyc	Off	Split	Seq	SPLITS	1	2	3	4	5	6	7	8	9	10
3	0	0	3	1		0	0	0	0	0	0	0	0	0	0
					TSP - Max Reduction	0	0	0	0	0	0	0	0	0	0
					TSP - Max Extend	0	0	0	0	0	0	0	0	0	0
					Request	1	2	3	4						
					Strategy	0	0	0	0						
					TimSvcDes	0	0	0	0						
					TimEstDep	0	0	0	0						

Pat#	Cyc	Off	Split	Seq	SPLITS	1	2	3	4	5	6	7	8	9	10
4	0	0	4	1		0	0	0	0	0	0	0	0	0	0
					TSP - Max Reduction	0	0	0	0	0	0	0	0	0	0
					TSP - Max Extend	0	0	0	0	0	0	0	0	0	0
					Request	1	2	3	4						
					Strategy	0	0	0	0						
					TimSvcDes	0	0	0	0						
					TimEstDep	0	0	0	0						

Pat#	Cyc	Off	Split	Seq	SPLITS	1	2	3	4	5	6	7	8	9	10
5	0	0	5	1		0	0	0	0	0	0	0	0	0	0
					TSP - Max Reduction	0	0	0	0	0	0	0	0	0	0
					TSP - Max Extend	0	0	0	0	0	0	0	0	0	0
					Request	1	2	3	4						
					Strategy	0	0	0	0						
					TimSvcDes	0	0	0	0						
					TimEstDep	0	0	0	0						

Pat#	Cyc	Off	Split	Seq	SPLITS	1	2	3	4	5	6	7	8	9	10
6	0	0	6	1		0	0	0	0	0	0	0	0	0	0
					TSP - Max Reduction	0	0	0	0	0	0	0	0	0	0
					TSP - Max Extend	0	0	0	0	0	0	0	0	0	0
					Request	1	2	3	4						
					Strategy	0	0	0	0						
					TimSvcDes	0	0	0	0						
					TimEstDep	0	0	0	0						

Pat#	Cyc	Off	Split	Seq	SPLITS	1	2	3	4	5	6	7	8	9	10
9 - FREE	0	0	9	1		0	0	0	0	0	0	0	0	0	0
					TSP - Max Reduction	0	0	0	0	0	0	0	0	0	0
					TSP - Max Extend	0	0	0	0	0	0	0	0	0	0
					Request	1	2	3	4						
					Strategy	0	0	0	0						
					TimSvcDes	0	0	0	0						
					TimEstDep	0	0	0	0						

[2.9.2.(1-8)] Strategy Tables

STRATEGY_1

SvcPhases	0	0	0	0
Phs Omits	0	0	0	0
Ped Omits	0	0	0	0

STRATEGY_2

SvcPhases	0	0	0	0
Phs Omits	0	0	0	0
Ped Omits	0	0	0	0

STRATEGY_3

SvcPhases	0	0	0	0
Phs Omits	0	0	0	0
Ped Omits	0	0	0	0

STRATEGY_4

SvcPhases	0	0	0	0
Phs Omits	0	0	0	0
Ped Omits	0	0	0	0

STRATEGY_5

SvcPhases	0	0	0	0
Phs Omits	0	0	0	0
Ped Omits	0	0	0	0

STRATEGY_6

SvcPhases	0	0	0	0
Phs Omits	0	0	0	0
Ped Omits	0	0	0	0

STRATEGY_7

SvcPhases	0	0	0	0
Phs Omits	0	0	0	0
Ped Omits	0	0	0	0

STRATEGY_8

SvcPhases	0	0	0	0
Phs Omits	0	0	0	0
Ped Omits	0	0	0	0

Overlap 1-8 Program Parms & Parm+ [1.5.2.1] [1.5.2.8]

Olap	Parameter										
	Included Ø									NORMAL	
1	Modifier Ø									Grn	
	Conflict Ø									Yel	3
A	Conflict Olap									Red	1
	Conflict Ped										
	Included Ø									NORMAL	
2	Modifier Ø									Grn	
	Conflict Ø									Yel	3
B	Conflict Olap									Red	1
	Conflict Ped										
	Included Ø									NORMAL	
3	Modifier Ø									Grn	
	Conflict Ø									Yel	3
C	Conflict Olap									Red	1
	Conflict Ped										
	Included Ø									NORMAL	
4	Modifier Ø									Grn	
	Conflict Ø									Yel	3
D	Conflict Olap									Red	1
	Conflict Ped										
	Included Ø									NORMAL	
5	Modifier Ø									Grn	
	Conflict Ø									Yel	3
E	Conflict Olap									Red	1
	Conflict Ped										
	Included Ø									NORMAL	
6	Modifier Ø									Grn	
	Conflict Ø									Yel	3
F	Conflict Olap									Red	1
	Conflict Ped										
	Included Ø									NORMAL	
7	Modifier Ø									Grn	
	Conflict Ø									Yel	3
G	Conflict Olap									Red	1
	Conflict Ped										
	Included Ø									NORMAL	
8	Modifier Ø									Grn	
	Conflict Ø									Yel	3
H	Conflict Olap									Red	1
	Conflict Ped										

OLP GENERAL PARAMETERS [1.5.1]

Lock Inhibit	OFF
Conflict Lock Enable	OFF
Parent P Clearance	ON
Xtra Incl Phases	OFF
InhibitLockInterval	Always

Channel Parameters [1.8.3]

Pre Invert Rail Input	OFF

Preemption Options+ [3.Pre #.6]

Pre #	Enable	Type	Output	Pattern	Skip	Co+Pre	Flash	Max/Min
1	OFF	RAIL	TS2		OFF	OFF	OFF	MAX
2	OFF	RAIL	TS2	0	OFF	OFF	OFF	MAX
3	OFF	EMERG	TS2		OFF	OFF	OFF	MAX
4	OFF	EMERG	TS2	0	OFF	OFF	OFF	MAX
5	OFF	EMERG	TS2		OFF	OFF	OFF	MAX
6	OFF	EMERG	TS2	0	OFF	OFF	OFF	MAX

Preemption Times [3.#.1]

Pre #	Delay	MinDura	MaxPres	MinGrn	MinWlk	PedClr	Track Grn	Min Dwell
1								
2	0	0	0	0	0	0	0	0
3		10	60	6		10		10
4	0	10	60	6	0	10	0	10
5		10	60	6		10		10
6	0	10	60	6	0	10	0	10

Preemption, Options [3.#.3]

Pre #	Lock Input	Over-ride Auto Flash		Over-ride Higher Preempt		Flash Dwell		Link
1	OFF		OFF		OFF		ON	
2	OFF		OFF		OFF		OFF	0
3	OFF		OFF		OFF		OFF	
4	OFF		OFF		OFF		OFF	0
5	OFF		OFF		OFF		OFF	
6	OFF		OFF		OFF		OFF	0

Preemption, Times+ [3.#.4]

Pre No.	Extend Dwell	Return Max	Ped Clr	Yel	Red
1					
2	0	0	0	0	0
3		20	10	3.9	2
4	0	20	10	3.9	2
5		20	10	3.9	2
6	0	20	10	3.9	2

Pre 1 = RR1
Pre 2 = RR2
Pre 3 = EVA
Pre 4 = EVB
Pre 5 = EVC
Pre 6 = EVD

Phases [3.#.2] - set the Dwell Phases

Pre #	Column	1	2	3	4	5	6	7	8	9	10
1	Dwell Veh										
	Peds										
2	Dwell Veh										
	Peds										
3	Dwell Veh	2	5								
	Peds										
4	Dwell Veh	4	7								
	Peds										
5	Dwell Veh	6	1								
	Peds										
6	Dwell Veh	8	3								
	Peds										

Phases [3.#.2] - Trk Veh

Pre #	Phases			
1				
2				
3				
4				
5				
6				

Exit Phases [3.#.2]

No.	Exit Phase			
1				
2				
3	2	6		
4	4	8		
5	2	6		
6	4	8		

Overlaps+ [3.#.5]

Pre #		Preempt Overlaps +									
1	Track	0	0	0	0	0	0	0	0	0	0
	Dwell										
2	Track	0	0	0	0	0	0	0	0	0	0
	Dwell										
3	Track	0	0	0	0	0	0	0	0	0	0
	Dwell										
4	Track	0	0	0	0	0	0	0	0	0	0
	Dwell										
5	Track	0	0	0	0	0	0	0	0	0	0
	Dwell										
6	Track	0	0	0	0	0	0	0	0	0	0
	Dwell										

Prog Parms+ (MM>1>5>2>X>3)

OverlapB+: 1-A

Leading Green	OFF	FYA MCE Disable			OFF
Transit Input	0	FYA Skip Red			OFF
FYA Delay Time	0	FYA AfterPreempt			OFF
Ped Call Clear	OFF				
Ped ClearTime	0	FYA ImmedReturn			OFF
Green Ext Inh	0	0	0	0	0

OverlapB+: 2-B

Leading Green	OFF	FYA MCE Disable			OFF
Transit Input	0	FYA Skip Red			OFF
FYA Delay Time	0	FYA AfterPreempt			OFF
Ped Call Clear	OFF				
Ped ClearTime	0	FYA ImmedReturn			OFF
Green Ext Inh	0	0	0	0	0

OverlapB+: 3-C

Leading Green	OFF	FYA MCE Disable			OFF
Transit Input	0	FYA Skip Red			OFF
FYA Delay Time	0	FYA AfterPreempt			OFF
Ped Call Clear	OFF				
Ped ClearTime	0	FYA ImmedReturn			OFF
Green Ext Inh	0	0	0	0	0

OverlapB+: 4-D

Leading Green	OFF	FYA MCE Disable			OFF
Transit Input	0	FYA Skip Red			OFF
FYA Delay Time	0	FYA AfterPreempt			OFF
Ped Call Clear	OFF				
Ped ClearTime	0	FYA ImmedReturn			OFF
Green Ext Inh	0	0	0	0	0

City of FRESNO

ID: 166 **Name:** Belmont & Fowler

Date Printed: 2/24/2021

CHANNEL SETTINGS [1.8] plus UNIT PARAMETERS [1.2.1]

CHANNEL SETTINGS [1.8.1] / Chan Settings [1.8.2]

Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Phase / Olap #	1	2	3	4	5	6	7	8	1	2	3	4	2	4	6	8								
Channel Type	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	OLP	OLP	OLP	OLP	PED	PED	PED	PED	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH
Channel Flash	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK
Flash 1-2 Hertz		X		X		X		X																
	Page 1								Page 2															

CHANNEL PARMETERS [1.8.3]

CH 17-24 Mapping:	DEFAULT
D-Conn Mapping:	NONE
Invert Rail Inputs:	OFF
C1-C11-ABC IO Mode:	USER

IO PARAMETERS [1.8.6]

C1-C11-ABC IO Mode:	USER
D-Conn Mapping:	NONE
T & F BIU Mapping	DEFAULT
Invert Rail Inputs:	OFF
EVP Ped Confirm	OFF

CHANNELS+ [1.8.4]

Channel	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*
Flash Green	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Flash Red	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Flash Yellow	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Inh Red Fl in Preempt	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off	Off
Olap Ovrd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override Type	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ID: 166 **NAME:** Belmont & Fowler

I/O LOGIC [1.8.7]

Prt Date: 2/24/2021

Row#	Result I/O	Result Fcn	=	Operand_1 Inv	Operand_1 Src	Operand_1 I/0	Operand_1 Fun	Operand_1 Logic Func	Operand_2 Inv	Operand_2 Src	Operand_2 I/0	Operand_2 Fun	Operand_2 Logic Func	Operand_3 Inv	Operand_3 Src	Operand_3 I/0	Operand_3 Fun	Operand_3 Logic Func	Timer Dly	Timer Sec
1	I	0	=	-	0	I	OFF	----	-	0	I	OFF	----	-	0	I	OFF	----	DLY	0
2	I	0	=	-	0	I	OFF	----	-	0	I	OFF	----	-	0	I	OFF	----	DLY	0
3	I	0	=	-	0	I	OFF	----	-	0	I	OFF	----	-	0	I	OFF	----	DLY	0
4	I	0	=	-	0	I	OFF	----	-	0	I	OFF	----	-	0	I	OFF	----	DLY	0
5	I	0	=	-	0	I	OFF	----	-	0	I	OFF	-----	-	0	I	OFF	----	DLY	0
6	I	0	=	-	0	I	OFF	----	-	0	I	OFF	----	-	0	I	OFF	----	DLY	0
7	I	0	=	-	0	I	OFF	----	-	0	I	OFF	----	-	0	I	OFF	----	DLY	0
8	I	0	=	-	0	I	OFF	----	-	0	I	OFF	----	-	0	I	OFF	----	DLY	0
9	I	0	=	-	0	I	OFF	----	-	0	I	OFF	----	-	0	I	OFF	----	DLY	0
10	I	0	=	-	0	I	OFF	----	-	0	I	OFF	----	-	0	I	OFF	----	DLY	0

Ped Parms (MM>5>4)

Det#	Call	No Act	Max Pres	Err Cnt
1	0	0	0	0
2	2	0	0	0
3	0	0	0	0
4	4	0	0	0
5	0	0	0	0
6	6	0	0	0
7	0	0	0	0
8	8	0	0	0

Veh Par 1-32 [5.1] Det #	Input Slot	Call Ø	Swi Ø	Dlay	Ext	Que	No Act	Max Pres	Err Cnt	Fail Time	Vehicle Options 1-32 [5.2] Det #	Call	Ext	Que	Add Init	Red Lock	Yell Lock	occ	vol	Parameters+ 1-32 [5.3] Det #	Occupancy G	Occupancy Y	Occupancy R	Delay 1	Delay 2	Type	Src	Info Only Dir	Det #
1	1I1U	1					0	0	0	255	1	X	X	-	-	-	-	X	X	1	X	X	-			NORM			1
2	2I2U	2	0	0	0	0	0	0	0	255	2	-	X	-	-	-	-	X	X	2	X	X	-	0	0	NORM	0	SBT1	2
3	2I2L	2	0	0	0	0	0	0	0	255	3	-	X	-	-	-	-	X	X	3	X	X	-	0	0	NORM	0	SBT2	3
4	2I3U	2	0	0	2	0	0	0	0	255	4	X	-	-	-	-	-	X	X	4	X	X	-	0	0	STOPB	0		4
5	2I3L	2	0	0	2	0	0	0	0	255	5	X	-	-	-	-	-	X	X	5	X	X	-	0	0	STOPB	0	SBR1	5
6	2I4U	2	0	0	2	0	0	0	0	255	6	X	-	-	-	-	-	X	X	6	X	X	-	0	0	STOPB	0		6
7	3I5U	3					0	0	0	255	7	X	X	-	-	-	-	X	X	7	X	X	-			NORM			7
8	4I6U	4	0	0	0	0	0	0	0	255	8	-	X	-	-	-	-	X	X	8	X	X	-	0	0	NORM	0	WBT1	8
9	4I6L	4	0	0	2	0	0	0	0	255	9	X	-	-	-	-	-	X	X	9	X	X	-	0	0	STOPB	0	WBT2	9
10	4I7U	4	0	0	0	0	0	0	0	255	10	-	X	-	-	-	-	X	X	10	X	X	-	0	0	NORM	0		10
11	4I7L	4		15	2		0	0	0	255	11	X	-	-	-	-	-	X	X	11	X	X	-			STOPB		WBR1	11
12	4I8U	4			2		0	0	0	255	12	X	-	-	-	-	-	X	X	12	X	X	-			STOPB			12
13	1I9U	1	0	0	0	0	0	0	0	255	13	X	X	-	-	-	-	X	X	13	X	X	-	0	0	NORM	0		13
14	3I9L	3	0	0	0	0	0	0	0	255	14	X	X	-	-	-	-	X	X	14	X	X	-	0	0	NORM	0	NBL1	14
15	5J1U	5	0	0	0	0	0	0	0	255	15	X	X	-	-	-	-	X	X	15	X	X	-	0	0	NORM	0		15
16	6J2U	6					0	0	0	255	16	-	X	-	-	-	-	X	X	16	X	X	-			NORM		NBT1	16
17	6J2L	6					0	0	0	255	17	-	X	-	-	-	-	X	X	17	X	X	-			NORM		NBT2	17
18	6J3U	6			2		0	0	0	255	18	X	-	-	-	-	-	X	X	18	X	X	-			STOPB			18
19	6J3L	6			2		0	0	0	255	19	X	-	-	-	-	-	X	X	19	X	X	-			STOPB		NBR1	19
20	6J4U	6			2		0	0	0	255	20	X	-	-	-	-	-	X	X	20	X	X	-			STOPB			20
21	7J5U	7					0	0	0	255	21	X	X	-	-	-	-	X	X	21	X	X	-			NORM			21
22	8J6U	8	0	0	0	0	0	0	0	255	22	-	X	-	-	-	-	X	X	22	X	X	-	0	0	NORM	0	EBT1	22
23	8J6L	8	0	0	0	0	0	0	0	255	23	-	X	-	-	-	-	X	X	23	X	X	-	0	0	NORM	0	EBT2	23
24	8J7U	8	0	0	2	0	0	0	0	255	24	X	-	-	-	-	-	X	X	24	X	X	-	0	0	STOPB	0		24
25	8J7L	8	0	15	2	0	0	0	0	255	25	X	-	-	-	-	-	X	X	25	X	X	-	0	0	STOPB	0		25
26	8J8U	8	0	0	2	0	0	0	0	255	26	X	-	-	-	-	-	X	X	26	X	X	-	0	0	STOPB	0		26
27	5J9U	5					0	0	0	255	27	X	X	-	-	-	-	X	X	27	X	X	-			NORM		SBL1	27
28	7J9L	7					0	0	0	255	28	X	X	-	-	-	-	X	X	28	X	X	-			NORM		WBL1	28
29	2I11U	2	0	15	2	0	0	0	0	255	29	X	-	-	-	-	-	X	X	29	X	X	-	0	0	STOPB	0		29
30	4I11L	4	0	15	2	0	0	0	0	255	30	X	-	-	-	-	-	X	X	30	X	X	-	0	0	STOPB	0		30
31	6J11U	5					0	0	0	255	31	X	X	-	-	-	-	X	X	31	X	X	-			NORM		SBL2	31
32	8J11L	8		15	2		0	0	0	255	32	X	-	-	-	-	-	X	X	32	X	X	-			STOPB			32
33	1I1L	1	0	0	0	0	0	0	0	255	33	X	X	-	-	-	-	X	X	33	X	X	-	0	0	NORM	0		33
34	2I4L	2			2		0	0	0	255	34	X	-	-	-	-	-	X	X	34	X	X	-			STOPB			34
35	3I5L	3	0	0	0	0	0	0	0	255	35	X	X	-	-	-	-	X	X	35	X	X	-	0	0	NORM	0		35
36	4I8L	4			2		0	0	0	255	36	X	-	-	-	-	-	X	X	36	X	X	-			STOPB			36
37	5J1L	5	0	0	0	0	0	0	0	255	37	X	X	-	-	-	-	X	X	37	X	X	-	0	0	NORM	0		37
38	6J4L	6			2		0	0	0	255	38	X	-	-	-	-	-	X	X	38	X	X	-			STOPB			38
39	7J5L	7	0	0	0	0	0	0	0	255	39	X	X	-	-	-	-	X	X	39	X	X	-	0	0	NORM	0		39
40	8J8L	8			2		0	0	0	255	40	X	-	-	-	-	-	X	X	40	X	X	-			STOPB			40
41	4I10U	4					0	0	0	255	41	-	X	-	-	-	-	X	X	41	X	X	-			NORM			41
42	4I10L	4					0	0	0	255	42	-	X	-	-	-	-	X	X	42	X	X	-			NORM			42
43	8J10U	8					0	0	0	255	43	-	X	-	-	-	-	X	X	43	X	X	-			NORM			43
44	8J10L	8					0	0	0	255	44	-	X	-	-	-	-	X	X	44	X	X	-			NORM			44

ID: 166 **Name:** Belmont & Fowler

Vol/Occ Period	0	Seconds
	5	Minutes

2/24/2021

Alt# 1 Times Table [1.1.6.1]

Column#... ->	1	2	3	4	5	6	7	8
Assign Ø								
Min Grn								
Gap, Ext								
Max 1								
Max 2								
Yel Clr								
Red Clr								
Walk								
Ped Clr								

Alt# 2 Times Table [1.1.6.1]

Column#... ->	1	2	3	4	5	6	7	8
Assign Ø								
Min Grn								
Gap, Ext								
Max 1								
Max 2								
Yel Clr								
Red Clr								
Walk								
Ped Clr								

Alt# 3 Times Table [1.1.6.1]

Column#... ->	1	2	3	4	5	6	7	8
Assign Ø								
Min Grn								
Gap, Ext								
Max 1								
Max 2								
Yel Clr								
Red Clr								
Walk								
Ped Clr								

Alt# 1 Options Table [1.1.6.2]

Column # ->	1	2	3	4	5	6	7	8
Assign Ø		0		0		0		0
Lock Calls	-	-	-	-	-	-	-	-
Soft Recall	-	-	-	-	-	-	-	-
Dual Entry	-	-	-	-	-	-	-	-
Enabl SimGap	-	-	-	-	-	-	-	-
Guar Passage	-	-	-	-	-	-	-	-
Rest In Walk	-	-	-	-	-	-	-	-
Cond Service	-	-	-	-	-	-	-	-
Reservice	-	-	-	-	-	-	-	-
Non-Act 1	-	-	-	-	-	-	-	-
Red Rest	-	-	-	-	-	-	-	-
Max2	-	-	-	-	-	-	-	-
Ped Delay	-	-	-	-	-	-	-	-
Conflicting Ø1		0		0		0		0

Alt# 2 Options Table [1.1.6.2]

Column # ->	1	2	3	4	5	6	7	8
Assign Ø		0		0		0		0
Lock Calls	-	-	-	-	-	-	-	-
Soft Recall	-	-	-	-	-	-	-	-
Dual Enrty	-	-	-	-	-	-	-	-
Enabl SimGap	-	-	-	-	-	-	-	-
Gaur Passage	-	-	-	-	-	-	-	-
Rest In Walk	-	-	-	-	-	-	-	-
Cond Service	-	-	-	-	-	-	-	-
Reservice	-	-	-	-	-	-	-	-
Non-Act 1	-	-	-	-	-	-	-	-
Red Rest	-	-	-	-	-	-	-	-
Max2	-	-	-	-	-	-	-	-
Ped Delay	-	-	-	-	-	-	-	-
Conflicting Ø1		0		0		0		0

Alt# 3 Options Table [1.1.6.2]

Column # ->	1	2	3	4	5	6	7	8
Assign Ø		0		0		0		0
Lock Calls	-	-	-	-	-	-	-	-
Soft Recall	-	-	-	-	-	-	-	-
Dual Enrty	-	-	-	-	-	-	-	-
Enabl SimGap	-	-	-	-	-	-	-	-
Gaur Passage	-	-	-	-	-	-	-	-
Rest In Walk	-	-	-	-	-	-	-	-
Cond Service	-	-	-	-	-	-	-	-
Reservice	-	-	-	-	-	-	-	-
Non-Act 1	-	-	-	-	-	-	-	-
Red Rest	-	-	-	-	-	-	-	-
Max2	-	-	-	-	-	-	-	-
Ped Delay	-	-	-	-	-	-	-	-
Conflicting Ø1		0		0		0		0

Alt# 4 Options Table [1.1.6.2]

Column # ->	1	2	3	4	5	6	7	8
Assign Ø		0		0		0		0
Lock Calls	-	-	-	-	-	-	-	-
Soft Recall	-	-	-	-	-	-	-	-
Dual Entry	-	-	-	-	-	-	-	-
Enabl SimGap	-	-	-	-	-	-	-	-
Gaur Passage	-	-	-	-	-	-	-	-
Rest In Walk	-	-	-	-	-	-	-	-
Cond Service	-	-	-	-	-	-	-	-
Reservice	-	-	-	-	-	-	-	-
Non-Act 1	-	-	-	-	-	-	-	-
Red Rest	-	-	-	-	-	-	-	-
Max2	-	-	-	-	-	-	-	-
Ped Delay	-	-	-	-	-	-	-	-
Conflicting Ø1		0		0		0		0

Alternate Tables [2.6]

Pat#	POpt	PTime	DetGrp	Call/Inh	Olp Off 1	2	3	4	5	6	7	8	ASC	CNA1	Max2	Dia
1	0	0	0	0									0	Off		DFT
2													0	Off		DFT
3	0	0	0	0									0	Off		DFT
4													0	Off		DFT
5	0	0	0	0									0	Off		DFT
6													0	Off		DFT
7	0	0	0	0									0	Off		DFT
8													0	Off		DFT
9	0	0	0	0									0	Off		DFT
10													0	Off		DFT
11	0	0	0	0									0	Off		DFT
12													0	Off		DFT
13	0	0	0	0									0	Off		DFT
14													0	Off		DFT
15	0	0	0	0									0	Off		DFT
16													0	Off		DFT
17	0	0	0	0									0	Off		DFT
18													0	Off		DFT
19	0	0	0	0									0	Off		DFT
20													0	Off		DFT
21	0	0	0	0									0	Off		DFT
22													0	Off		DFT
23	0	0	0	0									0	Off		DFT
24													0	Off		DFT

Time Base Parameters [4.6]

Daylight Savings Time	ENABLE	
Time Base Sync Ref	0	
GMT Offset	-	8
Daylight Savings	**Mon**	**Week**
Spring	3	2
Fall	11	1

NOTE: % and MI parameters are not used and are not shown above.

City of FRESNO

NAME: **Belmont & Fowler**

2/24/2021 **ID:** **166**

Annual Schedule [4.3]	Month												Day of Week							Date																															Day Plan
1	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	2
	X	X	X	X	X	X	X	X	X	X	X	X							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	3
	X	X	X	X	X	X	X	X	X	X	X	X	X							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	4
											X						X			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X	X	-	-	-	
5	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
																				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
																				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
																				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
																				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
																				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
																				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
																				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
																				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
13	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
																				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
14	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
																				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
																				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
																				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
17	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
																				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
18	J	F	M	A	M	J	J	A	S	O	N	D	S	M	T	W	T	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1
																				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

NAME: Belmont & Fowler

ID No. 166

DAY PLANS [4.4]

Plan 1				Plan 2				Plan 3				Plan 4				Plan 5				Plan 6				Plan 7				Plan 8				Plan 9				Plan 10			
Evt	Hour	Min	Act	Evt	Hour	Min	Act	Evt	Hour	Min	Act	Evt	Hour	Min	Act	Evt	Hour	Min	Act	Evt	Hour	Min	Act	Evt	Hour	Min	Act	Evt	Hour	Min	Act	Evt	Hour	Min	Act	Evt	Hour	Min	Act
1		1	54	1		1	54	1		1	54	1	0	1	54	1				1				1				1				1				1			
2	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0	2	0	0	0
3				3				3				3	0			3				3				3				3				3				3			
4	0	0	0	4	0	0	0	4	0	0	0	4	0	0	0	4	0	0	0	4	0	0	0	4	0	0	0	4	0	0	0	4	0	0	0	4	0	0	0
5				5				5				5	0			5				5				5				5				5				5			
6	0	0	0	6	0	0	0	6	0	0	0	6	0	0	0	6	0	0	0	6	0	0	0	6	0	0	0	6	0	0	0	6	0	0	0	6	0	0	0
7				7				7				7	0			7				7				7				7				7				7			
8	0	0	0	8	0	0	0	8	0	0	0	8	0	0	0	8	0	0	0	8	0	0	0	8	0	0	0	8	0	0	0	8	0	0	0	8	0	0	0
9				9				9				9	0			9				9				9				9				9				9			
10	0	0	0	10	0	0	0	10	0	0	0	10	0	0	0	10	0	0	0	10	0	0	0	10	0	0	0	10	0	0	0	10	0	0	0	10	0	0	0

#	Alarm	Ev	Alr
1	Power Up Alarm.	X	X
2	Stop Timing	X	X
3	Cabinet Door Activation	-	-
4	Coordination Failure	X	X
5	External Alarm # 1	-	-
6	External Alarm # 2	-	-
7	External Alarm # 3	-	-
8	External Alarm # 4	-	-
9	Closed Loop Disabled	-	-
10	External Alarm # 5	-	-
11	External Alarm # 6	-	-
12	Manual Control Enable	X	X
13	Coord Free Input	-	-
14	Local Flash Input	X	X
15	CMU/MMU Flash Input	-	-
16	MMU Fault	X	X
17	Cycle Fault	X	-
18	Cycle Failure	X	-
19	Coordination Fault	X	X
20	Controller Fault	X	X
25	EEPROM CRC Fault	X	X
30	Coord Diagnostic Fault	X	X
37	Download Request	X	X
38	Pattern Change	-	-
49	Preempt 1 Input	X	X
50	Preempt 2 Input	X	X
51	Preempt 3 Input	X	X
52	Preempt 4 Input	X	X
53	Preempt 5 Input	X	X
54	Preempt 6 Input	X	X
55	Preempt 7 Input	-	-
56	Preempt 8 Input	-	-
57	Preempt 9 Input	-	-
58	Preempt 10 Input	-	-
59	EEPROM Compare Fault	X	X
60	Coordination Failure	X	X
63	TSP Active Trigger	-	-
73	Controller Access	X	X
81	FIO Changed Status	X	X

#1 Bus Preempt

		Times		Prior. Phases			
Enable	OFF	Min	0	0	0	0	0
Coor+Pre	OFF	Max	0	---TSP---			
Lock Mode	MAX	Lock	0	Headway	0		
No Skip	OFF	Alt Table	0	GrpLock	OFF		
Qjump	OFF	HoldDwell	#N/A	FreeMod	OFF		

#2 Bus Preempt

		Times		Prior. Phases			
Enable	OFF	Min	0	0	0	0	0
Coor+Pre	OFF	Max	0	---TSP---			
Lock Mode	MAX	Lock	0	Headway	0		
No Skip	OFF	Alt Table	0	GrpLock	OFF		
Qjump	OFF	HoldDwell	#N/A	FreeMod	OFF		

#3 Bus Preempt

		Times		Prior. Phases			
Enable	OFF	Min	0	0	0	0	0
Coor+Pre	OFF	Max	0	---TSP---			
Lock Mode	MAX	Lock	0	Headway	0		
No Skip	OFF	Alt Table	0	GrpLock	OFF		
Qjump	OFF	HoldDwell	#N/A	FreeMod	OFF		

#4 Bus Preempt

		Times		Prior. Phases			
Enable	OFF	Min	0	0	0	0	0
Coor+Pre	OFF	Max	0	---TSP---			
Lock Mode	MAX	Lock	0	Headway	0		
No Skip	OFF	Alt Table	0	GrpLock	OFF		
Qjump	OFF	HoldDwell	#N/A	FreeMod	OFF		

I/O INPUT TABLE

	1	2	3	4	5	6	7	8
1	2	16	8	22	3	17	9	23
2	6	20	12	26	198	199	30	31
3	15	1	21	7	27	13	28	14
4	189	189	189	189	4	18	10	24
5	130	134	132	136	200	201	202	203
6	32	5	19	11	25	29	208	207
7	33	34	35	36	37	38	39	40
8	41	42	43	44	189	189	189	189

ACTION Table [4.5]

Act	Pat#	A1	A2	A3	S1	S2	S3	S4	S5	S6	S7	S8	P1	P2
1	1	-	-	-	-	-	-	-	-	-	-	-	0	0
2	2	-	-	-	-	-	-	-	-	-	-	-	0	0
3	3	-	-	-	-	-	-	-	-	-	-	-	0	0
4	4	-	-	-	-	-	-	-	-	-	-	-	0	0
5	5	-	-	-	-	-	-	-	-	-	-	-	0	0
6	6	-	-	-	-	-	-	-	-	-	-	-	0	0
7	7	-	-	-	-	-	-	-	-	-	-	-	0	0
8	8	-	-	-	-	-	-	-	-	-	-	-	0	0
9	9	-	-	-	-	-	-	-	-	-	-	-	0	0
10	10	-	-	-	-	-	-	-	-	-	-	-	0	0
11	11	-	-	-	-	-	-	-	-	-	-	-	0	0
12	12	-	-	-	-	-	-	-	-	-	-	-	0	0
13	13	-	-	-	-	-	-	-	-	-	-	-	0	0
14	14	-	-	-	-	-	-	-	-	-	-	-	0	0
15	15	-	-	-	-	-	-	-	-	-	-	-	0	0
16	0	-	-	-	-	-	-	-	-	-	-	-	0	0
54	254	-	-	-	-	-	-	-	-	-	-	-	0	0
55	0	-	-	-	-	-	-	-	-	-	-	-	0	0

Alarm Parameters [1.6.7.1]

Pattern Events:	ON
Local Txmt Alarms:	OFF
Reassign User Alarm #1 In (5):	0
Reassign User Alarm #2 In (6):	0
Preempt Events:	ON

City of FRESNO

Date Printed 2/24/2021

ID: 166 Name: **Belmont & Fowler**

I/O Inputs - 1.8.9.1.5

C-1 PIN	I/O Source	Function	Input Name
39	I1-1	2	Veh Det 2
40	I1-2	16	Veh Det 16
41	I1-3	8	Veh Det 8
42	I1-4	22	Veh Det 22
43	I1-5	3	Veh Det 3
44	I1-6	17	Veh Det 17
45	I1-7	9	Veh Det 9
46	I1-8	23	Veh Det 23
47	I2-1	6	Veh Det 6
48	I2-2	20	Veh Det 20
49	I2-3	12	Veh Det 12
50	I2-4	26	Veh Det 26
51	I2-5	198	Pre 1 In
52	I2-6	199	Pre 2 In
53	I2-7	30	Veh Det 30
54	I2-8	31	Veh Det 31
55	I3-1	15	Veh Det 15
56	I3-2	1	Veh Det 1
57	I3-3	21	Veh Det 21
58	I3-4	7	Veh Det 7
59	I3-5	27	Veh Det 27
60	I3-6	13	Veh Det 13
61	I3-7	28	Veh Det 28
62	I3-8	14	Veh Det 14
63	I4-5	4	Veh Det 4
64	I4-6	18	Veh Det 18
65	I4-7	10	Veh Det 10
66	I4-8	24	Veh Det 24
67	I5-1	130	Ped Call 2
68	I5-2	134	Ped Call 6
69	I5-3	132	Ped Call 4
70	I5-4	136	Ped Call 8
71	I5-5	200	Pre 3 In
72	I5-6	201	Pre 4 In
73	I5-7	202	Pre 5 In
74	I5-8	203	Pre 6 In
75	I6-1	32	Veh Det 32
76	I6-2	5	Veh Det 5
77	I6-3	19	Veh Det 19
78	I6-4	11	Veh Det 11
79	I6-5	25	Veh Det 25
80	I6-6	29	Veh Det 29
81	I6-7	208	Local Flash
82	I6-8	207	Comp StopTm

I/O OUTPUTS - 1.8.9.2.5

C-1 PIN	I/O Source	Function	Output Name
1	Logic Grd		
2	O1-1	14	Red Ch 14
3	O1-2	62	Grn Chan 14
4	O1-3	4	Red Ch 4
5	O1-4	28	Yel Chan 4
6	O1-5	52	Grn Chan 4
7	O1-6	3	Red Ch 3
8	O1-7	27	Yel Chan 3
9	O1-8	51	Grn Chan 3
10	O2-1	13	Red Ch 13
11	O2-2	61	Grn Chan 13
12	O2-3	2	Red Ch 2
13	O2-4	26	Yel Chan 2
14	Logic Grd		
15	O2-5	50	Grn Chan 2
16	O2-6	1	Red Ch 1
17	O2-7	25	Yel Chan 1
18	O2-8	49	Grn Chan 1
19	O3-1	16	Red Ch 16
20	O3-2	64	Grn Chan 16
21	O3-3	8	Red Ch 8
22	O3-4	32	Yel Chan 8
23	O3-5	56	Grn Chan 8
24	O3-6	7	Red Ch 7
25	O3-7	31	Yel Chan 7
26	O3-8	55	Grn Chan 7
27	O4-1	15	Red Ch 15
28	O4-2	63	Grn Chan 15
29	O4-3	6	Red Ch 6
30	O4-4	30	Yel Chan 6
31	O4-5	54	Grn Chan 6
32	O4-6	5	Red Ch 5
33	O4-7	29	Yel Chan 5
34	O4-8	53	Grn Chan 5
35	O5-1	37	Yel Chan 13
36	O5-2	39	Yel Chan 15
37	O5-3	38	Yel Chan 14
38	O5-4	40	Yel Chan 16
100	O5-5	42	Yel Chan 18
101	O5-6	41	Yel Chan 17
102	O5-7	115	Not Used
103	O5-8	114	Watchdog

C-1 PIN	I/O Source	Function	Output Name
83	O6-1	18	Red Ch 18
84	O6-2	66	Grn Chan 18
85	O6-3	12	Red Ch 12
86	O6-4	36	Yel Chan 12
87	O6-5	60	Grn Chan 12
88	O6-6	11	Red Ch 11
89	O6-7	35	Yel Chan 11
90	O6-8	59	Grn Chan 11
91	O7-1	17	Red Ch 17
92	Logic Grd		
93	O7-2	65	Grn Chan 17
94	O7-3	10	Red Ch 10
95	O7-4	34	Yel Chan 10
96	O7-5	58	Grn Chan 10
97	O7-6	9	Red Ch 9
98	O7-7	33	Yel Chan 9
99	O7-8	57	Grn Chan 9
I/O Outputs - 1.8.9.2.5			
C-11 OUTPUTS			
1	O8-1	115	Not Used
2	O8-2	115	Not Used
3	O8-3	115	Not Used
4	O8-4	115	Not Used
I/O Inputs - 1.8.9.1.5			
C-11 INPUTS			
15	I7-1	33	Veh Det 33
16	I7-2	34	Veh Det 34
17	I7-3	35	Veh Det 35
18	I7-4	36	Veh Det 36
19	I7-5	37	Veh Det 37
20	I7-6	38	Veh Det 38
21	I7-7	39	Veh Det 39
22	I7-8	40	Veh Det 40
23	I8-1	41	Veh Det 41
24	I8-2	42	Veh Det 42
25	I8-3	43	Veh Det 43
26	I8-4	44	Veh Det 44
27	I8-5	189	Unused
28	I8-6	189	Unused
29	I8-7	189	Unused
30	I8-8	189	Unused

City of FRESNO

ID: 166

NAME: Belmont & Fowler

Date Printed: 2/24/2021

ID Number: B 0166 LOCATION BELMONT & FOWLER

City of Fresno
332 Cabinet
32 Detector Plus Setup

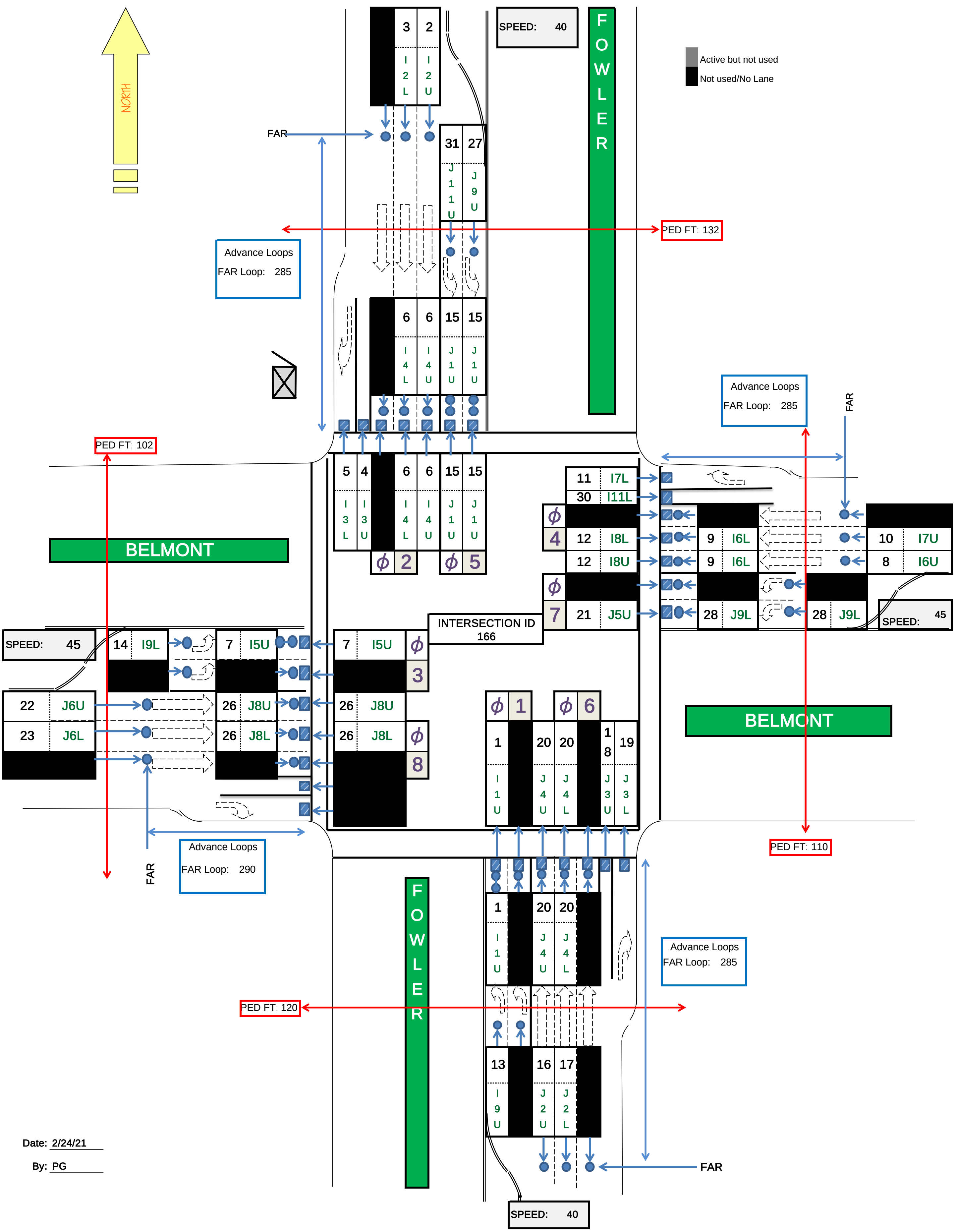
"I"	I1	I2	I3	I4	I5	I6	I7	I8	I9	I10	I11	I12	I13	I14
	DETECTOR ASSIGNMENTS										**ISOLATORS**			
UPPER	Ph 1 Cnt&Ext T2-1&2 C1-56 Det 1 NBL1	Ph 2 Cnt&Ext T2-5&6 C1-39 Det 2 SB Far	Ph 2 Cnt&Ext T2-9&10 C1-63 Det 4 SB Mid/T3	Ph 2 Call&TP3 T4-1&2 C1-47 Det 6 SBT1	Ph 3 Cnt&Ext T4-5&6 C1-58 Det 7 EBL1	Ph 4 Cnt&Ext T4-9&10 C1-41 Det 8 WB Far	Ph 4 Cnt&Ext T6-1&2 C1-65 Det 10 WB Mid/T3	Ph 4 Call&TP3 T6-5&6 C1-49 Det 12 WBT1	Ph 1 Cnt&Ext T6-9&10 C1-60 Det 13 NBLt Bk	Not Wired	Ph 1 Det 29 T8-1 C1-80 Det 29 BIKE	Ph 2 PPB T8-4 C1-67	Ph 6 PPB T8-7 C1-68	FLASH SENSE T8-10 C1-81
LOWER	Ph 1 Cnt&Ext T2-3&4 C1-56 Det 1 NBL2	Ph 2 Cnt&Ext T2-7&8 C1-43 Det 3 SB Bk	Ph 2 Ext T2-11&12 C1-76 Det 5 SBRt	Ph 2 Call&TP3 T4-3&4 C1-47 Det 6 SBT2	Ph 3 Cnt&Ext T4-7&8 C1-58 Det 7 EBL2	Ph 4 Cnt&Ext T4-11&12 C1-45 Det 9 WB Far	Ph 4 Ext T6-3&4 C1-78 Det 11 WBRt	Ph 4 Call&TP3 T6-7&8 C1-49 Det 12 WBT2	Ph 3 Cnt&Ext T6-11&12 C1-62 Det 14 EBLt Bk	Not Wired	Ph 3 Det 30 T8-2 C1-53 Det 30 BIKE	Ph 4 PPB T8-5 C1-69	Ph 8 PPB T8-8 C1-70	STOP TIMING T8-11 C1-82
"J"	**J1**	**J2**	**J3**	**J4**	**J5**	**J6**	**J7**	**J8**	**J9**	**J10**	**J11**	**J12**	**J13**	**J14**
UPPER	Ph 5 Cnt&Ext T3-1&2 C1-55 Det 15 SBL1	Ph 6 Cnt&Ext T3-5&6 C1-40 Det 16 NB Far	Ph 6 Cnt&Ext T3-9&10 C1-64 Det 18 NB Mid/T3	Ph 6 Call&TP3 T5-1&2 C1-48 Det 20 NBT1	Ph 7 Cnt&Ext T5-5&6 C1-57 Det 21 WBL1	Ph 8 Cnt&Ext T5-9&10 C1-42 Det 22 EB Far	Ph 8 Cnt&Ext T7-1&2 C1-66 Det 24 EB Mid/T3	Ph 8 Call&TP3 T7-5&6 C1-50 Det 26 EBT1	Ph 5 Cnt&Ext T7-9&10 C1-59 Det 27 SBLt Bk	Not Wired	Ph 5 Det 31 T9-1 C1-54 Det 31 SBLt Bk	EMER A Ph 2 + 5 T9-4 C1-71	EMER B Ph 4 + 7 T9-5 C1-72	RR1 FLASH T9-10 C1-51
LOWER	Ph 5 Cnt&Ext T3-3&4 C1-55 Det 15 SBL2	Ph 6 Cnt&Ext T3-7&8 C1-44 Det 17 NB Bk	Ph 6 Ext T3-11&12 C1-77 Det 19 NBRt	Ph 6 Call&TP3 T5-3&4 C1-48 Det 20 NBT2	Ph 7 Cnt&Ext T5-7&8 C1-57 Det 21 WBL2	Ph 8 Cnt&Ext T5-11&12 C1-46 Det 23 EB Bk	Ph 8 Ext T7-3&4 C1-79 Det 25 EBRt	Ph 8 Call&TP3 T7-7&8 C1-50 Det 26 EBT2	Ph 7 Cnt&Ext T7-11&12 C1-61 Det 28 WBLt Bk	Not Wired	Ph 7 Det 32 T9-2 C1-75 Det 32 BIKE	EMER C Ph 1 + 6 T9-7 C1-73	EMER D Ph 3 + 8 T9-8 C1-74	RR2 LTD OP T9-11 C1-52

COMMENTS:

TIMING UPDATES AND MODIFICATIONS

ID: 166 **NAME:** Belmont & Fowler

DATE	CHANGES MADE	ATMS or CABINET	BY
2/24/2021	Updated Per Field Modifications and Belmont Widening Plans, 6 Second All Red Start, Turned on Vol/Occ on All Detectors	CABINET	PG



Date: 2/24/21

By: PG

Detector Layout for the intersection of: 0166 BELMONT & FOWLER

APPENDIX D

VOLUME DEVELOPMENT WORKSHEETS

Table D-1 - Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project
1 Fowler Avenue/McKinley Avenue						
NBL	0	0	0	0	0	0
NBT	464	0	464	644	0	644
NBR	0	1	1	0	2	2
SBL	0	0	0	0	0	0
SBT	559	0	559	509	0	509
SBR	0	0	0	0	0	0
EBL	0	0	0	0	0	0
EBT	0	0	0	0	0	0
EBR	0	0	0	0	0	0
WBL	0	2	2	0	1	1
WBT	0	0	0	0	0	0
WBR	0	0	0	0	0	0
North Leg						
Approach	559	0	559	509	0	509
Departure	464	0	464	644	0	644
Total	1,023	0	1,023	1,153	0	1,153
South Leg						
Approach	464	1	465	644	2	646
Departure	559	2	561	509	1	510
Total	1,023	3	1,026	1,153	3	1,156
East Leg						
Approach	0	2	2	0	1	1
Departure	0	1	1	0	2	2
Total	0	3	3	0	3	3
West Leg						
Approach	0	0	0	0	0	0
Departure	0	0	0	0	0	0
Total	0	0	0	0	0	0
Total Approaches						
Approach	1,023	3	1,026	1,153	3	1,156
Departure	1,023	3	1,026	1,153	3	1,156
Total	2,046	6	2,052	2,306	6	2,312

Table D-1 - Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project
2 Fowler Avenue/Floradora Avenue						
NBL	0	0	0	0	0	0
NBT	423	1	424	599	2	601
NBR	1	0	1	1	0	1
SBL	73	0	73	61	0	61
SBT	486	2	488	448	1	449
SBR	0	0	0	0	0	0
EBL	0	0	0	0	0	0
EBT	0	0	0	0	0	0
EBR	0	0	0	0	0	0
WBL	2	0	2	3	0	3
WBT	0	0	0	0	0	0
WBR	41	0	41	45	0	45
North Leg						
Approach	559	2	561	509	1	510
Departure	464	1	465	644	2	646
Total	1,023	3	1,026	1,153	3	1,156
South Leg						
Approach	424	1	425	600	2	602
Departure	488	2	490	451	1	452
Total	912	3	915	1,051	3	1,054
East Leg						
Approach	43	0	43	48	0	48
Departure	74	0	74	62	0	62
Total	117	0	117	110	0	110
West Leg						
Approach	0	0	0	0	0	0
Departure	0	0	0	0	0	0
Total	0	0	0	0	0	0
Total Approaches						
Approach	1,026	3	1,029	1,157	3	1,160
Departure	1,026	3	1,029	1,157	3	1,160
Total	2,052	6	2,058	2,314	6	2,320

Table D-1 - Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project
3 Fowler Avenue/Olive Avenue						
NBL	27	0	27	6	0	6
NBT	340	1	341	367	2	369
NBR	72	15	87	108	48	156
SBL	3	0	3	11	0	11
SBT	464	2	466	409	1	410
SBR	11	0	11	15	0	15
EBL	38	0	38	139	0	139
EBT	59	3	62	89	10	99
EBR	23	0	23	43	0	43
WBL	386	43	429	212	29	241
WBT	115	9	124	71	6	77
WBR	40	0	40	59	0	59
North Leg						
Approach	478	2	480	435	1	436
Departure	418	1	419	565	2	567
Total	896	3	899	1,000	3	1,003
South Leg						
Approach	439	16	455	481	50	531
Departure	873	45	918	664	30	694
Total	1,312	61	1,373	1,145	80	1,225
East Leg						
Approach	541	52	593	342	35	377
Departure	134	18	152	208	58	266
Total	675	70	745	550	93	643
West Leg						
Approach	120	3	123	271	10	281
Departure	153	9	162	92	6	98
Total	273	12	285	363	16	379
Total Approaches						
Approach	1,578	73	1,651	1,529	96	1,625
Departure	1,578	73	1,651	1,529	96	1,625
Total	3,156	146	3,302	3,058	192	3,250

Table D-1 - Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project
4 Fowler Avenue/SR-180 Westbound Ramps						
NBL	0	0	0	0	0	0
NBT	402	16	418	486	52	538
NBR	751	0	751	356	0	356
SBL	0	0	0	0	0	0
SBT	182	19	201	327	13	340
SBR	676	27	703	302	18	320
EBL	0	0	0	0	0	0
EBT	0	0	0	0	0	0
EBR	0	0	0	0	0	0
WBL	18	0	18	33	0	33
WBT	0	0	0	0	0	0
WBR	62	0	62	36	0	36
North Leg						
Approach	858	46	904	629	31	660
Departure	464	16	480	522	52	574
Total	1,322	62	1,384	1,151	83	1,234
South Leg						
Approach	1,153	16	1,169	842	52	894
Departure	200	19	219	360	13	373
Total	1,353	35	1,388	1,202	65	1,267
East Leg						
Approach	80	0	80	69	0	69
Departure	751	0	751	356	0	356
Total	831	0	831	425	0	425
West Leg						
Approach	0	0	0	0	0	0
Departure	676	27	703	302	18	320
Total	676	27	703	302	18	320
Total Approaches						
Approach	2,091	62	2,153	1,540	83	1,623
Departure	2,091	62	2,153	1,540	83	1,623
Total	4,182	124	4,306	3,080	166	3,246

Table D-1 - Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project
5 Fowler Avenue/SR-180 Eastbound Ramps						
NBL	0	0	0	0	0	0
NBT	939	6	945	513	21	534
NBR	34	0	34	22	0	22
SBL	29	0	29	75	0	75
SBT	171	19	190	285	13	298
SBR	0	0	0	0	0	0
EBL	214	9	223	329	31	360
EBT	0	0	0	0	0	0
EBR	339	0	339	727	0	727
WBL	0	0	0	0	0	0
WBT	0	0	0	0	0	0
WBR	0	0	0	0	0	0
North Leg						
Approach	200	19	219	360	13	373
Departure	1,153	15	1,168	842	52	894
Total	1,353	34	1,387	1,202	65	1,267
South Leg						
Approach	973	6	979	535	21	556
Departure	510	19	529	1,012	13	1,025
Total	1,483	25	1,508	1,547	34	1,581
East Leg						
Approach	0	0	0	0	0	0
Departure	63	0	63	97	0	97
Total	63	0	63	97	0	97
West Leg						
Approach	553	9	562	1,056	31	1,087
Departure	0	0	0	0	0	0
Total	553	9	562	1,056	31	1,087
Total Approaches						
Approach	1,726	34	1,760	1,951	65	2,016
Departure	1,726	34	1,760	1,951	65	2,016
Total	3,452	68	3,520	3,902	130	4,032

Table D-1 - Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project
6 Fowler Avenue/Belmont Avenue						
NBL	108	0	108	67	0	67
NBT	794	6	800	404	21	425
NBR	120	0	120	86	0	86
SBL	133	0	133	171	0	171
SBT	361	19	380	723	13	736
SBR	22	0	22	49	0	49
EBL	66	0	66	56	0	56
EBT	140	4	144	116	12	128
EBR	47	0	47	71	0	71
WBL	91	0	91	77	0	77
WBT	114	10	124	93	7	100
WBR	113	0	113	75	0	75
North Leg						
Approach	516	19	535	943	13	956
Departure	973	6	979	535	21	556
Total	1,489	25	1,514	1,478	34	1,512
South Leg						
Approach	1,022	6	1,028	557	21	578
Departure	499	19	518	871	13	884
Total	1,521	25	1,546	1,428	34	1,462
East Leg						
Approach	318	10	328	245	7	252
Departure	393	4	397	373	12	385
Total	711	14	725	618	19	637
West Leg						
Approach	253	4	257	243	12	255
Departure	244	10	254	209	7	216
Total	497	14	511	452	19	471
Total Approaches						
Approach	2,109	39	2,148	1,988	53	2,041
Departure	2,109	39	2,148	1,988	53	2,041
Total	4,218	78	4,296	3,976	106	4,082

LSA

Table D-1 - Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project
7 Armstrong Avenue/McKinley Avenue						
NBL	0	0	0	0	0	0
NBT	229	13	242	437	42	479
NBR	0	12	12	0	38	38
SBL	0	14	14	0	34	34
SBT	652	37	689	231	25	256
SBR	0	0	0	0	0	0
EBL	0	0	0	0	0	0
EBT	0	1	1	0	2	2
EBR	0	0	0	0	0	0
WBL	0	34	34	0	23	23
WBT	0	2	2	0	1	1
WBR	0	29	29	0	24	24
North Leg						
Approach	652	51	703	231	59	290
Departure	229	42	271	437	66	503
Total	881	93	974	668	125	793
South Leg						
Approach	229	25	254	437	80	517
Departure	652	71	723	231	48	279
Total	881	96	977	668	128	796
East Leg						
Approach	0	65	65	0	48	48
Departure	0	27	27	0	74	74
Total	0	92	92	0	122	122
West Leg						
Approach	0	1	1	0	2	2
Departure	0	2	2	0	1	1
Total	0	3	3	0	3	3
Total Approaches						
Approach	881	142	1,023	668	189	857
Departure	881	142	1,023	668	189	857
Total	1,762	284	2,046	1,336	378	1,714

LSA

Table D-1 - Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project
8 Armstrong Avenue/Floradora Avenue						
NBL	3	0	3	1	0	1
NBT	216	24	240	429	79	508
NBR	7	0	7	9	0	9
SBL	0	0	0	3	0	3
SBT	650	70	720	227	47	274
SBR	2	2	4	1	1	2
EBL	3	1	4	3	2	5
EBT	6	0	6	3	0	3
EBR	14	0	14	1	0	1
WBL	48	0	48	3	0	3
WBT	7	0	7	2	0	2
WBR	10	0	10	5	0	5
North Leg						
Approach	652	72	724	231	48	279
Departure	229	25	254	437	81	518
Total	881	97	978	668	129	797
South Leg						
Approach	226	24	250	439	79	518
Departure	712	70	782	231	47	278
Total	938	94	1,032	670	126	796
East Leg						
Approach	65	0	65	10	0	10
Departure	13	0	13	15	0	15
Total	78	0	78	25	0	25
West Leg						
Approach	23	1	24	7	2	9
Departure	12	2	14	4	1	5
Total	35	3	38	11	3	14
Total Approaches						
Approach	966	97	1,063	687	129	816
Departure	966	97	1,063	687	129	816
Total	1,932	194	2,126	1,374	258	1,632

Table D-1 - Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project
9 Armstrong Avenue/Olive Avenue						
NBL	55	0	55	50	0	50
NBT	152	5	157	295	15	310
NBR	194	0	194	142	0	142
SBL	49	0	49	12	0	12
SBT	204	14	218	123	9	132
SBR	459	56	515	96	38	134
EBL	55	19	74	110	63	173
EBT	111	0	111	165	0	165
EBR	12	0	12	10	0	10
WBL	107	0	107	80	0	80
WBT	337	0	337	224	0	224
WBR	19	0	19	34	0	34
North Leg						
Approach	712	70	782	231	47	278
Departure	226	24	250	439	78	517
Total	938	94	1,032	670	125	795
South Leg						
Approach	401	5	406	487	15	502
Departure	323	14	337	213	9	222
Total	724	19	743	700	24	724
East Leg						
Approach	463	0	463	338	0	338
Departure	354	0	354	319	0	319
Total	817	0	817	657	0	657
West Leg						
Approach	178	19	197	285	63	348
Departure	851	56	907	370	38	408
Total	1,029	75	1,104	655	101	756
Total Approaches						
Approach	1,754	94	1,848	1,341	125	1,466
Departure	1,754	94	1,848	1,341	125	1,466
Total	3,508	188	3,696	2,682	250	2,932

Table D-1 - Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project
10 Temperance Avenue/McKinley Avenue						
NBL	0	3	3	0	10	10
NBT	347	0	347	486	0	486
NBR	67	0	67	56	0	56
SBL	72	0	72	95	0	95
SBT	559	0	559	429	0	429
SBR	0	2	2	0	6	6
EBL	0	5	5	0	3	3
EBT	0	2	2	0	1	1
EBR	0	9	9	0	6	6
WBL	72	0	72	62	0	62
WBT	0	1	1	0	2	2
WBR	90	0	90	48	0	48
North Leg						
Approach	631	2	633	524	6	530
Departure	437	5	442	534	3	537
Total	1,068	7	1,075	1,058	9	1,067
South Leg						
Approach	414	3	417	542	10	552
Departure	631	9	640	491	6	497
Total	1,045	12	1,057	1,033	16	1,049
East Leg						
Approach	162	1	163	110	2	112
Departure	139	2	141	151	1	152
Total	301	3	304	261	3	264
West Leg						
Approach	0	16	16	0	10	10
Departure	0	6	6	0	18	18
Total	0	22	22	0	28	28
Total Approaches						
Approach	1,207	22	1,229	1,176	28	1,204
Departure	1,207	22	1,229	1,176	28	1,204
Total	2,414	44	2,458	2,352	56	2,408

Table D-1 - Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project
11 Temperance Avenue/Floradora Avenue						
NBL	2	0	2	0	0	0
NBT	390	3	393	526	10	536
NBR	0	0	0	0	0	0
SBL	0	0	0	1	0	1
SBT	490	9	499	451	6	457
SBR	63	0	63	10	0	10
EBL	12	0	12	8	0	8
EBT	0	0	0	0	0	0
EBR	1	0	1	7	0	7
WBL	1	0	1	1	0	1
WBT	0	0	0	0	0	0
WBR	0	0	0	0	0	0
North Leg						
Approach	553	9	562	462	6	468
Departure	402	3	405	534	10	544
Total	955	12	967	996	16	1,012
South Leg						
Approach	392	3	395	526	10	536
Departure	492	9	501	459	6	465
Total	884	12	896	985	16	1,001
East Leg						
Approach	1	0	1	1	0	1
Departure	0	0	0	1	0	1
Total	1	0	1	2	0	2
West Leg						
Approach	13	0	13	15	0	15
Departure	65	0	65	10	0	10
Total	78	0	78	25	0	25
Total Approaches						
Approach	959	12	971	1,004	16	1,020
Departure	959	12	971	1,004	16	1,020
Total	1,918	24	1,942	2,008	32	2,040

Table D-1 - Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project
12 Armstrong Avenue/Project Driveway 1						
NBL	0	0	0	0	0	0
NBT	229	27	256	437	18	455
NBR	0	15	15	0	48	48
SBL	0	19	19	0	61	61
SBT	652	9	661	231	31	262
SBR	0	0	0	0	0	0
EBL	0	0	0	0	0	0
EBT	0	0	0	0	0	0
EBR	0	0	0	0	0	0
WBL	0	43	43	0	29	29
WBT	0	0	0	0	0	0
WBR	0	54	54	0	36	36
North Leg						
Approach	652	28	680	231	92	323
Departure	229	81	310	437	54	491
Total	881	109	990	668	146	814
South Leg						
Approach	229	42	271	437	66	503
Departure	652	52	704	231	60	291
Total	881	94	975	668	126	794
East Leg						
Approach	0	97	97	0	65	65
Departure	0	34	34	0	109	109
Total	0	131	131	0	174	174
West Leg						
Approach	0	0	0	0	0	0
Departure	0	0	0	0	0	0
Total	0	0	0	0	0	0
Total Approaches						
Approach	881	167	1,048	668	223	891
Departure	881	167	1,048	668	223	891
Total	1,762	334	2,096		446	1,782

Table D-1 - Existing Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project	Existing (2022) No Project	Project Trips	Existing (2022) Plus Project
13 Project Driveway 2/McKinley Avenue						
NBL	0	0	0	0	0	0
NBT	0	0	0	0	0	0
NBR	0	0	0	0	0	0
SBL	0	10	10	0	7	7
SBT	0	0	0	0	0	0
SBR	0	63	63	0	42	42
EBL	0	22	22	0	71	71
EBT	0	5	5	0	3	3
EBR	0	0	0	0	0	0
WBL	0	0	0	0	0	0
WBT	0	2	2	0	6	6
WBR	0	4	4	0	12	12
North Leg						
Approach	0	73	73	0	49	49
Departure	0	26	26	0	83	83
Total	0	99	99	0	132	132
South Leg						
Approach	0	0	0	0	0	0
Departure	0	0	0	0	0	0
Total	0	0	0	0	0	0
East Leg						
Approach	0	6	6	0	18	18
Departure	0	15	15	0	10	10
Total	0	21	21	0	28	28
West Leg						
Approach	0	27	27	0	74	74
Departure	0	65	65	0	48	48
Total	0	92	92	0	122	122
Total Approaches						
Approach	0	106	106	0	141	141
Departure	0	106	106	0	141	141
Total	0	212	212	0	282	282

Table D-2 - Near-Term (2026) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project
1 Fowler Avenue/McKinley Avenue								
NBL	0	0	0	0	0	0	0	0
NBT	464	139	0	603	644	280	0	924
NBR	0	39	1	40	0	8	2	10
SBL	0	99	0	99	0	53	0	53
SBT	559	255	0	814	509	199	0	708
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	0	30	2	32	0	12	1	13
WBT	0	0	0	0	0	0	0	0
WBR	0	98	0	98	0	35	0	35
North Leg								
Approach	559	354	0	913	509	252	0	761
Departure	464	237	0	701	644	315	0	959
Total	1,023	591	0	1,614	1,153	567	0	1,720
South Leg								
Approach	464	178	1	643	644	288	2	934
Departure	559	285	2	846	509	211	1	721
Total	1,023	463	3	1,489	1,153	499	3	1,655
East Leg								
Approach	0	128	2	130	0	47	1	48
Departure	0	138	1	139	0	61	2	63
Total	0	266	3	269	0	108	3	111
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Total Approaches								
Approach	1,023	660	3	1,686	1,153	587	3	1,743
Departure	1,023	660	3	1,686	1,153	587	3	1,743
Total	2,046	1,320	6	3,372	2,306	1,174	6	3,486

Table D-2 - Near-Term (2026) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project
2 Fowler Avenue/Floradora Avenue								
NBL	0	0	0	0	0	0	0	0
NBT	423	148	1	572	599	233	2	834
NBR	1	102	0	103	1	84	0	85
SBL	73	58	0	131	61	41	0	102
SBT	486	227	2	715	448	170	1	619
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	2	68	0	70	3	101	0	104
WBT	0	0	0	0	0	0	0	0
WBR	41	30	0	71	45	55	0	100
North Leg								
Approach	559	285	2	846	509	211	1	721
Departure	464	178	1	643	644	288	2	934
Total	1,023	463	3	1,489	1,153	499	3	1,655
South Leg								
Approach	424	250	1	675	600	317	2	919
Departure	488	295	2	785	451	271	1	723
Total	912	545	3	1,460	1,051	588	3	1,642
East Leg								
Approach	43	98	0	141	48	156	0	204
Departure	74	160	0	234	62	125	0	187
Total	117	258	0	375	110	281	0	391
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Total Approaches								
Approach	1,026	633	3	1,662	1,157	684	3	1,844
Departure	1,026	633	3	1,662	1,157	684	3	1,844
Total	2,052	1,266	6	3,324	2,314	1,368	6	3,688

Table D-2 - Near-Term (2026) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project
3 Fowler Avenue/Olive Avenue								
NBL	27	0	0	27	6	0	0	6
NBT	340	233	1	574	367	283	2	652
NBR	72	68	15	155	108	29	48	185
SBL	3	33	0	36	11	19	0	30
SBT	464	262	2	728	409	251	1	661
SBR	11	0	0	11	15	0	0	15
EBL	38	0	0	38	139	0	0	139
EBT	59	6	3	68	89	25	10	124
EBR	23	0	0	23	43	0	0	43
WBL	386	68	43	497	212	31	29	272
WBT	115	20	9	144	71	9	6	86
WBR	40	17	0	57	59	34	0	93
North Leg								
Approach	478	295	2	775	435	270	1	706
Departure	418	250	1	669	565	317	2	884
Total	896	545	3	1,444	1,000	587	3	1,590
South Leg								
Approach	439	301	16	756	481	312	50	843
Departure	873	330	45	1,248	664	282	30	976
Total	1,312	631	61	2,004	1,145	594	80	1,819
East Leg								
Approach	541	105	52	698	342	74	35	451
Departure	134	107	18	259	208	73	58	339
Total	675	212	70	957	550	147	93	790
West Leg								
Approach	120	6	3	129	271	25	10	306
Departure	153	20	9	182	92	9	6	107
Total	273	26	12	311	363	34	16	413
Total Approaches								
Approach	1,578	707	73	2,358	1,529	681	96	2,306
Departure	1,578	707	73	2,358	1,529	681	96	2,306
Total	3,156	1,414	146	4,716	3,058	1,362	192	4,612

Table D-2 - Near-Term (2026) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Existing (2022) No Project	**Cumulative Project Trips**	**Project Trips**	**Near-Term Plus Project**	**Existing (2022) No Project**	**Cumulative Project Trips**	**Project Trips**	**Near-Term Plus Project**
4 Fowler Avenue/SR-180 Westbound Ramps								
NBL	0	0	0	0	0	0	0	0
NBT	402	247	16	665	486	238	52	776
NBR	751	105	0	856	356	113	0	469
SBL	0	0	0	0	0	0	0	0
SBT	182	178	19	379	327	194	13	534
SBR	676	121	27	824	302	77	18	397
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	18	91	0	109	33	93	0	126
WBT	0	0	0	0	0	0	0	0
WBR	62	53	0	115	36	72	0	108
North Leg								
Approach	858	299	46	1,203	629	271	31	931
Departure	464	300	16	780	522	310	52	884
Total	1,322	599	62	1,983	1,151	581	83	1,815
South Leg								
Approach	1,153	352	16	1,521	842	351	52	1,245
Departure	200	269	19	488	360	287	13	660
Total	1,353	621	35	2,009	1,202	638	65	1,905
East Leg								
Approach	80	144	0	224	69	165	0	234
Departure	751	105	0	856	356	113	0	469
Total	831	249	0	1,080	425	278	0	703
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	676	121	27	824	302	77	18	397
Total	676	121	27	824	302	77	18	397
Total Approaches								
Approach	2,091	795	62	2,948	1,540	787	83	2,410
Departure	2,091	795	62	2,948	1,540	787	83	2,410
Total	4,182	1,590	124	5,896	3,080	1,574	166	4,820

Table D-2 - Near-Term (2026) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project
5 Fowler Avenue/SR-180 Eastbound Ramps								
NBL	0	0	0	0	0	0	0	0
NBT	939	226	6	1,171	513	232	21	766
NBR	34	99	0	133	22	107	0	129
SBL	29	76	0	105	75	53	0	128
SBT	171	221	19	411	285	241	13	539
SBR	0	0	0	0	0	0	0	0
EBL	214	92	9	315	329	93	31	453
EBT	0	0	0	0	0	0	0	0
EBR	339	99	0	438	727	99	0	826
WBL	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	200	297	19	516	360	294	13	667
Departure	1,153	318	15	1,486	842	325	52	1,219
Total	1,353	615	34	2,002	1,202	619	65	1,886
South Leg								
Approach	973	325	6	1,304	535	339	21	895
Departure	510	320	19	849	1,012	340	13	1,365
Total	1,483	645	25	2,153	1,547	679	34	2,260
East Leg								
Approach	0	0	0	0	0	0	0	0
Departure	63	175	0	238	97	160	0	257
Total	63	175	0	238	97	160	0	257
West Leg								
Approach	553	191	9	753	1,056	192	31	1,279
Departure	0	0	0	0	0	0	0	0
Total	553	191	9	753	1,056	192	31	1,279
Total Approaches								
Approach	1,726	813	34	2,573	1,951	825	65	2,841
Departure	1,726	813	34	2,573	1,951	825	65	2,841
Total	3,452	1,626	68	5,146	3,902	1,650	130	5,682

Table D-2 - Near-Term (2026) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project
6 Fowler Avenue/Belmont Avenue								
NBL	108	15	0	123	67	17	0	84
NBT	794	133	6	933	404	144	21	569
NBR	120	59	0	179	86	54	0	140
SBL	133	193	0	326	171	154	0	325
SBT	361	86	19	466	723	115	13	851
SBR	22	30	0	52	49	31	0	80
EBL	66	48	0	114	56	40	0	96
EBT	140	92	4	236	116	74	12	202
EBR	47	2	0	49	71	2	0	73
WBL	91	46	0	137	77	67	0	144
WBT	114	53	10	177	93	73	7	173
WBR	113	139	0	252	75	152	0	227
North Leg								
Approach	516	309	19	844	943	300	13	1,256
Departure	973	320	6	1,299	535	336	21	892
Total	1,489	629	25	2,143	1,478	636	34	2,148
South Leg								
Approach	1,022	207	6	1,235	557	215	21	793
Departure	499	134	19	652	871	184	13	1,068
Total	1,521	341	25	1,887	1,428	399	34	1,861
East Leg								
Approach	318	238	10	566	245	292	7	544
Departure	393	344	4	741	373	282	12	667
Total	711	582	14	1,307	618	574	19	1,211
West Leg								
Approach	253	142	4	399	243	116	12	371
Departure	244	98	10	352	209	121	7	337
Total	497	240	14	751	452	237	19	708
Total Approaches								
Approach	2,109	896	39	3,044	1,988	923	53	2,964
Departure	2,109	896	39	3,044	1,988	923	53	2,964
Total	4,218	1,792	78	6,088	3,976	1,846	106	5,928

Table D-2 - Near-Term (2026) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project
7 Armstrong Avenue/McKinley Avenue								
NBL	0	28	0	28	0	13	0	13
NBT	229	74	13	316	437	100	42	579
NBR	0	19	12	31	0	5	38	43
SBL	0	39	14	53	0	18	34	52
SBT	652	79	37	768	231	82	25	338
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	0	129	1	130	0	31	2	33
EBR	0	9	0	9	0	30	0	30
WBL	0	15	34	49	0	6	23	29
WBT	0	100	2	102	0	34	1	35
WBR	0	33	29	62	0	16	24	40
North Leg								
Approach	652	118	51	821	231	100	59	390
Departure	229	107	42	378	437	116	66	619
Total	881	225	93	1,199	668	216	125	1,009
South Leg								
Approach	229	121	25	375	437	118	80	635
Departure	652	103	71	826	231	118	48	397
Total	881	224	96	1,201	668	236	128	1,032
East Leg								
Approach	0	148	65	213	0	56	48	104
Departure	0	187	27	214	0	54	74	128
Total	0	335	92	427	0	110	122	232
West Leg								
Approach	0	138	1	139	0	61	2	63
Departure	0	128	2	130	0	47	1	48
Total	0	266	3	269	0	108	3	111
Total Approaches								
Approach	881	525	142	1,548	668	335	189	1,192
Departure	881	525	142	1,548	668	335	189	1,192
Total	1,762	1,050	284	3,096	1,336	670	378	2,384

Table D-2 - Near-Term (2026) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project
8 Armstrong Avenue/Floradora Avenue								
NBL	3	2	0	5	1	7	0	8
NBT	216	40	24	280	429	103	79	611
NBR	7	14	0	21	9	24	0	33
SBL	0	3	0	3	3	9	0	12
SBT	650	94	70	814	227	67	47	341
SBR	2	39	2	43	1	28	1	30
EBL	3	22	1	26	3	37	2	42
EBT	6	2	0	8	3	3	0	6
EBR	14	6	0	20	1	4	0	5
WBL	48	15	0	63	3	14	0	17
WBT	7	1	0	8	2	2	0	4
WBR	10	8	0	18	5	7	0	12
North Leg								
Approach	652	136	72	860	231	104	48	383
Departure	229	70	25	324	437	147	81	665
Total	881	206	97	1,184	668	251	129	1,048
South Leg								
Approach	226	56	24	306	439	134	79	652
Departure	712	115	70	897	231	85	47	363
Total	938	171	94	1,203	670	219	126	1,015
East Leg								
Approach	65	24	0	89	10	23	0	33
Departure	13	19	0	32	15	36	0	51
Total	78	43	0	121	25	59	0	84
West Leg								
Approach	23	30	1	54	7	44	2	53
Departure	12	42	2	56	4	37	1	42
Total	35	72	3	110	11	81	3	95
Total Approaches								
Approach	966	246	97	1,309	687	305	129	1,121
Departure	966	246	97	1,309	687	305	129	1,121
Total	1,932	492	194	2,618	1,374	610	258	2,242

Table D-2 - Near-Term (2026) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project
9 Armstrong Avenue/Olive Avenue								
NBL	55	17	0	72	50	34	0	84
NBT	152	46	5	203	295	92	15	402
NBR	194	0	0	194	142	0	0	142
SBL	49	1	0	50	12	0	0	12
SBT	204	76	14	294	123	62	9	194
SBR	459	39	56	554	96	21	38	155
EBL	55	9	19	83	110	39	63	212
EBT	111	66	0	177	165	17	0	182
EBR	12	33	0	45	10	19	0	29
WBL	107	0	0	107	80	0	0	80
WBT	337	54	0	391	224	19	0	243
WBR	19	0	0	19	34	2	0	36
North Leg								
Approach	712	116	70	898	231	83	47	361
Departure	226	55	24	305	439	133	78	650
Total	938	171	94	1,203	670	216	125	1,011
South Leg								
Approach	401	63	5	469	487	126	15	628
Departure	323	109	14	446	213	81	9	303
Total	724	172	19	915	700	207	24	931
East Leg								
Approach	463	54	0	517	338	21	0	359
Departure	354	67	0	421	319	17	0	336
Total	817	121	0	938	657	38	0	695
West Leg								
Approach	178	108	19	305	285	75	63	423
Departure	851	110	56	1,017	370	74	38	482
Total	1,029	218	75	1,322	655	149	101	905
Total Approaches								
Approach	1,754	341	94	2,189	1,341	305	125	1,771
Departure	1,754	341	94	2,189	1,341	305	125	1,771
Total	3,508	682	188	4,378	2,682	610	250	3,542

Table D-2 - Near-Term (2026) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project
10 Temperance Avenue/McKinley Avenue								
NBL	0	4	3	7	0	14	10	24
NBT	347	14	0	361	486	22	0	508
NBR	67	275	0	342	56	51	0	107
SBL	72	32	0	104	95	8	0	103
SBT	559	17	0	576	429	19	0	448
SBR	0	4	2	6	0	11	6	17
EBL	0	9	5	14	0	8	3	11
EBT	0	183	2	185	0	37	1	38
EBR	0	13	9	22	0	8	6	14
WBL	72	135	0	207	62	51	0	113
WBT	0	139	1	140	0	50	2	52
WBR	90	14	0	104	48	5	0	53
North Leg								
Approach	631	53	2	686	524	38	6	568
Departure	437	37	5	479	534	35	3	572
Total	1,068	90	7	1,165	1,058	73	9	1,140
South Leg								
Approach	414	293	3	710	542	87	10	639
Departure	631	165	9	805	491	78	6	575
Total	1,045	458	12	1,515	1,033	165	16	1,214
East Leg								
Approach	162	288	1	451	110	106	2	218
Departure	139	490	2	631	151	96	1	248
Total	301	778	3	1,082	261	202	3	466
West Leg								
Approach	0	205	16	221	0	53	10	63
Departure	0	147	6	153	0	75	18	93
Total	0	352	22	374	0	128	28	156
Total Approaches								
Approach	1,207	839	22	2,068	1,176	284	28	1,488
Departure	1,207	839	22	2,068	1,176	284	28	1,488
Total	2,414	1,678	44	4,136	2,352	568	56	2,976

Table D-2 - Near-Term (2026) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project
11 Temperance Avenue/Floradora Avenue								
NBL	2	2	0	4	0	3	0	3
NBT	390	285	3	678	526	81	10	617
NBR	0	0	0	0	0	0	0	0
SBL	0	0	0	0	1	0	0	1
SBT	490	147	9	646	451	63	6	520
SBR	63	4	0	67	10	11	0	21
EBL	12	9	0	21	8	7	0	15
EBT	0	0	0	0	0	0	0	0
EBR	1	5	0	6	7	3	0	10
WBL	1	0	0	1	1	0	0	1
WBT	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	553	151	9	713	462	74	6	542
Departure	402	294	3	699	534	88	10	632
Total	955	445	12	1,412	996	162	16	1,174
South Leg								
Approach	392	287	3	682	526	84	10	620
Departure	492	152	9	653	459	66	6	531
Total	884	439	12	1,335	985	150	16	1,151
East Leg								
Approach	1	0	0	1	1	0	0	1
Departure	0	0	0	0	1	0	0	1
Total	1	0	0	1	2	0	0	2
West Leg								
Approach	13	14	0	27	15	10	0	25
Departure	65	6	0	71	10	14	0	24
Total	78	20	0	98	25	24	0	49
Total Approaches								
Approach	959	452	12	1,423	1,004	168	16	1,188
Departure	959	452	12	1,423	1,004	168	16	1,188
Total	1,918	904	24	2,846	2,008	336	32	2,376

Table D-2 - Near-Term (2026) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project
12 Armstrong Avenue/Project Driveway 1								
NBL	0	0	0	0	0	0	0	0
NBT	229	80	27	336	437	106	18	561
NBR	0	0	15	15	0	0	48	48
SBL	0	0	19	19	0	0	61	61
SBT	652	82	9	743	231	93	31	355
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	0	0	43	43	0	0	29	29
WBT	0	0	0	0	0	0	0	0
WBR	0	0	54	54	0	0	36	36
North Leg								
Approach	652	82	28	762	231	93	92	416
Departure	229	80	81	390	437	106	54	597
Total	881	162	109	1,152	668	199	146	1,013
South Leg								
Approach	229	80	42	351	437	106	66	609
Departure	652	82	52	786	231	93	60	384
Total	881	162	94	1,137	668	199	126	993
East Leg								
Approach	0	0	97	97	0	0	65	65
Departure	0	0	34	34	0	0	109	109
Total	0	0	131	131	0	0	174	174
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Total Approaches								
Approach	881	162	167	1,210	668	199	223	1,090
Departure	881	162	167	1,210	668	199	223	1,090
Total	1,762	324	334	2,420	1,336	398	446	2,180

LSA

Table D-2 - Near-Term (2026) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project	Existing (2022) No Project	Cumulative Project Trips	Project Trips	Near-Term Plus Project
13 Project Driveway 2/McKinley Avenue								
NBL	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	0	0
SBL	0	0	10	10	0	0	7	7
SBT	0	0	0	0	0	0	0	0
SBR	0	0	63	63	0	0	42	42
EBL	0	0	22	22	0	0	71	71
EBT	0	186	5	191	0	52	3	55
EBR	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	0	0
WBT	0	148	2	150	0	56	6	62
WBR	0	0	4	4	0	0	12	12
North Leg								
Approach	0	0	73	73	0	0	49	49
Departure	0	0	26	26	0	0	83	83
Total	0	0	99	99	0	0	132	132
South Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
East Leg								
Approach	0	148	6	154	0	56	18	74
Departure	0	186	15	201	0	52	10	62
Total	0	334	21	355	0	108	28	136
West Leg								
Approach	0	186	27	213	0	52	74	126
Departure	0	148	65	213	0	56	48	104
Total	0	334	92	426	0	108	122	230
Total Approaches								
Approach	0	334	106	440	0	108	141	249
Departure	0	334	106	440	0	108	141	249
Total	0	668	212	880	0	216	282	498

LSA

Table D-3 - Cumulative (2046) Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Cumulative (2046) No Project	**Project Trips**	**Cumulative (2046) Plus Project**	**Cumulative (2046) No Project**	**Project Trips**	**Cumulative (2046) Plus Project**
1 Fowler Avenue/McKinley Avenue						
NBL	273	0	273	318	0	318
NBT	633	0	633	970	0	970
NBR	47	1	48	158	2	160
SBL	104	0	104	56	0	56
SBT	826	0	826	743	0	743
SBR	26	0	26	68	0	68
EBL	49	0	49	112	0	112
EBT	31	0	31	50	0	50
EBR	144	0	144	307	0	307
WBL	362	2	364	76	1	77
WBT	141	0	141	73	0	73
WBR	103	0	103	37	0	37
North Leg						
Approach	956	0	956	867	0	867
Departure	785	0	785	1,119	0	1,119
Total	1,741	0	1,741	1,986	0	1,986
South Leg						
Approach	953	1	954	1,446	2	1,448
Departure	1,332	2	1,334	1,126	1	1,127
Total	2,285	3	2,288	2,572	3	2,575
East Leg						
Approach	606	2	608	186	1	187
Departure	182	1	183	264	2	266
Total	788	3	791	450	3	453
West Leg						
Approach	224	0	224	469	0	469
Departure	440	0	440	459	0	459
Total	664	0	664	928	0	928
Total Approaches						
Approach	2,739	3	2,742	2,968	3	2,971
Departure	2,739	3	2,742	2,968	3	2,971
Total	5,478	6	5,484	5,936	6	5,942

Table D-3 - Cumulative (2046) Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project
2 Fowler Avenue/Floradora Avenue						
NBL	0	0	0	0	0	0
NBT	600	1	601	874	2	876
NBR	108	0	108	89	0	89
SBL	138	0	138	107	0	107
SBT	749	2	751	649	1	650
SBR	0	0	0	0	0	0
EBL	0	0	0	0	0	0
EBT	0	0	0	0	0	0
EBR	0	0	0	0	0	0
WBL	74	0	74	109	0	109
WBT	0	0	0	0	0	0
WBR	75	0	75	105	0	105
North Leg						
Approach	887	2	889	756	1	757
Departure	675	1	676	979	2	981
Total	1,562	3	1,565	1,735	3	1,738
South Leg						
Approach	708	1	709	963	2	965
Departure	823	2	825	758	1	759
Total	1,531	3	1,534	1,721	3	1,724
East Leg						
Approach	149	0	149	214	0	214
Departure	246	0	246	196	0	196
Total	395	0	395	410	0	410
West Leg						
Approach	0	0	0	0	0	0
Departure	0	0	0	0	0	0
Total	0	0	0	0	0	0
Total Approaches						
Approach	1,744	3	1,747	1,933	3	1,936
Departure	1,744	3	1,747	1,933	3	1,936
Total	3,488	6	3,494	3,866	6	3,872

Table D-3 - Cumulative (2046) Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project
3 Fowler Avenue/Olive Avenue						
NBL	33	0	33	6	0	6
NBT	602	1	603	683	2	685
NBR	147	15	162	363	48	411
SBL	38	0	38	32	0	32
SBT	762	2	764	693	1	694
SBR	48	0	48	16	0	16
EBL	39	0	39	166	0	166
EBT	98	3	101	332	10	342
EBR	24	0	24	46	0	46
WBL	477	43	520	339	29	368
WBT	314	9	323	121	6	127
WBR	78	0	78	105	0	105
North Leg						
Approach	848	2	850	741	1	742
Departure	719	1	720	954	2	956
Total	1,567	3	1,570	1,695	3	1,698
South Leg						
Approach	782	16	798	1,052	50	1,102
Departure	1,263	45	1,308	1,078	30	1,108
Total	2,045	61	2,106	2,130	80	2,210
East Leg						
Approach	869	52	921	565	35	600
Departure	283	18	301	727	58	785
Total	1,152	70	1,222	1,292	93	1,385
West Leg						
Approach	161	3	164	544	10	554
Departure	395	9	404	143	6	149
Total	556	12	568	687	16	703
Total Approaches						
Approach	2,660	73	2,733	2,902	96	2,998
Departure	2,660	73	2,733	2,902	96	2,998
Total	5,320	146	5,466	5,804	192	5,996

Table D-3 - Cumulative (2046) Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project
4 Fowler Avenue/SR-180 Westbound Ramps						
NBL	0	0	0	0	0	0
NBT	665	16	681	815	52	867
NBR	879	0	879	486	0	486
SBL	0	0	0	0	0	0
SBT	401	19	420	553	13	566
SBR	837	27	864	447	18	465
EBL	0	0	0	0	0	0
EBT	0	0	0	0	0	0
EBR	0	0	0	0	0	0
WBL	121	0	121	133	0	133
WBT	0	0	0	0	0	0
WBR	121	0	121	113	0	113
North Leg						
Approach	1,238	46	1,284	1,000	31	1,031
Departure	786	16	802	928	52	980
Total	2,024	62	2,086	1,928	83	2,011
South Leg						
Approach	1,544	16	1,560	1,301	52	1,353
Departure	522	19	541	686	13	699
Total	2,066	35	2,101	1,987	65	2,052
East Leg						
Approach	242	0	242	246	0	246
Departure	879	0	879	486	0	486
Total	1,121	0	1,121	732	0	732
West Leg						
Approach	0	0	0	0	0	0
Departure	837	27	864	447	18	465
Total	837	27	864	447	18	465
Total Approaches						
Approach	3,024	62	3,086	2,547	83	2,630
Departure	3,024	62	3,086	2,547	83	2,630
Total	6,048	124	6,172	5,094	166	5,260

Table D-3 - Cumulative (2046) Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project
5 Fowler Avenue/SR-180 Eastbound Ramps						
NBL	0	0	0	0	0	0
NBT	1,223	6	1,229	858	21	879
NBR	140	0	140	135	0	135
SBL	110	0	110	134	0	134
SBT	412	19	431	552	13	565
SBR	0	0	0	0	0	0
EBL	321	9	330	443	31	474
EBT	0	0	0	0	0	0
EBR	487	0	487	867	0	867
WBL	0	0	0	0	0	0
WBT	0	0	0	0	0	0
WBR	0	0	0	0	0	0
North Leg						
Approach	522	19	541	686	13	699
Departure	1,544	15	1,559	1,301	52	1,353
Total	2,066	34	2,100	1,987	65	2,052
South Leg						
Approach	1,363	6	1,369	993	21	1,014
Departure	899	19	918	1,419	13	1,432
Total	2,262	25	2,287	2,412	34	2,446
East Leg						
Approach	0	0	0	0	0	0
Departure	250	0	250	269	0	269
Total	250	0	250	269	0	269
West Leg						
Approach	808	9	817	1,310	31	1,341
Departure	0	0	0	0	0	0
Total	808	9	817	1,310	31	1,341
Total Approaches						
Approach	2,693	34	2,727	2,989	65	3,054
Departure	2,693	34	2,727	2,989	65	3,054
Total	5,386	68	5,454	5,978	130	6,108

Table D-3 - Cumulative (2046) Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project
6 Fowler Avenue/Belmont Avenue						
NBL	155	0	155	88	0	88
NBT	977	6	983	540	21	561
NBR	188	0	188	147	0	147
SBL	342	0	342	341	0	341
SBT	469	19	488	880	13	893
SBR	55	0	55	88	0	88
EBL	120	0	120	230	0	230
EBT	244	4	248	200	12	212
EBR	53	0	53	106	0	106
WBL	144	0	144	151	0	151
WBT	258	10	268	174	7	181
WBR	266	0	266	223	0	223
North Leg						
Approach	866	19	885	1,309	13	1,322
Departure	1,363	6	1,369	993	21	1,014
Total	2,229	25	2,254	2,302	34	2,336
South Leg						
Approach	1,320	6	1,326	775	21	796
Departure	666	19	685	1,137	13	1,150
Total	1,986	25	2,011	1,912	34	1,946
East Leg						
Approach	668	10	678	548	7	555
Departure	774	4	778	688	12	700
Total	1,442	14	1,456	1,236	19	1,255
West Leg						
Approach	417	4	421	536	12	548
Departure	468	10	478	350	7	357
Total	885	14	899	886	19	905
Total Approaches						
Approach	3,271	39	3,310	3,168	53	3,221
Departure	3,271	39	3,310	3,168	53	3,221
Total	6,542	78	6,620	6,336	106	6,442

LSA

Table D-3 - Cumulative (2046) Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project
7 Armstrong Avenue/McKinley Avenue						
NBL	29	0	29	14	0	14
NBT	318	13	331	563	42	605
NBR	20	12	32	167	38	205
SBL	41	14	55	25	34	59
SBT	767	37	804	329	25	354
SBR	112	0	112	51	0	51
EBL	26	0	26	76	0	76
EBT	135	1	136	73	2	75
EBR	9	0	9	32	0	32
WBL	117	34	151	27	23	50
WBT	294	2	296	61	1	62
WBR	35	29	64	23	24	47
North Leg						
Approach	920	51	971	405	59	464
Departure	379	42	421	662	66	728
Total	1,299	93	1,392	1,067	125	1,192
South Leg						
Approach	367	25	392	744	80	824
Departure	893	71	964	388	48	436
Total	1,260	96	1,356	1,132	128	1,260
East Leg						
Approach	446	65	511	111	48	159
Departure	196	27	223	265	74	339
Total	642	92	734	376	122	498
West Leg						
Approach	170	1	171	181	2	183
Departure	435	2	437	126	1	127
Total	605	3	608	307	3	310
Total Approaches						
Approach	1,903	142	2,045	1,441	189	1,630
Departure	1,903	142	2,045	1,441	189	1,630
Total	3,806	284	4,090	2,882	378	3,260

Table D-3 - Cumulative (2046) Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project
8 Armstrong Avenue/Floradora Avenue						
NBL	5	0	5	8	0	8
NBT	269	24	293	561	79	640
NBR	22	0	22	74	0	74
SBL	3	0	3	13	0	13
SBT	835	70	905	357	47	404
SBR	43	2	45	30	1	31
EBL	26	1	27	42	2	44
EBT	8	0	8	6	0	6
EBR	21	0	21	5	0	5
WBL	107	0	107	23	0	23
WBT	8	0	8	4	0	4
WBR	19	0	19	13	0	13
North Leg						
Approach	881	72	953	400	48	448
Departure	314	25	339	616	81	697
Total	1,195	97	1,292	1,016	129	1,145
South Leg						
Approach	296	24	320	643	79	722
Departure	963	70	1,033	385	47	432
Total	1,259	94	1,353	1,028	126	1,154
East Leg						
Approach	134	0	134	40	0	40
Departure	33	0	33	93	0	93
Total	167	0	167	133	0	133
West Leg						
Approach	55	1	56	53	2	55
Departure	56	2	58	42	1	43
Total	111	3	114	95	3	98
Total Approaches						
Approach	1,366	97	1,463	1,136	129	1,265
Departure	1,366	97	1,463	1,136	129	1,265
Total	2,732	194	2,926	2,272	258	2,530

Table D-3 - Cumulative (2046) Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Cumulative (2046) No Project	**Project Trips**	**Cumulative (2046) Plus Project**	**Cumulative (2046) No Project**	**Project Trips**	**Cumulative (2046) Plus Project**
9 Armstrong Avenue/Olive Avenue						
NBL	76	0	76	88	0	88
NBT	208	5	213	406	15	421
NBR	244	0	244	167	0	167
SBL	67	0	67	20	0	20
SBT	284	14	298	194	9	203
SBR	576	56	632	163	38	201
EBL	67	19	86	289	63	352
EBT	186	0	186	501	0	501
EBR	47	0	47	30	0	30
WBL	131	0	131	106	0	106
WBT	411	0	411	355	0	355
WBR	23	0	23	46	0	46
North Leg						
Approach	927	70	997	377	47	424
Departure	298	24	322	741	78	819
Total	1,225	94	1,319	1,118	125	1,243
South Leg						
Approach	528	5	533	661	15	676
Departure	462	14	476	330	9	339
Total	990	19	1,009	991	24	1,015
East Leg						
Approach	565	0	565	507	0	507
Departure	497	0	497	688	0	688
Total	1,062	0	1,062	1,195	0	1,195
West Leg						
Approach	300	19	319	820	63	883
Departure	1,063	56	1,119	606	38	644
Total	1,363	75	1,438	1,426	101	1,527
Total Approaches						
Approach	2,320	94	2,414	2,365	125	2,490
Departure	2,320	94	2,414	2,365	125	2,490
Total	4,640	188	4,828	4,730	250	4,980

Table D-3 - Cumulative (2046) Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project
10 Temperance Avenue/McKinley Avenue						
NBL	102	3	105	49	10	59
NBT	472	0	472	1,505	0	1,505
NBR	359	0	359	112	0	112
SBL	109	0	109	108	0	108
SBT	1,350	0	1,350	889	0	889
SBR	169	2	171	35	6	41
EBL	40	5	45	120	3	123
EBT	192	2	194	39	1	40
EBR	14	9	23	68	6	74
WBL	217	0	217	119	0	119
WBT	146	1	147	53	2	55
WBR	109	0	109	56	0	56
North Leg						
Approach	1,628	2	1,630	1,032	6	1,038
Departure	621	5	626	1,681	3	1,684
Total	2,249	7	2,256	2,713	9	2,722
South Leg						
Approach	933	3	936	1,666	10	1,676
Departure	1,581	9	1,590	1,076	6	1,082
Total	2,514	12	2,526	2,742	16	2,758
East Leg						
Approach	472	1	473	228	2	230
Departure	660	2	662	259	1	260
Total	1,132	3	1,135	487	3	490
West Leg						
Approach	246	16	262	227	10	237
Departure	417	6	423	137	18	155
Total	663	22	685	364	28	392
Total Approaches						
Approach	3,279	22	3,301	3,153	28	3,181
Departure	3,279	22	3,301	3,153	28	3,181
Total	6,558	44	6,602	6,306	56	6,362

Table D-3 - Cumulative (2046) Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project
11 Temperance Avenue/Floradora Avenue						
NBL	4	0	4	3	0	3
NBT	709	3	712	1,091	10	1,101
NBR	0	0	0	0	0	0
SBL	0	0	0	1	0	1
SBT	951	9	960	779	6	785
SBR	70	0	70	24	0	24
EBL	23	0	23	16	0	16
EBT	0	0	0	0	0	0
EBR	6	0	6	12	0	12
WBL	1	0	1	1	0	1
WBT	0	0	0	0	0	0
WBR	0	0	0	0	0	0
North Leg						
Approach	1,021	9	1,030	804	6	810
Departure	732	3	735	1,107	10	1,117
Total	1,753	12	1,765	1,911	16	1,927
South Leg						
Approach	713	3	716	1,094	10	1,104
Departure	958	9	967	792	6	798
Total	1,671	12	1,683	1,886	16	1,902
East Leg						
Approach	1	0	1	1	0	1
Departure	0	0	0	1	0	1
Total	1	0	1	2	0	2
West Leg						
Approach	29	0	29	28	0	28
Departure	74	0	74	27	0	27
Total	103	0	103	55	0	55
Total Approaches						
Approach	1,764	12	1,776	1,927	16	1,943
Departure	1,764	12	1,776	1,927	16	1,943
Total	3,528	24	3,552	3,854	32	3,886

Table D-3 - Cumulative (2046) Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project
12 Armstrong Avenue/Project Driveway 1						
NBL	0	0	0	0	0	0
NBT	325	27	352	570	18	588
NBR	0	15	15	0	48	48
SBL	0	19	19	0	61	61
SBT	772	9	781	341	31	372
SBR	0	0	0	0	0	0
EBL	0	0	0	0	0	0
EBT	0	0	0	0	0	0
EBR	0	0	0	0	0	0
WBL	0	43	43	0	29	29
WBT	0	0	0	0	0	0
WBR	0	54	54	0	36	36
North Leg						
Approach	772	28	800	341	92	433
Departure	325	81	406	570	54	624
Total	1,097	109	1,206	911	146	1,057
South Leg						
Approach	325	42	367	570	66	636
Departure	772	52	824	341	60	401
Total	1,097	94	1,191	911	126	1,037
East Leg						
Approach	0	97	97	0	65	65
Departure	0	34	34	0	109	109
Total	0	131	131	0	174	174
West Leg						
Approach	0	0	0	0	0	0
Departure	0	0	0	0	0	0
Total	0	0	0	0	0	0
Total Approaches						
Approach	1,097	167	1,264	911	223	1,134
Departure	1,097	167	1,264	911	223	1,134
Total	2,194	334	2,528	1,822	446	2,268

Table D-3 - Cumulative (2046) Peak Hour Volume Summary

	AM Peak Hour			PM Peak Hour		
	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project	Cumulative (2046) No Project	Project Trips	Cumulative (2046) Plus Project
13 Project Driveway 2/McKinley Avenue						
NBL	0	0	0	0	0	0
NBT	0	0	0	0	0	0
NBR	0	0	0	0	0	0
SBL	0	10	10	0	7	7
SBT	0	0	0	0	0	0
SBR	0	63	63	0	42	42
EBL	0	22	22	0	71	71
EBT	195	5	200	55	3	58
EBR	0	0	0	0	0	0
WBL	0	0	0	0	0	0
WBT	155	2	157	59	6	65
WBR	0	4	4	0	12	12
North Leg						
Approach	0	73	73	0	49	49
Departure	0	26	26	0	83	83
Total	0	99	99	0	132	132
South Leg						
Approach	0	0	0	0	0	0
Departure	0	0	0	0	0	0
Total	0	0	0	0	0	0
East Leg						
Approach	155	6	161	59	18	77
Departure	195	15	210	55	10	65
Total	350	21	371	114	28	142
West Leg						
Approach	195	27	222	55	74	129
Departure	155	65	220	59	48	107
Total	350	92	442	114	122	236
Total Approaches						
Approach	350	106	456	114	141	255
Departure	350	106	456	114	141	255
Total	700	212	912	228	282	510

APPENDIX E

LEVEL OF SERVICE WORKSHEETS

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	41	423	1	73	486
Future Vol, veh/h	2	41	423	1	73	486
Conflicting Peds, #/hr	0	0	0	0	0	0
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	98	98	98	98	98	98
Heavy Vehicles, %	6	6	2	2	3	3
Mvmt Flow	2	42	432	1	74	496

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1077	433	0	0	433	0
Stage 1	433	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.13	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.227	-
Pot Cap-1 Maneuver	238	614	-	-	1121	-
Stage 1	646	-	-	-	-	-
Stage 2	515	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	216	614	-	-	1121	-
Mov Cap-2 Maneuver	216	-	-	-	-	-
Stage 1	646	-	-	-	-	-
Stage 2	468	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	1.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	566	1121	-
HCM Lane V/C Ratio	-	-	0.078	0.066	-
HCM Control Delay (s)	-	-	11.9	8.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Intersection Delay, s/veh	59.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	59	23	386	115	40	27	340	72	3	464	11
Future Vol, veh/h	38	59	23	386	115	40	27	340	72	3	464	11
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	4	4	4
Mvmt Flow	38	60	23	390	116	40	27	343	73	3	469	11
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	14.9	48.3	58.3	83.5
HCM LOS	B	E	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	6%	100%	0%	100%	0%	1%
Vol Thru, %	77%	0%	72%	0%	74%	97%
Vol Right, %	16%	0%	28%	0%	26%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	439	38	82	386	155	478
LT Vol	27	38	0	386	0	3
Through Vol	340	0	59	0	115	464
RT Vol	72	0	23	0	40	11
Lane Flow Rate	443	38	83	390	157	483
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.948	0.107	0.217	0.941	0.352	1.049
Departure Headway (Hd)	7.875	10.437	9.702	8.982	8.273	7.821
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	466	345	372	405	437	468
Service Time	5.875	8.137	7.402	6.682	5.973	5.798
HCM Lane V/C Ratio	0.951	0.11	0.223	0.963	0.359	1.032
HCM Control Delay	58.3	14.4	15.1	61.5	15.4	83.5
HCM Lane LOS	F	B	C	F	C	F
HCM 95th-tile Q	11.3	0.4	0.8	10.5	1.6	15

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	18	0	62	0	402	751	0	182	676
Future Volume (veh/h)	0	0	0	18	0	62	0	402	751	0	182	676
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	0	1841	0	1870	1870	0	1856	1856
Adj Flow Rate, veh/h				20	0	67	0	437	0	0	198	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				4	0	4	0	2	2	0	3	3
Cap, veh/h				179	0	159	0	2433		0	2414	
Arrive On Green				0.10	0.00	0.10	0.00	0.68	0.00	0.00	0.68	0.00
Sat Flow, veh/h				1753	0	1560	0	3647	1585	0	3618	1572
Grp Volume(v), veh/h				20	0	67	0	437	0	0	198	0
Grp Sat Flow(s),veh/h/ln				1753	0	1560	0	1777	1585	0	1763	1572
Q Serve(g_s), s				0.6	0.0	2.4	0.0	2.7	0.0	0.0	1.1	0.0
Cycle Q Clear(g_c), s				0.6	0.0	2.4	0.0	2.7	0.0	0.0	1.1	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				179	0	159	0	2433		0	2414	
V/C Ratio(X)				0.11	0.00	0.42	0.00	0.18		0.00	0.08	
Avail Cap(c_a), veh/h				602	0	536	0	2433		0	2414	
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	1.00	0.00	0.88	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				24.5	0.0	25.3	0.0	3.4	0.0	0.0	3.2	0.0
Incr Delay (d2), s/veh				0.6	0.0	4.1	0.0	0.1	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				0.3	0.0	1.0	0.0	0.5	0.0	0.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				25.1	0.0	29.4	0.0	3.5	0.0	0.0	3.2	0.0
LnGrp LOS				C	A	C	A	A		A	A	
Approach Vol, veh/h					87			437			198	
Approach Delay, s/veh					28.4			3.5			3.2	
Approach LOS					C			A			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		47.5				47.5		12.5				
Change Period (Y+Rc), s		6.4				6.4		6.4				
Max Green Setting (Gmax), s		26.6				26.6		20.6				
Max Q Clear Time (g_c+I1), s		4.7				3.1		4.4				
Green Ext Time (p_c), s		5.0				2.1		0.4				

Intersection Summary	
HCM 6th Ctrl Delay	6.5
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	0	339	0	0	0	0	939	34	29	171	0
Future Volume (veh/h)	214	0	339	0	0	0	0	939	34	29	171	0
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	1885	0	1885				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	235	0	373				0	1032	37	32	188	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	0	1				0	2	2	2	2	0
Cap, veh/h	653	0	527				0	1949	869	129	2354	0
Arrive On Green	0.19	0.00	0.19				0.00	0.55	0.55	0.04	0.66	0.00
Sat Flow, veh/h	3483	0	2812				0	3647	1585	3456	3647	0
Grp Volume(v), veh/h	235	0	373				0	1032	37	32	188	0
Grp Sat Flow(s),veh/h/ln	1742	0	1406				0	1777	1585	1728	1777	0
Q Serve(g_s), s	5.1	0.0	10.7				0.0	15.9	0.9	0.8	1.6	0.0
Cycle Q Clear(g_c), s	5.1	0.0	10.7				0.0	15.9	0.9	0.8	1.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	653	0	527				0	1949	869	129	2354	0
V/C Ratio(X)	0.36	0.00	0.71				0.00	0.53	0.04	0.25	0.08	0.00
Avail Cap(c_a), veh/h	810	0	654				0	1949	869	603	2354	0
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	1.00				0.00	0.91	0.91	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.4	0.0	32.7				0.0	12.4	9.0	40.2	5.2	0.0
Incr Delay (d2), s/veh	1.4	0.0	7.4				0.0	0.9	0.1	0.4	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
%ile BackOfQ(50%),veh/ln	2.2	0.0	4.0				0.0	5.5	0.3	0.3	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.9	0.0	40.1				0.0	13.3	9.1	40.6	5.2	0.0
LnGrp LOS	C	A	D				A	B	A	D	A	A
Approach Vol, veh/h		608						1069			220	
Approach Delay, s/veh		36.9						13.2			10.4	
Approach LOS		D						B			B	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	9.8	53.7	22.5	63.5
Change Period (Y+Rc), s	* 6.6	6.5	* 6.4	6.5
Max Green Setting (Gmax), s	* 15	31.0	* 20	52.6
Max Q Clear Time (g_c+I1), s	2.8	17.9	12.7	3.6
Green Ext Time (p_c), s	0.0	8.8	3.4	2.4

Intersection Summary	
HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	140	47	91	114	113	108	794	120	133	361	22
Future Volume (veh/h)	66	140	47	91	114	113	108	794	120	133	361	22
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	73	154	52	100	125	124	119	873	132	146	397	24
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	96	247	80	122	386	172	142	2248	1003	198	2209	985
Arrive On Green	0.05	0.09	0.09	0.07	0.11	0.11	0.08	0.63	0.63	0.06	0.62	0.62
Sat Flow, veh/h	1781	2634	859	1781	3554	1585	1781	3554	1585	3483	3582	1598
Grp Volume(v), veh/h	73	102	104	100	125	124	119	873	132	146	397	24
Grp Sat Flow(s),veh/h/ln	1781	1777	1716	1781	1777	1585	1781	1777	1585	1742	1791	1598
Q Serve(g_s), s	5.7	7.7	8.2	7.8	4.5	10.6	9.2	16.7	4.7	5.8	6.7	0.8
Cycle Q Clear(g_c), s	5.7	7.7	8.2	7.8	4.5	10.6	9.2	16.7	4.7	5.8	6.7	0.8
Prop In Lane	1.00		0.50	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	167	161	122	386	172	142	2248	1003	198	2209	985
V/C Ratio(X)	0.76	0.61	0.65	0.82	0.32	0.72	0.84	0.39	0.13	0.74	0.18	0.02
Avail Cap(c_a), veh/h	267	520	502	267	1041	464	267	2248	1003	522	2209	985
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	65.3	61.0	61.2	64.3	57.6	60.3	63.5	12.5	10.3	65.0	11.6	10.4
Incr Delay (d2), s/veh	4.6	10.2	12.0	4.9	1.3	14.4	4.8	0.5	0.3	1.9	0.2	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	2.7	3.9	4.0	3.6	2.1	4.9	4.3	6.5	1.6	2.6	2.6	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.0	71.2	73.2	69.3	59.0	74.7	68.3	13.0	10.6	66.9	11.7	10.5
LnGrp LOS	E	E	E	E	E	E	E	B	B	E	B	B
Approach Vol, veh/h		279			349			1124			567	
Approach Delay, s/veh		71.6			67.5			18.6			25.9	
Approach LOS		E			E			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.8	91.2	12.4	20.5	13.6	93.5	14.5	18.4				
Change Period (Y+Rc), s	4.6	4.9	4.9	5.3	5.6	4.9	4.9	5.3				
Max Green Setting (Gmax), s	21.0	37.3	21.0	41.0	21.0	36.3	21.0	41.0				
Max Q Clear Time (g_c+I1), s	11.2	8.7	7.7	12.6	7.8	18.7	9.8	10.2				
Green Ext Time (p_c), s	0.1	6.9	0.1	2.6	0.2	12.1	0.1	2.5				
Intersection Summary												
HCM 6th Ctrl Delay			34.1									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	6	14	48	7	10	3	216	7	0	650	2
Future Vol, veh/h	3	6	14	48	7	10	3	216	7	0	650	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	-	-	85	-	-	-	170	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	2	2	2	2	2	2	3	3	3
Mvmt Flow	3	6	15	52	8	11	3	232	8	0	699	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	952	946	700	953	943	236	701	0	0	240	0	0
Stage 1	700	700	-	242	242	-	-	-	-	-	-	-
Stage 2	252	246	-	711	701	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	240	263	441	239	263	803	896	-	-	1321	-	-
Stage 1	431	443	-	762	705	-	-	-	-	-	-	-
Stage 2	754	704	-	424	441	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	231	262	441	226	262	803	896	-	-	1321	-	-
Mov Cap-2 Maneuver	231	262	-	226	262	-	-	-	-	-	-	-
Stage 1	430	443	-	760	703	-	-	-	-	-	-	-
Stage 2	733	702	-	404	441	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16	24.1	0.1	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	896	-	-	251	441	258	1321	-	-
HCM Lane V/C Ratio	0.004	-	-	0.039	0.034	0.271	-	-	-
HCM Control Delay (s)	9	-	-	19.9	13.5	24.1	0	-	-
HCM Lane LOS	A	-	-	C	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	1.1	0	-	-

9: Armstrong Avenue & Olive Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.2	0.2	0.0	0.4
Denied Del/Veh (s)	0.4	1.4	2.1	0.0	0.9
Total Delay (hr)	0.6	2.4	1.4	2.5	6.8
Total Del/Veh (s)	11.5	17.5	12.5	12.9	13.9
Stop Delay (hr)	0.4	1.5	0.9	1.6	4.3
Stop Del/Veh (s)	7.2	11.3	8.0	8.1	8.9

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	72	90	347	67	72	559
Future Vol, veh/h	72	90	347	67	72	559
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	155	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	1	2	2	1	1
Mvmt Flow	82	102	394	76	82	635

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1231	432	0	0	470	0
Stage 1	432	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	197	626	-	-	1097	-
Stage 1	657	-	-	-	-	-
Stage 2	444	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	182	626	-	-	1097	-
Mov Cap-2 Maneuver	182	-	-	-	-	-
Stage 1	657	-	-	-	-	-
Stage 2	411	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.4	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	182	626	1097	-
HCM Lane V/C Ratio	-	-	0.45	0.163	0.075	-
HCM Control Delay (s)	-	-	40	11.9	8.5	-
HCM Lane LOS	-	-	E	B	A	-
HCM 95th %tile Q(veh)	-	-	2.1	0.6	0.2	-

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	12	0	1	1	0	0	2	390	0	0	490	63
Future Vol, veh/h	12	0	1	1	0	0	2	390	0	0	490	63
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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	2	2	2	1	1	1
Mvmt Flow	13	0	1	1	0	0	2	411	0	0	516	66

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	964	964	549	965	997	411	582	0	0	411	0	0
Stage 1	549	549	-	415	415	-	-	-	-	-	-	-
Stage 2	415	415	-	550	582	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	237	257	539	236	246	645	992	-	-	1153	-	-
Stage 1	524	520	-	619	596	-	-	-	-	-	-	-
Stage 2	619	596	-	523	502	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	237	256	539	235	245	645	992	-	-	1153	-	-
Mov Cap-2 Maneuver	237	256	-	235	245	-	-	-	-	-	-	-
Stage 1	522	520	-	617	594	-	-	-	-	-	-	-
Stage 2	617	594	-	522	502	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.4	20.4	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	992	-	-	248	235	1153	-	-
HCM Lane V/C Ratio	0.002	-	-	0.055	0.004	-	-	-
HCM Control Delay (s)	8.6	0	-	20.4	20.4	0	-	-
HCM Lane LOS	A	A	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

Intersection						
Int Delay, s/veh	1.1					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	45	599	1	61	448
Future Vol, veh/h	3	45	599	1	61	448
Conflicting Peds, #/hr	0	0	0	0	0	0
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	98	98	98	98	98	98
Heavy Vehicles, %	6	6	2	2	3	3
Mvmt Flow	3	46	611	1	62	457

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1193	612	0	0	612	0
Stage 1	612	-	-	-	-	-
Stage 2	581	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.13	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.227	-
Pot Cap-1 Maneuver	203	486	-	-	962	-
Stage 1	533	-	-	-	-	-
Stage 2	551	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	186	486	-	-	962	-
Mov Cap-2 Maneuver	186	-	-	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	504	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	1.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	441	962	-
HCM Lane V/C Ratio	-	-	0.111	0.065	-
HCM Control Delay (s)	-	-	14.2	9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-

Intersection	
Intersection Delay, s/veh	49.5
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	139	89	43	212	71	59	6	367	108	11	409	15
Future Vol, veh/h	139	89	43	212	71	59	6	367	108	11	409	15
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	4	4	4
Mvmt Flow	140	90	43	214	72	60	6	371	109	11	413	15
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	17.2	20.3	80.1	58.7
HCM LOS	C	C	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	1%	100%	0%	100%	0%	3%
Vol Thru, %	76%	0%	67%	0%	55%	94%
Vol Right, %	22%	0%	33%	0%	45%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	481	139	132	212	130	435
LT Vol	6	139	0	212	0	11
Through Vol	367	0	89	0	71	409
RT Vol	108	0	43	0	59	15
Lane Flow Rate	486	140	133	214	131	439
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	1.039	0.372	0.325	0.554	0.308	0.947
Departure Headway (Hd)	7.695	9.821	9.057	9.568	8.712	7.999
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	476	369	400	379	415	457
Service Time	5.695	7.521	6.757	7.268	6.412	5.999
HCM Lane V/C Ratio	1.021	0.379	0.333	0.565	0.316	0.961
HCM Control Delay	80.1	18.2	16.1	23.5	15.2	58.7
HCM Lane LOS	F	C	C	C	C	F
HCM 95th-tile Q	14.7	1.7	1.4	3.2	1.3	11.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	33	0	36	0	486	356	0	327	302
Future Volume (veh/h)	0	0	0	33	0	36	0	486	356	0	327	302
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	0	1841	0	1870	1870	0	1856	1856
Adj Flow Rate, veh/h				36	0	39	0	528	0	0	355	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				4	0	4	0	2	2	0	3	3
Cap, veh/h				167	0	148	0	2457		0	2438	
Arrive On Green				0.10	0.00	0.10	0.00	0.69	0.00	0.00	0.69	0.00
Sat Flow, veh/h				1753	0	1560	0	3647	1585	0	3618	1572
Grp Volume(v), veh/h				36	0	39	0	528	0	0	355	0
Grp Sat Flow(s),veh/h/ln				1753	0	1560	0	1777	1585	0	1763	1572
Q Serve(g_s), s				1.1	0.0	1.4	0.0	3.2	0.0	0.0	2.1	0.0
Cycle Q Clear(g_c), s				1.1	0.0	1.4	0.0	3.2	0.0	0.0	2.1	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				167	0	148	0	2457		0	2438	
V/C Ratio(X)				0.22	0.00	0.26	0.00	0.21		0.00	0.15	
Avail Cap(c_a), veh/h				602	0	536	0	2457		0	2438	
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	1.00	0.00	0.93	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				25.1	0.0	25.2	0.0	3.4	0.0	0.0	3.2	0.0
Incr Delay (d2), s/veh				1.5	0.0	2.2	0.0	0.2	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				0.5	0.0	0.6	0.0	0.6	0.0	0.0	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				26.6	0.0	27.4	0.0	3.5	0.0	0.0	3.3	0.0
LnGrp LOS				C	A	C	A	A		A	A	
Approach Vol, veh/h					75			528			355	
Approach Delay, s/veh					27.0			3.5			3.3	
Approach LOS					C			A			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		47.9				47.9		12.1				
Change Period (Y+Rc), s		6.4				6.4		6.4				
Max Green Setting (Gmax), s		26.6				26.6		20.6				
Max Q Clear Time (g_c+I1), s		5.2				4.1		3.4				
Green Ext Time (p_c), s		6.0				4.0		0.4				

Intersection Summary		
HCM 6th Ctrl Delay		5.3
HCM 6th LOS		A

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	329	0	727	0	0	0	0	513	22	75	285	0
Future Volume (veh/h)	329	0	727	0	0	0	0	513	22	75	285	0
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	1885	0	1885				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	362	0	799				0	564	24	82	313	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	0	1				0	2	2	2	2	0
Cap, veh/h	810	0	654				0	1708	762	207	2194	0
Arrive On Green	0.23	0.00	0.23				0.00	0.48	0.48	0.06	0.62	0.00
Sat Flow, veh/h	3483	0	2812				0	3647	1585	3456	3647	0
Grp Volume(v), veh/h	362	0	799				0	564	24	82	313	0
Grp Sat Flow(s),veh/h/ln	1742	0	1406				0	1777	1585	1728	1777	0
Q Serve(g_s), s	7.7	0.0	20.0				0.0	8.4	0.7	2.0	3.2	0.0
Cycle Q Clear(g_c), s	7.7	0.0	20.0				0.0	8.4	0.7	2.0	3.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	810	0	654				0	1708	762	207	2194	0
V/C Ratio(X)	0.45	0.00	1.22				0.00	0.33	0.03	0.40	0.14	0.00
Avail Cap(c_a), veh/h	810	0	654				0	1708	762	603	2194	0
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	1.00				0.00	0.98	0.98	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.3	0.0	33.0				0.0	13.8	11.8	38.9	6.9	0.0
Incr Delay (d2), s/veh	1.7	0.0	113.2				0.0	0.5	0.1	0.5	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
%ile BackOfQ(50%),veh/ln	3.3	0.0	16.8				0.0	3.1	0.2	0.8	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	0.0	146.2				0.0	14.3	11.8	39.4	7.0	0.0
LnGrp LOS	C	A	F				A	B	B	D	A	A
Approach Vol, veh/h		1161						588			395	
Approach Delay, s/veh		110.0						14.2			13.8	
Approach LOS		F						B			B	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	11.8	47.8	26.4	59.6
Change Period (Y+Rc), s	* 6.6	6.5	* 6.4	6.5
Max Green Setting (Gmax), s	* 15	31.0	* 20	52.6
Max Q Clear Time (g_c+I1), s	4.0	10.4	22.0	5.2
Green Ext Time (p_c), s	0.1	6.6	0.0	4.2

Intersection Summary	
HCM 6th Ctrl Delay	66.0
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	116	71	77	93	75	67	404	86	171	723	49
Future Volume (veh/h)	56	116	71	77	93	75	67	404	86	171	723	49
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	62	127	78	85	102	82	74	444	95	188	795	54
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	93	201	116	106	356	159	96	2242	1000	240	2340	1044
Arrive On Green	0.05	0.09	0.09	0.06	0.10	0.10	0.05	0.63	0.63	0.07	0.65	0.65
Sat Flow, veh/h	1781	2171	1251	1781	3554	1585	1781	3554	1585	3483	3582	1598
Grp Volume(v), veh/h	62	102	103	85	102	82	74	444	95	188	795	54
Grp Sat Flow(s),veh/h/ln	1781	1777	1645	1781	1777	1585	1781	1777	1585	1742	1791	1598
Q Serve(g_s), s	4.8	7.8	8.4	6.6	3.7	6.9	5.7	7.4	3.3	7.4	13.8	1.7
Cycle Q Clear(g_c), s	4.8	7.8	8.4	6.6	3.7	6.9	5.7	7.4	3.3	7.4	13.8	1.7
Prop In Lane	1.00		0.76	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	93	164	152	106	356	159	96	2242	1000	240	2340	1044
V/C Ratio(X)	0.67	0.62	0.67	0.80	0.29	0.52	0.77	0.20	0.09	0.78	0.34	0.05
Avail Cap(c_a), veh/h	267	520	482	267	1041	464	267	2242	1000	522	2340	1044
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	65.2	61.2	61.5	65.0	58.4	59.8	65.4	10.9	10.1	64.1	10.8	8.7
Incr Delay (d2), s/veh	3.1	10.7	14.0	5.2	1.2	7.0	4.8	0.2	0.2	1.8	0.3	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	3.9	4.1	3.1	1.7	3.0	2.7	2.8	1.1	3.3	5.2	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.3	71.9	75.5	70.2	59.6	66.8	70.2	11.1	10.3	65.9	11.2	8.8
LnGrp LOS	E	E	E	E	E	E	E	B	B	E	B	A
Approach Vol, veh/h		267			269			613			1037	
Approach Delay, s/veh		72.4			65.1			18.1			21.0	
Approach LOS		E			E			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	96.4	12.2	19.3	15.3	93.2	13.2	18.3
Change Period (Y+Rc), s	4.6	4.9	4.9	5.3	5.6	4.9	4.9	5.3
Max Green Setting (Gmax), s	21.0	37.3	21.0	41.0	21.0	36.3	21.0	41.0
Max Q Clear Time (g_c+I1), s	7.7	15.8	6.8	8.9	9.4	9.4	8.6	10.4
Green Ext Time (p_c), s	0.1	12.3	0.0	2.0	0.2	8.7	0.1	2.5

Intersection Summary	
HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

Intersection												
Int Delay, s/veh	0.4											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	3	1	3	2	5	1	429	9	3	227	1
Future Vol, veh/h	3	3	1	3	2	5	1	429	9	3	227	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	-	-	85	-	-	-	170	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	2	2	2	2	2	2	3	3	3
Mvmt Flow	3	3	1	3	2	5	1	461	10	3	244	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	723	724	245	721	719	466	245	0	0	471	0	0
Stage 1	251	251	-	468	468	-	-	-	-	-	-	-
Stage 2	472	473	-	253	251	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	343	353	796	343	354	597	1321	-	-	1086	-	-
Stage 1	755	701	-	575	561	-	-	-	-	-	-	-
Stage 2	574	560	-	751	699	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	338	352	796	339	353	597	1321	-	-	1086	-	-
Mov Cap-2 Maneuver	338	352	-	339	353	-	-	-	-	-	-	-
Stage 1	754	699	-	574	560	-	-	-	-	-	-	-
Stage 2	566	559	-	744	697	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.7	13.4	0	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1321	-	-	345	796	437	1086	-	-
HCM Lane V/C Ratio	0.001	-	-	0.019	0.001	0.025	0.003	-	-
HCM Control Delay (s)	7.7	-	-	15.6	9.5	13.4	8.3	-	-
HCM Lane LOS	A	-	-	C	A	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.1	0	-	-

9: Armstrong Avenue & Olive Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.1	0.2	0.0	0.4
Denied Del/Veh (s)	0.5	1.3	1.4	0.0	1.0
Total Delay (hr)	1.2	1.4	5.3	0.6	8.5
Total Del/Veh (s)	13.6	14.6	35.6	9.9	21.5
Stop Delay (hr)	0.7	0.9	4.2	0.4	6.2
Stop Del/Veh (s)	8.6	8.6	28.7	6.2	15.8

Intersection						
Int Delay, s/veh	3.6					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	62	48	486	56	95	429
Future Vol, veh/h	62	48	486	56	95	429
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	140	-	-	-	155	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	1	1	2	2	1	1
Mvmt Flow	70	55	552	64	108	488

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1288	584	0	0	616	0
Stage 1	584	-	-	-	-	-
Stage 2	704	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	182	513	-	-	969	-
Stage 1	559	-	-	-	-	-
Stage 2	492	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	162	513	-	-	969	-
Mov Cap-2 Maneuver	162	-	-	-	-	-
Stage 1	559	-	-	-	-	-
Stage 2	437	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	30	0	1.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	162	513	969	-
HCM Lane V/C Ratio	-	-	0.435	0.106	0.111	-
HCM Control Delay (s)	-	-	43.3	12.9	9.2	-
HCM Lane LOS	-	-	E	B	A	-
HCM 95th %tile Q(veh)	-	-	2	0.4	0.4	-

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	8	0	7	1	0	0	0	526	0	1	451	10
Future Vol, veh/h	8	0	7	1	0	0	0	526	0	1	451	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	-	-	-	-	-	-	-	-	-	-	-	-
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, %	0	0	0	0	0	0	2	2	2	1	1	1
Mvmt Flow	8	0	7	1	0	0	0	554	0	1	475	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1037	1037	481	1040	1042	554	486	0	0	554	0	0
Stage 1	483	483	-	554	554	-	-	-	-	-	-	-
Stage 2	554	554	-	486	488	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	211	233	589	210	232	536	1077	-	-	1021	-	-
Stage 1	569	556	-	520	517	-	-	-	-	-	-	-
Stage 2	520	517	-	566	553	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	211	233	589	207	232	536	1077	-	-	1021	-	-
Mov Cap-2 Maneuver	211	233	-	207	232	-	-	-	-	-	-	-
Stage 1	569	555	-	520	517	-	-	-	-	-	-	-
Stage 2	520	517	-	558	552	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.6	22.5	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1077	-	-	301	207	1021	-	-
HCM Lane V/C Ratio	-	-	-	0.052	0.005	0.001	-	-
HCM Control Delay (s)	0	-	-	17.6	22.5	8.5	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

Intersection						
Int Delay, s/veh	0					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	0	464	1	0	559
Future Vol, veh/h	2	0	464	1	0	559
Conflicting Peds, #/hr	0	0	0	0	0	0
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, %	2	2	2	2	3	3
Mvmt Flow	2	0	504	1	0	608

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1113	505	0	0	505	0
Stage 1	505	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.13	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.227	-
Pot Cap-1 Maneuver	231	567	-	-	1055	-
Stage 1	606	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	231	567	-	-	1055	-
Mov Cap-2 Maneuver	231	-	-	-	-	-
Stage 1	606	-	-	-	-	-
Stage 2	543	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	231	1055	-
HCM Lane V/C Ratio	-	-	0.009	-	-
HCM Control Delay (s)	-	-	20.7	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	41	424	1	73	488
Future Vol, veh/h	2	41	424	1	73	488
Conflicting Peds, #/hr	0	0	0	0	0	0
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	98	98	98	98	98	98
Heavy Vehicles, %	6	6	2	2	3	3
Mvmt Flow	2	42	433	1	74	498

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1080	434	0	0	434	0
Stage 1	434	-	-	-	-	-
Stage 2	646	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.13	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.227	-
Pot Cap-1 Maneuver	237	614	-	-	1120	-
Stage 1	645	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	215	614	-	-	1120	-
Mov Cap-2 Maneuver	215	-	-	-	-	-
Stage 1	645	-	-	-	-	-
Stage 2	467	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	1.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	565	1120	-
HCM Lane V/C Ratio	-	-	0.078	0.067	-
HCM Control Delay (s)	-	-	11.9	8.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2	-

Intersection	
Intersection Delay, s/veh	69.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	62	23	429	124	40	27	341	87	3	466	11
Future Vol, veh/h	38	62	23	429	124	40	27	341	87	3	466	11
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	4	4	4
Mvmt Flow	38	63	23	433	125	40	27	344	88	3	471	11
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	15.3	69.9	68.1	85.1
HCM LOS	C	F	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	6%	100%	0%	100%	0%	1%
Vol Thru, %	75%	0%	73%	0%	76%	97%
Vol Right, %	19%	0%	27%	0%	24%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	455	38	85	429	164	480
LT Vol	27	38	0	429	0	3
Through Vol	341	0	62	0	124	466
RT Vol	87	0	23	0	40	11
Lane Flow Rate	460	38	86	433	166	485
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.987	0.108	0.226	1.054	0.371	1.05
Departure Headway (Hd)	8.065	10.681	9.953	9.063	8.363	8.066
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	455	338	363	403	432	456
Service Time	6.065	8.381	7.653	6.763	6.063	6.066
HCM Lane V/C Ratio	1.011	0.112	0.237	1.074	0.384	1.064
HCM Control Delay	68.1	14.7	15.5	90.6	15.9	85.1
HCM Lane LOS	F	B	C	F	C	F
HCM 95th-tile Q	12.5	0.4	0.9	13.9	1.7	14.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	18	0	62	0	418	751	0	201	703
Future Volume (veh/h)	0	0	0	18	0	62	0	418	751	0	201	703
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	0	1841	0	1870	1870	0	1856	1856
Adj Flow Rate, veh/h				20	0	67	0	454	0	0	218	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				4	0	4	0	2	2	0	3	3
Cap, veh/h				234	0	208	0	2322		0	2303	
Arrive On Green				0.13	0.00	0.13	0.00	0.65	0.00	0.00	0.65	0.00
Sat Flow, veh/h				1753	0	1560	0	3647	1585	0	3618	1572
Grp Volume(v), veh/h				20	0	67	0	454	0	0	218	0
Grp Sat Flow(s),veh/h/ln				1753	0	1560	0	1777	1585	0	1763	1572
Q Serve(g_s), s				0.6	0.0	2.3	0.0	3.0	0.0	0.0	1.4	0.0
Cycle Q Clear(g_c), s				0.6	0.0	2.3	0.0	3.0	0.0	0.0	1.4	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				234	0	208	0	2322		0	2303	
V/C Ratio(X)				0.09	0.00	0.32	0.00	0.20		0.00	0.09	
Avail Cap(c_a), veh/h				602	0	536	0	2322		0	2303	
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	1.00	0.00	0.87	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				22.8	0.0	23.5	0.0	4.1	0.0	0.0	3.8	0.0
Incr Delay (d2), s/veh				0.4	0.0	2.1	0.0	0.2	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				0.3	0.0	0.9	0.0	0.6	0.0	0.0	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				23.2	0.0	25.6	0.0	4.3	0.0	0.0	3.9	0.0
LnGrp LOS				C	A	C	A	A		A	A	
Approach Vol, veh/h					87			454			218	
Approach Delay, s/veh					25.1			4.3			3.9	
Approach LOS					C			A			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		45.6				45.6		14.4				
Change Period (Y+Rc), s		6.4				6.4		6.4				
Max Green Setting (Gmax), s		26.6				26.6		20.6				
Max Q Clear Time (g_c+I1), s		5.0				3.4		4.3				
Green Ext Time (p_c), s		5.1				2.3		0.4				

Intersection Summary			
HCM 6th Ctrl Delay			6.6
HCM 6th LOS			A

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	0	339	0	0	0	0	945	34	29	190	0
Future Volume (veh/h)	223	0	339	0	0	0	0	945	34	29	190	0
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	1885	0	1885				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	245	0	373				0	1038	37	32	209	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	0	1				0	2	2	2	2	0
Cap, veh/h	655	0	529				0	1947	868	129	2352	0
Arrive On Green	0.19	0.00	0.19				0.00	0.55	0.55	0.04	0.66	0.00
Sat Flow, veh/h	3483	0	2812				0	3647	1585	3456	3647	0
Grp Volume(v), veh/h	245	0	373				0	1038	37	32	209	0
Grp Sat Flow(s),veh/h/ln	1742	0	1406				0	1777	1585	1728	1777	0
Q Serve(g_s), s	5.3	0.0	10.7				0.0	16.0	0.9	0.8	1.8	0.0
Cycle Q Clear(g_c), s	5.3	0.0	10.7				0.0	16.0	0.9	0.8	1.8	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	655	0	529				0	1947	868	129	2352	0
V/C Ratio(X)	0.37	0.00	0.71				0.00	0.53	0.04	0.25	0.09	0.00
Avail Cap(c_a), veh/h	810	0	654				0	1947	868	603	2352	0
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	1.00				0.00	0.90	0.90	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.5	0.0	32.7				0.0	12.4	9.0	40.2	5.2	0.0
Incr Delay (d2), s/veh	1.5	0.0	7.3				0.0	0.9	0.1	0.4	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
%ile BackOfQ(50%),veh/ln	2.3	0.0	4.0				0.0	5.6	0.3	0.3	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.0	0.0	40.0				0.0	13.4	9.1	40.6	5.3	0.0
LnGrp LOS	C	A	D				A	B	A	D	A	A
Approach Vol, veh/h		618						1075			241	
Approach Delay, s/veh		36.8						13.2			10.0	
Approach LOS		D						B			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.8	53.6		22.6		63.4
Change Period (Y+Rc), s	* 6.6	6.5		* 6.4		6.5
Max Green Setting (Gmax), s	* 15	31.0		* 20		52.6
Max Q Clear Time (g_c+I1), s	12.8	18.0		12.7		3.8
Green Ext Time (p_c), s	0.0	8.7		3.5		2.7

Intersection Summary		
HCM 6th Ctrl Delay		20.4
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	144	47	91	124	113	108	800	120	133	380	22
Future Volume (veh/h)	66	144	47	91	124	113	108	800	120	133	380	22
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	73	158	52	100	136	124	119	879	132	146	418	24
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	96	251	80	122	390	174	142	2245	1001	198	2206	984
Arrive On Green	0.05	0.09	0.09	0.07	0.11	0.11	0.08	0.63	0.63	0.06	0.62	0.62
Sat Flow, veh/h	1781	2652	844	1781	3554	1585	1781	3554	1585	3483	3582	1598
Grp Volume(v), veh/h	73	104	106	100	136	124	119	879	132	146	418	24
Grp Sat Flow(s),veh/h/ln	1781	1777	1719	1781	1777	1585	1781	1777	1585	1742	1791	1598
Q Serve(g_s), s	5.7	7.9	8.3	7.8	5.0	10.6	9.2	16.9	4.7	5.8	7.1	0.8
Cycle Q Clear(g_c), s	5.7	7.9	8.3	7.8	5.0	10.6	9.2	16.9	4.7	5.8	7.1	0.8
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	168	163	122	390	174	142	2245	1001	198	2206	984
V/C Ratio(X)	0.76	0.62	0.65	0.82	0.35	0.71	0.84	0.39	0.13	0.74	0.19	0.02
Avail Cap(c_a), veh/h	267	520	503	267	1041	464	267	2245	1001	522	2206	984
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	65.3	60.9	61.1	64.3	57.7	60.2	63.5	12.6	10.4	65.0	11.7	10.5
Incr Delay (d2), s/veh	4.6	10.3	12.0	4.9	1.5	13.9	4.8	0.5	0.3	1.9	0.2	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	2.7	4.0	4.1	3.6	2.3	4.8	4.3	6.6	1.6	2.6	2.7	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.0	71.2	73.2	69.3	59.2	74.1	68.3	13.1	10.6	66.9	11.9	10.5
LnGrp LOS	E	E	E	E	E	E	E	B	B	E	B	B
Approach Vol, veh/h		283			360			1130			588	
Approach Delay, s/veh		71.6			67.1			18.7			25.5	
Approach LOS		E			E			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.8	91.1	12.4	20.7	13.6	93.3	14.5	18.6
Change Period (Y+Rc), s	4.6	4.9	4.9	5.3	5.6	4.9	4.9	5.3
Max Green Setting (Gmax), s	21.0	37.3	21.0	41.0	21.0	36.3	21.0	41.0
Max Q Clear Time (g_c+I1), s	11.2	9.1	7.7	12.6	7.8	18.9	9.8	10.3
Green Ext Time (p_c), s	0.1	7.3	0.1	2.8	0.2	12.1	0.1	2.6

Intersection Summary	
HCM 6th Ctrl Delay	34.1
HCM 6th LOS	C

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	1	0	34	2	29	0	242	12	14	689	0
Future Vol, veh/h	0	1	0	34	2	29	0	242	12	14	689	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	-	-	-	-	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	3	3	3
Mvmt Flow	0	1	0	37	2	32	0	263	13	15	749	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1066	1055	749	1050	1049	270	749	0	0	276	0	0
Stage 1	779	779	-	270	270	-	-	-	-	-	-	-
Stage 2	287	276	-	780	779	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	200	226	412	205	227	769	860	-	-	1281	-	-
Stage 1	389	406	-	736	686	-	-	-	-	-	-	-
Stage 2	720	682	-	388	406	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	187	221	412	201	222	769	860	-	-	1281	-	-
Mov Cap-2 Maneuver	187	221	-	201	222	-	-	-	-	-	-	-
Stage 1	389	398	-	736	686	-	-	-	-	-	-	-
Stage 2	688	682	-	379	398	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.4	20.6	0	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	860	-	-	221	301	1281	-	-
HCM Lane V/C Ratio	-	-	-	0.005	0.235	0.012	-	-
HCM Control Delay (s)	0	-	-	21.4	20.6	7.8	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.9	0	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	6	14	48	7	10	3	240	7	0	720	4
Future Vol, veh/h	4	6	14	48	7	10	3	240	7	0	720	4
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	-	-	85	-	-	-	170	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	2	2	2	2	2	2	3	3	3
Mvmt Flow	4	6	15	52	8	11	3	258	8	0	774	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1054	1048	776	1055	1046	262	778	0	0	266	0	0
Stage 1	776	776	-	268	268	-	-	-	-	-	-	-
Stage 2	278	272	-	787	778	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	205	229	399	204	228	777	839	-	-	1292	-	-
Stage 1	392	409	-	738	687	-	-	-	-	-	-	-
Stage 2	731	686	-	385	407	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	197	228	399	192	227	777	839	-	-	1292	-	-
Mov Cap-2 Maneuver	197	228	-	192	227	-	-	-	-	-	-	-
Stage 1	390	409	-	735	684	-	-	-	-	-	-	-
Stage 2	710	683	-	365	407	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.9	28.6	0.1	0
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	839	-	-	214	399	221	1292	-	-
HCM Lane V/C Ratio	0.004	-	-	0.05	0.038	0.316	-	-	-
HCM Control Delay (s)	9.3	-	-	22.7	14.4	28.6	0	-	-
HCM Lane LOS	A	-	-	C	B	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	1.3	0	-	-

9: Armstrong Avenue & Olive Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.2	0.2	0.0	0.4
Denied Del/Veh (s)	0.5	1.2	2.1	0.0	0.8
Total Delay (hr)	0.8	2.9	1.5	3.7	8.8
Total Del/Veh (s)	13.1	20.5	13.6	18.0	17.1
Stop Delay (hr)	0.5	2.0	1.0	2.6	6.2
Stop Del/Veh (s)	8.9	14.2	9.0	12.9	12.0

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	2	9	72	1	90	3	347	67	72	559	2
Future Vol, veh/h	5	2	9	72	1	90	3	347	67	72	559	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	140	-	-	140	-	140	155	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	1	1	1	2	2	2	1	1	1
Mvmt Flow	6	2	10	82	1	102	3	394	76	82	635	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1290	1276	636	1244	1239	432	637	0	0	470	0	0
Stage 1	800	800	-	438	438	-	-	-	-	-	-	-
Stage 2	490	476	-	806	801	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.11	6.51	6.21	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.509	4.009	3.309	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	140	167	478	152	176	626	947	-	-	1097	-	-
Stage 1	379	397	-	599	580	-	-	-	-	-	-	-
Stage 2	560	557	-	377	398	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	110	154	478	138	162	626	947	-	-	1097	-	-
Mov Cap-2 Maneuver	110	154	-	138	162	-	-	-	-	-	-	-
Stage 1	378	367	-	597	578	-	-	-	-	-	-	-
Stage 2	466	555	-	339	368	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.2	34.7	0.1	1
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	947	-	-	110	346	138	162	626	1097	-	-
HCM Lane V/C Ratio	0.004	-	-	0.052	0.036	0.593	0.007	0.163	0.075	-	-
HCM Control Delay (s)	8.8	-	-	39.5	15.8	63.4	27.4	11.9	8.5	-	-
HCM Lane LOS	A	-	-	E	C	F	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	3	0	0.6	0.2	-	-

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	12	0	1	1	0	0	2	393	0	0	499	63
Future Vol, veh/h	12	0	1	1	0	0	2	393	0	0	499	63
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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	2	2	2	1	1	1
Mvmt Flow	13	0	1	1	0	0	2	414	0	0	525	66

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	976	976	558	977	1009	414	591	0	0	414	0	0
Stage 1	558	558	-	418	418	-	-	-	-	-	-	-
Stage 2	418	418	-	559	591	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	232	253	533	232	242	643	985	-	-	1150	-	-
Stage 1	518	515	-	616	594	-	-	-	-	-	-	-
Stage 2	616	594	-	517	498	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	232	252	533	231	241	643	985	-	-	1150	-	-
Mov Cap-2 Maneuver	232	252	-	231	241	-	-	-	-	-	-	-
Stage 1	516	515	-	614	592	-	-	-	-	-	-	-
Stage 2	614	592	-	516	498	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.7	20.7	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	985	-	-	243	231	1150	-	-
HCM Lane V/C Ratio	0.002	-	-	0.056	0.005	-	-	-
HCM Control Delay (s)	8.7	0	-	20.7	20.7	0	-	-
HCM Lane LOS	A	A	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	54	256	15	19	661
Future Vol, veh/h	43	54	256	15	19	661
Conflicting Peds, #/hr	0	0	0	0	0	0
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, %	0	0	2	0	0	3
Mvmt Flow	47	59	278	16	21	718

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1046	286	0	0	294	0
Stage 1	286	-	-	-	-	-
Stage 2	760	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	255	758	-	-	1279	-
Stage 1	767	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	248	758	-	-	1279	-
Mov Cap-2 Maneuver	248	-	-	-	-	-
Stage 1	767	-	-	-	-	-
Stage 2	452	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.3	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	397	1279	-
HCM Lane V/C Ratio	-	-	0.266	0.016	-
HCM Control Delay (s)	-	-	17.3	7.9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0	-

Intersection						
Int Delay, s/veh	7.5					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	5	2	4	10	63
Future Vol, veh/h	22	5	2	4	10	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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, %	0	2	2	0	0	0
Mvmt Flow	24	5	2	4	11	68

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	6	0	-	0	57	4
Stage 1	-	-	-	-	4	-
Stage 2	-	-	-	-	53	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1628	-	-	-	955	1085
Stage 1	-	-	-	-	1024	-
Stage 2	-	-	-	-	975	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1628	-	-	-	941	1085
Mov Cap-2 Maneuver	-	-	-	-	941	-
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	975	-

Approach	EB	WB	SB
HCM Control Delay, s	5.9	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1628	-	-	-	1063
HCM Lane V/C Ratio	0.015	-	-	-	0.075
HCM Control Delay (s)	7.2	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection						
Int Delay, s/veh	0					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	0	644	2	0	509
Future Vol, veh/h	1	0	644	2	0	509
Conflicting Peds, #/hr	0	0	0	0	0	0
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, %	2	2	2	2	3	3
Mvmt Flow	1	0	700	2	0	553

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1254	701	0	0	702	0
Stage 1	701	-	-	-	-	-
Stage 2	553	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.13	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.227	-
Pot Cap-1 Maneuver	190	439	-	-	891	-
Stage 1	492	-	-	-	-	-
Stage 2	576	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	190	439	-	-	891	-
Mov Cap-2 Maneuver	190	-	-	-	-	-
Stage 1	492	-	-	-	-	-
Stage 2	576	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	190	891	-
HCM Lane V/C Ratio	-	-	0.006	-	-
HCM Control Delay (s)	-	-	24.1	0	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection						
Int Delay, s/veh	1.1					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	45	601	1	61	449
Future Vol, veh/h	3	45	601	1	61	449
Conflicting Peds, #/hr	0	0	0	0	0	0
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	98	98	98	98	98	98
Heavy Vehicles, %	6	6	2	2	3	3
Mvmt Flow	3	46	613	1	62	458

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1196	614	0	0	614	0
Stage 1	614	-	-	-	-	-
Stage 2	582	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.13	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.227	-
Pot Cap-1 Maneuver	202	485	-	-	961	-
Stage 1	532	-	-	-	-	-
Stage 2	551	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	184	485	-	-	961	-
Mov Cap-2 Maneuver	184	-	-	-	-	-
Stage 1	532	-	-	-	-	-
Stage 2	503	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	1.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	440	961	-
HCM Lane V/C Ratio	-	-	0.111	0.065	-
HCM Control Delay (s)	-	-	14.2	9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-

Intersection	
Intersection Delay, s/veh	67.1
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	139	99	43	241	77	59	6	369	156	11	410	15
Future Vol, veh/h	139	99	43	241	77	59	6	369	156	11	410	15
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	4	4	4
Mvmt Flow	140	100	43	243	78	60	6	373	158	11	414	15
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	18.1	23.6	124.1	66.7
HCM LOS	C	C	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	1%	100%	0%	100%	0%	3%
Vol Thru, %	69%	0%	70%	0%	57%	94%
Vol Right, %	29%	0%	30%	0%	43%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	531	139	142	241	136	436
LT Vol	6	139	0	241	0	11
Through Vol	369	0	99	0	77	410
RT Vol	156	0	43	0	59	15
Lane Flow Rate	536	140	143	243	137	440
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	1.17	0.373	0.356	0.626	0.325	0.974
Departure Headway (Hd)	7.853	10.25	9.5	9.899	9.055	8.444
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	467	354	382	368	400	432
Service Time	5.895	7.95	7.2	7.599	6.755	6.444
HCM Lane V/C Ratio	1.148	0.395	0.374	0.66	0.343	1.019
HCM Control Delay	124.1	18.9	17.4	27.8	16.1	66.7
HCM Lane LOS	F	C	C	D	C	F
HCM 95th-tile Q	19.8	1.7	1.6	4.1	1.4	11.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	33	0	36	0	538	356	0	340	320
Future Volume (veh/h)	0	0	0	33	0	36	0	538	356	0	340	320
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	0	1841	0	1870	1870	0	1856	1856
Adj Flow Rate, veh/h				36	0	39	0	585	0	0	370	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				4	0	4	0	2	2	0	3	3
Cap, veh/h				234	0	208	0	2322		0	2303	
Arrive On Green				0.13	0.00	0.13	0.00	0.65	0.00	0.00	0.65	0.00
Sat Flow, veh/h				1753	0	1560	0	3647	1585	0	3618	1572
Grp Volume(v), veh/h				36	0	39	0	585	0	0	370	0
Grp Sat Flow(s),veh/h/ln				1753	0	1560	0	1777	1585	0	1763	1572
Q Serve(g_s), s				1.1	0.0	1.3	0.0	4.1	0.0	0.0	2.4	0.0
Cycle Q Clear(g_c), s				1.1	0.0	1.3	0.0	4.1	0.0	0.0	2.4	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				234	0	208	0	2322		0	2303	
V/C Ratio(X)				0.15	0.00	0.19	0.00	0.25		0.00	0.16	
Avail Cap(c_a), veh/h				602	0	536	0	2322		0	2303	
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	1.00	0.00	0.92	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				23.0	0.0	23.1	0.0	4.3	0.0	0.0	4.0	0.0
Incr Delay (d2), s/veh				0.7	0.0	1.0	0.0	0.2	0.0	0.0	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
%ile BackOfQ(50%),veh/ln				0.5	0.0	0.5	0.0	0.8	0.0	0.0	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				23.7	0.0	24.1	0.0	4.6	0.0	0.0	4.2	0.0
LnGrp LOS				C	A	C	A	A		A	A	
Approach Vol, veh/h					75			585			370	
Approach Delay, s/veh					23.9			4.6			4.2	
Approach LOS					C			A			A	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	45.6	45.6	14.4
Change Period (Y+Rc), s	6.4	6.4	6.4
Max Green Setting (Gmax), s	26.6	26.6	20.6
Max Q Clear Time (g_c+I1), s	6.1	4.4	3.3
Green Ext Time (p_c), s	6.6	4.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	360	0	727	0	0	0	0	534	22	75	298	0
Future Volume (veh/h)	360	0	727	0	0	0	0	534	22	75	298	0
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	1885	0	1885				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	396	0	799				0	587	24	82	327	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	0	1				0	2	2	2	2	0
Cap, veh/h	790	0	638				0	1729	771	207	2215	0
Arrive On Green	0.23	0.00	0.23				0.00	0.49	0.49	0.06	0.62	0.00
Sat Flow, veh/h	3483	0	2812				0	3647	1585	3456	3647	0
Grp Volume(v), veh/h	396	0	799				0	587	24	82	327	0
Grp Sat Flow(s),veh/h/ln	1742	0	1406				0	1777	1585	1728	1777	0
Q Serve(g_s), s	8.5	0.0	19.5				0.0	8.7	0.7	2.0	3.3	0.0
Cycle Q Clear(g_c), s	8.5	0.0	19.5				0.0	8.7	0.7	2.0	3.3	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	790	0	638				0	1729	771	207	2215	0
V/C Ratio(X)	0.50	0.00	1.25				0.00	0.34	0.03	0.40	0.15	0.00
Avail Cap(c_a), veh/h	790	0	638				0	1729	771	603	2215	0
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	1.00				0.00	0.97	0.97	0.99	0.99	0.00
Uniform Delay (d), s/veh	29.0	0.0	33.3				0.0	13.6	11.5	38.9	6.7	0.0
Incr Delay (d2), s/veh	2.1	0.0	126.5				0.0	0.5	0.1	0.5	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
%ile BackOfQ(50%),veh/ln	3.7	0.0	17.5				0.0	3.2	0.2	0.8	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	0.0	159.8				0.0	14.1	11.6	39.4	6.9	0.0
LnGrp LOS	C	A	F				A	B	B	D	A	A
Approach Vol, veh/h		1195						611			409	
Approach Delay, s/veh		117.1						14.0			13.4	
Approach LOS		F						B			B	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	11.8	48.3		25.9		60.1						
Change Period (Y+Rc), s	* 6.6	6.5		* 6.4		6.5						
Max Green Setting (Gmax), s	* 15	31.5		* 20		53.1						
Max Q Clear Time (g_c+I1), s	4.0	10.7		21.5		5.3						
Green Ext Time (p_c), s	0.1	6.9		0.0		4.4						
Intersection Summary												
HCM 6th Ctrl Delay			69.5									
HCM 6th LOS			E									
Notes												

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	128	71	77	100	75	67	425	86	171	736	49
Future Volume (veh/h)	56	128	71	77	100	75	67	425	86	171	736	49
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	62	141	78	85	110	82	74	467	95	188	809	54
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	93	219	115	106	373	166	96	2225	993	240	2323	1036
Arrive On Green	0.05	0.10	0.10	0.06	0.10	0.10	0.05	0.63	0.63	0.07	0.65	0.65
Sat Flow, veh/h	1781	2255	1180	1781	3554	1585	1781	3554	1585	3483	3582	1598
Grp Volume(v), veh/h	62	109	110	85	110	82	74	467	95	188	809	54
Grp Sat Flow(s),veh/h/ln	1781	1777	1658	1781	1777	1585	1781	1777	1585	1742	1791	1598
Q Serve(g_s), s	4.8	8.3	8.9	6.6	4.0	6.8	5.7	7.9	3.3	7.4	14.4	1.7
Cycle Q Clear(g_c), s	4.8	8.3	8.9	6.6	4.0	6.8	5.7	7.9	3.3	7.4	14.4	1.7
Prop In Lane	1.00		0.71	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	93	173	161	106	373	166	96	2225	993	240	2323	1036
V/C Ratio(X)	0.67	0.63	0.68	0.80	0.30	0.49	0.77	0.21	0.10	0.78	0.35	0.05
Avail Cap(c_a), veh/h	267	520	486	267	1041	464	267	2225	993	522	2323	1036
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.86	0.86	0.86
Uniform Delay (d), s/veh	65.2	60.8	61.1	65.0	57.9	59.1	65.4	11.3	10.4	64.1	11.2	9.0
Incr Delay (d2), s/veh	3.1	10.6	13.6	5.2	1.2	6.1	4.8	0.2	0.2	1.8	0.4	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	4.2	4.3	3.1	1.8	3.0	2.7	3.1	1.2	3.3	5.4	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.3	71.4	74.6	70.2	59.1	65.3	70.2	11.5	10.6	66.0	11.5	9.0
LnGrp LOS	E	E	E	E	E	E	E	B	B	E	B	A
Approach Vol, veh/h		281			277			636			1051	
Approach Delay, s/veh		72.0			64.3			18.2			21.1	
Approach LOS		E			E			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.1	95.7	12.2	20.0	15.3	92.6	13.2	18.9				
Change Period (Y+Rc), s	4.6	4.9	4.9	5.3	5.6	4.9	4.9	5.3				
Max Green Setting (Gmax), s	21.0	37.3	21.0	41.0	21.0	36.3	21.0	41.0				
Max Q Clear Time (g_c+I1), s	7.7	16.4	6.8	8.8	9.4	9.9	8.6	10.9				
Green Ext Time (p_c), s	0.1	12.3	0.0	2.1	0.2	9.0	0.1	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			32.0									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	2	0	23	1	24	0	479	38	34	256	0
Future Vol, veh/h	0	2	0	23	1	24	0	479	38	34	256	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	-	-	-	-	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	3	3	3
Mvmt Flow	0	2	0	25	1	26	0	521	41	37	278	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	907	914	278	895	894	542	278	0	0	562	0	0
Stage 1	352	352	-	542	542	-	-	-	-	-	-	-
Stage 2	555	562	-	353	352	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	257	273	761	261	280	540	1285	-	-	1004	-	-
Stage 1	665	632	-	525	520	-	-	-	-	-	-	-
Stage 2	516	510	-	664	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	236	261	761	251	268	540	1285	-	-	1004	-	-
Mov Cap-2 Maneuver	236	261	-	251	268	-	-	-	-	-	-	-
Stage 1	665	604	-	525	520	-	-	-	-	-	-	-
Stage 2	490	510	-	632	604	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.9	17.4	0	1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1285	-	-	261	343	1004	-	-
HCM Lane V/C Ratio	-	-	-	0.008	0.152	0.037	-	-
HCM Control Delay (s)	0	-	-	18.9	17.4	8.7	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.5	0.1	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	3	1	3	2	5	1	508	9	3	274	2
Future Vol, veh/h	5	3	1	3	2	5	1	508	9	3	274	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	-	-	85	-	-	-	170	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	2	2	2	2	2	2	3	3	3
Mvmt Flow	5	3	1	3	2	5	1	546	10	3	295	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	859	860	296	857	856	551	297	0	0	556	0	0
Stage 1	302	302	-	553	553	-	-	-	-	-	-	-
Stage 2	557	558	-	304	303	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	278	295	746	277	295	534	1264	-	-	1010	-	-
Stage 1	709	666	-	517	514	-	-	-	-	-	-	-
Stage 2	517	513	-	705	664	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	273	294	746	273	294	534	1264	-	-	1010	-	-
Mov Cap-2 Maneuver	273	294	-	273	294	-	-	-	-	-	-	-
Stage 1	708	664	-	516	513	-	-	-	-	-	-	-
Stage 2	509	512	-	698	662	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.3	15.1	0	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1264	-	-	281	746	368	1010	-	-
HCM Lane V/C Ratio	0.001	-	-	0.031	0.001	0.029	0.003	-	-
HCM Control Delay (s)	7.9	-	-	18.2	9.8	15.1	8.6	-	-
HCM Lane LOS	A	-	-	C	A	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.1	0	-	-

9: Armstrong Avenue & Olive Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.1	0.1	0.2	0.0	0.4
Denied Del/Veh (s)	0.7	1.3	1.4	0.0	0.9
Total Delay (hr)	1.2	1.3	2.6	0.7	5.8
Total Del/Veh (s)	12.2	13.6	20.3	9.4	14.6
Stop Delay (hr)	0.8	0.7	1.8	0.5	3.7
Stop Del/Veh (s)	7.6	7.9	14.1	5.8	9.4

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	6	62	2	48	10	486	56	95	429	6
Future Vol, veh/h	3	1	6	62	2	48	10	486	56	95	429	6
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	140	-	-	140	-	140	155	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	1	1	1	2	2	2	1	1	1
Mvmt Flow	3	1	7	70	2	55	11	552	64	108	488	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1343	1346	492	1318	1317	584	495	0	0	616	0	0
Stage 1	708	708	-	606	606	-	-	-	-	-	-	-
Stage 2	635	638	-	712	711	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.11	6.51	6.21	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.509	4.009	3.309	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	129	151	577	135	158	513	1069	-	-	969	-	-
Stage 1	426	438	-	486	488	-	-	-	-	-	-	-
Stage 2	467	471	-	425	438	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	103	133	577	120	139	513	1069	-	-	969	-	-
Mov Cap-2 Maneuver	103	133	-	120	139	-	-	-	-	-	-	-
Stage 1	422	389	-	481	483	-	-	-	-	-	-	-
Stage 2	411	466	-	372	389	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.4	45.3	0.2	1.6
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1069	-	-	103	391	120	139	513	969	-	-
HCM Lane V/C Ratio	0.011	-	-	0.033	0.02	0.587	0.016	0.106	0.111	-	-
HCM Control Delay (s)	8.4	-	-	41.1	14.4	70.8	31.3	12.9	9.2	-	-
HCM Lane LOS	A	-	-	E	B	F	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	2.9	0.1	0.4	0.4	-	-

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	8	0	7	1	0	0	0	536	0	1	457	10
Future Vol, veh/h	8	0	7	1	0	0	0	536	0	1	457	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	-	-	-	-	-	-	-	-	-	-	-	-
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, %	0	0	0	0	0	0	2	2	2	1	1	1
Mvmt Flow	8	0	7	1	0	0	0	564	0	1	481	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1053	1053	487	1056	1058	564	492	0	0	564	0	0
Stage 1	489	489	-	564	564	-	-	-	-	-	-	-
Stage 2	564	564	-	492	494	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	206	228	585	205	227	529	1071	-	-	1013	-	-
Stage 1	564	553	-	514	512	-	-	-	-	-	-	-
Stage 2	514	512	-	562	550	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	206	228	585	202	227	529	1071	-	-	1013	-	-
Mov Cap-2 Maneuver	206	228	-	202	227	-	-	-	-	-	-	-
Stage 1	564	552	-	514	512	-	-	-	-	-	-	-
Stage 2	514	512	-	554	549	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.9	22.9	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1071	-	-	295	202	1013	-	-
HCM Lane V/C Ratio	-	-	-	0.054	0.005	0.001	-	-
HCM Control Delay (s)	0	-	-	17.9	22.9	8.6	0	-
HCM Lane LOS	A	-	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	36	455	48	61	262
Future Vol, veh/h	29	36	455	48	61	262
Conflicting Peds, #/hr	0	0	0	0	0	0
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, %	0	0	2	0	0	3
Mvmt Flow	32	39	495	52	66	285

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	938	521	0	0	547	0
Stage 1	521	-	-	-	-	-
Stage 2	417	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	296	559	-	-	1033	-
Stage 1	600	-	-	-	-	-
Stage 2	669	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	274	559	-	-	1033	-
Mov Cap-2 Maneuver	274	-	-	-	-	-
Stage 1	600	-	-	-	-	-
Stage 2	618	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.6	0	1.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	382	1033	-
HCM Lane V/C Ratio	-	-	0.185	0.064	-
HCM Control Delay (s)	-	-	16.6	8.7	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0.2	-

Intersection						
Int Delay, s/veh	6.7					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	71	3	6	12	7	42
Future Vol, veh/h	71	3	6	12	7	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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, %	0	2	2	0	0	0
Mvmt Flow	77	3	7	13	8	46

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	20	0	-	0	171	14
Stage 1	-	-	-	-	14	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1609	-	-	-	824	1072
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	876	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1609	-	-	-	784	1072
Mov Cap-2 Maneuver	-	-	-	-	784	-
Stage 1	-	-	-	-	965	-
Stage 2	-	-	-	-	876	-

Approach	EB	WB	SB
HCM Control Delay, s	7.1	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1609	-	-	-	1019
HCM Lane V/C Ratio	0.048	-	-	-	0.052
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2

Intersection						
Int Delay, s/veh	5.3					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	98	603	40	99	814
Future Vol, veh/h	32	98	603	40	99	814
Conflicting Peds, #/hr	0	0	0	0	0	0
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, %	2	2	4	4	1	1
Mvmt Flow	35	107	655	43	108	885

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1778	677	0	0	698	0
Stage 1	677	-	-	-	-	-
Stage 2	1101	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.11	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.209	-
Pot Cap-1 Maneuver	91	453	-	-	903	-
Stage 1	505	-	-	-	-	-
Stage 2	318	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	70	453	-	-	903	-
Mov Cap-2 Maneuver	70	-	-	-	-	-
Stage 1	505	-	-	-	-	-
Stage 2	243	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	62.3	0	1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	193	903	-
HCM Lane V/C Ratio	-	-	0.732	0.119	-
HCM Control Delay (s)	-	-	62.3	9.5	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	4.7	0.4	-

Intersection						
Int Delay, s/veh	14.2					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	71	572	103	131	715
Future Vol, veh/h	70	71	572	103	131	715
Conflicting Peds, #/hr	0	0	0	0	0	0
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	97	97	97	97	97	97
Heavy Vehicles, %	5	5	4	4	1	1
Mvmt Flow	72	73	590	106	135	737

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1650	643	0	0	696	0
Stage 1	643	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.11	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.209	-
Pot Cap-1 Maneuver	107	468	-	-	905	-
Stage 1	518	-	-	-	-	-
Stage 2	349	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	80	468	-	-	905	-
Mov Cap-2 Maneuver	80	-	-	-	-	-
Stage 1	518	-	-	-	-	-
Stage 2	261	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	157.9	0	1.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	137	905	-
HCM Lane V/C Ratio	-	-	1.061	0.149	-
HCM Control Delay (s)	-	-	157.9	9.7	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	7.9	0.5	-

Intersection	
Intersection Delay, s/veh	314.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	68	23	497	144	57	27	574	155	36	728	11
Future Vol, veh/h	38	68	23	497	144	57	27	574	155	36	728	11
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, %	1	1	1	1	1	1	3	3	3	2	2	2
Mvmt Flow	42	75	25	546	158	63	30	631	170	40	800	12
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	20.9	152.3	398.5	428.7
HCM LOS	C	F	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	4%	100%	0%	100%	0%	5%
Vol Thru, %	76%	0%	75%	0%	72%	94%
Vol Right, %	21%	0%	25%	0%	28%	1%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	756	38	91	497	201	775
LT Vol	27	38	0	497	0	36
Through Vol	574	0	68	0	144	728
RT Vol	155	0	23	0	57	11
Lane Flow Rate	831	42	100	546	221	852
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	1.809	0.118	0.265	1.343	0.5	1.878
Departure Headway (Hd)	10.112	14.643	13.913	11.343	10.597	10.085
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	366	246	260	328	342	366
Service Time	8.112	12.343	11.613	9.043	8.297	8.085
HCM Lane V/C Ratio	2.27	0.171	0.385	1.665	0.646	2.328
HCM Control Delay	398.5	19.3	21.6	204.4	23.4	428.7
HCM Lane LOS	F	C	C	F	C	F
HCM 95th-tile Q	41.8	0.4	1	21.2	2.7	44.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	109	0	115	0	665	856	0	379	824
Future Volume (veh/h)	0	0	0	109	0	115	0	665	856	0	379	824
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				1885	0	1870	0	1870	1870	0	1885	1885
Adj Flow Rate, veh/h				120	0	126	0	731	0	0	416	0
Peak Hour Factor				0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %				1	0	2	0	2	2	0	1	1
Cap, veh/h				235	0	208	0	2330		0	2348	
Arrive On Green				0.13	0.00	0.13	0.00	0.66	0.00	0.00	0.66	0.00
Sat Flow, veh/h				1795	0	1585	0	3647	1585	0	3676	1598
Grp Volume(v), veh/h				120	0	126	0	731	0	0	416	0
Grp Sat Flow(s),veh/h/ln				1795	0	1585	0	1777	1585	0	1791	1598
Q Serve(g_s), s				3.7	0.0	4.5	0.0	5.4	0.0	0.0	2.7	0.0
Cycle Q Clear(g_c), s				3.7	0.0	4.5	0.0	5.4	0.0	0.0	2.7	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				235	0	208	0	2330		0	2348	
V/C Ratio(X)				0.51	0.00	0.61	0.00	0.31		0.00	0.18	
Avail Cap(c_a), veh/h				616	0	544	0	2330		0	2348	
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	1.00	0.00	0.71	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				24.3	0.0	24.6	0.0	4.5	0.0	0.0	4.0	0.0
Incr Delay (d2), s/veh				4.0	0.0	6.6	0.0	0.3	0.0	0.0	0.2	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
%ile BackOfQ(50%),veh/ln				1.7	0.0	1.9	0.0	1.1	0.0	0.0	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				28.3	0.0	31.2	0.0	4.7	0.0	0.0	4.2	0.0
LnGrp LOS				C	A	C	A	A		A	A	
Approach Vol, veh/h					246			731			416	
Approach Delay, s/veh					29.7			4.7			4.2	
Approach LOS					C			A			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		45.7				45.7		14.3				
Change Period (Y+Rc), s		6.4				6.4		6.4				
Max Green Setting (Gmax), s		26.6				26.6		20.6				
Max Q Clear Time (g_c+I1), s		7.4				4.7		6.5				
Green Ext Time (p_c), s		8.1				4.7		1.4				

Intersection Summary			
HCM 6th Ctrl Delay			9.0
HCM 6th LOS			A

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	315	0	438	0	0	0	0	1171	133	105	411	0
Future Volume (veh/h)	315	0	438	0	0	0	0	1171	133	105	411	0
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	0	1841				0	1856	1856	1870	1870	0
Adj Flow Rate, veh/h	339	0	471				0	1259	143	113	442	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	0	4				0	3	3	2	2	0
Cap, veh/h	735	0	593				0	1735	774	225	2253	0
Arrive On Green	0.22	0.00	0.22				0.00	0.49	0.49	0.07	0.63	0.00
Sat Flow, veh/h	3401	0	2745				0	3618	1572	3456	3647	0
Grp Volume(v), veh/h	339	0	471				0	1259	143	113	442	0
Grp Sat Flow(s),veh/h/ln	1700	0	1373				0	1763	1572	1728	1777	0
Q Serve(g_s), s	7.5	0.0	14.0				0.0	24.3	4.4	2.7	4.5	0.0
Cycle Q Clear(g_c), s	7.5	0.0	14.0				0.0	24.3	4.4	2.7	4.5	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	735	0	593				0	1735	774	225	2253	0
V/C Ratio(X)	0.46	0.00	0.79				0.00	0.73	0.18	0.50	0.20	0.00
Avail Cap(c_a), veh/h	791	0	638				0	1735	774	603	2253	0
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	1.00				0.00	0.68	0.68	0.99	0.99	0.00
Uniform Delay (d), s/veh	29.4	0.0	31.9				0.0	17.3	12.2	38.9	6.6	0.0
Incr Delay (d2), s/veh	1.9	0.0	10.2				0.0	1.8	0.4	0.6	0.2	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
%ile BackOfQ(50%),veh/ln	3.1	0.0	5.3				0.0	8.8	1.4	1.1	1.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.3	0.0	42.1				0.0	19.1	12.6	39.5	6.8	0.0
LnGrp LOS	C	A	D				A	B	B	D	A	A
Approach Vol, veh/h		810						1402			555	
Approach Delay, s/veh		37.6						18.4			13.4	
Approach LOS		D						B			B	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	12.2	48.8	25.0	61.0
Change Period (Y+Rc), s	* 6.6	6.5	* 6.4	6.5
Max Green Setting (Gmax), s	* 15	31.0	* 20	52.6
Max Q Clear Time (g_c+I1), s	4.7	26.3	16.0	6.5
Green Ext Time (p_c), s	0.1	4.1	2.6	6.2

Intersection Summary	
HCM 6th Ctrl Delay	23.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	236	49	137	177	252	123	933	179	326	466	52
Future Volume (veh/h)	114	236	49	137	177	252	123	933	179	326	466	52
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	1811	1811	1811	1811	1811	1811	1885	1885	1885	1856	1856	1856
Adj Flow Rate, veh/h	133	274	57	159	206	293	143	1085	208	379	542	60
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	6	6	6	6	6	6	1	1	1	3	3	3
Cap, veh/h	156	598	123	182	776	346	167	1473	657	429	1587	708
Arrive On Green	0.09	0.21	0.21	0.11	0.23	0.23	0.09	0.41	0.41	0.13	0.45	0.45
Sat Flow, veh/h	1725	2844	583	1725	3441	1535	1795	3582	1598	3428	3526	1572
Grp Volume(v), veh/h	133	164	167	159	206	293	143	1085	208	379	542	60
Grp Sat Flow(s),veh/h/ln	1725	1721	1706	1725	1721	1535	1795	1791	1598	1714	1763	1572
Q Serve(g_s), s	10.6	11.7	12.0	12.7	6.9	25.6	11.0	35.8	12.3	15.2	14.0	3.1
Cycle Q Clear(g_c), s	10.6	11.7	12.0	12.7	6.9	25.6	11.0	35.8	12.3	15.2	14.0	3.1
Prop In Lane	1.00		0.34	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	156	362	359	182	776	346	167	1473	657	429	1587	708
V/C Ratio(X)	0.85	0.45	0.47	0.87	0.27	0.85	0.86	0.74	0.32	0.88	0.34	0.08
Avail Cap(c_a), veh/h	259	504	500	259	1008	449	269	1473	657	514	1587	708
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	62.8	48.3	48.4	61.7	44.7	51.9	62.6	34.8	27.9	60.2	25.0	22.0
Incr Delay (d2), s/veh	6.5	2.6	2.7	15.5	0.5	16.6	7.8	3.3	1.3	12.5	0.6	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	4.9	5.2	5.3	6.3	3.0	11.2	5.3	15.9	4.9	7.2	5.8	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.2	50.8	51.1	77.2	45.2	68.5	70.3	38.2	29.2	72.7	25.6	22.2
LnGrp LOS	E	D	D	E	D	E	E	D	C	E	C	C
Approach Vol, veh/h		464			658			1436			981	
Approach Delay, s/veh		56.2			63.3			40.1			43.6	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.6	67.9	17.6	36.9	23.1	62.5	19.7	34.7
Change Period (Y+Rc), s	4.6	4.9	4.9	5.3	5.6	4.9	4.9	5.3
Max Green Setting (Gmax), s	21.0	37.3	21.0	41.0	21.0	36.3	21.0	41.0
Max Q Clear Time (g_c+I1), s	13.0	16.0	12.6	27.6	17.2	37.8	14.7	14.0
Green Ext Time (p_c), s	0.1	8.7	0.1	4.0	0.3	0.0	0.1	4.1

Intersection Summary		
HCM 6th Ctrl Delay		47.5
HCM 6th LOS		D

Intersection	
Int Delay, s/veh	17.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	130	9	49	102	62	28	316	31	53	768	0
Future Vol, veh/h	0	130	9	49	102	62	28	316	31	53	768	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	-	-	-	-	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	3	3	3	1	1	1
Mvmt Flow	0	141	10	53	111	67	30	343	34	58	835	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1460	1388	835	1447	1371	360	835	0	0	377	0	0
Stage 1	951	951	-	420	420	-	-	-	-	-	-	-
Stage 2	509	437	-	1027	951	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.209	-	-
Pot Cap-1 Maneuver	107	143	368	109	146	684	794	-	-	1187	-	-
Stage 1	312	338	-	611	589	-	-	-	-	-	-	-
Stage 2	547	579	-	283	338	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	22	~ 124	368	-	126	684	794	-	-	1187	-	-
Mov Cap-2 Maneuver	22	~ 124	-	-	126	-	-	-	-	-	-	-
Stage 1	297	307	-	582	561	-	-	-	-	-	-	-
Stage 2	377	551	-	135	307	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	194.9		0.7	0.5
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	794	-	-	130	-	1187	-	-
HCM Lane V/C Ratio	0.038	-	-	1.162	-	0.049	-	-
HCM Control Delay (s)	9.7	0	-	194.9	-	8.2	0	-
HCM Lane LOS	A	A	-	F	-	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	9	-	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	8	20	63	8	18	5	280	21	3	814	43
Future Vol, veh/h	26	8	20	63	8	18	5	280	21	3	814	43
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	-	-	85	-	-	-	170	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	1	1	1	2	2	2	1	1	1
Mvmt Flow	29	9	22	69	9	20	5	308	23	3	895	47

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1269	1266	919	1270	1278	320	942	0	0	331	0	0
Stage 1	925	925	-	330	330	-	-	-	-	-	-	-
Stage 2	344	341	-	940	948	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.11	6.51	6.21	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.509	4.009	3.309	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	145	169	329	146	167	723	728	-	-	1234	-	-
Stage 1	323	348	-	685	648	-	-	-	-	-	-	-
Stage 2	671	639	-	318	341	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	134	167	329	130	165	723	728	-	-	1234	-	-
Mov Cap-2 Maneuver	134	167	-	130	165	-	-	-	-	-	-	-
Stage 1	321	347	-	680	643	-	-	-	-	-	-	-
Stage 2	639	635	-	289	340	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	31.1	58.4	0.2	0
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	728	-	-	141	329	159	1234	-	-
HCM Lane V/C Ratio	0.008	-	-	0.265	0.067	0.615	0.003	-	-
HCM Control Delay (s)	10	-	-	39.5	16.7	58.4	7.9	-	-
HCM Lane LOS	A	-	-	E	C	F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1	0.2	3.3	0	-	-

9: Armstrong Avenue & Olive Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.2	0.3	0.0	0.4
Denied Del/Veh (s)	0.2	1.0	2.0	0.1	0.7
Total Delay (hr)	0.7	9.8	6.4	22.0	38.9
Total Del/Veh (s)	11.7	66.0	48.5	85.1	64.9
Stop Delay (hr)	0.5	8.8	5.5	19.7	34.5
Stop Del/Veh (s)	8.0	59.3	41.8	76.1	57.5

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	14	185	22	207	140	104	7	361	342	104	576	6
Future Vol, veh/h	14	185	22	207	140	104	7	361	342	104	576	6
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	140	-	-	140	-	140	155	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	3	3	3	6	6	6	1	1	1
Mvmt Flow	16	215	26	241	163	121	8	420	398	121	670	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1693	1750	674	1671	1554	619	677	0	0	818	0	0
Stage 1	916	916	-	635	635	-	-	-	-	-	-	-
Stage 2	777	834	-	1036	919	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.13	6.53	6.23	4.16	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.527	4.027	3.327	2.254	-	-	2.209	-	-
Pot Cap-1 Maneuver	74	~ 86	455	~ 76	~ 113	487	896	-	-	815	-	-
Stage 1	326	351	-	465	471	-	-	-	-	-	-	-
Stage 2	390	383	-	278	349	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 73	455	-	~ 95	487	896	-	-	815	-	-
Mov Cap-2 Maneuver	-	~ 73	-	-	~ 95	-	-	-	-	-	-	-
Stage 1	323	299	-	461	467	-	-	-	-	-	-	-
Stage 2	189	380	-	~ 63	297	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.1	1.5
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	896	-	-	-	80	-	95	487	815	-	-
HCM Lane V/C Ratio	0.009	-	-	-	3.009	-	1.714	0.248	0.148	-	-
HCM Control Delay (s)	9.1	-	-	-	$ 1016.9	-	$ 438	14.8	10.2	-	-
HCM Lane LOS	A	-	-	-	F	-	F	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	-	23.9	-	13.1	1	0.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

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	21	0	6	1	0	0	4	678	0	0	646	67
Future Vol, veh/h	21	0	6	1	0	0	4	678	0	0	646	67
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	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	5	5	5	0	0	0	4	4	4	1	1	1
Mvmt Flow	24	0	7	1	0	0	5	779	0	0	743	77

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1571	1571	782	1574	1609	779	820	0	0	779	0	0
Stage 1	782	782	-	789	789	-	-	-	-	-	-	-
Stage 2	789	789	-	785	820	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	88	109	390	90	106	399	800	-	-	842	-	-
Stage 1	383	401	-	387	405	-	-	-	-	-	-	-
Stage 2	379	398	-	389	392	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	87	108	390	88	105	399	800	-	-	842	-	-
Mov Cap-2 Maneuver	87	108	-	88	105	-	-	-	-	-	-	-
Stage 1	379	401	-	383	401	-	-	-	-	-	-	-
Stage 2	375	394	-	382	392	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	53.1	46.5	0.1	0
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	800	-	-	105	88	842	-	-
HCM Lane V/C Ratio	0.006	-	-	0.296	0.013	-	-	-
HCM Control Delay (s)	9.5	0	-	53.1	46.5	0	-	-
HCM Lane LOS	A	A	-	F	E	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.1	0	0	-	-

Intersection						
Int Delay, s/veh	1.8					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	54	336	15	19	743
Future Vol, veh/h	43	54	336	15	19	743
Conflicting Peds, #/hr	0	0	0	0	0	0
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, %	0	0	3	0	0	1
Mvmt Flow	47	59	365	16	21	808

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1223	373	0	0	381	0
Stage 1	373	-	-	-	-	-
Stage 2	850	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	200	678	-	-	1189	-
Stage 1	701	-	-	-	-	-
Stage 2	422	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	194	678	-	-	1189	-
Mov Cap-2 Maneuver	194	-	-	-	-	-
Stage 1	701	-	-	-	-	-
Stage 2	408	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.5	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	322	1189	-
HCM Lane V/C Ratio	-	-	0.327	0.017	-
HCM Control Delay (s)	-	-	21.5	8.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.4	0.1	-

Intersection						
Int Delay, s/veh	2					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	191	150	4	10	63
Future Vol, veh/h	22	191	150	4	10	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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, %	0	2	2	0	0	0
Mvmt Flow	24	208	163	4	11	68

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	167	0	-	0	421	165
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	256	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1423	-	-	-	593	885
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	791	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1423	-	-	-	582	885
Mov Cap-2 Maneuver	-	-	-	-	582	-
Stage 1	-	-	-	-	852	-
Stage 2	-	-	-	-	791	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1423	-	-	-	826
HCM Lane V/C Ratio	0.017	-	-	-	0.096
HCM Control Delay (s)	7.6	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	13	35	924	10	53	708
Future Vol, veh/h	13	35	924	10	53	708
Conflicting Peds, #/hr	0	0	0	0	0	0
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, %	2	2	2	2	3	3
Mvmt Flow	14	38	1004	11	58	770

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1896	1010	0	0	1015	0
Stage 1	1010	-	-	-	-	-
Stage 2	886	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.13	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.227	-
Pot Cap-1 Maneuver	76	291	-	-	679	-
Stage 1	352	-	-	-	-	-
Stage 2	403	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	65	291	-	-	679	-
Mov Cap-2 Maneuver	65	-	-	-	-	-
Stage 1	352	-	-	-	-	-
Stage 2	343	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	41.3	0	0.8
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	150	679	-
HCM Lane V/C Ratio	-	-	0.348	0.085	-
HCM Control Delay (s)	-	-	41.3	10.8	0
HCM Lane LOS	-	-	E	B	A
HCM 95th %tile Q(veh)	-	-	1.4	0.3	-

Intersection	
Int Delay, s/veh	49.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	104	100	834	85	102	619
Future Vol, veh/h	104	100	834	85	102	619
Conflicting Peds, #/hr	0	0	0	0	0	0
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	98	98	98	98	98	98
Heavy Vehicles, %	6	6	2	2	3	3
Mvmt Flow	106	102	851	87	104	632

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1735	895	0	0	938	0
Stage 1	895	-	-	-	-	-
Stage 2	840	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.13	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.227	-
Pot Cap-1 Maneuver	~ 94	334	-	-	726	-
Stage 1	393	-	-	-	-	-
Stage 2	417	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 73	334	-	-	726	-
Mov Cap-2 Maneuver	~ 73	-	-	-	-	-
Stage 1	393	-	-	-	-	-
Stage 2	325	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 439.3	0	1.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	118	726	-
HCM Lane V/C Ratio	-	-	1.764	0.143	-
HCM Control Delay (s)	-	-	$ 439.3	10.8	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	16.1	0.5	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	275.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	139	124	43	272	86	93	6	652	185	30	661	15
Future Vol, veh/h	139	124	43	272	86	93	6	652	185	30	661	15
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	4	4	4
Mvmt Flow	140	125	43	275	87	94	6	659	187	30	668	15
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	24	34.1	450.9	328.6
HCM LOS	C	D	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	1%	100%	0%	100%	0%	4%
Vol Thru, %	77%	0%	74%	0%	48%	94%
Vol Right, %	22%	0%	26%	0%	52%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	843	139	167	272	179	706
LT Vol	6	139	0	272	0	30
Through Vol	652	0	124	0	86	661
RT Vol	185	0	43	0	93	15
Lane Flow Rate	852	140	169	275	181	713
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	1.931	0.385	0.431	0.723	0.432	1.646
Departure Headway (Hd)	9.692	13.131	12.4	12.388	11.463	10.424
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	383	277	294	294	316	357
Service Time	7.692	10.831	10.1	10.088	9.163	8.424
HCM Lane V/C Ratio	2.225	0.505	0.575	0.935	0.573	1.997
HCM Control Delay	450.9	23.8	24.2	41.7	22.6	328.6
HCM Lane LOS	F	C	C	E	C	F
HCM 95th-tile Q	48.7	1.7	2.1	5.2	2.1	34.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	126	0	108	0	776	469	0	534	397
Future Volume (veh/h)	0	0	0	126	0	108	0	776	469	0	534	397
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	0	1841	0	1870	1870	0	1856	1856
Adj Flow Rate, veh/h				137	0	117	0	843	0	0	580	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				4	0	4	0	2	2	0	3	3
Cap, veh/h				230	0	205	0	2329		0	2310	
Arrive On Green				0.13	0.00	0.13	0.00	0.66	0.00	0.00	0.66	0.00
Sat Flow, veh/h				1753	0	1560	0	3647	1585	0	3618	1572
Grp Volume(v), veh/h				137	0	117	0	843	0	0	580	0
Grp Sat Flow(s),veh/h/ln				1753	0	1560	0	1777	1585	0	1763	1572
Q Serve(g_s), s				4.4	0.0	4.2	0.0	6.4	0.0	0.0	4.1	0.0
Cycle Q Clear(g_c), s				4.4	0.0	4.2	0.0	6.4	0.0	0.0	4.1	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				230	0	205	0	2329		0	2310	
V/C Ratio(X)				0.59	0.00	0.57	0.00	0.36		0.00	0.25	
Avail Cap(c_a), veh/h				602	0	536	0	2329		0	2310	
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	1.00	0.00	0.80	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				24.6	0.0	24.5	0.0	4.7	0.0	0.0	4.3	0.0
Incr Delay (d2), s/veh				5.7	0.0	5.8	0.0	0.4	0.0	0.0	0.3	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
%ile BackOfQ(50%),veh/ln				2.1	0.0	1.8	0.0	1.3	0.0	0.0	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				30.2	0.0	30.3	0.0	5.0	0.0	0.0	4.5	0.0
LnGrp LOS				C	A	C	A	A		A	A	
Approach Vol, veh/h					254			843			580	
Approach Delay, s/veh					30.2			5.0			4.5	
Approach LOS					C			A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		45.7				45.7		14.3				
Change Period (Y+Rc), s		6.4				6.4		6.4				
Max Green Setting (Gmax), s		26.6				26.6		20.6				
Max Q Clear Time (g_c+I1), s		8.4				6.1		6.4				
Green Ext Time (p_c), s		9.1				6.6		1.5				

Intersection Summary	
HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	453	0	826	0	0	0	0	766	129	128	539	0
Future Volume (veh/h)	453	0	826	0	0	0	0	766	129	128	539	0
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	1885	0	1885				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	498	0	908				0	842	142	141	592	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	0	1				0	2	2	2	2	0
Cap, veh/h	810	0	654				0	1682	750	233	2194	0
Arrive On Green	0.23	0.00	0.23				0.00	0.47	0.47	0.07	0.62	0.00
Sat Flow, veh/h	3483	0	2812				0	3647	1585	3456	3647	0
Grp Volume(v), veh/h	498	0	908				0	842	142	141	592	0
Grp Sat Flow(s),veh/h/ln	1742	0	1406				0	1777	1585	1728	1777	0
Q Serve(g_s), s	11.0	0.0	20.0				0.0	14.1	4.5	3.4	6.6	0.0
Cycle Q Clear(g_c), s	11.0	0.0	20.0				0.0	14.1	4.5	3.4	6.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	810	0	654				0	1682	750	233	2194	0
V/C Ratio(X)	0.61	0.00	1.39				0.00	0.50	0.19	0.61	0.27	0.00
Avail Cap(c_a), veh/h	810	0	654				0	1682	750	603	2194	0
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	1.00				0.00	0.89	0.89	0.97	0.97	0.00
Uniform Delay (d), s/veh	29.6	0.0	33.0				0.0	15.6	13.1	39.0	7.6	0.0
Incr Delay (d2), s/veh	3.3	0.0	184.2				0.0	1.0	0.5	0.9	0.3	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
%ile BackOfQ(50%),veh/ln	4.8	0.0	23.2				0.0	5.2	1.5	1.4	2.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.9	0.0	217.2				0.0	16.6	13.6	39.9	7.8	0.0
LnGrp LOS	C	A	F				A	B	B	D	A	A
Approach Vol, veh/h		1406						984			733	
Approach Delay, s/veh		151.9						16.2			14.0	
Approach LOS		F						B			B	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	12.4	47.2	26.4	59.6
Change Period (Y+Rc), s	* 6.6	6.5	* 6.4	6.5
Max Green Setting (Gmax), s	* 15	31.0	* 20	52.6
Max Q Clear Time (g_c+I1), s	15.4	16.1	22.0	8.6
Green Ext Time (p_c), s	0.1	8.7	0.0	8.8

Intersection Summary	
HCM 6th Ctrl Delay	76.8
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	202	73	144	173	227	84	569	140	325	851	80
Future Volume (veh/h)	96	202	73	144	173	227	84	569	140	325	851	80
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	105	222	80	158	190	249	92	625	154	357	935	88
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	128	421	147	182	688	307	114	1668	744	409	1898	847
Arrive On Green	0.07	0.16	0.16	0.10	0.19	0.19	0.06	0.47	0.47	0.12	0.53	0.53
Sat Flow, veh/h	1781	2581	904	1781	3554	1585	1781	3554	1585	3483	3582	1598
Grp Volume(v), veh/h	105	151	151	158	190	249	92	625	154	357	935	88
Grp Sat Flow(s),veh/h/ln	1781	1777	1708	1781	1777	1585	1781	1777	1585	1742	1791	1598
Q Serve(g_s), s	8.1	10.9	11.4	12.2	6.4	21.0	7.1	15.9	8.0	14.1	23.2	3.8
Cycle Q Clear(g_c), s	8.1	10.9	11.4	12.2	6.4	21.0	7.1	15.9	8.0	14.1	23.2	3.8
Prop In Lane	1.00		0.53	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	128	290	279	182	688	307	114	1668	744	409	1898	847
V/C Ratio(X)	0.82	0.52	0.54	0.87	0.28	0.81	0.81	0.37	0.21	0.87	0.49	0.10
Avail Cap(c_a), veh/h	267	520	500	267	1041	464	267	1668	744	522	1898	847
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.75	0.75	0.75
Uniform Delay (d), s/veh	64.1	53.6	53.8	61.9	48.1	54.0	64.7	23.9	21.8	60.8	20.9	16.4
Incr Delay (d2), s/veh	4.9	4.2	4.7	13.2	0.6	13.6	5.0	0.6	0.6	8.3	0.7	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	3.8	5.1	5.2	6.1	2.8	9.4	3.4	6.7	3.0	6.6	9.5	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.0	57.7	58.5	75.1	48.7	67.6	69.7	24.6	22.5	69.0	21.6	16.5
LnGrp LOS	E	E	E	E	D	E	E	C	C	E	C	B
Approach Vol, veh/h		407			597			871			1380	
Approach Delay, s/veh		60.9			63.6			29.0			33.6	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	79.1	14.9	32.4	22.0	70.6	19.2	28.1
Change Period (Y+Rc), s	4.6	4.9	4.9	5.3	5.6	4.9	4.9	5.3
Max Green Setting (Gmax), s	21.0	37.3	21.0	41.0	21.0	36.3	21.0	41.0
Max Q Clear Time (g_c+I1), s	10.1	25.2	10.1	23.0	16.1	17.9	14.2	13.4
Green Ext Time (p_c), s	0.1	9.0	0.1	4.1	0.3	10.0	0.1	3.7

Intersection Summary	
HCM 6th Ctrl Delay	41.3
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	33	30	29	35	40	13	579	43	52	338	0
Future Vol, veh/h	0	33	30	29	35	40	13	579	43	52	338	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	-	-	-	-	-	-	-	-	-	-	-	-
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, %	2	2	2	2	2	2	2	2	2	3	3	3
Mvmt Flow	0	36	33	32	38	43	14	629	47	57	367	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1202	1185	367	1197	1162	653	367	0	0	676	0	0
Stage 1	481	481	-	681	681	-	-	-	-	-	-	-
Stage 2	721	704	-	516	481	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	161	189	678	163	195	467	1192	-	-	911	-	-
Stage 1	566	554	-	440	450	-	-	-	-	-	-	-
Stage 2	419	440	-	542	554	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	113	171	678	121	176	467	1192	-	-	911	-	-
Mov Cap-2 Maneuver	113	171	-	121	176	-	-	-	-	-	-	-
Stage 1	555	510	-	432	441	-	-	-	-	-	-	-
Stage 2	341	432	-	442	510	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.2	44.9	0.2	1.2
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1192	-	-	266	198	911	-	-
HCM Lane V/C Ratio	0.012	-	-	0.257	0.571	0.062	-	-
HCM Control Delay (s)	8.1	0	-	23.2	44.9	9.2	0	-
HCM Lane LOS	A	A	-	C	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1	3.1	0.2	-	-

Intersection												
Int Delay, s/veh	2.3											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	6	5	17	4	12	8	611	33	12	341	30
Future Vol, veh/h	42	6	5	17	4	12	8	611	33	12	341	30
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	-	-	85	-	-	-	170	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	2	2	2	2	2	2	3	3	3
Mvmt Flow	45	6	5	18	4	13	9	657	35	13	367	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1110	1119	383	1108	1118	675	399	0	0	692	0	0
Stage 1	409	409	-	693	693	-	-	-	-	-	-	-
Stage 2	701	710	-	415	425	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	187	208	667	187	207	454	1160	-	-	898	-	-
Stage 1	621	598	-	434	445	-	-	-	-	-	-	-
Stage 2	431	438	-	615	586	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	176	203	667	178	202	454	1160	-	-	898	-	-
Mov Cap-2 Maneuver	176	203	-	178	202	-	-	-	-	-	-	-
Stage 1	616	590	-	431	441	-	-	-	-	-	-	-
Stage 2	411	434	-	595	578	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	31			23.2			0.1			0.3		
HCM LOS	D			C								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1160	-	-	179	667	233	898	-	-
HCM Lane V/C Ratio	0.007	-	-	0.288	0.008	0.152	0.014	-	-
HCM Control Delay (s)	8.1	-	-	33.1	10.4	23.2	9.1	-	-
HCM Lane LOS	A	-	-	D	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.1	0	0.5	0	-	-

9: Armstrong Avenue & Olive Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.1	0.1	16.0	0.0	16.2
Denied Del/Veh (s)	0.7	1.6	94.1	0.0	35.5
Total Delay (hr)	1.5	1.6	30.5	1.4	35.0
Total Del/Veh (s)	15.9	17.6	185.3	13.8	77.1
Stop Delay (hr)	1.1	1.1	31.1	0.9	34.2
Stop Del/Veh (s)	11.7	12.1	188.9	9.3	75.4

Intersection	
Int Delay, s/veh	56.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	38	14	113	52	53	24	508	107	103	448	17
Future Vol, veh/h	11	38	14	113	52	53	24	508	107	103	448	17
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	140	-	-	140	-	140	155	-	-	155	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	1	1	1	2	2	2	1	1	1
Mvmt Flow	13	43	16	128	59	60	27	577	122	117	509	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1505	1506	519	1474	1454	638	528	0	0	699	0	0
Stage 1	753	753	-	692	692	-	-	-	-	-	-	-
Stage 2	752	753	-	782	762	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.11	6.51	6.21	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.509	4.009	3.309	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	100	121	557	~ 105	131	478	1039	-	-	902	-	-
Stage 1	402	417	-	436	447	-	-	-	-	-	-	-
Stage 2	402	417	-	389	415	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	45	102	557	~ 61	111	478	1039	-	-	902	-	-
Mov Cap-2 Maneuver	45	102	-	~ 61	111	-	-	-	-	-	-	-
Stage 1	392	363	-	425	435	-	-	-	-	-	-	-
Stage 2	296	406	-	290	361	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	63.8	$ 359.8	0.3	1.7
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1039	-	-	45	131	61	111	478	902	-	-
HCM Lane V/C Ratio	0.026	-	-	0.278	0.451	2.105	0.532	0.126	0.13	-	-
HCM Control Delay (s)	8.6	-	-	113.3	53.3	$ 655.8	69.5	13.6	9.6	-	-
HCM Lane LOS	A	-	-	F	F	F	F	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.9	2	12.3	2.5	0.4	0.4	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

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	15	0	10	1	0	0	3	617	0	1	520	21
Future Vol, veh/h	15	0	10	1	0	0	3	617	0	1	520	21
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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	2	2	2	1	1	1
Mvmt Flow	16	0	11	1	0	0	3	649	0	1	547	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1215	1215	558	1221	1226	649	569	0	0	649	0	0
Stage 1	560	560	-	655	655	-	-	-	-	-	-	-
Stage 2	655	655	-	566	571	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	160	183	533	158	180	473	1003	-	-	942	-	-
Stage 1	516	514	-	458	466	-	-	-	-	-	-	-
Stage 2	458	466	-	513	508	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	159	182	533	154	179	473	1003	-	-	942	-	-
Mov Cap-2 Maneuver	159	182	-	154	179	-	-	-	-	-	-	-
Stage 1	513	513	-	456	464	-	-	-	-	-	-	-
Stage 2	456	464	-	502	507	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.5	28.5	0	0
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1003	-	-	221	154	942	-	-
HCM Lane V/C Ratio	0.003	-	-	0.119	0.007	0.001	-	-
HCM Control Delay (s)	8.6	0	-	23.5	28.5	8.8	0	-
HCM Lane LOS	A	A	-	C	D	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0	0	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	36	561	48	61	355
Future Vol, veh/h	29	36	561	48	61	355
Conflicting Peds, #/hr	0	0	0	0	0	0
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, %	0	0	2	0	0	3
Mvmt Flow	32	39	610	52	66	386

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1154	636	0	0	662	0
Stage 1	636	-	-	-	-	-
Stage 2	518	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	220	481	-	-	936	-
Stage 1	531	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	200	481	-	-	936	-
Mov Cap-2 Maneuver	200	-	-	-	-	-
Stage 1	531	-	-	-	-	-
Stage 2	548	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.9	0	1.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	296	936	-
HCM Lane V/C Ratio	-	-	0.239	0.071	-
HCM Control Delay (s)	-	-	20.9	9.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0.2	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	71	55	62	12	7	42
Future Vol, veh/h	71	55	62	12	7	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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, %	0	2	2	0	0	0
Mvmt Flow	77	60	67	13	8	46

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	80	0	-	0	288	74
Stage 1	-	-	-	-	74	-
Stage 2	-	-	-	-	214	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1531	-	-	-	707	993
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	826	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1531	-	-	-	670	993
Mov Cap-2 Maneuver	-	-	-	-	670	-
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	826	-

Approach	EB	WB	SB
HCM Control Delay, s	4.2	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1531	-	-	-	929
HCM Lane V/C Ratio	0.05	-	-	-	0.057
HCM Control Delay (s)	7.5	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2

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	49	31	144	362	141	103	273	633	47	104	826	26
Future Vol, veh/h	49	31	144	362	141	103	273	633	47	104	826	26
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, %	2	2	2	2	2	2	4	4	4	1	1	1
Mvmt Flow	53	34	157	393	153	112	297	688	51	113	898	28

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2578	2471	912	2542	2460	714	926	0	0	739	0	0
Stage 1	1138	1138	-	1308	1308	-	-	-	-	-	-	-
Stage 2	1440	1333	-	1234	1152	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	~ 17	~ 30	332	~ 18	~ 31	431	730	-	-	872	-	-
Stage 1	245	276	-	~ 196	229	-	-	-	-	-	-	-
Stage 2	165	223	-	~ 216	272	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 7	332	-	~ 7	431	730	-	-	872	-	-
Mov Cap-2 Maneuver	-	~ 7	-	-	~ 7	-	-	-	-	-	-	-
Stage 1	74	202	-	~ 59	~ 69	-	-	-	-	-	-	-
Stage 2	-	68	-	~ 70	199	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			3.8	1.1
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	730	-	-	-	-	872	-	-
HCM Lane V/C Ratio	0.406	-	-	-	-	0.13	-	-
HCM Control Delay (s)	13.3	0	-	-	-	9.7	0	-
HCM Lane LOS	B	A	-	-	-	A	A	-
HCM 95th %tile Q(veh)	2	-	-	-	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	22

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	74	75	600	108	138	749
Future Vol, veh/h	74	75	600	108	138	749
Conflicting Peds, #/hr	0	0	0	0	0	0
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	97	97	97	97	97	97
Heavy Vehicles, %	5	5	4	4	1	1
Mvmt Flow	76	77	619	111	142	772

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1731	675	0	0	730	0
Stage 1	675	-	-	-	-	-
Stage 2	1056	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.11	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.209	-
Pot Cap-1 Maneuver	95	449	-	-	879	-
Stage 1	500	-	-	-	-	-
Stage 2	330	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 68	449	-	-	879	-
Mov Cap-2 Maneuver	~ 68	-	-	-	-	-
Stage 1	500	-	-	-	-	-
Stage 2	237	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	248.5	0	1.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	119	879	-
HCM Lane V/C Ratio	-	-	1.291	0.162	-
HCM Control Delay (s)	-	-	248.5	9.9	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	10.1	0.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	341.7
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	98	24	477	314	78	33	602	147	38	762	48
Future Vol, veh/h	39	98	24	477	314	78	33	602	147	38	762	48
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, %	1	1	1	1	1	1	3	3	3	2	2	2
Mvmt Flow	42	107	26	518	341	85	36	654	160	41	828	52
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	23.2	141.3	439.8	517.1
HCM LOS	C	F	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	4%	100%	0%	100%	0%	4%
Vol Thru, %	77%	0%	80%	0%	80%	90%
Vol Right, %	19%	0%	20%	0%	20%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	782	39	122	477	392	848
LT Vol	33	39	0	477	0	38
Through Vol	602	0	98	0	314	762
RT Vol	147	0	24	0	78	48
Lane Flow Rate	850	42	133	518	426	922
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	1.902	0.12	0.353	1.299	0.991	2.079
Departure Headway (Hd)	10.278	14.833	14.145	11.982	11.296	10.007
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	365	243	256	306	324	378
Service Time	8.278	12.533	11.845	9.682	8.996	8.007
HCM Lane V/C Ratio	2.329	0.173	0.52	1.693	1.315	2.439
HCM Control Delay	439.8	19.5	24.4	189.3	83	517.1
HCM Lane LOS	F	C	C	F	F	F
HCM 95th-tile Q	45	0.4	1.5	19	10.7	53.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	121	0	121	0	665	879	0	401	837
Future Volume (veh/h)	0	0	0	121	0	121	0	665	879	0	401	837
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				1885	0	1870	0	1870	1870	0	1885	1885
Adj Flow Rate, veh/h				132	0	132	0	723	0	0	436	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				1	0	2	0	2	2	0	1	1
Cap, veh/h				244	0	216	0	2312		0	2330	
Arrive On Green				0.14	0.00	0.14	0.00	0.65	0.00	0.00	0.65	0.00
Sat Flow, veh/h				1795	0	1585	0	3647	1585	0	3676	1598
Grp Volume(v), veh/h				132	0	132	0	723	0	0	436	0
Grp Sat Flow(s),veh/h/ln				1795	0	1585	0	1777	1585	0	1791	1598
Q Serve(g_s), s				4.1	0.0	4.7	0.0	5.4	0.0	0.0	2.9	0.0
Cycle Q Clear(g_c), s				4.1	0.0	4.7	0.0	5.4	0.0	0.0	2.9	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				244	0	216	0	2312		0	2330	
V/C Ratio(X)				0.54	0.00	0.61	0.00	0.31		0.00	0.19	
Avail Cap(c_a), veh/h				616	0	544	0	2312		0	2330	
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	1.00	0.00	0.67	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				24.2	0.0	24.4	0.0	4.6	0.0	0.0	4.2	0.0
Incr Delay (d2), s/veh				4.3	0.0	6.5	0.0	0.2	0.0	0.0	0.2	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
%ile BackOfQ(50%),veh/ln				1.9	0.0	2.0	0.0	1.1	0.0	0.0	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				28.5	0.0	30.9	0.0	4.8	0.0	0.0	4.3	0.0
LnGrp LOS				C	A	C	A	A		A	A	
Approach Vol, veh/h					264			723			436	
Approach Delay, s/veh					29.7			4.8			4.3	
Approach LOS					C			A			A	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		45.4				45.4		14.6				
Change Period (Y+Rc), s		6.4				6.4		6.4				
Max Green Setting (Gmax), s		26.6				26.6		20.6				
Max Q Clear Time (g_c+I1), s		7.4				4.9		6.7				
Green Ext Time (p_c), s		8.0				4.9		1.6				

Intersection Summary	
HCM 6th Ctrl Delay	9.3
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	321	0	487	0	0	0	0	1223	140	110	412	0
Future Volume (veh/h)	321	0	487	0	0	0	0	1223	140	110	412	0
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	0	1841				0	1856	1856	1870	1870	0
Adj Flow Rate, veh/h	345	0	524				0	1315	151	118	443	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	0	4				0	3	3	2	2	0
Cap, veh/h	765	0	617				0	1702	759	227	2222	0
Arrive On Green	0.22	0.00	0.22				0.00	0.48	0.48	0.07	0.63	0.00
Sat Flow, veh/h	3401	0	2745				0	3618	1572	3456	3647	0
Grp Volume(v), veh/h	345	0	524				0	1315	151	118	443	0
Grp Sat Flow(s),veh/h/ln	1700	0	1373				0	1763	1572	1728	1777	0
Q Serve(g_s), s	7.5	0.0	15.7				0.0	26.5	4.7	2.8	4.6	0.0
Cycle Q Clear(g_c), s	7.5	0.0	15.7				0.0	26.5	4.7	2.8	4.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	765	0	617				0	1702	759	227	2222	0
V/C Ratio(X)	0.45	0.00	0.85				0.00	0.77	0.20	0.52	0.20	0.00
Avail Cap(c_a), veh/h	791	0	638				0	1702	759	603	2222	0
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	1.00				0.00	0.69	0.69	0.98	0.98	0.00
Uniform Delay (d), s/veh	28.8	0.0	31.9				0.0	18.3	12.7	38.9	6.9	0.0
Incr Delay (d2), s/veh	1.8	0.0	13.4				0.0	2.4	0.4	0.7	0.2	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
%ile BackOfQ(50%),veh/ln	3.1	0.0	6.1				0.0	9.8	1.6	1.2	1.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.5	0.0	45.3				0.0	20.8	13.1	39.5	7.1	0.0
LnGrp LOS	C	A	D				A	C	B	D	A	A
Approach Vol, veh/h		869						1466			561	
Approach Delay, s/veh		39.4						20.0			13.9	
Approach LOS		D						B			B	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	12.2	48.0	25.7	60.3
Change Period (Y+Rc), s	* 6.6	6.5	* 6.4	6.5
Max Green Setting (Gmax), s	* 15	31.0	* 20	52.6
Max Q Clear Time (g_c+I1), s	4.8	28.5	17.7	6.6
Green Ext Time (p_c), s	0.1	2.3	1.6	6.2

Intersection Summary	
HCM 6th Ctrl Delay	24.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	244	53	144	258	266	155	977	188	342	469	55
Future Volume (veh/h)	120	244	53	144	258	266	155	977	188	342	469	55
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	1811	1811	1811	1811	1811	1811	1885	1885	1885	1856	1856	1856
Adj Flow Rate, veh/h	130	265	58	157	280	289	168	1062	204	372	510	60
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, %	6	6	6	6	6	6	1	1	1	3	3	3
Cap, veh/h	153	596	128	180	783	349	192	1479	660	422	1538	686
Arrive On Green	0.09	0.21	0.21	0.10	0.23	0.23	0.11	0.41	0.41	0.12	0.44	0.44
Sat Flow, veh/h	1725	2816	606	1725	3441	1535	1795	3582	1598	3428	3526	1572
Grp Volume(v), veh/h	130	160	163	157	280	289	168	1062	204	372	510	60
Grp Sat Flow(s),veh/h/ln	1725	1721	1702	1725	1721	1535	1795	1791	1598	1714	1763	1572
Q Serve(g_s), s	10.4	11.3	11.7	12.6	9.6	25.1	12.9	34.6	12.0	14.9	13.4	3.1
Cycle Q Clear(g_c), s	10.4	11.3	11.7	12.6	9.6	25.1	12.9	34.6	12.0	14.9	13.4	3.1
Prop In Lane	1.00		0.36	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	153	364	360	180	783	349	192	1479	660	422	1538	686
V/C Ratio(X)	0.85	0.44	0.45	0.87	0.36	0.83	0.87	0.72	0.31	0.88	0.33	0.09
Avail Cap(c_a), veh/h	259	504	498	259	1008	449	269	1479	660	514	1538	686
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	62.9	48.0	48.1	61.8	45.5	51.5	61.6	34.3	27.7	60.4	26.0	23.1
Incr Delay (d2), s/veh	5.3	2.4	2.6	14.9	0.8	14.8	15.7	3.0	1.2	11.8	0.5	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	4.7	5.0	5.1	6.1	4.1	10.9	6.7	15.3	4.7	7.1	5.6	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.1	50.4	50.7	76.7	46.2	66.3	77.2	37.3	28.9	72.2	26.6	23.4
LnGrp LOS	E	D	D	E	D	E	E	D	C	E	C	C
Approach Vol, veh/h		453			726			1434			942	
Approach Delay, s/veh		55.6			60.8			40.8			44.4	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.6	66.0	17.3	37.1	22.8	62.7	19.5	34.9
Change Period (Y+Rc), s	4.6	4.9	4.9	5.3	5.6	4.9	4.9	5.3
Max Green Setting (Gmax), s	21.0	37.3	21.0	41.0	21.0	36.3	21.0	41.0
Max Q Clear Time (g_c+I1), s	14.9	15.4	12.4	27.1	16.9	36.6	14.6	13.7
Green Ext Time (p_c), s	0.1	8.3	0.1	4.7	0.3	0.0	0.1	4.0

Intersection Summary	
HCM 6th Ctrl Delay	47.7
HCM 6th LOS	D

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	26	135	9	117	294	35	29	318	20	41	767	112
Future Vol, veh/h	26	135	9	117	294	35	29	318	20	41	767	112
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, %	2	2	2	2	2	2	3	3	3	1	1	1
Mvmt Flow	28	147	10	127	320	38	32	346	22	45	834	122

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1585	1417	895	1485	1467	357	956	0	0	368	0	0
Stage 1	985	985	-	421	421	-	-	-	-	-	-	-
Stage 2	600	432	-	1064	1046	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.209	-	-
Pot Cap-1 Maneuver	88	~ 137	339	~ 103	~ 128	687	715	-	-	1196	-	-
Stage 1	299	326	-	610	589	-	-	-	-	-	-	-
Stage 2	488	582	-	270	~ 305	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 119	339	-	~ 111	687	715	-	-	1196	-	-
Mov Cap-2 Maneuver	-	~ 119	-	-	~ 111	-	-	-	-	-	-	-
Stage 1	282	299	-	576	556	-	-	-	-	-	-	-
Stage 2	185	549	-	~ 122	~ 280	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.8	0.4
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	715	-	-	-	-	1196	-	-
HCM Lane V/C Ratio	0.044	-	-	-	-	0.037	-	-
HCM Control Delay (s)	10.3	0	-	-	-	8.1	0	-
HCM Lane LOS	B	A	-	-	-	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	14

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	8	21	107	8	19	5	269	22	3	835	43
Future Vol, veh/h	26	8	21	107	8	19	5	269	22	3	835	43
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	-	-	85	-	-	-	170	-	-	100	-	-
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, %	2	2	2	1	1	1	2	2	2	1	1	1
Mvmt Flow	28	9	23	116	9	21	5	292	24	3	908	47

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1267	1264	932	1268	1275	304	955	0	0	316	0	0
Stage 1	938	938	-	314	314	-	-	-	-	-	-	-
Stage 2	329	326	-	954	961	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.11	6.51	6.21	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.509	4.009	3.309	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	146	169	323	146	168	738	720	-	-	1250	-	-
Stage 1	317	343	-	699	658	-	-	-	-	-	-	-
Stage 2	684	648	-	312	336	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	135	167	323	129	166	738	720	-	-	1250	-	-
Mov Cap-2 Maneuver	135	167	-	129	166	-	-	-	-	-	-	-
Stage 1	315	342	-	694	653	-	-	-	-	-	-	-
Stage 2	651	643	-	282	335	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30.8	129.6	0.2	0
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	720	-	-	141	323	148	1250	-	-
HCM Lane V/C Ratio	0.008	-	-	0.262	0.071	0.984	0.003	-	-
HCM Control Delay (s)	10	-	-	39.4	17	129.6	7.9	-	-
HCM Lane LOS	B	-	-	E	C	F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1	0.2	7.2	0	-	-

9: Armstrong Avenue & Olive Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.2	34.0	0.0	34.2
Denied Del/Veh (s)	0.1	1.2	230.3	0.0	78.9
Total Delay (hr)	4.6	6.0	21.8	1.8	34.2
Total Del/Veh (s)	72.6	34.8	222.4	29.9	86.9
Stop Delay (hr)	4.3	4.7	21.3	1.5	31.8
Stop Del/Veh (s)	67.7	27.6	217.2	24.4	80.8

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	192	14	217	146	109	102	472	359	109	1350	169
Future Vol, veh/h	40	192	14	217	146	109	102	472	359	109	1350	169
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	140	-	-	140	-	140	155	-	-	155	-	-
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, %	2	2	2	3	3	3	6	6	6	1	1	1
Mvmt Flow	43	209	15	236	159	118	111	513	390	118	1467	184

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2864	2920	1559	2837	2817	708	1651	0	0	903	0	0
Stage 1	1795	1795	-	930	930	-	-	-	-	-	-	-
Stage 2	1069	1125	-	1907	1887	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.13	6.53	6.23	4.16	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.527	4.027	3.327	2.254	-	-	2.209	-	-
Pot Cap-1 Maneuver	~ 11	~ 15	138	~ 11	~ 18	433	380	-	-	757	-	-
Stage 1	103	~ 132	-	319	345	-	-	-	-	-	-	-
Stage 2	268	280	-	~ 88	~ 118	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 9	138	-	~ 11	433	380	-	-	757	-	-
Mov Cap-2 Maneuver	-	~ 9	-	-	~ 11	-	-	-	-	-	-	-
Stage 1	73	~ 111	-	~ 226	244	-	-	-	-	-	-	-
Stage 2	48	~ 198	-	-	~ 100	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			2	0.7
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	380	-	-	-	10	-	11	433	757	-	-
HCM Lane V/C Ratio	0.292	-	-	-	22.391	-	14.427	0.274	0.157	-	-
HCM Control Delay (s)	18.3	-	-	-	$ 10354.2	-	$ 6707.6	16.4	10.6	-	-
HCM Lane LOS	C	-	-	-	F	-	F	C	B	-	-
HCM 95th %tile Q(veh)	1.2	-	-	-	29.6	-	21.3	1.1	0.6	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

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	23	0	6	1	0	0	4	709	0	0	951	70
Future Vol, veh/h	23	0	6	1	0	0	4	709	0	0	951	70
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, %	5	5	5	0	0	0	4	4	4	1	1	1
Mvmt Flow	25	0	7	1	0	0	4	771	0	0	1034	76

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1851	1851	1072	1855	1889	771	1110	0	0	771	0	0
Stage 1	1072	1072	-	779	779	-	-	-	-	-	-	-
Stage 2	779	779	-	1076	1110	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	56	73	264	57	71	403	622	-	-	848	-	-
Stage 1	263	293	-	392	409	-	-	-	-	-	-	-
Stage 2	384	402	-	268	287	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	56	72	264	55	70	403	622	-	-	848	-	-
Mov Cap-2 Maneuver	56	72	-	55	70	-	-	-	-	-	-	-
Stage 1	260	293	-	388	405	-	-	-	-	-	-	-
Stage 2	380	398	-	261	287	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	99.5	71.8	0.1	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	622	-	-	67	55	848	-	-
HCM Lane V/C Ratio	0.007	-	-	0.47	0.02	-	-	-
HCM Control Delay (s)	10.8	0	-	99.5	71.8	0	-	-
HCM Lane LOS	B	A	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.9	0.1	0	-	-

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	112	50	307	76	73	37	318	970	158	56	743	68
Future Vol, veh/h	112	50	307	76	73	37	318	970	158	56	743	68
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, %	2	2	2	2	2	2	2	2	2	3	3	3
Mvmt Flow	122	54	334	83	79	40	346	1054	172	61	808	74

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2859	2885	845	2993	2836	1140	882	0	0	1226	0	0
Stage 1	967	967	-	1832	1832	-	-	-	-	-	-	-
Stage 2	1892	1918	-	1161	1004	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	~ 11	~ 16	363	~ 8	~ 17	245	767	-	-	565	-	-
Stage 1	306	333	-	98	127	-	-	-	-	-	-	-
Stage 2	~ 90	115	-	238	320	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	0	363	-	0	245	767	-	-	565	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	306	261	-	98	0	-	-	-	-	-	-	-
Stage 2	-	0	-	~ 12	251	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			3	0.8
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	767	-	-	-	-	565	-	-
HCM Lane V/C Ratio	0.451	-	-	-	-	0.108	-	-
HCM Control Delay (s)	13.5	0	-	-	-	12.1	0	-
HCM Lane LOS	B	A	-	-	-	B	A	-
HCM 95th %tile Q(veh)	2.4	-	-	-	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection						
Int Delay, s/veh	66.3					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	109	105	874	89	107	649
Future Vol, veh/h	109	105	874	89	107	649
Conflicting Peds, #/hr	0	0	0	0	0	0
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	98	98	98	98	98	98
Heavy Vehicles, %	6	6	2	2	3	3
Mvmt Flow	111	107	892	91	109	662

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1818	938	0	0	983	0
Stage 1	938	-	-	-	-	-
Stage 2	880	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.13	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.227	-
Pot Cap-1 Maneuver	~ 84	315	-	-	699	-
Stage 1	374	-	-	-	-	-
Stage 2	399	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 63	315	-	-	699	-
Mov Cap-2 Maneuver	~ 63	-	-	-	-	-
Stage 1	374	-	-	-	-	-
Stage 2	300	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 593.5	0	1.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	104	699	-
HCM Lane V/C Ratio	-	-	2.1	0.156	-
HCM Control Delay (s)	-	-	$ 593.5	11.1	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	18.7	0.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	457
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱			✣			✣	
Traffic Vol, veh/h	166	332	46	339	121	105	6	683	363	32	693	16
Future Vol, veh/h	166	332	46	339	121	105	6	683	363	32	693	16
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	4	4	4
Mvmt Flow	168	335	46	342	122	106	6	690	367	32	700	16
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	83.8	73.4	830.2	493.5
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	1%	100%	0%	100%	0%	4%
Vol Thru, %	65%	0%	88%	0%	54%	94%
Vol Right, %	35%	0%	12%	0%	46%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1052	166	378	339	226	741
LT Vol	6	166	0	339	0	32
Through Vol	683	0	332	0	121	693
RT Vol	363	0	46	0	105	16
Lane Flow Rate	1063	168	382	342	228	748
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	2.769	0.474	1.018	0.973	0.596	1.996
Departure Headway (Hd)	12.32	16.077	15.444	16.095	15.202	14.638
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	308	226	241	229	240	254
Service Time	10.32	13.777	13.144	13.795	12.902	12.638
HCM Lane V/C Ratio	3.451	0.743	1.585	1.493	0.95	2.945
HCM Control Delay	830.2	32.5	106.4	96.9	38.1	493.5
HCM Lane LOS	F	D	F	F	E	F
HCM 95th-tile Q	69	2.3	9.7	8.7	3.4	35.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	133	0	113	0	815	486	0	553	447
Future Volume (veh/h)	0	0	0	133	0	113	0	815	486	0	553	447
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	0	1841	0	1870	1870	0	1856	1856
Adj Flow Rate, veh/h				145	0	123	0	886	0	0	601	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				4	0	4	0	2	2	0	3	3
Cap, veh/h				239	0	212	0	2312		0	2293	
Arrive On Green				0.14	0.00	0.14	0.00	0.65	0.00	0.00	0.65	0.00
Sat Flow, veh/h				1753	0	1560	0	3647	1585	0	3618	1572
Grp Volume(v), veh/h				145	0	123	0	886	0	0	601	0
Grp Sat Flow(s),veh/h/ln				1753	0	1560	0	1777	1585	0	1763	1572
Q Serve(g_s), s				4.7	0.0	4.4	0.0	7.0	0.0	0.0	4.3	0.0
Cycle Q Clear(g_c), s				4.7	0.0	4.4	0.0	7.0	0.0	0.0	4.3	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				239	0	212	0	2312		0	2293	
V/C Ratio(X)				0.61	0.00	0.58	0.00	0.38		0.00	0.26	
Avail Cap(c_a), veh/h				602	0	536	0	2312		0	2293	
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	1.00	0.00	0.77	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				24.4	0.0	24.3	0.0	4.9	0.0	0.0	4.4	0.0
Incr Delay (d2), s/veh				5.8	0.0	5.8	0.0	0.4	0.0	0.0	0.3	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
%ile BackOfQ(50%),veh/ln				2.2	0.0	1.8	0.0	1.5	0.0	0.0	0.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				30.2	0.0	30.1	0.0	5.3	0.0	0.0	4.7	0.0
LnGrp LOS				C	A	C	A	A		A	A	
Approach Vol, veh/h					268			886			601	
Approach Delay, s/veh					30.1			5.3			4.7	
Approach LOS					C			A			A	

Timer - Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		45.4				45.4		14.6
Change Period (Y+Rc), s		6.4				6.4		6.4
Max Green Setting (Gmax), s		26.6				26.6		20.6
Max Q Clear Time (g_c+I1), s		9.0				6.3		6.7
Green Ext Time (p_c), s		9.3				6.8		1.6

Intersection Summary	
HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	443	0	867	0	0	0	0	858	135	134	552	0
Future Volume (veh/h)	443	0	867	0	0	0	0	858	135	134	552	0
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	1885	0	1885				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	482	0	942				0	933	147	146	600	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	0	1				0	2	2	2	2	0
Cap, veh/h	810	0	654				0	1681	750	234	2194	0
Arrive On Green	0.23	0.00	0.23				0.00	0.47	0.47	0.07	0.62	0.00
Sat Flow, veh/h	3483	0	2812				0	3647	1585	3456	3647	0
Grp Volume(v), veh/h	482	0	942				0	933	147	146	600	0
Grp Sat Flow(s),veh/h/ln	1742	0	1406				0	1777	1585	1728	1777	0
Q Serve(g_s), s	10.6	0.0	20.0				0.0	16.1	4.6	3.5	6.7	0.0
Cycle Q Clear(g_c), s	10.6	0.0	20.0				0.0	16.1	4.6	3.5	6.7	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	810	0	654				0	1681	750	234	2194	0
V/C Ratio(X)	0.60	0.00	1.44				0.00	0.55	0.20	0.62	0.27	0.00
Avail Cap(c_a), veh/h	810	0	654				0	1681	750	603	2194	0
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	1.00				0.00	0.81	0.81	0.97	0.97	0.00
Uniform Delay (d), s/veh	29.4	0.0	33.0				0.0	16.2	13.2	39.0	7.6	0.0
Incr Delay (d2), s/veh	3.0	0.0	206.9				0.0	1.1	0.5	1.0	0.3	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
%ile BackOfQ(50%),veh/ln	4.6	0.0	25.3				0.0	6.0	1.6	1.5	2.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	0.0	239.9				0.0	17.3	13.6	40.0	7.9	0.0
LnGrp LOS	C	A	F				A	B	B	D	A	A
Approach Vol, veh/h		1424						1080			746	
Approach Delay, s/veh		169.7						16.8			14.2	
Approach LOS		F						B			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.4	47.2		26.4		59.6
Change Period (Y+Rc), s	* 6.6	6.5		* 6.4		6.5
Max Green Setting (Gmax), s	* 15	31.0		* 20		52.6
Max Q Clear Time (g_c+I1), s	5.5	18.1		22.0		8.7
Green Ext Time (p_c), s	0.1	8.4		0.0		8.9

Intersection Summary		
HCM 6th Ctrl Delay		83.2
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	200	106	151	174	223	88	540	147	341	880	88
Future Volume (veh/h)	230	200	106	151	174	223	88	540	147	341	880	88
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	250	217	115	164	189	242	96	587	160	371	957	96
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, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	267	532	271	188	673	300	118	1391	621	422	1625	725
Arrive On Green	0.15	0.23	0.23	0.11	0.19	0.19	0.07	0.39	0.39	0.12	0.45	0.45
Sat Flow, veh/h	1781	2277	1161	1781	3554	1585	1781	3554	1585	3483	3582	1598
Grp Volume(v), veh/h	250	167	165	164	189	242	96	587	160	371	957	96
Grp Sat Flow(s),veh/h/ln	1781	1777	1661	1781	1777	1585	1781	1777	1585	1742	1791	1598
Q Serve(g_s), s	19.4	11.2	11.8	12.7	6.4	20.5	7.4	16.9	9.6	14.7	27.9	4.9
Cycle Q Clear(g_c), s	19.4	11.2	11.8	12.7	6.4	20.5	7.4	16.9	9.6	14.7	27.9	4.9
Prop In Lane	1.00		0.70	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	267	415	388	188	673	300	118	1391	621	422	1625	725
V/C Ratio(X)	0.94	0.40	0.42	0.87	0.28	0.81	0.81	0.42	0.26	0.88	0.59	0.13
Avail Cap(c_a), veh/h	267	520	487	267	1041	464	267	1391	621	522	1625	725
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.72	0.72	0.72
Uniform Delay (d), s/veh	58.8	45.4	45.6	61.7	48.6	54.3	64.5	31.0	28.8	60.5	28.5	22.2
Incr Delay (d2), s/veh	37.6	1.8	2.1	15.0	0.6	13.3	5.0	0.9	1.0	8.9	1.1	0.3
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	11.4	5.1	5.0	6.4	2.8	9.1	3.5	7.3	3.8	6.9	11.8	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.4	47.2	47.7	76.7	49.2	67.6	69.5	32.0	29.8	69.4	29.7	22.5
LnGrp LOS	F	D	D	E	D	E	E	C	C	E	C	C
Approach Vol, veh/h		582			595			843			1424	
Approach Delay, s/veh		68.5			64.3			35.8			39.5	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	68.4	25.9	31.8	22.6	59.7	19.7	38.0
Change Period (Y+Rc), s	4.6	4.9	4.9	5.3	5.6	4.9	4.9	5.3
Max Green Setting (Gmax), s	21.0	37.3	21.0	41.0	21.0	36.3	21.0	41.0
Max Q Clear Time (g_c+I1), s	19.4	29.9	21.4	22.5	16.7	18.9	14.7	13.8
Green Ext Time (p_c), s	0.1	6.0	0.0	4.0	0.3	9.2	0.1	4.2

Intersection Summary	
HCM 6th Ctrl Delay	47.8
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	40.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	76	73	32	27	61	23	14	563	167	25	329	51
Future Vol, veh/h	76	73	32	27	61	23	14	563	167	25	329	51
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, %	2	2	2	2	2	2	2	2	2	3	3	3
Mvmt Flow	83	79	35	29	66	25	15	612	182	27	358	55

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1219	1264	386	1230	1200	703	413	0	0	794	0	0
Stage 1	440	440	-	733	733	-	-	-	-	-	-	-
Stage 2	779	824	-	497	467	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	157	169	662	154	185	438	1146	-	-	823	-	-
Stage 1	596	578	-	412	426	-	-	-	-	-	-	-
Stage 2	389	387	-	555	562	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	99	158	662	84	173	438	1146	-	-	823	-	-
Mov Cap-2 Maneuver	99	158	-	84	173	-	-	-	-	-	-	-
Stage 1	582	553	-	402	416	-	-	-	-	-	-	-
Stage 2	301	378	-	431	538	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	269.8	84	0.2	0.6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1146	-	-	142	153	823	-	-
HCM Lane V/C Ratio	0.013	-	-	1.385	0.789	0.033	-	-
HCM Control Delay (s)	8.2	0	-	269.8	84	9.5	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0	-	-	12.7	5	0.1	-	-

Intersection												
Int Delay, s/veh	2.4											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	6	5	23	4	13	8	561	74	13	357	30
Future Vol, veh/h	42	6	5	23	4	13	8	561	74	13	357	30
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	-	-	85	-	-	-	170	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	2	2	2	2	2	2	3	3	3
Mvmt Flow	45	6	5	25	4	14	9	603	80	14	384	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1098	1129	400	1095	1105	643	416	0	0	683	0	0
Stage 1	428	428	-	661	661	-	-	-	-	-	-	-
Stage 2	670	701	-	434	444	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	191	205	652	191	211	473	1143	-	-	905	-	-
Stage 1	607	586	-	452	460	-	-	-	-	-	-	-
Stage 2	448	442	-	600	575	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	179	200	652	181	206	473	1143	-	-	905	-	-
Mov Cap-2 Maneuver	179	200	-	181	206	-	-	-	-	-	-	-
Stage 1	602	577	-	448	456	-	-	-	-	-	-	-
Stage 2	427	438	-	579	566	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30.5	24.2	0.1	0.3
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1143	-	-	181	652	230	905	-	-
HCM Lane V/C Ratio	0.008	-	-	0.285	0.008	0.187	0.015	-	-
HCM Control Delay (s)	8.2	-	-	32.6	10.6	24.2	9	-	-
HCM Lane LOS	A	-	-	D	B	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.1	0	0.7	0	-	-

9: Armstrong Avenue & Olive Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.1	0.2	75.7	0.0	76.0
Denied Del/Veh (s)	0.4	1.3	424.7	0.0	143.1
Total Delay (hr)	5.6	4.1	43.8	0.9	54.4
Total Del/Veh (s)	35.6	30.3	291.0	14.4	107.3
Stop Delay (hr)	4.7	3.2	45.9	0.6	54.5
Stop Del/Veh (s)	30.2	23.9	305.2	9.7	107.5

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	120	39	68	119	53	56	49	1505	112	108	889	35
Future Vol, veh/h	120	39	68	119	53	56	49	1505	112	108	889	35
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	140	-	-	140	-	140	155	-	-	155	-	-
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, %	2	2	2	1	1	1	2	2	2	1	1	1
Mvmt Flow	130	42	74	129	58	61	53	1636	122	117	966	38

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3082	3083	985	3080	3041	1697	1004	0	0	1758	0	0
Stage 1	1219	1219	-	1803	1803	-	-	-	-	-	-	-
Stage 2	1863	1864	-	1277	1238	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.11	6.51	6.21	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.509	4.009	3.309	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	~ 7	~ 12	301	~ 7	~ 13	115	690	-	-	358	-	-
Stage 1	220	253	-	~ 102	132	-	-	-	-	-	-	-
Stage 2	~ 94	122	-	205	249	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 7	301	-	~ 8	115	690	-	-	358	-	-
Mov Cap-2 Maneuver	-	~ 7	-	-	~ 8	-	-	-	-	-	-	-
Stage 1	203	170	-	~ 94	122	-	-	-	-	-	-	-
Stage 2	~ 22	113	-	~ 78	168	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.3	2.1
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	690	-	-	-	18	-	8	115	358	-	-
HCM Lane V/C Ratio	0.077	-	-	-	6.461	-	7.201	0.529	0.328	-	-
HCM Control Delay (s)	10.7	-	-	-	$ 2880	-	$ 3695.5	67	19.9	-	-
HCM Lane LOS	B	-	-	-	F	-	F	F	C	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-	15.2	-	8.7	2.5	1.4	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	0	12	1	0	0	3	1091	0	1	779	24
Future Vol, veh/h	16	0	12	1	0	0	3	1091	0	1	779	24
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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	2	2	2	1	1	1
Mvmt Flow	17	0	13	1	0	0	3	1148	0	1	820	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1989	1989	833	1995	2001	1148	845	0	0	1148	0	0
Stage 1	835	835	-	1154	1154	-	-	-	-	-	-	-
Stage 2	1154	1154	-	841	847	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	46	62	372	46	61	244	792	-	-	612	-	-
Stage 1	365	386	-	242	274	-	-	-	-	-	-	-
Stage 2	242	274	-	362	381	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	46	61	372	44	60	244	792	-	-	612	-	-
Mov Cap-2 Maneuver	46	61	-	44	60	-	-	-	-	-	-	-
Stage 1	361	385	-	240	271	-	-	-	-	-	-	-
Stage 2	240	271	-	349	380	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	82.7	88.8	0	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	792	-	-	74	44	612	-	-
HCM Lane V/C Ratio	0.004	-	-	0.398	0.024	0.002	-	-
HCM Control Delay (s)	9.6	0	-	82.7	88.8	10.9	0	-
HCM Lane LOS	A	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0	-	-	1.6	0.1	0	-	-

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	49	31	144	364	141	103	273	633	48	104	826	26
Future Vol, veh/h	49	31	144	364	141	103	273	633	48	104	826	26
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, %	2	2	2	2	2	2	4	4	4	1	1	1
Mvmt Flow	53	34	157	396	153	112	297	688	52	113	898	28

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2579	2472	912	2542	2460	714	926	0	0	740	0	0
Stage 1	1138	1138	-	1308	1308	-	-	-	-	-	-	-
Stage 2	1441	1334	-	1234	1152	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	~ 17	~ 30	332	~ 18	~ 31	431	730	-	-	871	-	-
Stage 1	245	276	-	~ 196	229	-	-	-	-	-	-	-
Stage 2	165	223	-	~ 216	272	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 7	332	-	~ 7	431	730	-	-	871	-	-
Mov Cap-2 Maneuver	-	~ 7	-	-	~ 7	-	-	-	-	-	-	-
Stage 1	74	202	-	~ 59	~ 69	-	-	-	-	-	-	-
Stage 2	-	67	-	~ 70	199	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			3.8	1.1
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	730	-	-	-	-	871	-	-
HCM Lane V/C Ratio	0.406	-	-	-	-	0.13	-	-
HCM Control Delay (s)	13.3	0	-	-	-	9.7	0	-
HCM Lane LOS	B	A	-	-	-	A	A	-
HCM 95th %tile Q(veh)	2	-	-	-	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection						
Int Delay, s/veh	22					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	74	75	601	108	138	751
Future Vol, veh/h	74	75	601	108	138	751
Conflicting Peds, #/hr	0	0	0	0	0	0
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	97	97	97	97	97	97
Heavy Vehicles, %	5	5	4	4	1	1
Mvmt Flow	76	77	620	111	142	774

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1734	676	0	0	731	0
Stage 1	676	-	-	-	-	-
Stage 2	1058	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.11	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.209	-
Pot Cap-1 Maneuver	95	448	-	-	878	-
Stage 1	500	-	-	-	-	-
Stage 2	329	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 68	448	-	-	878	-
Mov Cap-2 Maneuver	~ 68	-	-	-	-	-
Stage 1	500	-	-	-	-	-
Stage 2	236	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	248.5	0	1.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	119	878	-
HCM Lane V/C Ratio	-	-	1.291	0.162	-
HCM Control Delay (s)	-	-	248.5	9.9	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	10.1	0.6	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	355.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	101	24	520	323	78	33	603	162	38	764	48
Future Vol, veh/h	39	101	24	520	323	78	33	603	162	38	764	48
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, %	1	1	1	1	1	1	3	3	3	2	2	2
Mvmt Flow	42	110	26	565	351	85	36	655	176	41	830	52
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	23.7	171.8	458.4	522.3
HCM LOS	C	F	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	4%	100%	0%	100%	0%	4%
Vol Thru, %	76%	0%	81%	0%	81%	90%
Vol Right, %	20%	0%	19%	0%	19%	6%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	798	39	125	520	401	850
LT Vol	33	39	0	520	0	38
Through Vol	603	0	101	0	323	764
RT Vol	162	0	24	0	78	48
Lane Flow Rate	867	42	136	565	436	924
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	1.944	0.12	0.361	1.418	1.004	2.09
Departure Headway (Hd)	10.304	15.001	14.317	12.067	11.384	10.101
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	364	241	254	305	323	370
Service Time	8.304	12.701	12.017	9.767	9.084	8.101
HCM Lane V/C Ratio	2.382	0.174	0.535	1.852	1.35	2.497
HCM Control Delay	458.4	19.7	24.9	237.4	86.7	522.3
HCM Lane LOS	F	C	C	F	F	F
HCM 95th-tile Q	46.7	0.4	1.6	22.6	11	53.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	121	0	121	0	681	879	0	420	864
Future Volume (veh/h)	0	0	0	121	0	121	0	681	879	0	420	864
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				1885	0	1870	0	1870	1870	0	1885	1885
Adj Flow Rate, veh/h				132	0	132	0	740	0	0	457	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				1	0	2	0	2	2	0	1	1
Cap, veh/h				616	0	544	0	1575		0	1588	
Arrive On Green				0.34	0.00	0.34	0.00	0.44	0.00	0.00	0.44	0.00
Sat Flow, veh/h				1795	0	1585	0	3647	1585	0	3676	1598
Grp Volume(v), veh/h				132	0	132	0	740	0	0	457	0
Grp Sat Flow(s),veh/h/ln				1795	0	1585	0	1777	1585	0	1791	1598
Q Serve(g_s), s				3.1	0.0	3.6	0.0	8.8	0.0	0.0	4.9	0.0
Cycle Q Clear(g_c), s				3.1	0.0	3.6	0.0	8.8	0.0	0.0	4.9	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				616	0	544	0	1575		0	1588	
V/C Ratio(X)				0.21	0.00	0.24	0.00	0.47		0.00	0.29	
Avail Cap(c_a), veh/h				616	0	544	0	1575		0	1588	
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	1.00	0.00	0.66	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				14.0	0.0	14.1	0.0	11.7	0.0	0.0	10.7	0.0
Incr Delay (d2), s/veh				0.8	0.0	1.1	0.0	0.7	0.0	0.0	0.5	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
%ile BackOfQ(50%),veh/ln				1.3	0.0	1.3	0.0	2.8	0.0	0.0	1.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				14.8	0.0	15.2	0.0	12.4	0.0	0.0	11.1	0.0
LnGrp LOS				B	A	B	A	B		A	B	
Approach Vol, veh/h					264			740			457	
Approach Delay, s/veh					15.0			12.4			11.1	
Approach LOS					B			B			B	

Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		33.0				33.0		27.0				
Change Period (Y+Rc), s		6.4				6.4		6.4				
Max Green Setting (Gmax), s		26.6				26.6		20.6				
Max Q Clear Time (g_c+I1), s		10.8				6.9		5.6				
Green Ext Time (p_c), s		7.3				5.0		1.6				

Intersection Summary			
HCM 6th Ctrl Delay			12.5
HCM 6th LOS			B

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	330	0	487	0	0	0	0	1229	140	110	431	0
Future Volume (veh/h)	330	0	487	0	0	0	0	1229	140	110	431	0
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	0	1841				0	1856	1856	1870	1870	0
Adj Flow Rate, veh/h	355	0	524				0	1322	151	118	463	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	0	4				0	3	3	2	2	0
Cap, veh/h	765	0	618				0	1702	759	227	2221	0
Arrive On Green	0.22	0.00	0.22				0.00	0.48	0.48	0.07	0.63	0.00
Sat Flow, veh/h	3401	0	2745				0	3618	1572	3456	3647	0
Grp Volume(v), veh/h	355	0	524				0	1322	151	118	463	0
Grp Sat Flow(s),veh/h/ln	1700	0	1373				0	1763	1572	1728	1777	0
Q Serve(g_s), s	7.8	0.0	15.7				0.0	26.7	4.7	2.8	4.8	0.0
Cycle Q Clear(g_c), s	7.8	0.0	15.7				0.0	26.7	4.7	2.8	4.8	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	765	0	618				0	1702	759	227	2221	0
V/C Ratio(X)	0.46	0.00	0.85				0.00	0.78	0.20	0.52	0.21	0.00
Avail Cap(c_a), veh/h	791	0	638				0	1702	759	603	2221	0
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	1.00				0.00	0.68	0.68	0.95	0.95	0.00
Uniform Delay (d), s/veh	28.8	0.0	31.9				0.0	18.4	12.7	38.9	7.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	13.3				0.0	2.4	0.4	0.7	0.2	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
%ile BackOfQ(50%),veh/ln	3.3	0.0	6.1				0.0	9.9	1.6	1.2	1.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.7	0.0	45.2				0.0	20.9	13.1	39.5	7.2	0.0
LnGrp LOS	C	A	D				A	C	B	D	A	A
Approach Vol, veh/h		879						1473			581	
Approach Delay, s/veh		39.4						20.1			13.7	
Approach LOS		D						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.2	48.0		25.7		60.3
Change Period (Y+Rc), s	* 6.6	6.5		* 6.4		6.5
Max Green Setting (Gmax), s	* 15	31.0		* 20		52.6
Max Q Clear Time (g_c+I1), s	4.8	28.7		17.7		6.8
Green Ext Time (p_c), s	0.1	2.1		1.6		6.6

Intersection Summary		
HCM 6th Ctrl Delay		24.6
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	248	53	144	268	266	155	983	188	342	488	55
Future Volume (veh/h)	120	248	53	144	268	266	155	983	188	342	488	55
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	1811	1811	1811	1811	1811	1811	1885	1885	1885	1856	1856	1856
Adj Flow Rate, veh/h	130	270	58	157	291	289	168	1068	204	372	530	60
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, %	6	6	6	6	6	6	1	1	1	3	3	3
Cap, veh/h	153	600	127	180	785	350	192	1477	659	422	1535	685
Arrive On Green	0.09	0.21	0.21	0.10	0.23	0.23	0.11	0.41	0.41	0.12	0.44	0.44
Sat Flow, veh/h	1725	2827	598	1725	3441	1535	1795	3582	1598	3428	3526	1572
Grp Volume(v), veh/h	130	163	165	157	291	289	168	1068	204	372	530	60
Grp Sat Flow(s),veh/h/ln	1725	1721	1704	1725	1721	1535	1795	1791	1598	1714	1763	1572
Q Serve(g_s), s	10.4	11.5	11.9	12.6	10.0	25.1	12.9	35.0	12.0	14.9	14.0	3.1
Cycle Q Clear(g_c), s	10.4	11.5	11.9	12.6	10.0	25.1	12.9	35.0	12.0	14.9	14.0	3.1
Prop In Lane	1.00		0.35	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	153	365	362	180	785	350	192	1477	659	422	1535	685
V/C Ratio(X)	0.85	0.45	0.46	0.87	0.37	0.83	0.87	0.72	0.31	0.88	0.35	0.09
Avail Cap(c_a), veh/h	259	504	499	259	1008	449	269	1477	659	514	1535	685
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	62.9	48.0	48.1	61.8	45.6	51.4	61.6	34.5	27.7	60.4	26.3	23.2
Incr Delay (d2), s/veh	5.3	2.5	2.6	14.9	0.8	14.6	15.7	3.1	1.2	11.8	0.6	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	4.7	5.1	5.2	6.1	4.3	10.8	6.7	15.5	4.7	7.1	5.9	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.1	50.4	50.7	76.7	46.4	66.0	77.2	37.6	28.9	72.2	26.8	23.4
LnGrp LOS	E	D	D	E	D	E	E	D	C	E	C	C
Approach Vol, veh/h		458			737			1440			962	
Approach Delay, s/veh		55.6			60.5			41.0			44.1	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.6	65.9	17.3	37.2	22.8	62.6	19.5	35.0
Change Period (Y+Rc), s	4.6	4.9	4.9	5.3	5.6	4.9	4.9	5.3
Max Green Setting (Gmax), s	21.0	37.3	21.0	41.0	21.0	36.3	21.0	41.0
Max Q Clear Time (g_c+I1), s	14.9	16.0	12.4	27.1	16.9	37.0	14.6	13.9
Green Ext Time (p_c), s	0.1	8.5	0.1	4.9	0.3	0.0	0.1	4.1

Intersection Summary			
HCM 6th Ctrl Delay			47.7
HCM 6th LOS			D

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	136	9	151	296	64	29	331	32	55	804	112
Future Vol, veh/h	26	136	9	151	296	64	29	331	32	55	804	112
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, %	2	2	2	2	2	2	3	3	3	1	1	1
Mvmt Flow	28	148	10	164	322	70	32	360	35	60	874	122

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1693	1514	935	1576	1558	378	996	0	0	395	0	0
Stage 1	1055	1055	-	442	442	-	-	-	-	-	-	-
Stage 2	638	459	-	1134	1116	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.13	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.209	-	-
Pot Cap-1 Maneuver	74	~ 120	322	~ 89	~ 112	669	691	-	-	1169	-	-
Stage 1	273	302	-	594	576	-	-	-	-	-	-	-
Stage 2	465	566	-	246	~ 283	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 99	322	-	~ 93	669	691	-	-	1169	-	-
Mov Cap-2 Maneuver	-	~ 99	-	-	~ 93	-	-	-	-	-	-	-
Stage 1	257	266	-	558	541	-	-	-	-	-	-	-
Stage 2	159	532	-	~ 93	~ 250	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.8	0.5
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	691	-	-	-	-	1169	-	-
HCM Lane V/C Ratio	0.046	-	-	-	-	0.051	-	-
HCM Control Delay (s)	10.5	0	-	-	-	8.2	0	-
HCM Lane LOS	B	A	-	-	-	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	-	-	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	19.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	8	21	107	8	19	5	293	22	3	905	45
Future Vol, veh/h	27	8	21	107	8	19	5	293	22	3	905	45
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	-	-	85	-	-	-	170	-	-	100	-	-
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, %	2	2	2	1	1	1	2	2	2	1	1	1
Mvmt Flow	29	9	23	116	9	21	5	318	24	3	984	49

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1370	1367	1009	1371	1379	330	1033	0	0	342	0	0
Stage 1	1015	1015	-	340	340	-	-	-	-	-	-	-
Stage 2	355	352	-	1031	1039	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.11	6.51	6.21	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.509	4.009	3.309	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	124	147	292	124	145	714	673	-	-	1223	-	-
Stage 1	287	316	-	677	641	-	-	-	-	-	-	-
Stage 2	662	632	-	283	309	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	114	146	292	~ 108	144	714	673	-	-	1223	-	-
Mov Cap-2 Maneuver	114	146	-	~ 108	144	-	-	-	-	-	-	-
Stage 1	285	315	-	672	637	-	-	-	-	-	-	-
Stage 2	629	628	-	253	308	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	37.1	199.4	0.2	0
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	673	-	-	120	292	125	1223	-	-
HCM Lane V/C Ratio	0.008	-	-	0.317	0.078	1.165	0.003	-	-
HCM Control Delay (s)	10.4	-	-	48.3	18.4	199.4	8	-	-
HCM Lane LOS	B	-	-	E	C	F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.2	0.3	8.8	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

9: Armstrong Avenue & Olive Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.2	11.5	0.0	11.7
Denied Del/Veh (s)	0.1	1.2	75.3	0.0	26.0
Total Delay (hr)	2.2	3.4	14.2	5.1	24.9
Total Del/Veh (s)	34.5	22.0	114.9	58.9	58.2
Stop Delay (hr)	1.9	2.3	13.4	4.4	22.1
Stop Del/Veh (s)	29.9	15.2	108.6	50.9	51.6

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	194	23	217	147	109	105	472	359	109	1350	171
Future Vol, veh/h	45	194	23	217	147	109	105	472	359	109	1350	171
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	140	-	-	140	-	140	155	-	-	155	-	-
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, %	2	2	2	3	3	3	6	6	6	1	1	1
Mvmt Flow	49	211	25	236	160	118	114	513	390	118	1467	186

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2871	2927	1560	2850	2825	708	1653	0	0	903	0	0
Stage 1	1796	1796	-	936	936	-	-	-	-	-	-	-
Stage 2	1075	1131	-	1914	1889	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.13	6.53	6.23	4.16	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.527	4.027	3.327	2.254	-	-	2.209	-	-
Pot Cap-1 Maneuver	~ 10	~ 15	138	~ 11	~ 18	433	380	-	-	757	-	-
Stage 1	103	~ 132	-	317	342	-	-	-	-	-	-	-
Stage 2	266	278	-	~ 87	~ 118	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 9	138	-	~ 11	433	380	-	-	757	-	-
Mov Cap-2 Maneuver	-	~ 9	-	-	~ 11	-	-	-	-	-	-	-
Stage 1	72	~ 111	-	~ 222	239	-	-	-	-	-	-	-
Stage 2	~ 45	~ 195	-	-	~ 100	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			2.1	0.7
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	380	-	-	-	10	-	11	433	757	-	-
HCM Lane V/C Ratio	0.3	-	-	-	23.587	-	14.526	0.274	0.157	-	-
HCM Control Delay (s)	18.5	-	-	-	$ 10892.1	-	$ 6752.1	16.4	10.6	-	-
HCM Lane LOS	C	-	-	-	F	-	F	C	B	-	-
HCM 95th %tile Q(veh)	1.2	-	-	-	31.1	-	21.4	1.1	0.6	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

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	23	0	6	1	0	0	4	712	0	0	960	70
Future Vol, veh/h	23	0	6	1	0	0	4	712	0	0	960	70
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, %	5	5	5	0	0	0	4	4	4	1	1	1
Mvmt Flow	25	0	7	1	0	0	4	774	0	0	1043	76

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1863	1863	1081	1867	1901	774	1119	0	0	774	0	0
Stage 1	1081	1081	-	782	782	-	-	-	-	-	-	-
Stage 2	782	782	-	1085	1119	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.1	6.5	6.2	4.14	-	-	4.11	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.5	4	3.3	2.236	-	-	2.209	-	-
Pot Cap-1 Maneuver	55	72	261	56	70	402	617	-	-	846	-	-
Stage 1	260	290	-	390	408	-	-	-	-	-	-	-
Stage 2	383	401	-	265	285	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	55	71	261	54	69	402	617	-	-	846	-	-
Mov Cap-2 Maneuver	55	71	-	54	69	-	-	-	-	-	-	-
Stage 1	257	290	-	386	404	-	-	-	-	-	-	-
Stage 2	379	397	-	258	285	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	101.8	73	0.1	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	617	-	-	66	54	846	-	-
HCM Lane V/C Ratio	0.007	-	-	0.478	0.02	-	-	-
HCM Control Delay (s)	10.9	0	-	101.8	73	0	-	-
HCM Lane LOS	B	A	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.9	0.1	0	-	-

Intersection						
Int Delay, s/veh	1.9					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	54	352	15	19	781
Future Vol, veh/h	43	54	352	15	19	781
Conflicting Peds, #/hr	0	0	0	0	0	0
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, %	0	0	3	0	0	1
Mvmt Flow	47	59	383	16	21	849

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1282	391	0	0	399	0
Stage 1	391	-	-	-	-	-
Stage 2	891	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	184	662	-	-	1171	-
Stage 1	688	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	178	662	-	-	1171	-
Mov Cap-2 Maneuver	178	-	-	-	-	-
Stage 1	688	-	-	-	-	-
Stage 2	390	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.4	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	300	1171	-
HCM Lane V/C Ratio	-	-	0.351	0.018	-
HCM Control Delay (s)	-	-	23.4	8.1	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.5	0.1	-

Intersection						
Int Delay, s/veh	2					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	200	157	4	10	63
Future Vol, veh/h	22	200	157	4	10	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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, %	0	2	2	0	0	0
Mvmt Flow	24	217	171	4	11	68

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	175	0	-	0	438	173
Stage 1	-	-	-	-	173	-
Stage 2	-	-	-	-	265	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1414	-	-	-	580	876
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	784	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1414	-	-	-	569	876
Mov Cap-2 Maneuver	-	-	-	-	569	-
Stage 1	-	-	-	-	846	-
Stage 2	-	-	-	-	784	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1414	-	-	-	816
HCM Lane V/C Ratio	0.017	-	-	-	0.097
HCM Control Delay (s)	7.6	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

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	112	50	307	77	73	37	318	970	160	56	743	68
Future Vol, veh/h	112	50	307	77	73	37	318	970	160	56	743	68
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, %	2	2	2	2	2	2	2	2	2	3	3	3
Mvmt Flow	122	54	334	84	79	40	346	1054	174	61	808	74

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2860	2887	845	2994	2837	1141	882	0	0	1228	0	0
Stage 1	967	967	-	1833	1833	-	-	-	-	-	-	-
Stage 2	1893	1920	-	1161	1004	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	~ 11	~ 16	363	~ 8	~ 17	244	767	-	-	564	-	-
Stage 1	306	333	-	98	127	-	-	-	-	-	-	-
Stage 2	~ 90	115	-	238	320	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	0	363	-	0	244	767	-	-	564	-	-
Mov Cap-2 Maneuver	-	0	-	-	0	-	-	-	-	-	-	-
Stage 1	306	261	-	98	0	-	-	-	-	-	-	-
Stage 2	-	0	-	~ 12	251	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			3	0.8
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	767	-	-	-	-	564	-	-
HCM Lane V/C Ratio	0.451	-	-	-	-	0.108	-	-
HCM Control Delay (s)	13.5	0	-	-	-	12.2	0	-
HCM Lane LOS	B	A	-	-	-	B	A	-
HCM 95th %tile Q(veh)	2.4	-	-	-	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	68.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	109	105	876	89	107	650
Future Vol, veh/h	109	105	876	89	107	650
Conflicting Peds, #/hr	0	0	0	0	0	0
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	98	98	98	98	98	98
Heavy Vehicles, %	6	6	2	2	3	3
Mvmt Flow	111	107	894	91	109	663

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1821	940	0	0	985	0
Stage 1	940	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Critical Hdwy	6.46	6.26	-	-	4.13	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	-	-	2.227	-
Pot Cap-1 Maneuver	~ 83	314	-	-	697	-
Stage 1	374	-	-	-	-	-
Stage 2	399	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 62	314	-	-	697	-
Mov Cap-2 Maneuver	~ 62	-	-	-	-	-
Stage 1	374	-	-	-	-	-
Stage 2	300	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 613	0	1.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	102	697	-
HCM Lane V/C Ratio	-	-	2.141	0.157	-
HCM Control Delay (s)	-	-	$ 613	11.1	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	18.9	0.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	487.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	166	342	46	368	127	105	6	685	411	32	694	16
Future Vol, veh/h	166	342	46	368	127	105	6	685	411	32	694	16
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	4	4	4
Mvmt Flow	168	345	46	372	128	106	6	692	415	32	701	16
Number of Lanes	1	1	0	1	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	92.4	89.9	894.6	501
HCM LOS	F	F	F	F

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	1%	100%	0%	100%	0%	4%
Vol Thru, %	62%	0%	88%	0%	55%	94%
Vol Right, %	37%	0%	12%	0%	45%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	1102	166	388	368	232	742
LT Vol	6	166	0	368	0	32
Through Vol	685	0	342	0	127	694
RT Vol	411	0	46	0	105	16
Lane Flow Rate	1113	168	392	372	234	749
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	2.912	0.476	1.05	1.056	0.613	2.009
Departure Headway (Hd)	12.54	16.618	15.986	16.499	15.615	15.289
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	301	220	231	223	234	247
Service Time	10.54	14.318	13.686	14.199	13.315	13.289
HCM Lane V/C Ratio	3.698	0.764	1.697	1.668	1	3.032
HCM Control Delay	894.6	33.6	117.6	121.2	40.3	501
HCM Lane LOS	F	D	F	F	E	F
HCM 95th-tile Q	72.9	2.3	10.1	10.1	3.6	34.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	133	0	113	0	867	486	0	566	465
Future Volume (veh/h)	0	0	0	133	0	113	0	867	486	0	566	465
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	0	1841	0	1870	1870	0	1856	1856
Adj Flow Rate, veh/h				145	0	123	0	942	0	0	615	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				4	0	4	0	2	2	0	3	3
Cap, veh/h				251	0	224	0	2286		0	2268	
Arrive On Green				0.14	0.00	0.14	0.00	0.64	0.00	0.00	0.64	0.00
Sat Flow, veh/h				1753	0	1560	0	3647	1585	0	3618	1572
Grp Volume(v), veh/h				145	0	123	0	942	0	0	615	0
Grp Sat Flow(s),veh/h/ln				1753	0	1560	0	1777	1585	0	1763	1572
Q Serve(g_s), s				4.6	0.0	4.4	0.0	7.7	0.0	0.0	4.5	0.0
Cycle Q Clear(g_c), s				4.6	0.0	4.4	0.0	7.7	0.0	0.0	4.5	0.0
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				251	0	224	0	2286		0	2268	
V/C Ratio(X)				0.58	0.00	0.55	0.00	0.41		0.00	0.27	
Avail Cap(c_a), veh/h				251	0	224	0	2286		0	2268	
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	1.00	0.00	0.75	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				24.0	0.0	23.9	0.0	5.2	0.0	0.0	4.6	0.0
Incr Delay (d2), s/veh				9.3	0.0	9.4	0.0	0.4	0.0	0.0	0.3	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
%ile BackOfQ(50%),veh/ln				2.4	0.0	2.1	0.0	1.7	0.0	0.0	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				33.3	0.0	33.3	0.0	5.6	0.0	0.0	4.9	0.0
LnGrp LOS				C	A	C	A	A		A	A	
Approach Vol, veh/h					268			942			615	
Approach Delay, s/veh					33.3			5.6			4.9	
Approach LOS					C			A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		45.0				45.0		15.0				
Change Period (Y+Rc), s		6.4				6.4		6.4				
Max Green Setting (Gmax), s		38.6				38.6		8.6				
Max Q Clear Time (g_c+I1), s		9.7				6.5		6.6				
Green Ext Time (p_c), s		13.3				8.5		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		9.4
HCM 6th LOS		A

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	474	0	867	0	0	0	0	879	135	134	565	0
Future Volume (veh/h)	474	0	867	0	0	0	0	879	135	134	565	0
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	1885	0	1885				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	515	0	942				0	955	147	146	614	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	0	1				0	2	2	2	2	0
Cap, veh/h	749	0	605				0	1743	777	234	2256	0
Arrive On Green	0.22	0.00	0.22				0.00	0.49	0.49	0.07	0.63	0.00
Sat Flow, veh/h	3483	0	2812				0	3647	1585	3456	3647	0
Grp Volume(v), veh/h	515	0	942				0	955	147	146	614	0
Grp Sat Flow(s),veh/h/ln	1742	0	1406				0	1777	1585	1728	1777	0
Q Serve(g_s), s	11.7	0.0	18.5				0.0	16.1	4.5	3.5	6.6	0.0
Cycle Q Clear(g_c), s	11.7	0.0	18.5				0.0	16.1	4.5	3.5	6.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	749	0	605				0	1743	777	234	2256	0
V/C Ratio(X)	0.69	0.00	1.56				0.00	0.55	0.19	0.62	0.27	0.00
Avail Cap(c_a), veh/h	749	0	605				0	1743	777	603	2256	0
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	1.00				0.00	0.81	0.81	0.95	0.95	0.00
Uniform Delay (d), s/veh	31.1	0.0	33.8				0.0	15.3	12.3	39.0	6.9	0.0
Incr Delay (d2), s/veh	4.9	0.0	258.9				0.0	1.0	0.4	1.0	0.3	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
%ile BackOfQ(50%),veh/ln	5.2	0.0	27.8				0.0	5.9	1.5	1.5	2.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.0	0.0	292.6				0.0	16.3	12.7	40.0	7.2	0.0
LnGrp LOS	D	A	F				A	B	B	D	A	A
Approach Vol, veh/h		1457						1102			760	
Approach Delay, s/veh		201.9						15.8			13.5	
Approach LOS		F						B			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.4	48.7		24.9		61.1
Change Period (Y+Rc), s	* 6.6	6.5		* 6.4		6.5
Max Green Setting (Gmax), s	* 15	32.5		* 19		54.1
Max Q Clear Time (g_c+I1), s	5.5	18.1		20.5		8.6
Green Ext Time (p_c), s	0.1	9.4		0.0		9.2

Intersection Summary	
HCM 6th Ctrl Delay	97.0
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	212	106	151	181	223	88	561	147	341	893	88
Future Volume (veh/h)	230	212	106	151	181	223	88	561	147	341	893	88
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	250	230	115	164	197	242	96	610	160	371	971	96
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, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	267	544	263	188	675	301	118	1389	620	422	1623	724
Arrive On Green	0.15	0.23	0.23	0.11	0.19	0.19	0.07	0.39	0.39	0.12	0.45	0.45
Sat Flow, veh/h	1781	2323	1122	1781	3554	1585	1781	3554	1585	3483	3582	1598
Grp Volume(v), veh/h	250	174	171	164	197	242	96	610	160	371	971	96
Grp Sat Flow(s),veh/h/ln	1781	1777	1668	1781	1777	1585	1781	1777	1585	1742	1791	1598
Q Serve(g_s), s	19.4	11.6	12.2	12.7	6.7	20.4	7.4	17.7	9.6	14.7	28.5	4.9
Cycle Q Clear(g_c), s	19.4	11.6	12.2	12.7	6.7	20.4	7.4	17.7	9.6	14.7	28.5	4.9
Prop In Lane	1.00		0.67	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	267	416	391	188	675	301	118	1389	620	422	1623	724
V/C Ratio(X)	0.94	0.42	0.44	0.87	0.29	0.80	0.81	0.44	0.26	0.88	0.60	0.13
Avail Cap(c_a), veh/h	267	520	489	267	1041	464	267	1389	620	522	1623	724
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.72	0.72	0.72
Uniform Delay (d), s/veh	58.8	45.5	45.7	61.7	48.6	54.2	64.5	31.3	28.9	60.5	28.7	22.3
Incr Delay (d2), s/veh	37.6	1.9	2.2	15.0	0.7	13.1	5.0	1.0	1.0	8.9	1.2	0.3
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	11.4	5.3	5.2	6.4	3.0	9.1	3.5	7.7	3.8	6.9	12.1	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.4	47.4	48.0	76.7	49.3	67.3	69.5	32.4	29.9	69.4	29.9	22.6
LnGrp LOS	F	D	D	E	D	E	E	C	C	E	C	C
Approach Vol, veh/h		595			603			866			1438	
Approach Delay, s/veh		68.2			64.0			36.0			39.6	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	68.3	25.9	31.9	22.6	59.6	19.7	38.1
Change Period (Y+Rc), s	4.6	4.9	4.9	5.3	5.6	4.9	4.9	5.3
Max Green Setting (Gmax), s	21.0	37.3	21.0	41.0	21.0	36.3	21.0	41.0
Max Q Clear Time (g_c+I1), s	9.4	30.5	21.4	22.4	16.7	19.7	14.7	14.2
Green Ext Time (p_c), s	0.1	5.6	0.0	4.1	0.3	9.2	0.1	4.3

Intersection Summary	
HCM 6th Ctrl Delay	47.8
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	134.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	76	75	32	50	62	47	14	605	205	59	354	51
Future Vol, veh/h	76	75	32	50	62	47	14	605	205	59	354	51
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, %	2	2	2	2	2	2	2	2	2	3	3	3
Mvmt Flow	83	82	35	54	67	51	15	658	223	64	385	55

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1400	1452	413	1399	1368	770	440	0	0	881	0	0
Stage 1	541	541	-	800	800	-	-	-	-	-	-	-
Stage 2	859	911	-	599	568	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	118	130	639	118	147	401	1120	-	-	763	-	-
Stage 1	525	521	-	379	397	-	-	-	-	-	-	-
Stage 2	351	353	-	488	506	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 54	112	639	~ 41	127	401	1120	-	-	763	-	-
Mov Cap-2 Maneuver	~ 54	112	-	~ 41	127	-	-	-	-	-	-	-
Stage 1	510	463	-	368	386	-	-	-	-	-	-	-
Stage 2	246	343	-	338	449	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 704	$ 562	0.1	1.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1120	-	-	86	87	763	-	-
HCM Lane V/C Ratio	0.014	-	-	2.313	1.987	0.084	-	-
HCM Control Delay (s)	8.3	0	-	$ 704	$ 562	10.2	0	-
HCM Lane LOS	A	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0	-	-	18.2	15	0.3	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

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	44	6	5	23	4	13	8	640	74	13	404	31
Future Vol, veh/h	44	6	5	23	4	13	8	640	74	13	404	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	-	-	None	-	-	None	-	-	None
Storage Length	-	-	85	-	-	-	170	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	2	2	2	2	2	2	3	3	3
Mvmt Flow	47	6	5	25	4	14	9	688	80	14	434	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1234	1265	451	1230	1241	728	467	0	0	768	0	0
Stage 1	479	479	-	746	746	-	-	-	-	-	-	-
Stage 2	755	786	-	484	495	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.12	6.52	6.22	4.12	-	-	4.13	-	-
Critical Hdwy Stg 1	6.11	5.51	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.518	4.018	3.318	2.218	-	-	2.227	-	-
Pot Cap-1 Maneuver	154	170	610	154	175	423	1094	-	-	841	-	-
Stage 1	570	557	-	405	421	-	-	-	-	-	-	-
Stage 2	402	405	-	564	546	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	143	166	610	145	171	423	1094	-	-	841	-	-
Mov Cap-2 Maneuver	143	166	-	145	171	-	-	-	-	-	-	-
Stage 1	565	548	-	402	418	-	-	-	-	-	-	-
Stage 2	382	402	-	543	537	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	40.8	29.7	0.1	0.3
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1094	-	-	145	610	188	841	-	-
HCM Lane V/C Ratio	0.008	-	-	0.371	0.009	0.229	0.017	-	-
HCM Control Delay (s)	8.3	-	-	43.8	11	29.7	9.4	-	-
HCM Lane LOS	A	-	-	E	B	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.6	0	0.8	0.1	-	-

9: Armstrong Avenue & Olive Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.1	0.2	142.5	0.0	142.8
Denied Del/Veh (s)	0.5	1.4	732.8	0.0	250.4
Total Delay (hr)	6.5	5.3	44.2	0.8	56.8
Total Del/Veh (s)	41.7	33.8	333.5	12.3	110.8
Stop Delay (hr)	5.7	4.2	46.1	0.6	56.6
Stop Del/Veh (s)	36.4	27.2	348.2	8.8	110.5

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	123	40	74	119	55	56	59	1505	112	108	889	41
Future Vol, veh/h	123	40	74	119	55	56	59	1505	112	108	889	41
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	140	-	-	140	-	140	155	-	-	155	-	-
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, %	2	2	2	1	1	1	2	2	2	1	1	1
Mvmt Flow	134	43	80	129	60	61	64	1636	122	117	966	45

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3109	3109	989	3109	3070	1697	1011	0	0	1758	0	0
Stage 1	1223	1223	-	1825	1825	-	-	-	-	-	-	-
Stage 2	1886	1886	-	1284	1245	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.11	6.51	6.21	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.11	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.11	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.509	4.009	3.309	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	~ 7	~ 12	299	~ 7	~ 12	115	686	-	-	358	-	-
Stage 1	219	252	-	~ 99	129	-	-	-	-	-	-	-
Stage 2	~ 91	119	-	203	247	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	~ 7	299	-	~ 7	115	686	-	-	358	-	-
Mov Cap-2 Maneuver	-	~ 7	-	-	~ 7	-	-	-	-	-	-	-
Stage 1	199	170	-	~ 90	117	-	-	-	-	-	-	-
Stage 2	~ 19	108	-	~ 74	166	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0.4	2.1
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	686	-	-	-	19	-	7	115	358	-	-
HCM Lane V/C Ratio	0.093	-	-	-	6.522	-	8.54	0.529	0.328	-	-
HCM Control Delay (s)	10.8	-	-		$ 2885.9		$ 4419.2	67	19.9	-	-
HCM Lane LOS	B	-	-	-	F	-	F	F	C	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-	16	-	9.1	2.5	1.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	0	12	1	0	0	3	1101	0	1	785	24
Future Vol, veh/h	16	0	12	1	0	0	3	1101	0	1	785	24
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	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	2	2	2	1	1	1
Mvmt Flow	17	0	13	1	0	0	3	1159	0	1	826	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2006	2006	839	2012	2018	1159	851	0	0	1159	0	0
Stage 1	841	841	-	1165	1165	-	-	-	-	-	-	-
Stage 2	1165	1165	-	847	853	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.12	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.218	-	-	2.209	-	-
Pot Cap-1 Maneuver	45	60	369	44	59	241	788	-	-	606	-	-
Stage 1	362	383	-	239	271	-	-	-	-	-	-	-
Stage 2	239	271	-	359	378	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	45	59	369	42	58	241	788	-	-	606	-	-
Mov Cap-2 Maneuver	45	59	-	42	58	-	-	-	-	-	-	-
Stage 1	358	382	-	236	268	-	-	-	-	-	-	-
Stage 2	236	268	-	346	377	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	86	92.9	0	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	788	-	-	72	42	606	-	-
HCM Lane V/C Ratio	0.004	-	-	0.409	0.025	0.002	-	-
HCM Control Delay (s)	9.6	0	-	86	92.9	11	0	-
HCM Lane LOS	A	A	-	F	F	B	A	-
HCM 95th %tile Q(veh)	0	-	-	1.6	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	29	36	588	48	61	372
Future Vol, veh/h	29	36	588	48	61	372
Conflicting Peds, #/hr	0	0	0	0	0	0
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, %	0	0	2	0	0	3
Mvmt Flow	32	39	639	52	66	404

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1201	665	0	0	691	0
Stage 1	665	-	-	-	-	-
Stage 2	536	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	206	464	-	-	913	-
Stage 1	515	-	-	-	-	-
Stage 2	591	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	187	464	-	-	913	-
Mov Cap-2 Maneuver	187	-	-	-	-	-
Stage 1	515	-	-	-	-	-
Stage 2	536	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	22.2	0	1.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	279	913	-
HCM Lane V/C Ratio	-	-	0.253	0.073	-
HCM Control Delay (s)	-	-	22.2	9.3	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1	0.2	-

Intersection						
Int Delay, s/veh	3.8					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	71	58	65	12	7	42
Future Vol, veh/h	71	58	65	12	7	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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, %	0	2	2	0	0	0
Mvmt Flow	77	63	71	13	8	46

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	84	0	-	0	295	78
Stage 1	-	-	-	-	78	-
Stage 2	-	-	-	-	217	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1526	-	-	-	700	988
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	824	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1526	-	-	-	664	988
Mov Cap-2 Maneuver	-	-	-	-	664	-
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	824	-

Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1526	-	-	-	924
HCM Lane V/C Ratio	0.051	-	-	-	0.058
HCM Control Delay (s)	7.5	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	62	23	429	124	40	27	341	87	3	466	11
Future Volume (veh/h)	38	62	23	429	124	40	27	341	87	3	466	11
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	1870	1870	1870	1870	1870	1870	1856	1856	1856	1841	1841	1841
Adj Flow Rate, veh/h	38	63	23	433	125	40	27	344	88	3	471	11
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	4	4	4
Cap, veh/h	63	98	36	459	403	129	50	1223	309	7	1449	34
Arrive On Green	0.04	0.07	0.07	0.26	0.30	0.30	0.03	0.44	0.44	0.00	0.41	0.41
Sat Flow, veh/h	1781	1307	477	1781	1358	434	1767	2788	704	1753	3493	82
Grp Volume(v), veh/h	38	0	86	433	0	165	27	216	216	3	236	246
Grp Sat Flow(s),veh/h/ln	1781	0	1784	1781	0	1792	1767	1763	1729	1753	1749	1826
Q Serve(g_s), s	1.7	0.0	3.7	19.1	0.0	5.7	1.2	6.3	6.4	0.1	7.3	7.3
Cycle Q Clear(g_c), s	1.7	0.0	3.7	19.1	0.0	5.7	1.2	6.3	6.4	0.1	7.3	7.3
Prop In Lane	1.00		0.27	1.00		0.24	1.00		0.41	1.00		0.04
Lane Grp Cap(c), veh/h	63	0	133	459	0	531	50	774	759	7	725	757
V/C Ratio(X)	0.60	0.00	0.65	0.94	0.00	0.31	0.54	0.28	0.28	0.42	0.32	0.33
Avail Cap(c_a), veh/h	134	0	402	459	0	730	110	774	759	110	725	757
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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	0.0	36.0	29.1	0.0	21.8	38.4	14.4	14.4	39.7	15.8	15.8
Incr Delay (d2), s/veh	8.7	0.0	5.2	28.4	0.0	0.3	8.8	0.9	0.9	35.7	1.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	1.7	11.0	0.0	2.2	0.6	2.4	2.4	0.1	2.7	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.7	0.0	41.1	57.5	0.0	22.1	47.2	15.3	15.3	75.4	17.0	17.0
LnGrp LOS	D	A	D	E	A	C	D	B	B	E	B	B
Approach Vol, veh/h		124			598			459			485	
Approach Delay, s/veh		42.9			47.8			17.2			17.4	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.8	39.6	25.1	10.5	6.8	37.7	7.4	28.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.4	20.6	18.0	5.0	18.4	6.0	32.6
Max Q Clear Time (g_c+I1), s	2.1	8.4	21.1	5.7	3.2	9.3	3.7	7.7
Green Ext Time (p_c), s	0.0	1.6	0.0	0.2	0.0	1.7	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	223	0	339	0	0	0	0	945	34	29	190	0
Future Volume (veh/h)	223	0	339	0	0	0	0	945	34	29	190	0
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	1885	0	1885				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	245	0	373				0	1038	37	32	209	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	0	1				0	2	2	2	2	0
Cap, veh/h	568	0	458				0	2074	925	127	2465	0
Arrive On Green	0.16	0.00	0.16				0.00	0.58	0.58	0.04	0.69	0.00
Sat Flow, veh/h	3483	0	2812				0	3647	1585	3456	3647	0
Grp Volume(v), veh/h	245	0	373				0	1038	37	32	209	0
Grp Sat Flow(s),veh/h/ln	1742	0	1406				0	1777	1585	1728	1777	0
Q Serve(g_s), s	5.7	0.0	11.5				0.0	15.5	0.9	0.8	1.7	0.0
Cycle Q Clear(g_c), s	5.7	0.0	11.5				0.0	15.5	0.9	0.8	1.7	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	568	0	458				0	2074	925	127	2465	0
V/C Ratio(X)	0.43	0.00	0.81				0.00	0.50	0.04	0.25	0.08	0.00
Avail Cap(c_a), veh/h	604	0	487				0	2074	925	284	2465	0
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	1.00				0.00	0.90	0.90	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.9	0.0	36.3				0.0	11.0	8.0	42.1	4.5	0.0
Incr Delay (d2), s/veh	2.2	0.0	14.2				0.0	0.8	0.1	0.4	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
%ile BackOfQ(50%),veh/ln	2.5	0.0	4.7				0.0	5.2	0.3	0.3	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	0.0	50.5				0.0	11.8	8.1	42.5	4.6	0.0
LnGrp LOS	D	A	D				A	B	A	D	A	A
Approach Vol, veh/h		618						1075			241	
Approach Delay, s/veh		44.8						11.7			9.6	
Approach LOS		D						B			A	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	9.9	59.0	21.1	68.9
Change Period (Y+Rc), s	* 6.6	6.5	* 6.4	6.5
Max Green Setting (Gmax), s	* 7.4	47.5	* 16	61.5
Max Q Clear Time (g_c+I1), s	2.8	17.5	13.5	3.7
Green Ext Time (p_c), s	0.0	15.6	1.2	2.8

Intersection Summary	
HCM 6th Ctrl Delay	22.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	2	9	72	1	90	3	347	67	72	559	2
Future Volume (veh/h)	5	2	9	72	1	90	3	347	67	72	559	2
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	1870	1870	1870	1885	1885	1885	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	6	2	10	82	1	102	3	394	76	82	635	2
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	1	1	1
Cap, veh/h	261	27	137	264	190	161	606	1120	216	729	1381	4
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.74	0.74	0.74	0.74	0.74	0.74
Sat Flow, veh/h	1291	271	1355	1413	1885	1598	791	1524	294	931	1878	6
Grp Volume(v), veh/h	6	0	12	82	1	102	3	0	470	82	0	637
Grp Sat Flow(s),veh/h/ln	1291	0	1626	1413	1885	1598	791	0	1817	931	0	1884
Q Serve(g_s), s	0.2	0.0	0.4	3.1	0.0	3.4	0.1	0.0	5.1	1.9	0.0	7.4
Cycle Q Clear(g_c), s	0.3	0.0	0.4	3.4	0.0	3.4	7.5	0.0	5.1	7.0	0.0	7.4
Prop In Lane	1.00		0.83	1.00		1.00	1.00		0.16	1.00		0.00
Lane Grp Cap(c), veh/h	261	0	164	264	190	161	606	0	1337	729	0	1386
V/C Ratio(X)	0.02	0.00	0.07	0.31	0.01	0.63	0.00	0.00	0.35	0.11	0.00	0.46
Avail Cap(c_a), veh/h	553	0	532	584	617	523	606	0	1337	729	0	1386
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	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.4	0.0	22.4	24.0	22.2	23.7	4.4	0.0	2.6	3.8	0.0	2.9
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.7	0.0	4.1	0.0	0.0	0.7	0.3	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	0.9	0.0	1.3	0.0	0.0	0.6	0.2	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	0.0	22.6	24.6	22.3	27.8	4.4	0.0	3.3	4.2	0.0	4.0
LnGrp LOS	C	A	C	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h		18			185			473			719	
Approach Delay, s/veh		22.5			26.4			3.3			4.0	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		44.9		10.1		44.9		10.1
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		28.0		18.0		28.0		18.0
Max Q Clear Time (g_c+I1), s		9.5		2.4		9.4		5.4
Green Ext Time (p_c), s		2.6		0.0		4.1		0.4

Intersection Summary		
HCM 6th Ctrl Delay		7.0
HCM 6th LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	99	43	241	77	59	6	369	156	11	410	15
Future Volume (veh/h)	139	99	43	241	77	59	6	369	156	11	410	15
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	1870	1870	1870	1870	1870	1870	1856	1856	1856	1841	1841	1841
Adj Flow Rate, veh/h	140	100	43	243	78	60	6	373	158	11	414	15
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	4	4	4
Cap, veh/h	176	140	60	270	162	124	14	1128	471	24	1622	59
Arrive On Green	0.10	0.11	0.11	0.15	0.16	0.16	0.01	0.47	0.47	0.01	0.47	0.47
Sat Flow, veh/h	1781	1241	534	1781	980	754	1767	2424	1012	1753	3443	124
Grp Volume(v), veh/h	140	0	143	243	0	138	6	270	261	11	210	219
Grp Sat Flow(s),veh/h/ln	1781	0	1774	1781	0	1735	1767	1763	1673	1753	1749	1818
Q Serve(g_s), s	5.4	0.0	5.4	9.4	0.0	5.1	0.2	6.8	6.9	0.4	5.1	5.1
Cycle Q Clear(g_c), s	5.4	0.0	5.4	9.4	0.0	5.1	0.2	6.8	6.9	0.4	5.1	5.1
Prop In Lane	1.00		0.30	1.00		0.43	1.00		0.60	1.00		0.07
Lane Grp Cap(c), veh/h	176	0	200	270	0	286	14	820	778	24	824	857
V/C Ratio(X)	0.79	0.00	0.72	0.90	0.00	0.48	0.43	0.33	0.34	0.46	0.25	0.26
Avail Cap(c_a), veh/h	219	0	456	270	0	496	126	820	778	125	824	857
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	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	0.0	30.0	29.2	0.0	26.5	34.6	11.8	11.9	34.3	11.1	11.1
Incr Delay (d2), s/veh	14.8	0.0	4.8	30.4	0.0	1.3	19.7	1.1	1.2	12.9	0.7	0.7
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	2.8	0.0	2.4	5.9	0.0	2.0	0.2	2.4	2.4	0.3	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.6	0.0	34.7	59.6	0.0	27.8	54.3	12.9	13.0	47.1	11.9	11.9
LnGrp LOS	D	A	C	E	A	C	D	B	B	D	B	B
Approach Vol, veh/h		283			381			537			440	
Approach Delay, s/veh		40.1			48.1			13.4			12.7	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.5	37.1	15.1	12.4	5.1	37.5	11.4	16.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	18.4	10.6	18.0	5.0	18.4	8.6	20.0
Max Q Clear Time (g_c+I1), s	2.4	8.9	11.4	7.4	2.2	7.1	7.4	7.1
Green Ext Time (p_c), s	0.0	2.0	0.0	0.4	0.0	1.6	0.0	0.5

Intersection Summary			
HCM 6th Ctrl Delay			25.9
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	360	0	727	0	0	0	0	534	22	75	298	0
Future Volume (veh/h)	360	0	727	0	0	0	0	534	22	75	298	0
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	1885	0	1885				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	396	0	799				0	587	24	82	327	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	0	1				0	2	2	2	2	0
Cap, veh/h	1029	0	831				0	1527	681	201	1994	0
Arrive On Green	0.30	0.00	0.30				0.00	0.43	0.43	0.06	0.56	0.00
Sat Flow, veh/h	3483	0	2812				0	3647	1585	3456	3647	0
Grp Volume(v), veh/h	396	0	799				0	587	24	82	327	0
Grp Sat Flow(s),veh/h/ln	1742	0	1406				0	1777	1585	1728	1777	0
Q Serve(g_s), s	8.1	0.0	25.2				0.0	10.2	0.8	2.1	4.0	0.0
Cycle Q Clear(g_c), s	8.1	0.0	25.2				0.0	10.2	0.8	2.1	4.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1029	0	831				0	1527	681	201	1994	0
V/C Ratio(X)	0.38	0.00	0.96				0.00	0.38	0.04	0.41	0.16	0.00
Avail Cap(c_a), veh/h	1029	0	831				0	1527	681	284	1994	0
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	1.00				0.00	0.97	0.97	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.2	0.0	31.2				0.0	17.5	14.9	40.9	9.5	0.0
Incr Delay (d2), s/veh	1.0	0.0	23.1				0.0	0.7	0.1	0.5	0.2	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
%ile BackOfQ(50%),veh/ln	3.4	0.0	10.8				0.0	3.9	0.3	0.9	1.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	0.0	54.3				0.0	18.2	15.0	41.4	9.7	0.0
LnGrp LOS	C	A	D				A	B	B	D	A	A
Approach Vol, veh/h		1195						611			409	
Approach Delay, s/veh		45.0						18.1			16.1	
Approach LOS		D						B			B	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	11.8	45.2	33.0	57.0
Change Period (Y+Rc), s	* 6.6	6.5	* 6.4	6.5
Max Green Setting (Gmax), s	* 7.4	36.5	* 27	50.5
Max Q Clear Time (g_c+I1), s	4.1	12.2	27.2	6.0
Green Ext Time (p_c), s	0.0	7.4	0.0	4.4

Intersection Summary	
HCM 6th Ctrl Delay	32.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	1	6	62	2	48	10	486	56	95	429	6
Future Volume (veh/h)	3	1	6	62	2	48	10	486	56	95	429	6
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	1870	1870	1870	1885	1885	1885	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	3	1	7	70	2	55	11	552	64	108	488	7
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	1	1	1
Cap, veh/h	7	10	69	90	179	152	24	987	114	137	1228	18
Arrive On Green	0.00	0.05	0.05	0.05	0.09	0.09	0.01	0.60	0.60	0.08	0.66	0.66
Sat Flow, veh/h	1781	202	1414	1795	1885	1598	1781	1645	191	1795	1854	27
Grp Volume(v), veh/h	3	0	8	70	2	55	11	0	616	108	0	495
Grp Sat Flow(s),veh/h/ln	1781	0	1616	1795	1885	1598	1781	0	1836	1795	0	1880
Q Serve(g_s), s	0.1	0.0	0.4	3.1	0.1	2.6	0.5	0.0	16.2	4.7	0.0	9.6
Cycle Q Clear(g_c), s	0.1	0.0	0.4	3.1	0.1	2.6	0.5	0.0	16.2	4.7	0.0	9.6
Prop In Lane	1.00		0.88	1.00		1.00	1.00		0.10	1.00		0.01
Lane Grp Cap(c), veh/h	7	0	79	90	179	152	24	0	1101	137	0	1246
V/C Ratio(X)	0.42	0.00	0.10	0.78	0.01	0.36	0.46	0.00	0.56	0.79	0.00	0.40
Avail Cap(c_a), veh/h	111	0	364	123	436	369	111	0	1101	146	0	1246
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	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	39.7	0.0	36.4	37.6	32.8	33.9	39.2	0.0	9.6	36.3	0.0	6.2
Incr Delay (d2), s/veh	34.4	0.0	0.6	18.9	0.0	1.5	12.8	0.0	2.1	23.1	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.2	1.7	0.0	1.0	0.3	0.0	5.6	2.8	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.1	0.0	36.9	56.4	32.8	35.4	52.0	0.0	11.7	59.4	0.0	7.1
LnGrp LOS	E	A	D	E	C	D	D	A	B	E	A	A
Approach Vol, veh/h		11			127			627			603	
Approach Delay, s/veh		47.1			46.9			12.4			16.5	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	52.5	8.5	8.4	5.6	57.5	4.8	12.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	32.0	5.5	18.0	5.0	33.5	5.0	18.5
Max Q Clear Time (g_c+I1), s	6.7	18.2	5.1	2.4	2.5	11.6	2.1	4.6
Green Ext Time (p_c), s	0.0	3.2	0.0	0.0	0.0	2.8	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	32	98	603	40	99	814		
Future Volume (veh/h)	32	98	603	40	99	814		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	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	1870	1870	1841	1841	1885	1885		
Adj Flow Rate, veh/h	35	107	655	43	108	885		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	4	4	1	1		
Cap, veh/h	159	141	2281	150	137	2904		
Arrive On Green	0.09	0.09	0.68	0.68	0.08	0.81		
Sat Flow, veh/h	1781	1585	3424	219	1795	3676		
Grp Volume(v), veh/h	35	107	344	354	108	885		
Grp Sat Flow(s),veh/h/ln	1781	1585	1749	1801	1795	1791		
Q Serve(g_s), s	1.6	5.9	6.9	7.0	5.3	5.6		
Cycle Q Clear(g_c), s	1.6	5.9	6.9	7.0	5.3	5.6		
Prop In Lane	1.00	1.00		0.12	1.00			
Lane Grp Cap(c), veh/h	159	141	1197	1233	137	2904		
V/C Ratio(X)	0.22	0.76	0.29	0.29	0.79	0.30		
Avail Cap(c_a), veh/h	505	449	1197	1233	170	2904		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.93	0.93	0.96	0.96	1.00	1.00		
Uniform Delay (d), s/veh	38.1	40.0	5.6	5.6	40.9	2.1		
Incr Delay (d2), s/veh	0.6	7.5	0.6	0.6	17.9	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	2.5	1.9	2.0	2.9	0.7		
Unsig. Movement Delay, s/veh								
LnGrp Delay(d),s/veh	38.7	47.5	6.1	6.1	58.8	2.4		
LnGrp LOS	D	D	A	A	E	A		
Approach Vol, veh/h	142		698			993		
Approach Delay, s/veh	45.3		6.1			8.5		
Approach LOS	D		A			A		
Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	11.4	66.1				77.5		12.5
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	8.5	42.5				55.5		25.5
Max Q Clear Time (g_c+I1), s	7.3	9.0				7.6		7.9
Green Ext Time (p_c), s	0.0	4.0				6.5		0.3

Intersection Summary		
HCM 6th Ctrl Delay		10.5
HCM 6th LOS		B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	70	71	572	103	131	715
Future Volume (veh/h)	70	71	572	103	131	715
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	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	1826	1826	1841	1841	1885	1885
Adj Flow Rate, veh/h	72	73	590	106	135	737
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	5	5	4	4	1	1
Cap, veh/h	123	109	2036	365	166	2971
Arrive On Green	0.07	0.07	0.69	0.69	0.18	1.00
Sat Flow, veh/h	1739	1547	3055	531	1795	3676
Grp Volume(v), veh/h	72	73	348	348	135	737
Grp Sat Flow(s),veh/h/ln	1739	1547	1749	1745	1795	1791
Q Serve(g_s), s	3.6	4.1	7.0	7.0	6.5	0.0
Cycle Q Clear(g_c), s	3.6	4.1	7.0	7.0	6.5	0.0
Prop In Lane	1.00	1.00		0.30	1.00	
Lane Grp Cap(c), veh/h	123	109	1201	1199	166	2971
V/C Ratio(X)	0.59	0.67	0.29	0.29	0.81	0.25
Avail Cap(c_a), veh/h	493	438	1201	1199	269	2971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.82	0.82	0.97	0.97
Uniform Delay (d), s/veh	40.6	40.8	5.5	5.5	35.9	0.0
Incr Delay (d2), s/veh	4.4	6.9	0.5	0.5	9.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.8	1.9	1.9	2.9	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.0	47.7	6.0	6.0	45.0	0.2
LnGrp LOS	D	D	A	A	D	A
Approach Vol, veh/h	145		696			872
Approach Delay, s/veh	46.3		6.0			7.1
Approach LOS	D		A			A

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.8	66.3				79.2		10.8
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	13.5	37.5				55.5		25.5
Max Q Clear Time (g_c+I1), s	8.5	9.0				2.0		6.1
Green Ext Time (p_c), s	0.1	4.0				5.1		0.4

Intersection Summary		
HCM 6th Ctrl Delay		10.0
HCM 6th LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	68	23	497	144	57	27	574	155	36	728	11
Future Volume (veh/h)	38	68	23	497	144	57	27	574	155	36	728	11
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	1885	1885	1885	1885	1885	1885	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	42	75	25	546	158	63	30	631	170	40	800	12
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
Percent Heavy Veh, %	1	1	1	1	1	1	3	3	3	2	2	2
Cap, veh/h	62	105	35	512	421	168	50	1164	313	60	1538	23
Arrive On Green	0.03	0.08	0.08	0.28	0.33	0.33	0.03	0.42	0.42	0.03	0.43	0.43
Sat Flow, veh/h	1795	1353	451	1795	1282	511	1767	2746	739	1781	3584	54
Grp Volume(v), veh/h	42	0	100	546	0	221	30	405	396	40	397	415
Grp Sat Flow(s),veh/h/ln	1795	0	1804	1795	0	1793	1767	1763	1723	1781	1777	1861
Q Serve(g_s), s	2.3	0.0	5.4	28.5	0.0	9.4	1.7	17.2	17.2	2.2	16.4	16.4
Cycle Q Clear(g_c), s	2.3	0.0	5.4	28.5	0.0	9.4	1.7	17.2	17.2	2.2	16.4	16.4
Prop In Lane	1.00		0.25	1.00		0.29	1.00		0.43	1.00		0.03
Lane Grp Cap(c), veh/h	62	0	140	512	0	589	50	747	730	60	762	798
V/C Ratio(X)	0.68	0.00	0.71	1.07	0.00	0.38	0.60	0.54	0.54	0.67	0.52	0.52
Avail Cap(c_a), veh/h	118	0	451	512	0	841	88	747	730	89	762	798
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	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	47.7	0.0	45.0	35.8	0.0	25.7	48.0	21.5	21.6	47.8	21.0	21.0
Incr Delay (d2), s/veh	12.3	0.0	6.6	58.9	0.0	0.4	11.0	2.8	2.9	11.8	2.5	2.3
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	1.2	0.0	2.6	20.0	0.0	3.9	0.9	7.1	7.0	1.1	6.7	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.0	0.0	51.6	94.6	0.0	26.1	59.1	24.4	24.5	59.6	23.4	23.3
LnGrp LOS	E	A	D	F	A	C	E	C	C	E	C	C
Approach Vol, veh/h		142			767			831			852	
Approach Delay, s/veh		54.1			74.9			25.7			25.1	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	46.9	33.0	12.3	7.3	47.4	7.9	37.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	23.5	28.5	25.0	5.0	23.5	6.6	46.9
Max Q Clear Time (g_c+I1), s	4.2	19.2	30.5	7.4	3.7	18.4	4.3	11.4
Green Ext Time (p_c), s	0.0	1.8	0.0	0.4	0.0	2.0	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	41.6
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	315	0	438	0	0	0	0	1171	133	105	411	0
Future Volume (veh/h)	315	0	438	0	0	0	0	1171	133	105	411	0
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	0	1841				0	1856	1856	1870	1870	0
Adj Flow Rate, veh/h	339	0	471				0	1259	143	113	442	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	0	4				0	3	3	2	2	0
Cap, veh/h	856	0	691				0	1653	737	217	2150	0
Arrive On Green	0.25	0.00	0.25				0.00	0.47	0.47	0.06	0.60	0.00
Sat Flow, veh/h	3401	0	2745				0	3618	1572	3456	3647	0
Grp Volume(v), veh/h	339	0	471				0	1259	143	113	442	0
Grp Sat Flow(s),veh/h/ln	1700	0	1373				0	1763	1572	1728	1777	0
Q Serve(g_s), s	7.5	0.0	13.9				0.0	26.6	4.8	2.9	5.1	0.0
Cycle Q Clear(g_c), s	7.5	0.0	13.9				0.0	26.6	4.8	2.9	5.1	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	856	0	691				0	1653	737	217	2150	0
V/C Ratio(X)	0.40	0.00	0.68				0.00	0.76	0.19	0.52	0.21	0.00
Avail Cap(c_a), veh/h	1081	0	872				0	1653	737	284	2150	0
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	1.00				0.00	0.68	0.68	0.99	0.99	0.00
Uniform Delay (d), s/veh	28.0	0.0	30.4				0.0	19.7	14.0	40.9	8.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	5.0				0.0	2.3	0.4	0.7	0.2	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
%ile BackOfQ(50%),veh/ln	3.1	0.0	4.9				0.0	10.1	1.6	1.2	1.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.3	0.0	35.5				0.0	22.1	14.4	41.6	8.2	0.0
LnGrp LOS	C	A	D				A	C	B	D	A	A
Approach Vol, veh/h		810						1402			555	
Approach Delay, s/veh		32.9						21.3			15.0	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	12.2	48.7	29.1	60.9
Change Period (Y+Rc), s	* 6.6	6.5	* 6.4	6.5
Max Green Setting (Gmax), s	* 7.4	34.5	* 29	48.5
Max Q Clear Time (g_c+I1), s	4.9	28.6	15.9	7.1
Green Ext Time (p_c), s	0.0	5.1	6.7	6.1

Intersection Summary	
HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	130	9	49	102	62	28	316	31	53	768	0
Future Volume (veh/h)	0	130	9	49	102	62	28	316	31	53	768	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	1870	1870	1870	1870	1870	1870	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	0	141	10	53	111	67	30	343	34	58	835	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, %	2	2	2	2	2	2	3	3	3	1	1	1
Cap, veh/h	2	178	13	69	204	123	50	1057	105	75	1225	0
Arrive On Green	0.00	0.10	0.10	0.04	0.19	0.19	0.03	0.64	0.64	0.04	0.65	0.00
Sat Flow, veh/h	1781	1726	122	1781	1092	659	1767	1661	165	1795	1885	0
Grp Volume(v), veh/h	0	0	151	53	0	178	30	0	377	58	835	0
Grp Sat Flow(s),veh/h/ln	1781	0	1848	1781	0	1752	1767	0	1826	1795	1885	0
Q Serve(g_s), s	0.0	0.0	8.0	2.9	0.0	9.2	1.7	0.0	9.5	3.2	27.8	0.0
Cycle Q Clear(g_c), s	0.0	0.0	8.0	2.9	0.0	9.2	1.7	0.0	9.5	3.2	27.8	0.0
Prop In Lane	1.00		0.07	1.00		0.38	1.00		0.09	1.00		0.00
Lane Grp Cap(c), veh/h	2	0	191	69	0	327	50	0	1162	75	1225	0
V/C Ratio(X)	0.00	0.00	0.79	0.77	0.00	0.54	0.60	0.00	0.32	0.77	0.68	0.00
Avail Cap(c_a), veh/h	91	0	333	175	0	398	90	0	1162	160	1225	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)	0.00	0.00	0.86	1.00	0.00	1.00	0.99	0.00	0.99	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	43.8	47.6	0.0	36.8	48.0	0.0	8.3	47.4	11.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	6.2	16.5	0.0	1.4	10.9	0.0	0.7	15.3	3.1	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	0.0	0.0	3.8	1.6	0.0	3.9	0.9	0.0	3.3	1.7	10.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	50.0	64.2	0.0	38.2	58.9	0.0	9.1	62.7	14.1	0.0
LnGrp LOS	A	A	D	E	A	D	E	A	A	E	B	A
Approach Vol, veh/h		151			231			407			893	
Approach Delay, s/veh		50.0			44.2			12.7			17.2	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	68.1	8.4	14.8	7.3	69.5	0.0	23.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.9	45.3	9.8	18.0	5.1	49.1	5.1	22.7
Max Q Clear Time (g_c+I1), s	5.2	11.5	4.9	10.0	3.7	29.8	0.0	11.2
Green Ext Time (p_c), s	0.0	2.2	0.0	0.4	0.0	5.5	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	22.8
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	8	20	63	8	18	5	280	21	3	814	43
Future Volume (veh/h)	26	8	20	63	8	18	5	280	21	3	814	43
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	1870	1870	1870	1885	1885	1885	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	29	9	22	69	9	20	5	308	23	3	895	47
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
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	1	1	1
Cap, veh/h	180	43	104	179	46	102	449	1395	104	895	1441	76
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.81	0.81	0.81	0.81	0.81	0.81
Sat Flow, veh/h	1381	482	1177	1389	520	1157	595	1719	128	1057	1775	93
Grp Volume(v), veh/h	29	0	31	69	0	29	5	0	331	3	0	942
Grp Sat Flow(s),veh/h/ln	1381	0	1659	1389	0	1677	595	0	1847	1057	0	1868
Q Serve(g_s), s	1.8	0.0	1.6	4.4	0.0	1.4	0.3	0.0	3.7	0.1	0.0	17.3
Cycle Q Clear(g_c), s	3.2	0.0	1.6	5.9	0.0	1.4	17.5	0.0	3.7	3.8	0.0	17.3
Prop In Lane	1.00		0.71	1.00		0.69	1.00		0.07	1.00		0.05
Lane Grp Cap(c), veh/h	180	0	147	179	0	148	449	0	1499	895	0	1516
V/C Ratio(X)	0.16	0.00	0.21	0.39	0.00	0.20	0.01	0.00	0.22	0.00	0.00	0.62
Avail Cap(c_a), veh/h	342	0	341	341	0	345	449	0	1499	895	0	1516
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)	0.80	0.00	0.80	1.00	0.00	1.00	0.80	0.00	0.80	0.63	0.00	0.63
Uniform Delay (d), s/veh	39.5	0.0	38.1	40.9	0.0	38.0	6.6	0.0	1.9	2.4	0.0	3.2
Incr Delay (d2), s/veh	0.3	0.0	0.6	1.4	0.0	0.6	0.0	0.0	0.3	0.0	0.0	1.2
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	0.6	0.0	0.7	1.6	0.0	0.6	0.0	0.0	0.6	0.0	0.0	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.9	0.0	38.7	42.2	0.0	38.7	6.6	0.0	2.2	2.4	0.0	4.4
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		60			98			336			945	
Approach Delay, s/veh		39.3			41.2			2.3			4.4	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	77.5	12.5	77.5	12.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	62.5	18.5	62.5	18.5
Max Q Clear Time (g_c+I1), s	19.5	5.2	19.3	7.9
Green Ext Time (p_c), s	2.0	0.1	8.4	0.2

Intersection Summary	
HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	177	45	107	391	19	72	203	194	50	294	554
Future Volume (veh/h)	83	177	45	107	391	19	72	203	194	50	294	554
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	1870	1870	1870	1885	1885	1885	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	99	211	54	127	465	23	86	242	231	60	350	660
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	1	1	1
Cap, veh/h	123	259	220	154	556	248	164	461	536	79	459	1003
Arrive On Green	0.07	0.14	0.14	0.09	0.16	0.16	0.34	0.34	0.34	0.29	0.29	0.29
Sat Flow, veh/h	1781	1870	1585	1795	3582	1598	484	1362	1585	274	1598	2812
Grp Volume(v), veh/h	99	211	54	127	465	23	328	0	231	410	0	660
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1795	1791	1598	1846	0	1585	1871	0	1406
Q Serve(g_s), s	6.6	13.1	3.6	8.4	15.1	1.5	17.2	0.0	13.5	24.0	0.0	23.7
Cycle Q Clear(g_c), s	6.6	13.1	3.6	8.4	15.1	1.5	17.2	0.0	13.5	24.0	0.0	23.7
Prop In Lane	1.00		1.00	1.00		1.00	0.26		1.00	0.15		1.00
Lane Grp Cap(c), veh/h	123	259	220	154	556	248	624	0	536	538	0	1003
V/C Ratio(X)	0.80	0.81	0.25	0.83	0.84	0.09	0.53	0.00	0.43	0.76	0.00	0.66
Avail Cap(c_a), veh/h	171	335	284	202	701	313	624	0	536	538	0	1003
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.77	0.00	0.77
Uniform Delay (d), s/veh	55.0	50.2	46.1	54.0	49.2	43.4	32.0	0.0	30.8	39.0	0.0	32.4
Incr Delay (d2), s/veh	17.1	11.2	0.6	18.7	7.1	0.2	3.1	0.0	2.5	7.7	0.0	2.6
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	3.5	6.8	1.4	4.5	7.1	0.6	7.9	0.0	5.4	11.7	0.0	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.1	61.3	46.7	72.7	56.3	43.6	35.1	0.0	33.3	46.7	0.0	35.1
LnGrp LOS	E	E	D	E	E	D	D	A	C	D	A	D
Approach Vol, veh/h		364			615			559			1070	
Approach Delay, s/veh		62.1			59.2			34.4			39.5	
Approach LOS		E			E			C			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		45.1	14.8	21.1		39.0	12.8	23.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		32.5	13.5	21.5		34.5	11.5	23.5				
Max Q Clear Time (g_c+I1), s		19.2	10.4	15.1		26.0	8.6	17.1				
Green Ext Time (p_c), s		2.1	0.1	0.6		3.4	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			46.2									
HCM 6th LOS			D									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	185	22	207	140	104	7	361	342	104	576	6
Future Volume (veh/h)	14	185	22	207	140	104	7	361	342	104	576	6
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	1870	1870	1870	1856	1856	1856	1811	1811	1811	1885	1885	1885
Adj Flow Rate, veh/h	16	215	26	241	163	121	8	420	398	121	670	7
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	3	3	3	6	6	6	1	1	1
Cap, veh/h	31	246	30	237	496	421	17	831	741	148	2017	21
Arrive On Green	0.02	0.15	0.15	0.13	0.27	0.27	0.01	0.48	0.48	0.08	0.56	0.56
Sat Flow, veh/h	1781	1637	198	1767	1856	1572	1725	1721	1535	1795	3631	38
Grp Volume(v), veh/h	16	0	241	241	163	121	8	420	398	121	330	347
Grp Sat Flow(s),veh/h/ln	1781	0	1835	1767	1856	1572	1725	1721	1535	1795	1791	1878
Q Serve(g_s), s	1.1	0.0	15.4	16.1	8.5	7.3	0.6	20.0	21.7	8.0	12.1	12.1
Cycle Q Clear(g_c), s	1.1	0.0	15.4	16.1	8.5	7.3	0.6	20.0	21.7	8.0	12.1	12.1
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	31	0	276	237	496	421	17	831	741	148	995	1043
V/C Ratio(X)	0.52	0.00	0.87	1.02	0.33	0.29	0.48	0.51	0.54	0.82	0.33	0.33
Avail Cap(c_a), veh/h	132	0	382	237	498	422	122	831	741	230	995	1043
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.5	0.0	49.8	52.0	35.3	34.9	59.1	21.2	21.7	54.2	14.5	14.5
Incr Delay (d2), s/veh	13.0	0.0	14.9	62.7	0.4	0.4	19.4	2.2	2.8	12.1	0.9	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	7.9	11.0	3.7	2.7	0.3	8.1	7.9	4.0	4.8	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.5	0.0	64.7	114.7	35.7	35.2	78.5	23.4	24.4	66.3	15.4	15.4
LnGrp LOS	E	A	E	F	D	D	E	C	C	E	B	B
Approach Vol, veh/h		257			525			826			798	
Approach Delay, s/veh		65.1			71.9			24.5			23.1	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.4	62.4	20.6	22.6	5.7	71.2	6.6	36.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.4	45.5	16.1	25.0	8.5	52.4	8.9	32.2
Max Q Clear Time (g_c+I1), s	10.0	23.7	18.1	17.4	2.6	14.1	3.1	10.5
Green Ext Time (p_c), s	0.1	5.0	0.0	0.7	0.0	4.0	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	38.7
HCM 6th LOS	D

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	21	0	6	1	0	0	4	678	0	0	646	67
Future Vol, veh/h	21	0	6	1	0	0	4	678	0	0	646	67
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	-	-	-	-	-	-	110	-	-	110	-	-
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	87	87
Heavy Vehicles, %	5	5	5	0	0	0	4	4	4	1	1	1
Mvmt Flow	24	0	7	1	0	0	5	779	0	0	743	77

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1182	1571	410	1161	1609	390	820	0	0	779	0	0
Stage 1	782	782	-	789	789	-	-	-	-	-	-	-
Stage 2	400	789	-	372	820	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	7.5	6.5	6.9	4.18	-	-	4.12	-	-
Critical Hdwy Stg 1	6.6	5.6	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.5	4	3.3	2.24	-	-	2.21	-	-
Pot Cap-1 Maneuver	284	153	*815	*306	148	614	1092	-	-	840	-	-
Stage 1	692	624	-	*354	405	-	-	-	-	-	-	-
Stage 2	589	393	-	*780	602	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	283	152	*815	*302	147	614	1092	-	-	840	-	-
Mov Cap-2 Maneuver	283	152	-	*302	147	-	-	-	-	-	-	-
Stage 1	689	624	-	*352	403	-	-	-	-	-	-	-
Stage 2	586	391	-	*774	602	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17	17	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1092	-	-	331	302	840	-	-
HCM Lane V/C Ratio	0.004	-	-	0.094	0.004	-	-	-
HCM Control Delay (s)	8.3	-	-	17	17	0	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0	0	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Volume (veh/h)	13	35	924	10	53	708	
Future Volume (veh/h)	13	35	924	10	53	708	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00		
Parking Bus, Adj	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	1870	1870	1870	1870	1856	1856	
Adj Flow Rate, veh/h	14	38	1004	11	58	770	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	2	2	2	2	3	3	
Cap, veh/h	72	64	2762	30	75	3030	
Arrive On Green	0.04	0.04	1.00	1.00	0.04	0.86	
Sat Flow, veh/h	1781	1585	3694	39	1767	3618	
Grp Volume(v), veh/h	14	38	495	520	58	770	
Grp Sat Flow(s),veh/h/ln	1781	1585	1777	1863	1767	1763	
Q Serve(g_s), s	0.7	2.1	0.0	0.0	2.9	3.5	
Cycle Q Clear(g_c), s	0.7	2.1	0.0	0.0	2.9	3.5	
Prop In Lane	1.00	1.00		0.02	1.00		
Lane Grp Cap(c), veh/h	72	64	1363	1429	75	3030	
V/C Ratio(X)	0.19	0.59	0.36	0.36	0.77	0.25	
Avail Cap(c_a), veh/h	505	449	1363	1429	167	3030	
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.00	1.00	
Upstream Filter(I)	0.98	0.98	0.91	0.91	1.00	1.00	
Uniform Delay (d), s/veh	41.8	42.5	0.0	0.0	42.7	1.1	
Incr Delay (d2), s/veh	1.3	8.3	0.7	0.7	15.2	0.2	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.3	0.9	0.3	0.3	1.5	0.1	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	43.0	50.8	0.7	0.7	57.9	1.3	
LnGrp LOS	D	D	A	A	E	A	
Approach Vol, veh/h	52		1015			828	
Approach Delay, s/veh	48.7		0.7			5.3	
Approach LOS	D		A			A	
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	8.3	73.5				81.9	8.1
Change Period (Y+Rc), s	4.5	4.5				4.5	4.5
Max Green Setting (Gmax), s	8.5	42.5				55.5	25.5
Max Q Clear Time (g_c+I1), s	4.9	2.0				5.5	4.1
Green Ext Time (p_c), s	0.0	6.7				5.4	0.1
Intersection Summary							
HCM 6th Ctrl Delay			4.0				
HCM 6th LOS			A				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	104	100	834	85	102	619
Future Volume (veh/h)	104	100	834	85	102	619
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	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	1811	1870	1870	1856	1856
Adj Flow Rate, veh/h	106	102	851	87	104	632
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	6	6	2	2	3	3
Cap, veh/h	160	142	2224	227	131	2847
Arrive On Green	0.09	0.09	1.00	1.00	0.15	1.00
Sat Flow, veh/h	1725	1535	3348	333	1767	3618
Grp Volume(v), veh/h	106	102	465	473	104	632
Grp Sat Flow(s),veh/h/ln	1725	1535	1777	1810	1767	1763
Q Serve(g_s), s	5.3	5.8	0.0	0.0	5.1	0.0
Cycle Q Clear(g_c), s	5.3	5.8	0.0	0.0	5.1	0.0
Prop In Lane	1.00	1.00		0.18	1.00	
Lane Grp Cap(c), veh/h	160	142	1214	1237	131	2847
V/C Ratio(X)	0.66	0.72	0.38	0.38	0.79	0.22
Avail Cap(c_a), veh/h	489	435	1214	1237	265	2847
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.81	0.81	0.98	0.98
Uniform Delay (d), s/veh	39.5	39.7	0.0	0.0	37.7	0.0
Incr Delay (d2), s/veh	4.7	6.6	0.7	0.7	10.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	2.4	0.3	0.3	2.3	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.1	46.3	0.7	0.7	47.7	0.2
LnGrp LOS	D	D	A	A	D	A
Approach Vol, veh/h	208		938			736
Approach Delay, s/veh	45.2		0.7			6.9
Approach LOS	D		A			A

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	11.2	66.0				77.2		12.8
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	13.5	37.5				55.5		25.5
Max Q Clear Time (g_c+I1), s	7.1	2.0				2.0		7.8
Green Ext Time (p_c), s	0.1	6.0				4.2		0.6

Intersection Summary	
HCM 6th Ctrl Delay	8.1
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	124	43	272	86	93	6	652	185	30	661	15
Future Volume (veh/h)	139	124	43	272	86	93	6	652	185	30	661	15
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	1870	1870	1870	1870	1870	1870	1856	1856	1856	1841	1841	1841
Adj Flow Rate, veh/h	140	125	43	275	87	94	6	659	187	30	668	15
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	4	4	4
Cap, veh/h	174	160	55	310	162	175	14	1291	366	51	1741	39
Arrive On Green	0.10	0.12	0.12	0.17	0.20	0.20	0.01	0.48	0.48	0.06	1.00	1.00
Sat Flow, veh/h	1781	1330	458	1781	822	888	1767	2711	769	1753	3497	78
Grp Volume(v), veh/h	140	0	168	275	0	181	6	428	418	30	334	349
Grp Sat Flow(s),veh/h/ln	1781	0	1788	1781	0	1710	1767	1763	1717	1753	1749	1827
Q Serve(g_s), s	6.9	0.0	8.2	13.6	0.0	8.6	0.3	15.1	15.2	1.5	0.1	0.1
Cycle Q Clear(g_c), s	6.9	0.0	8.2	13.6	0.0	8.6	0.3	15.1	15.2	1.5	0.1	0.1
Prop In Lane	1.00		0.26	1.00		0.52	1.00		0.45	1.00		0.04
Lane Grp Cap(c), veh/h	174	0	216	310	0	336	14	840	818	51	871	909
V/C Ratio(X)	0.80	0.00	0.78	0.89	0.00	0.54	0.44	0.51	0.51	0.58	0.38	0.38
Avail Cap(c_a), veh/h	279	0	497	327	0	511	98	840	818	97	871	909
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	39.8	0.0	38.4	36.3	0.0	32.5	44.5	16.3	16.3	41.8	0.1	0.1
Incr Delay (d2), s/veh	8.5	0.0	6.0	23.7	0.0	1.3	20.6	2.2	2.3	9.8	1.2	1.2
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	3.3	0.0	3.8	7.6	0.0	3.5	0.2	5.9	5.8	0.7	0.3	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.3	0.0	44.4	60.0	0.0	33.8	65.0	18.5	18.6	51.6	1.3	1.3
LnGrp LOS	D	A	D	E	A	C	E	B	B	D	A	A
Approach Vol, veh/h		308			456			852			713	
Approach Delay, s/veh		46.2			49.6			18.9			3.4	
Approach LOS		D			D			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	47.4	20.1	15.4	5.2	49.3	13.3	22.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	25.5	16.5	25.0	5.0	25.5	14.1	26.9
Max Q Clear Time (g_c+I1), s	3.5	17.2	15.6	10.2	2.3	2.1	8.9	10.6
Green Ext Time (p_c), s	0.0	3.1	0.1	0.6	0.0	3.7	0.1	0.8

Intersection Summary	
HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	453	0	826	0	0	0	0	766	129	128	539	0
Future Volume (veh/h)	453	0	826	0	0	0	0	766	129	128	539	0
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	1885	0	1885				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	498	0	908				0	842	142	141	592	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	1	0	1				0	2	2	2	2	0
Cap, veh/h	1107	0	894				0	1425	635	224	1915	0
Arrive On Green	0.32	0.00	0.32				0.00	0.40	0.40	0.06	0.54	0.00
Sat Flow, veh/h	3483	0	2812				0	3647	1585	3456	3647	0
Grp Volume(v), veh/h	498	0	908				0	842	142	141	592	0
Grp Sat Flow(s),veh/h/ln	1742	0	1406				0	1777	1585	1728	1777	0
Q Serve(g_s), s	10.2	0.0	28.6				0.0	16.7	5.3	3.6	8.3	0.0
Cycle Q Clear(g_c), s	10.2	0.0	28.6				0.0	16.7	5.3	3.6	8.3	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1107	0	894				0	1425	635	224	1915	0
V/C Ratio(X)	0.45	0.00	1.02				0.00	0.59	0.22	0.63	0.31	0.00
Avail Cap(c_a), veh/h	1107	0	894				0	1425	635	284	1915	0
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	1.00				0.00	0.89	0.89	0.97	0.97	0.00
Uniform Delay (d), s/veh	24.4	0.0	30.7				0.0	21.2	17.7	41.0	11.5	0.0
Incr Delay (d2), s/veh	1.2	0.0	34.2				0.0	1.6	0.7	1.1	0.4	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
%ile BackOfQ(50%),veh/ln	4.2	0.0	13.4				0.0	6.6	1.9	1.5	2.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.7	0.0	64.9				0.0	22.8	18.5	42.1	11.9	0.0
LnGrp LOS	C	A	F				A	C	B	D	B	A
Approach Vol, veh/h		1406						984			733	
Approach Delay, s/veh		51.0						22.2			17.7	
Approach LOS		D						C			B	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	12.4	42.6		35.0		55.0						
Change Period (Y+Rc), s	* 6.6	6.5		* 6.4		6.5						
Max Green Setting (Gmax), s	* 7.4	34.5		* 29		46.8						
Max Q Clear Time (g_c+I1), s	5.6	18.7		30.6		10.3						
Green Ext Time (p_c), s	0.0	9.1		0.0		8.4						
Intersection Summary												
HCM 6th Ctrl Delay			34.1									
HCM 6th LOS			C									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	33	30	29	35	40	13	579	43	52	338	0
Future Volume (veh/h)	0	33	30	29	35	40	13	579	43	52	338	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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	0	36	33	32	38	43	14	629	47	57	367	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, %	2	2	2	2	2	2	2	2	2	3	3	3
Cap, veh/h	2	56	51	54	114	129	29	1144	85	75	1283	0
Arrive On Green	0.00	0.06	0.06	0.03	0.14	0.14	0.03	1.00	1.00	0.04	0.69	0.00
Sat Flow, veh/h	1781	898	824	1781	801	906	1781	1719	128	1767	1856	0
Grp Volume(v), veh/h	0	0	69	32	0	81	14	0	676	57	367	0
Grp Sat Flow(s),veh/h/ln	1781	0	1722	1781	0	1707	1781	0	1847	1767	1856	0
Q Serve(g_s), s	0.0	0.0	3.5	1.6	0.0	3.8	0.7	0.0	0.0	2.9	6.9	0.0
Cycle Q Clear(g_c), s	0.0	0.0	3.5	1.6	0.0	3.8	0.7	0.0	0.0	2.9	6.9	0.0
Prop In Lane	1.00		0.48	1.00		0.53	1.00		0.07	1.00		0.00
Lane Grp Cap(c), veh/h	2	0	106	54	0	243	29	0	1229	75	1283	0
V/C Ratio(X)	0.00	0.00	0.65	0.59	0.00	0.33	0.48	0.00	0.55	0.76	0.29	0.00
Avail Cap(c_a), veh/h	105	0	348	101	0	341	99	0	1229	104	1283	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.94	1.00	0.00	1.00	0.91	0.00	0.91	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	41.3	43.1	0.0	34.7	43.1	0.0	0.0	42.7	5.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	6.1	9.7	0.0	0.8	10.7	0.0	1.6	19.3	0.6	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	0.0	0.0	1.6	0.8	0.0	1.6	0.4	0.0	0.6	1.6	2.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	47.4	52.7	0.0	35.5	53.8	0.0	1.6	61.9	5.9	0.0
LnGrp LOS	A	A	D	D	A	D	D	A	A	E	A	A
Approach Vol, veh/h		69			113			690			424	
Approach Delay, s/veh		47.4			40.4			2.7			13.4	
Approach LOS		D			D			A			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	64.4	7.3	10.1	6.0	66.7	0.0	17.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.3	43.4	5.1	18.2	5.0	43.7	5.3	18.0
Max Q Clear Time (g_c+I1), s	4.9	2.0	3.6	5.5	2.7	8.9	0.0	5.8
Green Ext Time (p_c), s	0.0	4.8	0.0	0.2	0.0	2.1	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	6	5	17	4	12	8	611	33	12	341	30
Future Volume (veh/h)	42	6	5	17	4	12	8	611	33	12	341	30
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	1885	1885	1885	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	45	6	5	18	4	13	9	657	35	13	367	32
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	3	3	3
Cap, veh/h	148	55	46	153	22	73	910	1482	79	638	1417	124
Arrive On Green	0.06	0.06	0.06	0.06	0.06	0.06	0.84	0.84	0.84	1.00	1.00	1.00
Sat Flow, veh/h	1407	951	792	1404	387	1257	986	1760	94	746	1682	147
Grp Volume(v), veh/h	45	0	11	18	0	17	9	0	692	13	0	399
Grp Sat Flow(s),veh/h/ln	1407	0	1743	1404	0	1644	986	0	1853	746	0	1829
Q Serve(g_s), s	2.8	0.0	0.5	1.1	0.0	0.9	0.1	0.0	8.5	0.2	0.0	0.0
Cycle Q Clear(g_c), s	3.7	0.0	0.5	1.6	0.0	0.9	0.1	0.0	8.5	8.6	0.0	0.0
Prop In Lane	1.00		0.45	1.00		0.76	1.00		0.05	1.00		0.08
Lane Grp Cap(c), veh/h	148	0	101	153	0	95	910	0	1561	638	0	1540
V/C Ratio(X)	0.30	0.00	0.11	0.12	0.00	0.18	0.01	0.00	0.44	0.02	0.00	0.26
Avail Cap(c_a), veh/h	355	0	358	360	0	338	910	0	1561	638	0	1540
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.85	0.00	0.85	1.00	0.00	1.00	0.57	0.00	0.57	0.97	0.00	0.97
Uniform Delay (d), s/veh	42.1	0.0	40.2	41.0	0.0	40.4	1.1	0.0	1.8	0.5	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.4	0.3	0.0	0.9	0.0	0.0	0.5	0.1	0.0	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	1.0	0.0	0.2	0.4	0.0	0.4	0.0	0.0	0.7	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.1	0.0	40.6	41.3	0.0	41.2	1.1	0.0	2.3	0.5	0.0	0.4
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		56			35			701			412	
Approach Delay, s/veh		42.6			41.3			2.3			0.4	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		80.3		9.7		80.3		9.7
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		62.5		18.5		62.5		18.5
Max Q Clear Time (g_c+I1), s		10.5		5.7		10.6		3.6
Green Ext Time (p_c), s		5.1		0.1		2.5		0.1

Intersection Summary			
HCM 6th Ctrl Delay			4.7
HCM 6th LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	212	182	29	80	243	36	84	402	142	12	194	155
Future Volume (veh/h)	212	182	29	80	243	36	84	402	142	12	194	155
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	1900	1900	1900	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	228	196	31	86	261	39	90	432	153	13	209	167
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	2	2	2	2	2	2	3	3	3
Cap, veh/h	255	337	285	109	346	154	129	619	639	23	363	966
Arrive On Green	0.14	0.18	0.18	0.06	0.10	0.10	0.40	0.40	0.40	0.21	0.21	0.21
Sat Flow, veh/h	1810	1900	1610	1781	3554	1585	320	1535	1585	108	1742	2768
Grp Volume(v), veh/h	228	196	31	86	261	39	522	0	153	222	0	167
Grp Sat Flow(s),veh/h/ln	1810	1900	1610	1781	1777	1585	1854	0	1585	1850	0	1384
Q Serve(g_s), s	14.9	11.4	1.9	5.7	8.6	2.7	28.0	0.0	7.6	13.0	0.0	5.0
Cycle Q Clear(g_c), s	14.9	11.4	1.9	5.7	8.6	2.7	28.0	0.0	7.6	13.0	0.0	5.0
Prop In Lane	1.00		1.00	1.00		1.00	0.17		1.00	0.06		1.00
Lane Grp Cap(c), veh/h	255	337	285	109	346	154	748	0	639	385	0	966
V/C Ratio(X)	0.89	0.58	0.11	0.79	0.75	0.25	0.70	0.00	0.24	0.58	0.00	0.17
Avail Cap(c_a), veh/h	264	413	350	184	622	277	748	0	639	385	0	966
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.98	0.00	0.98
Uniform Delay (d), s/veh	50.7	45.3	41.4	55.6	52.8	50.1	29.7	0.0	23.6	42.7	0.0	27.0
Incr Delay (d2), s/veh	29.2	1.6	0.2	11.9	3.3	0.8	5.3	0.0	0.9	6.0	0.0	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	8.6	5.4	0.8	2.9	3.9	1.1	13.0	0.0	2.9	6.4	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.9	46.9	41.6	67.5	56.1	51.0	35.1	0.0	24.5	48.8	0.0	27.4
LnGrp LOS	E	D	D	E	E	D	D	A	C	D	A	C
Approach Vol, veh/h		455			386			675			389	
Approach Delay, s/veh		63.1			58.1			32.7			39.6	
Approach LOS		E			E			C			D	

Timer - Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		52.9	11.8	25.8		29.5	21.4	16.2
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		38.5	12.4	26.1		25.0	17.5	21.0
Max Q Clear Time (g_c+I1), s		30.0	7.7	13.4		15.0	16.9	10.6
Green Ext Time (p_c), s		2.3	0.1	0.8		1.3	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	46.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	38	14	113	52	53	24	508	107	103	448	17
Future Volume (veh/h)	11	38	14	113	52	53	24	508	107	103	448	17
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	1870	1870	1870	1885	1885	1885	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	12	43	16	128	59	60	27	577	122	117	509	19
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	1	1	1	2	2	2	1	1	1
Cap, veh/h	24	66	24	148	225	191	44	1877	396	133	2438	91
Arrive On Green	0.01	0.05	0.05	0.08	0.12	0.12	0.02	0.64	0.64	0.07	0.69	0.69
Sat Flow, veh/h	1781	1300	484	1795	1885	1598	1781	2921	616	1795	3521	131
Grp Volume(v), veh/h	12	0	59	128	59	60	27	350	349	117	259	269
Grp Sat Flow(s),veh/h/ln	1781	0	1783	1795	1885	1598	1781	1777	1760	1795	1791	1862
Q Serve(g_s), s	0.8	0.0	3.9	8.5	3.4	4.1	1.8	10.5	10.6	7.7	6.2	6.3
Cycle Q Clear(g_c), s	0.8	0.0	3.9	8.5	3.4	4.1	1.8	10.5	10.6	7.7	6.2	6.3
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.35	1.00		0.07
Lane Grp Cap(c), veh/h	24	0	90	148	225	191	44	1142	1131	133	1240	1289
V/C Ratio(X)	0.49	0.00	0.65	0.86	0.26	0.31	0.61	0.31	0.31	0.88	0.21	0.21
Avail Cap(c_a), veh/h	150	0	374	148	393	333	147	1142	1131	133	1240	1289
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.8	0.0	55.9	54.4	48.0	48.4	57.9	9.5	9.5	55.0	6.6	6.6
Incr Delay (d2), s/veh	14.4	0.0	7.8	37.7	0.6	0.9	13.0	0.7	0.7	43.9	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	0.4	0.0	1.9	5.2	1.6	1.6	1.0	3.9	3.8	5.0	2.2	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.2	0.0	63.7	92.0	48.7	49.3	71.0	10.2	10.3	98.9	7.0	7.0
LnGrp LOS	E	A	E	F	D	D	E	B	B	F	A	A
Approach Vol, veh/h		71			247			726			645	
Approach Delay, s/veh		65.3			71.3			12.5			23.7	
Approach LOS		E			E			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	81.6	14.4	10.6	7.5	87.6	6.1	18.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.9	58.0	9.9	25.2	9.9	57.0	10.1	25.0
Max Q Clear Time (g_c+I1), s	9.7	12.6	10.5	5.9	3.8	8.3	2.8	6.1
Green Ext Time (p_c), s	0.0	4.4	0.0	0.2	0.0	3.0	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	27.6
HCM 6th LOS	C

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	15	0	10	1	0	0	3	617	0	1	520	21
Future Vol, veh/h	15	0	10	1	0	0	3	617	0	1	520	21
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	-	-	-	-	-	-	110	-	-	110	-	-
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, %	0	0	0	0	0	0	2	2	2	1	1	1
Mvmt Flow	16	0	11	1	0	0	3	649	0	1	547	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	891	1215	285	931	1226	325	569	0	0	649	0	0
Stage 1	560	560	-	655	655	-	-	-	-	-	-	-
Stage 2	331	655	-	276	571	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.22	-	-	2.21	-	-
Pot Cap-1 Maneuver	*445	*263	*879	*411	*258	677	*1307	-	-	940	-	-
Stage 1	*829	*725	-	*426	*466	-	-	-	-	-	-	-
Stage 2	*662	*466	-	*829	*725	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	*444	*262	*879	*404	*257	677	*1307	-	-	940	-	-
Mov Cap-2 Maneuver	*444	*262	-	*404	*257	-	-	-	-	-	-	-
Stage 1	*827	*725	-	*425	*465	-	-	-	-	-	-	-
Stage 2	*660	*465	-	*818	*725	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.8	13.9	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 1307	-	-	554	404	940	-	-
HCM Lane V/C Ratio	0.002	-	-	0.048	0.003	0.001	-	-
HCM Control Delay (s)	7.8	-	-	11.8	13.9	8.8	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	31	144	364	141	103	273	633	48	104	826	26
Future Volume (veh/h)	49	31	144	364	141	103	273	633	48	104	826	26
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	1870	1870	1870	1870	1870	1870	1841	1841	1841	1885	1885	1885
Adj Flow Rate, veh/h	53	34	157	396	153	112	297	688	52	113	898	28
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, %	2	2	2	2	2	2	4	4	4	1	1	1
Cap, veh/h	68	40	183	384	315	230	292	1386	105	139	1174	37
Arrive On Green	0.04	0.14	0.14	0.22	0.31	0.31	0.17	0.42	0.42	0.08	0.33	0.33
Sat Flow, veh/h	1781	290	1339	1781	1004	735	1753	3296	249	1795	3546	111
Grp Volume(v), veh/h	53	0	191	396	0	265	297	365	375	113	454	472
Grp Sat Flow(s),veh/h/ln	1781	0	1629	1781	0	1738	1753	1749	1796	1795	1791	1865
Q Serve(g_s), s	3.5	0.0	13.8	25.9	0.0	14.8	20.0	18.3	18.4	7.4	27.2	27.2
Cycle Q Clear(g_c), s	3.5	0.0	13.8	25.9	0.0	14.8	20.0	18.3	18.4	7.4	27.2	27.2
Prop In Lane	1.00		0.82	1.00		0.42	1.00		0.14	1.00		0.06
Lane Grp Cap(c), veh/h	68	0	222	384	0	545	292	736	755	139	593	618
V/C Ratio(X)	0.77	0.00	0.86	1.03	0.00	0.49	1.02	0.50	0.50	0.82	0.76	0.76
Avail Cap(c_a), veh/h	135	0	339	384	0	605	292	736	755	169	593	618
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	0.38	0.00	0.38	0.95	0.95	0.95	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.2	0.0	50.7	47.0	0.0	33.3	50.0	25.4	25.5	54.5	35.9	35.9
Incr Delay (d2), s/veh	16.8	0.0	13.0	36.3	0.0	0.3	55.6	2.3	2.2	21.9	9.1	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	6.2	14.8	0.0	6.0	12.9	7.6	7.8	4.1	12.7	13.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.9	0.0	63.7	83.3	0.0	33.6	105.6	27.7	27.7	76.4	45.0	44.7
LnGrp LOS	E	A	E	F	A	C	F	C	C	E	D	D
Approach Vol, veh/h		244			661			1037			1039	
Approach Delay, s/veh		65.9			63.4			50.0			48.3	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	55.0	30.4	20.9	24.5	44.2	9.1	42.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.3	39.8	25.9	25.0	20.0	31.1	9.1	41.8
Max Q Clear Time (g_c+I1), s	9.4	20.4	27.9	15.8	22.0	29.2	5.5	16.8
Green Ext Time (p_c), s	0.0	3.9	0.0	0.6	0.0	1.0	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	53.7
HCM 6th LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	74	75	601	108	138	751
Future Volume (veh/h)	74	75	601	108	138	751
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	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	1826	1826	1841	1841	1885	1885
Adj Flow Rate, veh/h	76	77	620	111	142	774
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	5	5	4	4	1	1
Cap, veh/h	128	114	2011	359	176	2960
Arrive On Green	0.07	0.07	0.68	0.68	0.10	0.83
Sat Flow, veh/h	1739	1547	3056	530	1795	3676
Grp Volume(v), veh/h	76	77	365	366	142	774
Grp Sat Flow(s),veh/h/ln	1739	1547	1749	1745	1795	1791
Q Serve(g_s), s	3.8	4.4	7.6	7.7	7.0	4.3
Cycle Q Clear(g_c), s	3.8	4.4	7.6	7.7	7.0	4.3
Prop In Lane	1.00	1.00		0.30	1.00	
Lane Grp Cap(c), veh/h	128	114	1186	1184	176	2960
V/C Ratio(X)	0.59	0.68	0.31	0.31	0.81	0.26
Avail Cap(c_a), veh/h	493	438	1186	1184	269	2960
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.74	0.74	0.33	0.33
Uniform Delay (d), s/veh	40.4	40.6	5.9	5.9	39.7	1.7
Incr Delay (d2), s/veh	4.3	6.8	0.5	0.5	3.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	1.9	2.1	2.1	3.1	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.7	47.5	6.4	6.4	43.2	1.8
LnGrp LOS	D	D	A	A	D	A
Approach Vol, veh/h	153		731			916
Approach Delay, s/veh	46.1		6.4			8.2
Approach LOS	D		A			A

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	13.3	65.5	78.9	11.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	37.5	55.5	25.5
Max Q Clear Time (g_c+I1), s	9.0	9.7	6.3	6.4
Green Ext Time (p_c), s	0.1	4.2	5.4	0.4

Intersection Summary	
HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	101	24	520	323	78	33	603	162	38	764	48
Future Volume (veh/h)	39	101	24	520	323	78	33	603	162	38	764	48
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	1885	1885	1885	1885	1885	1885	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	42	110	26	565	351	85	36	655	176	41	830	52
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, %	1	1	1	1	1	1	3	3	3	2	2	2
Cap, veh/h	62	144	34	512	511	124	56	1108	297	61	1378	86
Arrive On Green	0.03	0.10	0.10	0.28	0.35	0.35	0.03	0.40	0.40	0.03	0.41	0.41
Sat Flow, veh/h	1795	1474	348	1795	1466	355	1767	2748	738	1781	3396	213
Grp Volume(v), veh/h	42	0	136	565	0	436	36	420	411	41	434	448
Grp Sat Flow(s),veh/h/ln	1795	0	1822	1795	0	1821	1767	1763	1723	1781	1777	1832
Q Serve(g_s), s	2.3	0.0	7.3	28.5	0.0	20.5	2.0	18.7	18.7	2.3	19.2	19.2
Cycle Q Clear(g_c), s	2.3	0.0	7.3	28.5	0.0	20.5	2.0	18.7	18.7	2.3	19.2	19.2
Prop In Lane	1.00		0.19	1.00		0.19	1.00		0.43	1.00		0.12
Lane Grp Cap(c), veh/h	62	0	178	512	0	634	56	711	695	61	721	743
V/C Ratio(X)	0.68	0.00	0.76	1.10	0.00	0.69	0.64	0.59	0.59	0.68	0.60	0.60
Avail Cap(c_a), veh/h	118	0	456	512	0	854	88	711	695	89	721	743
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	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	47.7	0.0	44.0	35.8	0.0	27.9	47.9	23.4	23.4	47.8	23.4	23.4
Incr Delay (d2), s/veh	12.3	0.0	6.6	71.4	0.0	1.4	11.8	3.6	3.7	12.1	3.6	3.5
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	1.2	0.0	3.5	21.8	0.0	8.6	1.0	7.9	7.7	1.2	8.0	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.0	0.0	50.6	107.1	0.0	29.3	59.6	27.0	27.1	59.8	27.0	26.9
LnGrp LOS	E	A	D	F	A	C	E	C	C	E	C	C
Approach Vol, veh/h		178			1001			867			923	
Approach Delay, s/veh		52.8			73.2			28.4			28.4	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	44.8	33.0	14.3	7.7	45.1	7.9	39.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	23.5	28.5	25.0	5.0	23.5	6.6	46.9
Max Q Clear Time (g_c+I1), s	4.3	20.7	30.5	9.3	4.0	21.2	4.3	22.5
Green Ext Time (p_c), s	0.0	1.3	0.0	0.5	0.0	1.1	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	45.0
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	330	0	487	0	0	0	0	1229	140	110	431	0
Future Volume (veh/h)	330	0	487	0	0	0	0	1229	140	110	431	0
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	0	1841				0	1856	1856	1870	1870	0
Adj Flow Rate, veh/h	355	0	524				0	1322	151	118	463	0
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	4	0	4				0	3	3	2	2	0
Cap, veh/h	909	0	734				0	1596	712	218	2094	0
Arrive On Green	0.27	0.00	0.27				0.00	0.45	0.45	0.06	0.59	0.00
Sat Flow, veh/h	3401	0	2745				0	3618	1572	3456	3647	0
Grp Volume(v), veh/h	355	0	524				0	1322	151	118	463	0
Grp Sat Flow(s),veh/h/ln	1700	0	1373				0	1763	1572	1728	1777	0
Q Serve(g_s), s	7.7	0.0	15.6				0.0	29.5	5.2	3.0	5.5	0.0
Cycle Q Clear(g_c), s	7.7	0.0	15.6				0.0	29.5	5.2	3.0	5.5	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	909	0	734				0	1596	712	218	2094	0
V/C Ratio(X)	0.39	0.00	0.71				0.00	0.83	0.21	0.54	0.22	0.00
Avail Cap(c_a), veh/h	1081	0	872				0	1596	712	284	2094	0
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	1.00				0.00	0.68	0.68	0.98	0.98	0.00
Uniform Delay (d), s/veh	27.0	0.0	29.9				0.0	21.6	14.9	40.9	8.7	0.0
Incr Delay (d2), s/veh	1.2	0.0	5.5				0.0	3.5	0.5	0.8	0.2	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
%ile BackOfQ(50%),veh/ln	3.2	0.0	5.5				0.0	11.5	1.8	1.2	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.1	0.0	35.4				0.0	25.1	15.4	41.6	9.0	0.0
LnGrp LOS	C	A	D				A	C	B	D	A	A
Approach Vol, veh/h		879						1473			581	
Approach Delay, s/veh		32.5						24.1			15.6	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	12.3	47.3	30.5	59.5
Change Period (Y+Rc), s	* 6.6	6.5	* 6.4	6.5
Max Green Setting (Gmax), s	* 7.4	34.5	* 29	48.5
Max Q Clear Time (g_c+I1), s	5.0	31.5	17.6	7.5
Green Ext Time (p_c), s	0.0	2.7	6.5	6.5

Intersection Summary	
HCM 6th Ctrl Delay	24.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	136	9	151	296	64	29	331	32	55	804	112
Future Volume (veh/h)	26	136	9	151	296	64	29	331	32	55	804	112
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	1870	1870	1870	1870	1870	1870	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	28	148	10	164	322	70	32	360	35	60	874	122
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, %	2	2	2	2	2	2	3	3	3	1	1	1
Cap, veh/h	48	270	18	175	338	73	52	870	85	78	868	121
Arrive On Green	0.03	0.16	0.16	0.10	0.23	0.23	0.03	0.52	0.52	0.04	0.54	0.54
Sat Flow, veh/h	1781	1732	117	1781	1489	324	1767	1665	162	1795	1619	226
Grp Volume(v), veh/h	28	0	158	164	0	392	32	0	395	60	0	996
Grp Sat Flow(s),veh/h/ln	1781	0	1849	1781	0	1812	1767	0	1826	1795	0	1845
Q Serve(g_s), s	1.6	0.0	7.9	9.1	0.0	21.3	1.8	0.0	13.2	3.3	0.0	53.7
Cycle Q Clear(g_c), s	1.6	0.0	7.9	9.1	0.0	21.3	1.8	0.0	13.2	3.3	0.0	53.7
Prop In Lane	1.00		0.06	1.00		0.18	1.00		0.09	1.00		0.12
Lane Grp Cap(c), veh/h	48	0	289	175	0	411	52	0	955	78	0	990
V/C Ratio(X)	0.58	0.00	0.55	0.94	0.00	0.95	0.61	0.00	0.41	0.77	0.00	1.01
Avail Cap(c_a), veh/h	91	0	333	175	0	411	90	0	955	160	0	990
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)	0.70	0.00	0.70	1.00	0.00	1.00	0.98	0.00	0.98	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.1	0.0	38.9	44.8	0.0	38.1	48.0	0.0	14.5	47.3	0.0	23.2
Incr Delay (d2), s/veh	7.6	0.0	1.1	50.7	0.0	32.4	11.0	0.0	1.3	14.8	0.0	30.2
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	0.8	0.0	3.5	6.3	0.0	12.5	0.9	0.0	5.2	1.7	0.0	28.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.6	0.0	40.1	95.5	0.0	70.6	59.0	0.0	15.8	62.2	0.0	53.4
LnGrp LOS	E	A	D	F	A	E	E	A	B	E	A	F
Approach Vol, veh/h		186			556			427			1056	
Approach Delay, s/veh		42.4			77.9			19.1			53.9	
Approach LOS		D			E			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	56.8	14.3	20.1	7.4	58.2	7.2	27.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.3	45.3	9.8	18.0	5.1	49.1	5.1	22.7
Max Q Clear Time (g_c+I1), s	5.3	15.2	11.1	9.9	3.8	55.7	3.6	23.3
Green Ext Time (p_c), s	0.0	2.3	0.0	0.4	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	52.2
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	8	21	107	8	19	5	293	22	3	905	45
Future Volume (veh/h)	27	8	21	107	8	19	5	293	22	3	905	45
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	1870	1870	1870	1885	1885	1885	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	29	9	23	116	9	21	5	318	24	3	984	49
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, %	2	2	2	1	1	1	2	2	2	1	1	1
Cap, veh/h	228	57	147	227	62	144	354	1334	101	840	1383	69
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.78	0.78	0.78	0.78	0.78	0.78
Sat Flow, veh/h	1380	466	1190	1388	502	1172	546	1717	130	1047	1781	89
Grp Volume(v), veh/h	29	0	32	116	0	30	5	0	342	3	0	1033
Grp Sat Flow(s),veh/h/ln	1380	0	1656	1388	0	1674	546	0	1847	1047	0	1869
Q Serve(g_s), s	1.7	0.0	1.6	7.3	0.0	1.4	0.4	0.0	4.6	0.1	0.0	24.8
Cycle Q Clear(g_c), s	3.2	0.0	1.6	8.9	0.0	1.4	25.2	0.0	4.6	4.6	0.0	24.8
Prop In Lane	1.00		0.72	1.00		0.70	1.00		0.07	1.00		0.05
Lane Grp Cap(c), veh/h	228	0	204	227	0	206	354	0	1435	840	0	1452
V/C Ratio(X)	0.13	0.00	0.16	0.51	0.00	0.15	0.01	0.00	0.24	0.00	0.00	0.71
Avail Cap(c_a), veh/h	342	0	340	341	0	344	354	0	1435	840	0	1452
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)	0.79	0.00	0.79	1.00	0.00	1.00	0.89	0.00	0.89	0.19	0.00	0.19
Uniform Delay (d), s/veh	36.6	0.0	35.3	39.3	0.0	35.2	11.3	0.0	2.7	3.4	0.0	5.0
Incr Delay (d2), s/veh	0.2	0.0	0.3	1.8	0.0	0.3	0.1	0.0	0.3	0.0	0.0	0.6
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	0.6	0.0	0.6	2.6	0.0	0.6	0.1	0.0	1.0	0.0	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.8	0.0	35.6	41.0	0.0	35.6	11.4	0.0	3.1	3.4	0.0	5.6
LnGrp LOS	D	A	D	D	A	D	B	A	A	A	A	A
Approach Vol, veh/h		61			146			347			1036	
Approach Delay, s/veh		36.2			39.9			3.2			5.6	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	74.4	15.6	74.4	15.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	62.5	18.5	62.5	18.5
Max Q Clear Time (g_c+I1), s	27.2	5.2	26.8	10.9
Green Ext Time (p_c), s	2.0	0.1	9.8	0.2

Intersection Summary	
HCM 6th Ctrl Delay	9.4
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	186	47	131	411	23	76	213	244	67	298	632
Future Volume (veh/h)	86	186	47	131	411	23	76	213	244	67	298	632
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	1870	1870	1870	1885	1885	1885	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	93	202	51	142	447	25	83	232	265	73	324	687
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, %	2	2	2	1	1	1	2	2	2	1	1	1
Cap, veh/h	123	279	69	223	549	245	202	564	657	73	324	792
Arrive On Green	0.07	0.10	0.10	0.12	0.15	0.15	0.41	0.41	0.41	0.21	0.21	0.21
Sat Flow, veh/h	1781	2825	697	1795	3582	1598	486	1360	1585	343	1525	2812
Grp Volume(v), veh/h	93	125	128	142	447	25	315	0	265	397	0	687
Grp Sat Flow(s),veh/h/ln	1781	1777	1745	1795	1791	1598	1846	0	1585	1868	0	1406
Q Serve(g_s), s	6.2	8.2	8.5	9.0	14.5	1.6	14.4	0.0	14.1	25.5	0.0	19.5
Cycle Q Clear(g_c), s	6.2	8.2	8.5	9.0	14.5	1.6	14.4	0.0	14.1	25.5	0.0	19.5
Prop In Lane	1.00		0.40	1.00		1.00	0.26		1.00	0.18		1.00
Lane Grp Cap(c), veh/h	123	176	172	223	549	245	766	0	657	397	0	792
V/C Ratio(X)	0.75	0.71	0.74	0.64	0.81	0.10	0.41	0.00	0.40	1.00	0.00	0.87
Avail Cap(c_a), veh/h	364	600	589	223	791	353	766	0	657	397	0	792
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.63	0.00	0.63
Uniform Delay (d), s/veh	54.8	52.4	52.6	50.0	49.1	43.7	24.8	0.0	24.7	47.3	0.0	41.0
Incr Delay (d2), s/veh	8.9	5.3	6.1	6.0	4.3	0.2	1.6	0.0	1.8	35.9	0.0	6.6
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	3.0	3.8	3.9	4.3	6.6	0.6	6.4	0.0	5.4	15.4	0.0	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.7	57.7	58.7	56.0	53.5	43.9	26.4	0.0	26.5	83.1	0.0	47.6
LnGrp LOS	E	E	E	E	D	D	C	A	C	F	A	D
Approach Vol, veh/h		346			614			580			1084	
Approach Delay, s/veh		59.7			53.6			26.5			60.6	
Approach LOS		E			D			C			E	

Timer - Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		54.3	19.4	16.4		30.0	12.8	22.9
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		25.5	10.5	40.5		25.5	24.5	26.5
Max Q Clear Time (g_c+I1), s		16.4	11.0	10.5		27.5	8.2	16.5
Green Ext Time (p_c), s		1.8	0.0	1.3		0.0	0.2	1.9

Intersection Summary			
HCM 6th Ctrl Delay			51.3
HCM 6th LOS			D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	194	23	217	147	109	105	472	359	109	1350	171
Future Volume (veh/h)	45	194	23	217	147	109	105	472	359	109	1350	171
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	1870	1870	1870	1856	1856	1856	1811	1811	1811	1885	1885	1885
Adj Flow Rate, veh/h	49	211	25	236	160	118	114	513	390	118	1467	186
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, %	2	2	2	3	3	3	6	6	6	1	1	1
Cap, veh/h	63	243	29	237	457	388	122	907	689	145	1592	200
Arrive On Green	0.04	0.15	0.15	0.13	0.25	0.25	0.07	0.49	0.49	0.08	0.50	0.50
Sat Flow, veh/h	1781	1641	194	1767	1856	1572	1725	1862	1415	1795	3202	402
Grp Volume(v), veh/h	49	0	236	236	160	118	114	474	429	118	814	839
Grp Sat Flow(s),veh/h/ln	1781	0	1835	1767	1856	1572	1725	1721	1556	1795	1791	1813
Q Serve(g_s), s	3.3	0.0	15.1	16.0	8.5	7.3	7.9	23.4	23.4	7.8	50.2	52.0
Cycle Q Clear(g_c), s	3.3	0.0	15.1	16.0	8.5	7.3	7.9	23.4	23.4	7.8	50.2	52.0
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.91	1.00		0.22
Lane Grp Cap(c), veh/h	63	0	271	237	457	388	122	838	758	145	890	901
V/C Ratio(X)	0.78	0.00	0.87	1.00	0.35	0.30	0.93	0.57	0.57	0.81	0.91	0.93
Avail Cap(c_a), veh/h	132	0	382	237	498	422	122	838	758	230	890	901
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.4	0.0	50.0	51.9	37.3	36.8	55.5	21.8	21.8	54.3	27.8	28.3
Incr Delay (d2), s/veh	18.0	0.0	14.2	57.1	0.5	0.4	60.9	2.8	3.0	11.3	15.4	17.3
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	1.7	0.0	7.7	10.6	3.8	2.8	5.4	9.5	8.7	3.9	23.5	25.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.4	0.0	64.2	109.0	37.7	37.3	116.3	24.5	24.8	65.6	43.2	45.6
LnGrp LOS	E	A	E	F	D	D	F	C	C	E	D	D
Approach Vol, veh/h		285			514			1017			1771	
Approach Delay, s/veh		66.2			70.3			34.9			45.8	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	63.0	20.6	22.2	13.0	64.2	8.8	34.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.4	45.5	16.1	25.0	8.5	52.4	8.9	32.2
Max Q Clear Time (g_c+I1), s	9.8	25.4	18.0	17.1	9.9	54.0	5.3	10.5
Green Ext Time (p_c), s	0.1	5.5	0.0	0.7	0.0	0.0	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	47.9
HCM 6th LOS	D

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	23	0	6	1	0	0	4	712	0	0	960	70
Future Vol, veh/h	23	0	6	1	0	0	4	712	0	0	960	70
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	-	-	-	-	-	-	110	-	-	110	-	-
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, %	5	5	5	0	0	0	4	4	4	1	1	1
Mvmt Flow	25	0	7	1	0	0	4	774	0	0	1043	76

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1476	1863	560	1304	1901	387	1119	0	0	774	0	0
Stage 1	1081	1081	-	782	782	-	-	-	-	-	-	-
Stage 2	395	782	-	522	1119	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	7.5	6.5	6.9	4.18	-	-	4.12	-	-
Critical Hdwy Stg 1	6.6	5.6	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.5	4	3.3	2.24	-	-	2.21	-	-
Pot Cap-1 Maneuver	233	111	*689	*371	107	617	972	-	-	844	-	-
Stage 1	642	565	-	*358	408	-	-	-	-	-	-	-
Stage 2	593	396	-	*659	540	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	232	111	*689	*366	106	617	972	-	-	844	-	-
Mov Cap-2 Maneuver	232	111	-	*366	106	-	-	-	-	-	-	-
Stage 1	640	565	-	*357	406	-	-	-	-	-	-	-
Stage 2	591	394	-	*653	540	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.2	14.9	0	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	972	-	-	269	366	844	-	-
HCM Lane V/C Ratio	0.004	-	-	0.117	0.003	-	-	-
HCM Control Delay (s)	8.7	-	-	20.2	14.9	0	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	0	0	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s   +: Computation Not Defined   *: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	50	307	77	73	37	318	970	160	56	743	68
Future Volume (veh/h)	112	50	307	77	73	37	318	970	160	56	743	68
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	122	54	334	84	79	40	346	1054	174	61	808	74
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, %	2	2	2	2	2	2	2	2	2	3	3	3
Cap, veh/h	133	59	366	107	290	147	346	1323	218	78	924	85
Arrive On Green	0.07	0.26	0.26	0.06	0.25	0.25	0.39	0.87	0.87	0.04	0.28	0.28
Sat Flow, veh/h	1781	225	1394	1781	1171	593	1781	3054	503	1767	3265	299
Grp Volume(v), veh/h	122	0	388	84	0	119	346	612	616	61	436	446
Grp Sat Flow(s),veh/h/ln	1781	0	1619	1781	0	1764	1781	1777	1780	1767	1763	1802
Q Serve(g_s), s	6.1	0.0	20.9	4.2	0.0	4.9	17.5	13.3	13.5	3.1	21.2	21.2
Cycle Q Clear(g_c), s	6.1	0.0	20.9	4.2	0.0	4.9	17.5	13.3	13.5	3.1	21.2	21.2
Prop In Lane	1.00		0.86	1.00		0.34	1.00		0.28	1.00		0.17
Lane Grp Cap(c), veh/h	133	0	425	107	0	438	346	770	771	78	499	510
V/C Ratio(X)	0.92	0.00	0.91	0.79	0.00	0.27	1.00	0.80	0.80	0.78	0.87	0.87
Avail Cap(c_a), veh/h	133	0	473	107	0	490	346	770	771	104	499	510
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.88	0.00	0.88	0.90	0.90	0.90	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	0.0	32.2	41.7	0.0	27.3	27.5	4.3	4.3	42.6	30.7	30.7
Incr Delay (d2), s/veh	54.4	0.0	20.8	28.0	0.0	0.3	45.6	7.6	7.7	23.5	18.8	18.5
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	4.5	0.0	9.9	2.6	0.0	1.9	9.4	3.2	3.3	1.8	10.8	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.8	0.0	52.9	69.7	0.0	27.6	73.1	11.9	12.0	66.0	49.6	49.3
LnGrp LOS	F	A	D	E	A	C	E	B	B	E	D	D
Approach Vol, veh/h		510			203			1574			943	
Approach Delay, s/veh		63.2			45.0			25.3			50.5	
Approach LOS		E			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	43.5	9.9	28.1	22.0	30.0	11.2	26.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.3	35.0	5.4	26.3	17.5	22.8	6.7	25.0
Max Q Clear Time (g_c+I1), s	5.1	15.5	6.2	22.9	19.5	23.2	8.1	6.9
Green Ext Time (p_c), s	0.0	7.4	0.0	0.7	0.0	0.0	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	39.9
HCM 6th LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	109	105	876	89	107	650
Future Volume (veh/h)	109	105	876	89	107	650
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	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	1811	1870	1870	1856	1856
Adj Flow Rate, veh/h	111	107	894	91	109	663
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	6	6	2	2	3	3
Cap, veh/h	166	148	2202	224	137	2834
Arrive On Green	0.10	0.10	1.00	1.00	0.15	1.00
Sat Flow, veh/h	1725	1535	3350	331	1767	3618
Grp Volume(v), veh/h	111	107	488	497	109	663
Grp Sat Flow(s),veh/h/ln	1725	1535	1777	1811	1767	1763
Q Serve(g_s), s	5.6	6.1	0.0	0.0	5.4	0.0
Cycle Q Clear(g_c), s	5.6	6.1	0.0	0.0	5.4	0.0
Prop In Lane	1.00	1.00		0.18	1.00	
Lane Grp Cap(c), veh/h	166	148	1202	1225	137	2834
V/C Ratio(X)	0.67	0.73	0.41	0.41	0.80	0.23
Avail Cap(c_a), veh/h	489	435	1202	1225	265	2834
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.40	0.40	0.54	0.54
Uniform Delay (d), s/veh	39.3	39.5	0.0	0.0	37.3	0.0
Incr Delay (d2), s/veh	4.6	6.6	0.4	0.4	5.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	2.6	0.1	0.1	2.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	43.9	46.1	0.4	0.4	43.0	0.1
LnGrp LOS	D	D	A	A	D	A
Approach Vol, veh/h	218		985			772
Approach Delay, s/veh	45.0		0.4			6.2
Approach LOS	D		A			A

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	11.5	65.4	76.8	13.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	37.5	55.5	25.5
Max Q Clear Time (g_c+I1), s	7.4	2.0	2.0	8.1
Green Ext Time (p_c), s	0.1	6.4	4.5	0.6

Intersection Summary	
HCM 6th Ctrl Delay	7.6
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	342	46	368	127	105	6	685	411	32	694	16
Future Volume (veh/h)	166	342	46	368	127	105	6	685	411	32	694	16
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	1870	1870	1870	1870	1870	1870	1856	1856	1856	1841	1841	1841
Adj Flow Rate, veh/h	168	345	46	372	128	106	6	692	415	32	701	16
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	4	4	4
Cap, veh/h	204	385	51	327	291	241	14	737	441	54	1295	30
Arrive On Green	0.11	0.24	0.24	0.18	0.31	0.31	0.01	0.35	0.35	0.06	0.74	0.74
Sat Flow, veh/h	1781	1616	215	1781	946	783	1767	2121	1269	1753	3495	80
Grp Volume(v), veh/h	168	0	391	372	0	234	6	575	532	32	351	366
Grp Sat Flow(s),veh/h/ln	1781	0	1832	1781	0	1729	1767	1763	1627	1753	1749	1826
Q Serve(g_s), s	8.3	0.0	18.6	16.5	0.0	9.8	0.3	28.4	28.5	1.6	7.8	7.8
Cycle Q Clear(g_c), s	8.3	0.0	18.6	16.5	0.0	9.8	0.3	28.4	28.5	1.6	7.8	7.8
Prop In Lane	1.00		0.12	1.00		0.45	1.00		0.78	1.00		0.04
Lane Grp Cap(c), veh/h	204	0	437	327	0	532	14	613	566	54	648	677
V/C Ratio(X)	0.83	0.00	0.90	1.14	0.00	0.44	0.44	0.94	0.94	0.60	0.54	0.54
Avail Cap(c_a), veh/h	279	0	509	327	0	532	98	613	566	97	648	677
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97
Uniform Delay (d), s/veh	39.0	0.0	33.2	36.8	0.0	25.0	44.5	28.4	28.5	41.7	8.3	8.3
Incr Delay (d2), s/veh	13.4	0.0	16.6	93.0	0.0	0.6	20.6	24.0	25.7	9.9	3.1	3.0
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	4.2	0.0	9.7	15.2	0.0	3.8	0.2	15.0	14.1	0.8	2.4	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.4	0.0	49.8	129.7	0.0	25.5	65.0	52.4	54.1	51.6	11.5	11.3
LnGrp LOS	D	A	D	F	A	C	E	D	D	D	B	B
Approach Vol, veh/h		559			606			1113			749	
Approach Delay, s/veh		50.6			89.5			53.3			13.1	
Approach LOS		D			F			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	35.8	21.0	26.0	5.2	37.8	14.8	32.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	25.5	16.5	25.0	5.0	25.5	14.1	27.4
Max Q Clear Time (g_c+I1), s	3.6	30.5	18.5	20.6	2.3	9.8	10.3	11.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.9	0.0	3.4	0.1	1.0

Intersection Summary	
HCM 6th Ctrl Delay	50.1
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	474	0	867	0	0	0	0	879	135	134	565	0
Future Volume (veh/h)	474	0	867	0	0	0	0	879	135	134	565	0
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	1885	0	1885				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	515	0	942				0	955	147	146	614	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	0	1				0	2	2	2	2	0
Cap, veh/h	1107	0	894				0	1424	635	224	1915	0
Arrive On Green	0.32	0.00	0.32				0.00	0.40	0.40	0.06	0.54	0.00
Sat Flow, veh/h	3483	0	2812				0	3647	1585	3456	3647	0
Grp Volume(v), veh/h	515	0	942				0	955	147	146	614	0
Grp Sat Flow(s),veh/h/ln	1742	0	1406				0	1777	1585	1728	1777	0
Q Serve(g_s), s	10.7	0.0	28.6				0.0	19.8	5.5	3.7	8.7	0.0
Cycle Q Clear(g_c), s	10.7	0.0	28.6				0.0	19.8	5.5	3.7	8.7	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1107	0	894				0	1424	635	224	1915	0
V/C Ratio(X)	0.47	0.00	1.05				0.00	0.67	0.23	0.65	0.32	0.00
Avail Cap(c_a), veh/h	1107	0	894				0	1424	635	284	1915	0
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	1.00				0.00	0.81	0.81	0.97	0.97	0.00
Uniform Delay (d), s/veh	24.6	0.0	30.7				0.0	22.1	17.8	41.1	11.6	0.0
Incr Delay (d2), s/veh	1.3	0.0	45.4				0.0	2.1	0.7	1.5	0.4	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
%ile BackOfQ(50%),veh/ln	4.4	0.0	14.8				0.0	7.9	2.0	1.6	3.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	0.0	76.1				0.0	24.2	18.5	42.6	12.0	0.0
LnGrp LOS	C	A	F				A	C	B	D	B	A
Approach Vol, veh/h		1457						1102			760	
Approach Delay, s/veh		58.4						23.4			17.9	
Approach LOS		E						C			B	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	12.4	42.6		35.0		55.0						
Change Period (Y+Rc), s	* 6.6	6.5		* 6.4		6.5						
Max Green Setting (Gmax), s	* 7.4	34.5		* 29		48.5						
Max Q Clear Time (g_c+I1), s	5.7	21.8		30.6		10.7						
Green Ext Time (p_c), s	0.0	8.5		0.0		8.9						
Intersection Summary												
HCM 6th Ctrl Delay			37.5									
HCM 6th LOS			D									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	75	32	50	62	47	14	605	205	59	354	51
Future Volume (veh/h)	76	75	32	50	62	47	14	605	205	59	354	51
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	83	82	35	54	67	51	15	658	223	64	385	55
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, %	2	2	2	2	2	2	2	2	2	3	3	3
Cap, veh/h	105	136	58	73	91	69	31	806	273	82	1003	143
Arrive On Green	0.06	0.11	0.11	0.04	0.09	0.09	0.03	1.00	1.00	0.05	0.63	0.63
Sat Flow, veh/h	1781	1244	531	1781	985	750	1781	1336	453	1767	1588	227
Grp Volume(v), veh/h	83	0	117	54	0	118	15	0	881	64	0	440
Grp Sat Flow(s),veh/h/ln	1781	0	1775	1781	0	1735	1781	0	1789	1767	0	1815
Q Serve(g_s), s	4.1	0.0	5.7	2.7	0.0	6.0	0.7	0.0	0.0	3.2	0.0	10.6
Cycle Q Clear(g_c), s	4.1	0.0	5.7	2.7	0.0	6.0	0.7	0.0	0.0	3.2	0.0	10.6
Prop In Lane	1.00		0.30	1.00		0.43	1.00		0.25	1.00		0.13
Lane Grp Cap(c), veh/h	105	0	195	73	0	159	31	0	1079	82	0	1147
V/C Ratio(X)	0.79	0.00	0.60	0.74	0.00	0.74	0.48	0.00	0.82	0.78	0.00	0.38
Avail Cap(c_a), veh/h	105	0	359	101	0	347	99	0	1079	104	0	1147
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.00	0.64	1.00	0.00	1.00	0.88	0.00	0.88	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.8	0.0	38.2	42.7	0.0	39.8	43.0	0.0	0.0	42.5	0.0	8.1
Incr Delay (d2), s/veh	22.6	0.0	1.9	16.3	0.0	6.6	10.0	0.0	6.1	24.9	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	2.4	1.5	0.0	2.7	0.4	0.0	1.8	1.9	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.4	0.0	40.1	59.0	0.0	46.4	53.0	0.0	6.1	67.3	0.0	9.0
LnGrp LOS	E	A	D	E	A	D	D	A	A	E	A	A
Approach Vol, veh/h		200			172			896			504	
Approach Delay, s/veh		50.2			50.4			6.9			16.4	
Approach LOS		D			D			A			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	58.8	8.2	14.4	6.1	61.4	9.8	12.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.3	43.4	5.1	18.2	5.0	43.7	5.3	18.0
Max Q Clear Time (g_c+I1), s	5.2	2.0	4.7	7.7	2.7	12.6	6.1	8.0
Green Ext Time (p_c), s	0.0	7.6	0.0	0.3	0.0	2.6	0.0	0.3

Intersection Summary		
HCM 6th Ctrl Delay		18.7
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	6	5	23	4	13	8	640	74	13	404	31
Future Volume (veh/h)	44	6	5	23	4	13	8	640	74	13	404	31
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	1885	1885	1885	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	47	6	5	25	4	14	9	688	80	14	434	33
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	3	3	3
Cap, veh/h	151	58	48	157	22	78	857	1380	160	582	1428	109
Arrive On Green	0.06	0.06	0.06	0.06	0.06	0.06	0.84	0.84	0.84	1.00	1.00	1.00
Sat Flow, veh/h	1406	951	792	1404	365	1276	926	1645	191	695	1703	129
Grp Volume(v), veh/h	47	0	11	25	0	18	9	0	768	14	0	467
Grp Sat Flow(s),veh/h/ln	1406	0	1743	1404	0	1641	926	0	1836	695	0	1832
Q Serve(g_s), s	3.0	0.0	0.5	1.5	0.0	0.9	0.1	0.0	10.4	0.3	0.0	0.0
Cycle Q Clear(g_c), s	3.9	0.0	0.5	2.1	0.0	0.9	0.1	0.0	10.4	10.7	0.0	0.0
Prop In Lane	1.00		0.45	1.00		0.78	1.00		0.10	1.00		0.07
Lane Grp Cap(c), veh/h	151	0	107	157	0	100	857	0	1540	582	0	1537
V/C Ratio(X)	0.31	0.00	0.10	0.16	0.00	0.18	0.01	0.00	0.50	0.02	0.00	0.30
Avail Cap(c_a), veh/h	354	0	358	360	0	337	857	0	1540	582	0	1537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.85	0.00	0.85	1.00	0.00	1.00	0.20	0.00	0.20	0.93	0.00	0.93
Uniform Delay (d), s/veh	42.0	0.0	39.9	40.9	0.0	40.1	1.2	0.0	2.0	0.7	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.4	0.5	0.0	0.8	0.0	0.0	0.2	0.1	0.0	0.5
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	1.1	0.0	0.2	0.6	0.0	0.4	0.0	0.0	0.7	0.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	0.0	40.3	41.4	0.0	40.9	1.2	0.0	2.2	0.8	0.0	0.5
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		58			43			777			481	
Approach Delay, s/veh		42.4			41.2			2.2			0.5	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		80.0		10.0		80.0		10.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		62.5		18.5		62.5		18.5				
Max Q Clear Time (g_c+I1), s		12.4		5.9		12.7		4.1				
Green Ext Time (p_c), s		6.0		0.1		3.1		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			4.6									
HCM 6th LOS			A									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	352	501	30	106	355	46	88	421	167	20	203	201
Future Volume (veh/h)	352	501	30	106	355	46	88	421	167	20	203	201
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	1900	1900	1900	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	378	539	32	114	382	49	95	453	180	22	218	216
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	2	2	2	2	2	2	3	3	3
Cap, veh/h	369	661	39	266	484	216	114	545	563	26	259	992
Arrive On Green	0.20	0.19	0.19	0.15	0.14	0.14	0.36	0.36	0.36	0.15	0.15	0.15
Sat Flow, veh/h	1810	3463	205	1781	3554	1585	321	1533	1585	169	1678	2768
Grp Volume(v), veh/h	378	281	290	114	382	49	548	0	180	240	0	216
Grp Sat Flow(s),veh/h/ln	1810	1805	1863	1781	1777	1585	1854	0	1585	1847	0	1384
Q Serve(g_s), s	24.5	17.9	17.9	7.0	12.5	3.3	32.4	0.0	9.9	15.2	0.0	0.0
Cycle Q Clear(g_c), s	24.5	17.9	17.9	7.0	12.5	3.3	32.4	0.0	9.9	15.2	0.0	0.0
Prop In Lane	1.00		0.11	1.00		1.00	0.17		1.00	0.09		1.00
Lane Grp Cap(c), veh/h	369	345	356	266	484	216	659	0	563	285	0	992
V/C Ratio(X)	1.02	0.81	0.82	0.43	0.79	0.23	0.83	0.00	0.32	0.84	0.00	0.22
Avail Cap(c_a), veh/h	369	609	629	266	785	350	659	0	563	393	0	1153
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	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.97	0.00	0.97
Uniform Delay (d), s/veh	47.8	46.5	46.5	46.4	50.2	46.2	35.4	0.0	28.1	49.3	0.0	26.8
Incr Delay (d2), s/veh	52.9	4.7	4.6	1.1	2.9	0.5	11.7	0.0	1.5	11.1	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.1	8.2	8.5	3.1	5.6	1.3	16.1	0.0	3.9	7.7	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	100.6	51.2	51.1	47.5	53.1	46.7	47.1	0.0	29.6	60.4	0.0	26.9
LnGrp LOS	F	D	D	D	D	D	D	A	C	E	A	C
Approach Vol, veh/h		949			545			728			456	
Approach Delay, s/veh		70.8			51.3			42.8			44.5	
Approach LOS		E			D			D			D	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		47.1	22.4	27.4		23.0	29.0	20.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		25.5	10.5	40.5		25.5	24.5	26.5				
Max Q Clear Time (g_c+I1), s		34.4	9.0	19.9		17.2	26.5	14.5				
Green Ext Time (p_c), s		0.0	0.0	3.0		1.4	0.0	1.9				
Intersection Summary												
HCM 6th Ctrl Delay			54.8									
HCM 6th LOS			D									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	123	40	74	119	55	56	59	1505	112	108	889	41
Future Volume (veh/h)	123	40	74	119	55	56	59	1505	112	108	889	41
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	1870	1870	1870	1885	1885	1885	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	134	43	80	129	60	61	64	1636	122	117	966	45
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, %	2	2	2	1	1	1	2	2	2	1	1	1
Cap, veh/h	150	54	100	148	171	145	82	2016	149	133	2192	102
Arrive On Green	0.08	0.09	0.09	0.08	0.09	0.09	0.05	0.60	0.60	0.07	0.63	0.63
Sat Flow, veh/h	1781	585	1089	1795	1885	1598	1781	3354	248	1795	3485	162
Grp Volume(v), veh/h	134	0	123	129	60	61	64	860	898	117	496	515
Grp Sat Flow(s),veh/h/ln	1781	0	1674	1795	1885	1598	1781	1777	1826	1795	1791	1856
Q Serve(g_s), s	8.9	0.0	8.6	8.5	3.6	4.3	4.3	44.9	46.3	7.7	17.1	17.1
Cycle Q Clear(g_c), s	8.9	0.0	8.6	8.5	3.6	4.3	4.3	44.9	46.3	7.7	17.1	17.1
Prop In Lane	1.00		0.65	1.00		1.00	1.00		0.14	1.00		0.09
Lane Grp Cap(c), veh/h	150	0	154	148	171	145	82	1068	1097	133	1127	1167
V/C Ratio(X)	0.89	0.00	0.80	0.87	0.35	0.42	0.78	0.81	0.82	0.88	0.44	0.44
Avail Cap(c_a), veh/h	150	0	352	148	393	333	147	1068	1097	133	1127	1167
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	0.0	53.4	54.4	51.3	51.6	56.6	18.5	18.8	55.0	11.4	11.4
Incr Delay (d2), s/veh	43.9	0.0	9.0	39.1	1.2	1.9	14.4	6.5	6.8	43.9	1.3	1.2
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	5.7	0.0	3.9	5.3	1.7	1.8	2.2	18.2	19.3	5.0	6.4	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.3	0.0	62.3	93.5	52.5	53.5	71.0	25.0	25.6	98.9	12.7	12.6
LnGrp LOS	F	A	E	F	D	D	E	C	C	F	B	B
Approach Vol, veh/h		257			250			1822			1128	
Approach Delay, s/veh		81.1			73.9			26.9			21.6	
Approach LOS		F			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	76.6	14.4	15.6	10.0	80.0	14.6	15.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.9	58.0	9.9	25.2	9.9	57.0	10.1	25.0
Max Q Clear Time (g_c+I1), s	9.7	48.3	10.5	10.6	6.3	19.1	10.9	6.3
Green Ext Time (p_c), s	0.0	7.1	0.0	0.4	0.0	6.9	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	32.6
HCM 6th LOS	C

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	16	0	12	1	0	0	3	1101	0	1	785	24
Future Vol, veh/h	16	0	12	1	0	0	3	1101	0	1	785	24
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	-	-	-	-	-	-	110	-	-	110	-	-
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, %	0	0	0	0	0	0	2	2	2	1	1	1
Mvmt Flow	17	0	13	1	0	0	3	1159	0	1	826	25

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1427	2006	426	1580	2018	580	851	0	0	1159	0	0
Stage 1	841	841	-	1165	1165	-	-	-	-	-	-	-
Stage 2	586	1165	-	415	853	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.22	-	-	2.21	-	-
Pot Cap-1 Maneuver	*202	*76	*776	*141	*74	463	*1154	-	-	604	-	-
Stage 1	*732	*641	-	*210	*271	-	-	-	-	-	-	-
Stage 2	*468	*271	-	*732	*641	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1		1	-	-		-	-
Mov Cap-1 Maneuver	*201	*75	*776	*138	*74	463	*1154	-	-	604	-	-
Mov Cap-2 Maneuver	*201	*75	-	*138	*74	-	-	-	-	-	-	-
Stage 1	*730	*639	-	*209	*270	-	-	-	-	-	-	-
Stage 2	*467	*270	-	*719	*639	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.6	31.3	0	0
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 1154	-	-	295	138	604	-	-
HCM Lane V/C Ratio	0.003	-	-	0.1	0.008	0.002	-	-
HCM Control Delay (s)	8.1	-	-	18.6	31.3	11	-	-
HCM Lane LOS	A	-	-	C	D	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

APPENDIX F

QUEUING ANALYSIS WORKSHEETS

Intersection: 3: Fowler Avenue & Olive Avenue

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	54	64	300	388	307	1284
Average Queue (ft)	24	38	145	79	182	1042
95th Queue (ft)	46	61	280	246	291	1498
Link Distance (ft)		1019		1679	644	1276
Upstream Blk Time (%)						4
Queuing Penalty (veh)						21
Storage Bay Dist (ft)	190		200			
Storage Blk Time (%)			17			
Queuing Penalty (veh)			26			

Lane Group	WBL	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	20	67	437	816	198	735
v/c Ratio	0.08	0.24	0.16	0.52	0.07	0.47
Control Delay	22.3	9.0	3.7	1.2	3.7	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	9.0	3.7	1.2	3.7	1.0
Queue Length 50th (ft)	6	0	27	0	11	0
Queue Length 95th (ft)	22	28	49	0	24	0
Internal Link Dist (ft)			504		515	
Turn Bay Length (ft)		650		420		
Base Capacity (vph)	596	577	2757	1583	2730	1568
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	0.03	0.12	0.16	0.52	0.07	0.47

Intersection Summary

Lane Group	EBL	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	235	373	1032	37	32	188
v/c Ratio	0.41	0.48	0.49	0.04	0.13	0.08
Control Delay	33.7	5.7	12.5	0.1	38.5	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.7	5.7	12.5	0.1	38.5	4.9
Queue Length 50th (ft)	58	0	180	0	8	15
Queue Length 95th (ft)	89	38	257	0	22	28
Internal Link Dist (ft)			605			504
Turn Bay Length (ft)	380	230		180	260	
Base Capacity (vph)	810	943	2102	992	602	2418
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	0.29	0.40	0.49	0.04	0.05	0.08

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	73	206	100	125	124	119	873	132	146	397	24
v/c Ratio	0.54	0.52	0.64	0.26	0.38	0.68	0.42	0.14	0.56	0.20	0.03
Control Delay	76.8	53.6	79.0	55.5	12.1	80.1	18.2	6.1	70.9	16.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.8	53.6	79.0	55.5	12.1	80.1	18.2	6.1	70.9	16.8	0.0
Queue Length 50th (ft)	65	78	90	55	0	107	221	15	67	89	0
Queue Length 95th (ft)	116	118	147	85	58	169	330	54	102	149	0
Internal Link Dist (ft)		886		540			374			605	
Turn Bay Length (ft)	225		245		60	245		165	275		130
Base Capacity (vph)	265	1021	265	1036	551	265	2057	958	520	2019	943
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.20	0.38	0.12	0.23	0.45	0.42	0.14	0.28	0.20	0.03

Intersection Summary

Queuing and Blocking Report

Intersection: 8: Armstrong Avenue & Floradora Avenue

Movement	EB	EB	WB
Directions Served	LT	R	LTR
Maximum Queue (ft)	31	51	73
Average Queue (ft)	9	13	35
95th Queue (ft)	32	39	57
Link Distance (ft)	2585		2583
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		85	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 9: Armstrong Avenue & Olive Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	T	R	LT	R	LT	R	R
Maximum Queue (ft)	40	76	10	219	233	201	40	111	66	114	121	64
Average Queue (ft)	16	24	3	48	83	27	12	54	36	65	61	30
95th Queue (ft)	29	50	9	109	147	89	28	97	61	95	101	54
Link Distance (ft)		821			454	454		1061		1245		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		105	145			145		50		185	185
Storage Blk Time (%)					2			13	2			
Queuing Penalty (veh)					2			25	5			

Queuing and Blocking Report

Intersection: 10: Temperance Avenue & McKinley Avenue

Movement	WB	WB	SB
Directions Served	L	R	L
Maximum Queue (ft)	68	49	53
Average Queue (ft)	32	28	20
95th Queue (ft)	67	36	49
Link Distance (ft)		775	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	140		155
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Fowler Avenue & Olive Avenue

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	185	116	74	122	341	353
Average Queue (ft)	52	50	48	42	169	157
95th Queue (ft)	107	87	73	81	297	289
Link Distance (ft)		1019		1679	644	1276
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	190		200			
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Lane Group	WBL	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	36	39	528	387	355	328
v/c Ratio	0.14	0.14	0.19	0.24	0.13	0.21
Control Delay	22.9	4.9	3.9	0.4	3.8	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.9	4.9	3.9	0.4	3.8	0.3
Queue Length 50th (ft)	12	0	35	0	22	0
Queue Length 95th (ft)	32	14	60	0	40	0
Internal Link Dist (ft)			504		515	
Turn Bay Length (ft)		650		420		
Base Capacity (vph)	596	573	2742	1583	2716	1568
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	0.06	0.07	0.19	0.24	0.13	0.21

Intersection Summary

Lane Group	EBL	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	362	799	564	24	82	313
v/c Ratio	0.50	0.66	0.31	0.03	0.30	0.14
Control Delay	32.0	5.0	14.2	0.0	39.8	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.0	5.0	14.2	0.0	39.8	6.7
Queue Length 50th (ft)	89	0	93	0	22	31
Queue Length 95th (ft)	122	46	149	0	43	55
Internal Link Dist (ft)			605			504
Turn Bay Length (ft)	380	230		180	260	
Base Capacity (vph)	829	1281	1821	876	602	2290
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	0.44	0.62	0.31	0.03	0.14	0.14

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	62	205	85	102	82	74	444	95	188	795	54
v/c Ratio	0.50	0.53	0.59	0.23	0.30	0.55	0.21	0.10	0.64	0.36	0.05
Control Delay	75.8	41.6	78.0	56.9	11.8	77.3	14.9	3.3	71.5	15.0	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.8	41.6	78.0	56.9	11.8	77.3	14.9	3.3	71.5	15.0	0.7
Queue Length 50th (ft)	56	58	76	45	0	66	94	0	87	180	0
Queue Length 95th (ft)	103	98	131	73	44	117	153	29	125	281	5
Internal Link Dist (ft)		886		540			374			605	
Turn Bay Length (ft)	225		245		60	245		165	275		130
Base Capacity (vph)	265	1032	265	1036	526	265	2087	972	520	2231	1033
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.20	0.32	0.10	0.16	0.28	0.21	0.10	0.36	0.36	0.05

Intersection Summary

Intersection: 8: Armstrong Avenue & Floradora Avenue

Movement	EB	WB
Directions Served	LT	LTR
Maximum Queue (ft)	56	51
Average Queue (ft)	6	9
95th Queue (ft)	30	32
Link Distance (ft)	2585	2583
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 9: Armstrong Avenue & Olive Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	T	R	LT	R	LT	R	R
Maximum Queue (ft)	45	104	9	75	126	44	20	502	150	104	63	45
Average Queue (ft)	27	40	3	35	56	9	9	168	80	41	25	5
95th Queue (ft)	47	77	9	60	96	29	20	375	174	72	46	22
Link Distance (ft)		821			454	454		1061		1245		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		105	145			145		50		185	185
Storage Blk Time (%)		0			0			55	2			
Queuing Penalty (veh)		0			0			78	6			

Queuing and Blocking Report

Intersection: 10: Temperance Avenue & McKinley Avenue

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	L
Maximum Queue (ft)	67	30	22	54
Average Queue (ft)	29	22	1	26
95th Queue (ft)	59	33	8	55
Link Distance (ft)		775	1308	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	140			155
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Fowler Avenue & Olive Avenue

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	51	100	300	362	534	708
Average Queue (ft)	20	38	146	56	320	528
95th Queue (ft)	46	69	241	157	494	727
Link Distance (ft)		1019		1679	644	1276
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	190		200			
Storage Blk Time (%)			7			
Queuing Penalty (veh)			11			

Lane Group	WBL	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	20	67	454	816	218	764
v/c Ratio	0.08	0.24	0.16	0.52	0.08	0.49
Control Delay	22.3	9.0	3.7	1.2	3.6	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	9.0	3.7	1.2	3.6	1.1
Queue Length 50th (ft)	6	0	28	0	12	0
Queue Length 95th (ft)	22	28	51	0	26	0
Internal Link Dist (ft)			504		515	
Turn Bay Length (ft)		650		420		
Base Capacity (vph)	596	577	2757	1583	2730	1568
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	0.03	0.12	0.16	0.52	0.08	0.49

Intersection Summary

Lane Group	EBL	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	245	373	1038	37	32	209
v/c Ratio	0.42	0.48	0.50	0.04	0.13	0.09
Control Delay	33.7	5.6	12.7	0.1	38.5	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.7	5.6	12.7	0.1	38.5	5.1
Queue Length 50th (ft)	61	0	182	0	8	17
Queue Length 95th (ft)	92	38	261	0	22	32
Internal Link Dist (ft)			605			504
Turn Bay Length (ft)	380	230		180	260	
Base Capacity (vph)	810	943	2092	988	602	2409
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	0.30	0.40	0.50	0.04	0.05	0.09

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	73	210	100	136	124	119	879	132	146	418	24
v/c Ratio	0.54	0.53	0.64	0.27	0.38	0.68	0.43	0.14	0.56	0.21	0.03
Control Delay	76.8	54.3	79.0	55.6	11.9	80.1	18.4	6.2	70.9	17.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.8	54.3	79.0	55.6	11.9	80.1	18.4	6.2	70.9	17.0	0.0
Queue Length 50th (ft)	65	81	90	60	0	107	224	15	67	95	0
Queue Length 95th (ft)	116	121	147	91	58	169	335	55	102	158	0
Internal Link Dist (ft)		886		540			374			605	
Turn Bay Length (ft)	225		245		60	245		165	275		130
Base Capacity (vph)	265	1020	265	1036	551	265	2051	956	520	2013	940
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.21	0.38	0.13	0.23	0.45	0.43	0.14	0.28	0.21	0.03

Intersection Summary

Intersection: 8: Armstrong Avenue & Floradora Avenue

Movement	EB	EB	WB	NB
Directions Served	LT	R	LTR	L
Maximum Queue (ft)	32	31	74	20
Average Queue (ft)	12	19	32	1
95th Queue (ft)	37	43	57	7
Link Distance (ft)	2585		2577	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		85		170
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Armstrong Avenue & Olive Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	T	R	LT	R	LT	R	R
Maximum Queue (ft)	64	98	29	64	197	138	41	134	88	207	158	84
Average Queue (ft)	27	25	4	35	95	32	12	59	40	84	74	36
95th Queue (ft)	50	59	14	56	160	91	27	103	70	160	118	64
Link Distance (ft)		821			454	454		1061		1245		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		105	145			145		50		185	185
Storage Blk Time (%)		0			1	0		15	5	1		
Queuing Penalty (veh)		0			2	0		29	10	6		

Queuing and Blocking Report

Intersection: 10: Temperance Avenue & McKinley Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	T	R	L	TR	L
Maximum Queue (ft)	31	31	68	26	60	31	40	50
Average Queue (ft)	2	8	25	3	28	2	2	18
95th Queue (ft)	14	27	49	15	41	14	11	42
Link Distance (ft)		1820		776			1308	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	140		140		140	155		155
Storage Blk Time (%)								
Queuing Penalty (veh)								

Queuing and Blocking Report

Intersection: 3: Fowler Avenue & Olive Avenue

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	74	74	136	72	345	294
Average Queue (ft)	44	47	67	43	178	143
95th Queue (ft)	65	77	106	64	305	257
Link Distance (ft)		1019		1679	644	1276
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	190		200			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Lane Group	WBL	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	36	39	585	387	370	348
v/c Ratio	0.14	0.14	0.21	0.24	0.14	0.22
Control Delay	22.9	4.9	4.0	0.4	3.8	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.9	4.9	4.0	0.4	3.8	0.3
Queue Length 50th (ft)	12	0	40	0	23	0
Queue Length 95th (ft)	32	14	66	0	42	0
Internal Link Dist (ft)			504		515	
Turn Bay Length (ft)		650		420		
Base Capacity (vph)	596	573	2742	1583	2716	1568
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	0.06	0.07	0.21	0.24	0.14	0.22

Intersection Summary

Lane Group	EBL	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	396	799	587	24	82	327
v/c Ratio	0.53	0.65	0.33	0.03	0.30	0.15
Control Delay	31.8	4.8	14.8	0.0	39.8	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.8	4.8	14.8	0.0	39.8	7.1
Queue Length 50th (ft)	97	0	99	0	22	33
Queue Length 95th (ft)	130	46	159	0	43	59
Internal Link Dist (ft)			605			504
Turn Bay Length (ft)	380	230		180	260	
Base Capacity (vph)	838	1286	1789	863	602	2268
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	0.47	0.62	0.33	0.03	0.14	0.14

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	62	219	85	110	82	74	467	95	188	809	54
v/c Ratio	0.50	0.54	0.59	0.24	0.29	0.55	0.23	0.10	0.64	0.37	0.05
Control Delay	75.8	43.2	78.0	56.5	11.6	77.3	15.4	3.4	71.5	15.4	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	75.8	43.2	78.0	56.5	11.6	77.3	15.4	3.4	71.5	15.4	0.7
Queue Length 50th (ft)	56	65	76	48	0	66	101	0	87	186	0
Queue Length 95th (ft)	103	105	131	77	43	117	162	29	125	290	5
Internal Link Dist (ft)		886		540			374			605	
Turn Bay Length (ft)	225		245		60	245		165	275		130
Base Capacity (vph)	265	1036	265	1036	526	265	2072	966	520	2216	1026
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.21	0.32	0.11	0.16	0.28	0.23	0.10	0.36	0.37	0.05

Intersection Summary

Intersection: 8: Armstrong Avenue & Floradora Avenue

Movement	EB	EB	WB	SB
Directions Served	LT	R	LTR	L
Maximum Queue (ft)	31	32	31	27
Average Queue (ft)	7	3	12	2
95th Queue (ft)	28	19	37	13
Link Distance (ft)	2585		2577	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		85		100
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: Armstrong Avenue & Olive Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	T	R	LT	R	LT	R	R
Maximum Queue (ft)	65	81	9	66	106	23	42	224	150	72	64	44
Average Queue (ft)	43	36	2	31	55	9	13	97	49	41	32	12
95th Queue (ft)	62	69	7	55	85	26	31	178	119	67	56	30
Link Distance (ft)		821			454	454		1061		1245		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	200		105	145			145		50		185	185
Storage Blk Time (%)								38	1			
Queuing Penalty (veh)								55	5			

Queuing and Blocking Report

Intersection: 10: Temperance Avenue & McKinley Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	T	R	L	TR	L
Maximum Queue (ft)	26	25	68	27	30	30	49	91
Average Queue (ft)	4	7	28	4	18	2	2	30
95th Queue (ft)	18	24	59	18	37	14	18	62
Link Distance (ft)		1820		776			1308	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	140		140		140	155		155
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 3: Fowler Avenue & Olive Avenue

Movement	EB	EB	WB	WB	B28	B28	NB	B34	B34	SB
Directions Served	L	TR	L	TR	T		LTR	T		LTR
Maximum Queue (ft)	53	97	300	1791	851	848	751	586	595	1286
Average Queue (ft)	20	39	298	1330	482	415	724	548	552	1280
95th Queue (ft)	44	63	308	2386	1121	1100	745	564	591	1284
Link Distance (ft)		1019		1679	821	821	644	533	533	1276
Upstream Blk Time (%)				53	26	9	100	59	31	30
Queuing Penalty (veh)				538	122	43	779	230	120	234
Storage Bay Dist (ft)	190		200							
Storage Blk Time (%)			97							
Queuing Penalty (veh)			195							

Lane Group	WBL	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	120	126	731	941	416	905
v/c Ratio	0.35	0.32	0.31	0.59	0.17	0.57
Control Delay	23.3	7.0	6.5	1.7	5.8	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.3	7.0	6.5	1.7	5.8	1.5
Queue Length 50th (ft)	38	1	61	0	31	0
Queue Length 95th (ft)	73	35	105	0	57	0
Internal Link Dist (ft)			504		515	
Turn Bay Length (ft)		650		420		
Base Capacity (vph)	613	624	2357	1583	2380	1599
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	0.20	0.20	0.31	0.59	0.17	0.57

Intersection Summary

Lane Group	EBL	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	339	471	1259	143	113	442
v/c Ratio	0.52	0.52	0.69	0.16	0.38	0.19
Control Delay	33.3	5.0	19.9	4.1	40.3	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.3	5.0	19.9	4.1	40.3	6.4
Queue Length 50th (ft)	84	0	269	4	30	43
Queue Length 95th (ft)	120	40	398	37	54	71
Internal Link Dist (ft)			605			504
Turn Bay Length (ft)	380	230		180	260	
Base Capacity (vph)	787	1000	1821	876	602	2313
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	0.43	0.47	0.69	0.16	0.19	0.19

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	133	331	159	206	293	143	1085	208	379	542	60
v/c Ratio	0.72	0.65	0.78	0.38	0.60	0.72	0.69	0.27	0.79	0.32	0.08
Control Delay	81.0	58.6	84.6	53.9	10.7	79.9	36.3	16.4	69.9	25.3	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.0	58.6	84.6	53.9	10.7	79.9	36.3	16.4	69.9	25.3	1.9
Queue Length 50th (ft)	119	143	142	88	0	128	415	61	174	158	0
Queue Length 95th (ft)	175	178	206	120	66	185	550	131	210	232	9
Internal Link Dist (ft)		886		540			374			605	
Turn Bay Length (ft)	225		245		60	245		165	275		130
Base Capacity (vph)	255	984	255	997	653	269	1574	757	533	1677	798
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.34	0.62	0.21	0.45	0.53	0.69	0.27	0.71	0.32	0.08

Intersection Summary

Intersection: 8: Armstrong Avenue & Floradora Avenue

Movement	EB	EB	WB	NB	SB	SB
Directions Served	LT	R	LTR	L	L	TR
Maximum Queue (ft)	94	76	203	20	27	222
Average Queue (ft)	23	19	61	1	1	8
95th Queue (ft)	62	54	145	9	9	44
Link Distance (ft)	2585		2577			1319
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		85		170	100	
Storage Blk Time (%)	1	0				1
Queuing Penalty (veh)	0	0				0

Intersection: 9: Armstrong Avenue & Olive Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	T	R	LT	R	LT	R	R
Maximum Queue (ft)	42	38	42	220	437	375	20	506	150	1255	315	250
Average Queue (ft)	24	23	7	63	225	168	9	189	100	438	195	133
95th Queue (ft)	41	41	24	172	368	318	24	415	189	1134	384	284
Link Distance (ft)		821			454	454		1061		1245		
Upstream Blk Time (%)					0					1		
Queuing Penalty (veh)					0					6		
Storage Bay Dist (ft)	200		105	145			145		50		185	185
Storage Blk Time (%)					52	14		63	8	24	33	29
Queuing Penalty (veh)					55	3		119	21	128	105	92

Intersection: 10: Temperance Avenue & McKinley Avenue

Movement	EB	EB	B30	WB	WB	WB	NB	NB	SB
Directions Served	L	TR	T	L	T	R	L	TR	L
Maximum Queue (ft)	315	1892	83	315	839	80	30	52	67
Average Queue (ft)	68	1242	4	315	793	33	3	20	34
95th Queue (ft)	281	2036	30	316	809	67	17	48	64
Link Distance (ft)		1820	118		776			1308	
Upstream Blk Time (%)		7			99				
Queuing Penalty (veh)		14			0				
Storage Bay Dist (ft)	140			140		140	155		155
Storage Blk Time (%)		100		100	1				
Queuing Penalty (veh)		14		244	2				

Intersection: 3: Fowler Avenue & Olive Avenue

Movement	EB	EB	WB	WB	NB	B34	B34	SB
Directions Served	L	TR	L	TR	LTR	T		LTR
Maximum Queue (ft)	96	96	181	65	752	577	577	1287
Average Queue (ft)	49	56	75	45	718	548	541	1280
95th Queue (ft)	77	91	123	64	733	565	610	1285
Link Distance (ft)		1019		1679	644	533	533	1276
Upstream Blk Time (%)					100	53	26	27
Queuing Penalty (veh)					883	236	116	193
Storage Bay Dist (ft)	190		200					
Storage Blk Time (%)			0					
Queuing Penalty (veh)			0					

Lane Group	WBL	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	137	117	843	510	580	432
v/c Ratio	0.39	0.31	0.36	0.32	0.25	0.28
Control Delay	23.4	9.7	7.3	0.5	6.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	9.7	7.3	0.5	6.6	0.4
Queue Length 50th (ft)	43	9	75	0	47	0
Queue Length 95th (ft)	80	42	130	0	85	0
Internal Link Dist (ft)			504		515	
Turn Bay Length (ft)		650		420		
Base Capacity (vph)	596	590	2322	1583	2300	1568
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	0.23	0.20	0.36	0.32	0.25	0.28

Intersection Summary

Lane Group	EBL	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	498	908	842	142	141	592
v/c Ratio	0.61	0.84	0.54	0.18	0.44	0.27
Control Delay	32.5	20.0	19.7	3.6	40.6	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	20.0	19.7	3.6	40.6	8.3
Queue Length 50th (ft)	118	98	177	0	37	76
Queue Length 95th (ft)	174	#222	234	32	64	96
Internal Link Dist (ft)			605			504
Turn Bay Length (ft)	380	230		180	260	
Base Capacity (vph)	855	1109	1567	780	602	2217
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	0.58	0.82	0.54	0.18	0.23	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	105	302	158	190	249	92	625	154	357	935	88
v/c Ratio	0.65	0.62	0.77	0.34	0.54	0.61	0.38	0.19	0.77	0.50	0.10
Control Delay	79.2	55.3	82.7	53.1	10.2	78.5	26.8	7.8	70.1	24.5	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.2	55.3	82.7	53.1	10.2	78.5	26.8	7.8	70.1	24.5	4.3
Queue Length 50th (ft)	94	121	141	81	0	82	191	15	164	282	0
Queue Length 95th (ft)	153	166	215	116	76	139	287	67	211	417	31
Internal Link Dist (ft)		886		540			374			605	
Turn Bay Length (ft)	225		245		60	245		165	275		130
Base Capacity (vph)	265	1021	265	1036	639	265	1654	805	532	1869	880
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.30	0.60	0.18	0.39	0.35	0.38	0.19	0.67	0.50	0.10

Intersection Summary

Intersection: 8: Armstrong Avenue & Floradora Avenue

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	L	L
Maximum Queue (ft)	75	31	31	21	52
Average Queue (ft)	28	2	16	2	7
95th Queue (ft)	61	12	40	11	30
Link Distance (ft)	2585		2577		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		85		170	100
Storage Blk Time (%)	0				
Queuing Penalty (veh)	0				

Intersection: 9: Armstrong Avenue & Olive Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	T	R	LT	R	LT	R	R
Maximum Queue (ft)	125	75	32	85	135	59	43	1124	150	136	83	37
Average Queue (ft)	48	32	6	40	62	11	13	788	138	65	35	16
95th Queue (ft)	96	56	19	69	107	34	31	1355	197	115	67	31
Link Distance (ft)		821			454	454		1061		1245		
Upstream Blk Time (%)								47				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)	200		105	145			145		50		185	185
Storage Blk Time (%)					0			97	4			
Queuing Penalty (veh)					0			138	20			

Queuing and Blocking Report

Intersection: 10: Temperance Avenue & McKinley Avenue

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	T	R	L	TR	L
Maximum Queue (ft)	30	52	149	102	78	31	22	65
Average Queue (ft)	10	22	63	43	27	8	2	33
95th Queue (ft)	30	46	108	87	53	29	13	57
Link Distance (ft)		1820		776			1308	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	140		140		140	155		155
Storage Blk Time (%)			0					
Queuing Penalty (veh)			0					

Intersection: 3: Fowler Avenue & Olive Avenue

Movement	EB	EB	WB	WB	NB	B34	B34	SB
Directions Served	L	TR	L	TR	LTR	T		LTR
Maximum Queue (ft)	50	75	300	554	752	601	585	1286
Average Queue (ft)	24	43	123	110	725	554	554	1220
95th Queue (ft)	46	64	273	337	749	574	590	1432
Link Distance (ft)		1019		1679	644	533	533	1276
Upstream Blk Time (%)					100	56	28	15
Queuing Penalty (veh)					785	221	111	124
Storage Bay Dist (ft)	190		200					
Storage Blk Time (%)			19	0				
Queuing Penalty (veh)			74	0				

Lane Group	WBL	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	132	132	723	955	436	910
v/c Ratio	0.38	0.32	0.31	0.60	0.18	0.57
Control Delay	23.3	7.0	6.7	1.7	6.0	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.3	7.0	6.7	1.7	6.0	1.5
Queue Length 50th (ft)	42	1	62	0	33	0
Queue Length 95th (ft)	78	36	106	0	62	0
Internal Link Dist (ft)			504		515	
Turn Bay Length (ft)		650		420		
Base Capacity (vph)	613	626	2338	1583	2361	1599
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	0.22	0.21	0.31	0.60	0.18	0.57

Intersection Summary

Lane Group	EBL	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	345	524	1315	151	118	443
v/c Ratio	0.52	0.55	0.72	0.17	0.39	0.19
Control Delay	33.4	5.1	21.0	4.4	40.4	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	5.1	21.0	4.4	40.4	6.5
Queue Length 50th (ft)	86	0	290	6	31	44
Queue Length 95th (ft)	122	41	#446	41	56	71
Internal Link Dist (ft)			605			504
Turn Bay Length (ft)	380	230		180	260	
Base Capacity (vph)	787	1040	1814	873	602	2310
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	0.44	0.50	0.72	0.17	0.20	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	130	323	157	280	289	168	1062	204	372	510	60
v/c Ratio	0.71	0.64	0.78	0.52	0.65	0.76	0.67	0.27	0.78	0.31	0.08
Control Delay	80.7	58.3	84.2	57.0	17.7	79.6	35.2	15.8	70.0	26.0	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.7	58.3	84.2	57.0	17.7	79.6	35.2	15.8	70.0	26.0	1.9
Queue Length 50th (ft)	116	138	140	123	37	150	398	58	171	150	0
Queue Length 95th (ft)	181	184	215	168	133	220	567	137	219	235	12
Internal Link Dist (ft)		886		540			374			605	
Turn Bay Length (ft)	225		245		60	245		165	275		130
Base Capacity (vph)	255	983	255	997	618	275	1593	766	530	1640	783
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.33	0.62	0.28	0.47	0.61	0.67	0.27	0.70	0.31	0.08

Intersection Summary

Intersection: 8: Armstrong Avenue & Floradora Avenue

Movement	EB	EB	WB	NB
Directions Served	LT	R	LTR	TR
Maximum Queue (ft)	523	178	1298	1256
Average Queue (ft)	156	15	511	735
95th Queue (ft)	409	72	1270	1673
Link Distance (ft)	2585		2577	1245
Upstream Blk Time (%)				47
Queuing Penalty (veh)				136
Storage Bay Dist (ft)		85		
Storage Blk Time (%)	55			67
Queuing Penalty (veh)	11			3

Intersection: 9: Armstrong Avenue & Olive Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	T	R	LT	R	LT	R	R
Maximum Queue (ft)	263	448	9	74	221	224	191	1113	150	374	315	44
Average Queue (ft)	84	50	4	40	109	82	54	493	46	52	44	12
95th Queue (ft)	232	167	11	62	190	212	151	1297	125	212	176	37
Link Distance (ft)		821			454	454		1061		1245		
Upstream Blk Time (%)								38				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)	200		105	145			145		50		185	185
Storage Blk Time (%)	20	0			2	19	6	58	4	9		
Queuing Penalty (veh)	44	0			2	4	13	139	13	48		

Intersection: 10: Temperance Avenue & McKinley Avenue

Movement	EB	EB	B30	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	T	L	T	L	TR	L	TR
Maximum Queue (ft)	314	1929	189	313	841	244	1321	134	371
Average Queue (ft)	48	1716	84	293	803	228	1229	22	54
95th Queue (ft)	200	2160	192	386	817	265	1714	86	259
Link Distance (ft)		1820	118		807		1308		356
Upstream Blk Time (%)		68	54		100		73		13
Queuing Penalty (veh)		132	104		0		541		0
Storage Bay Dist (ft)	140			140		155		155	
Storage Blk Time (%)		100		93	100	92			14
Queuing Penalty (veh)		40		239	326	763			14

Intersection: 3: Fowler Avenue & Olive Avenue

Movement	EB	EB	WB	WB	NB	B34	B34	SB
Directions Served	L	TR	L	TR	LTR	T		LTR
Maximum Queue (ft)	340	762	286	97	752	574	578	1287
Average Queue (ft)	139	286	123	51	729	548	554	1273
95th Queue (ft)	368	680	257	78	749	561	574	1328
Link Distance (ft)		1019		1679	644	533	533	1276
Upstream Blk Time (%)					100	64	43	29
Queuing Penalty (veh)					927	296	201	224
Storage Bay Dist (ft)	190		200					
Storage Blk Time (%)		36	14					
Queuing Penalty (veh)		60	32					

Lane Group	WBL	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	145	123	886	528	601	486
v/c Ratio	0.41	0.33	0.38	0.33	0.26	0.31
Control Delay	23.4	11.2	7.6	0.6	6.8	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	11.2	7.6	0.6	6.8	0.5
Queue Length 50th (ft)	46	14	82	0	50	0
Queue Length 95th (ft)	83	47	141	0	90	0
Internal Link Dist (ft)			504		515	
Turn Bay Length (ft)		650		420		
Base Capacity (vph)	596	583	2308	1583	2286	1568
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	0.24	0.21	0.38	0.33	0.26	0.31

Intersection Summary

Lane Group	EBL	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	482	942	933	147	146	600
v/c Ratio	0.60	0.88	0.59	0.19	0.45	0.28
Control Delay	32.5	24.0	20.5	3.5	40.7	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	24.0	20.5	3.5	40.7	8.2
Queue Length 50th (ft)	112	114	207	0	39	79
Queue Length 95th (ft)	168	#251	267	33	65	97
Internal Link Dist (ft)			605			504
Turn Bay Length (ft)	380	230		180	260	
Base Capacity (vph)	845	1096	1569	783	602	2213
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	0.57	0.86	0.59	0.19	0.24	0.27

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	250	332	164	189	242	96	587	160	371	957	96
v/c Ratio	0.95	0.59	0.78	0.44	0.60	0.62	0.37	0.20	0.78	0.53	0.11
Control Delay	103.4	48.0	83.4	59.5	12.6	78.7	28.1	7.1	70.0	26.3	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.4	48.0	83.4	59.5	12.6	78.7	28.1	7.1	70.0	26.3	5.2
Queue Length 50th (ft)	228	120	147	86	0	86	180	11	170	295	2
Queue Length 95th (ft)	#399	167	222	119	77	143	272	63	218	435	37
Internal Link Dist (ft)		886		540			374			605	
Turn Bay Length (ft)	225		245		60	245		165	275		130
Base Capacity (vph)	265	1032	265	1036	634	265	1577	781	536	1797	849
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.32	0.62	0.18	0.38	0.36	0.37	0.20	0.69	0.53	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection: 8: Armstrong Avenue & Floradora Avenue

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	L	L
Maximum Queue (ft)	52	31	31	20	31
Average Queue (ft)	20	2	16	1	8
95th Queue (ft)	46	15	41	9	28
Link Distance (ft)	2585		2577		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		85		170	100
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9: Armstrong Avenue & Olive Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	T	R	LT	R	LT	R	R
Maximum Queue (ft)	280	385	279	220	307	193	60	1100	150	93	63	35
Average Queue (ft)	78	125	14	41	118	53	16	1082	150	46	26	8
95th Queue (ft)	179	284	98	104	227	160	38	1097	150	84	56	26
Link Distance (ft)		821			454	454		1061		1245		
Upstream Blk Time (%)								100				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)	200		105	145			145		50		185	185
Storage Blk Time (%)		32			14	0		100	6			
Queuing Penalty (veh)		103			16	0		167	27			

Intersection: 10: Temperance Avenue & McKinley Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	L	TR	L	TR
Maximum Queue (ft)	311	1593	306	788	31	52	245	372
Average Queue (ft)	311	1247	306	788	4	3	233	352
95th Queue (ft)	311	1666	306	788	21	21	249	460
Link Distance (ft)		1820		807		1308		356
Upstream Blk Time (%)				100				87
Queuing Penalty (veh)				0				0
Storage Bay Dist (ft)	140		140		155		155	
Storage Blk Time (%)	100	100	100	100			98	
Queuing Penalty (veh)	107	120	109	175			909	

Intersection: 3: Fowler Avenue & Olive Avenue

Movement	EB	EB	WB	WB	NB	B34	B34	SB
Directions Served	L	TR	L	TR	LTR	T		LTR
Maximum Queue (ft)	52	75	300	759	762	568	597	1284
Average Queue (ft)	22	48	171	280	723	549	554	1204
95th Queue (ft)	48	77	366	733	744	564	604	1413
Link Distance (ft)		1019		1679	644	533	533	1276
Upstream Blk Time (%)					100	56	29	16
Queuing Penalty (veh)					801	223	118	136
Storage Bay Dist (ft)	190		200					
Storage Blk Time (%)			42	0				
Queuing Penalty (veh)			171	0				

Lane Group	WBL	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	132	132	740	955	457	939
v/c Ratio	0.38	0.33	0.32	0.60	0.19	0.59
Control Delay	23.3	7.7	6.8	1.7	6.1	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.3	7.7	6.8	1.7	6.1	1.6
Queue Length 50th (ft)	42	4	63	0	35	0
Queue Length 95th (ft)	78	38	109	0	65	0
Internal Link Dist (ft)			504		515	
Turn Bay Length (ft)		650		420		
Base Capacity (vph)	613	622	2338	1583	2361	1599
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	0.22	0.21	0.32	0.60	0.19	0.59

Intersection Summary

Lane Group	EBL	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	355	524	1322	151	118	463
v/c Ratio	0.53	0.55	0.73	0.17	0.39	0.20
Control Delay	33.5	5.0	21.3	4.5	40.4	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	5.0	21.3	4.5	40.4	6.6
Queue Length 50th (ft)	88	0	294	6	31	46
Queue Length 95th (ft)	125	41	#471	41	56	74
Internal Link Dist (ft)			605			504
Turn Bay Length (ft)	380	230		180	260	
Base Capacity (vph)	787	1040	1807	870	602	2304
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	0.45	0.50	0.73	0.17	0.20	0.20

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	130	328	157	291	289	168	1068	204	372	530	60
v/c Ratio	0.71	0.64	0.78	0.53	0.65	0.76	0.67	0.27	0.78	0.32	0.08
Control Delay	80.7	58.3	84.2	56.9	19.2	79.6	35.6	16.0	70.0	26.5	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.7	58.3	84.2	56.9	19.2	79.6	35.6	16.0	70.0	26.5	2.0
Queue Length 50th (ft)	116	142	140	128	44	150	403	58	171	158	0
Queue Length 95th (ft)	181	186	215	173	141	220	577	139	219	247	13
Internal Link Dist (ft)		886		540			374			605	
Turn Bay Length (ft)	225		245		60	245		165	275		130
Base Capacity (vph)	255	983	255	997	611	275	1584	762	530	1631	779
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.33	0.62	0.29	0.47	0.61	0.67	0.27	0.70	0.32	0.08

Intersection Summary

Intersection: 8: Armstrong Avenue & Floradora Avenue

Movement	EB	EB	WB	NB
Directions Served	LT	R	LTR	TR
Maximum Queue (ft)	579	184	618	1245
Average Queue (ft)	139	15	176	460
95th Queue (ft)	443	73	504	1369
Link Distance (ft)	2585		2577	1245
Upstream Blk Time (%)				28
Queuing Penalty (veh)				87
Storage Bay Dist (ft)		85		
Storage Blk Time (%)	34			45
Queuing Penalty (veh)	7			2

Intersection: 9: Armstrong Avenue & Olive Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	T	R	LT	R	LT	R	R
Maximum Queue (ft)	245	251	9	219	266	210	60	1063	150	831	315	105
Average Queue (ft)	48	42	4	44	88	38	16	354	70	127	62	21
95th Queue (ft)	146	134	11	104	179	116	44	993	175	463	222	67
Link Distance (ft)		821			454	454		1061		1245		
Upstream Blk Time (%)								19				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)	200		105	145			145		50		185	185
Storage Blk Time (%)	7				6	0		64	7	20		
Queuing Penalty (veh)	16				8	0		156	21	129		

Intersection: 10: Temperance Avenue & McKinley Avenue

Movement	EB	B30	WB	WB	NB	NB	SB	SB
Directions Served	TR	T	L	T	L	TR	L	TR
Maximum Queue (ft)	1892	122	297	813	245	1315	238	372
Average Queue (ft)	1811	91	297	813	154	702	116	165
95th Queue (ft)	2066	170	297	813	325	1779	296	451
Link Distance (ft)	1820	118		807		1308		356
Upstream Blk Time (%)	80	76		100		39		39
Queuing Penalty (veh)	168	162		0		295		0
Storage Bay Dist (ft)			140		155		155	
Storage Blk Time (%)	100		100	100	58		46	
Queuing Penalty (veh)	45		256	326	491		675	

Intersection: 3: Fowler Avenue & Olive Avenue

Movement	EB	EB	WB	WB	NB	B34	B34	SB
Directions Served	L	TR	L	TR	LTR	T		LTR
Maximum Queue (ft)	340	1071	300	790	752	564	593	1290
Average Queue (ft)	298	841	255	385	721	547	553	1273
95th Queue (ft)	467	1300	366	884	739	559	586	1329
Link Distance (ft)		1019		1679	644	533	533	1276
Upstream Blk Time (%)		47			100	65	33	35
Queuing Penalty (veh)		0			980	320	158	269
Storage Bay Dist (ft)	190		200					
Storage Blk Time (%)		100	67	1				
Queuing Penalty (veh)		166	157	3				

Lane Group	WBL	WBR	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	145	123	942	528	615	505
v/c Ratio	0.41	0.33	0.41	0.33	0.27	0.32
Control Delay	23.4	12.9	7.8	0.6	6.8	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.4	12.9	7.8	0.6	6.8	0.5
Queue Length 50th (ft)	46	18	90	0	52	0
Queue Length 95th (ft)	83	51	152	0	92	0
Internal Link Dist (ft)			504		515	
Turn Bay Length (ft)		650		420		
Base Capacity (vph)	596	575	2308	1583	2286	1568
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	0.24	0.21	0.41	0.33	0.27	0.32

Intersection Summary

Lane Group	EBL	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	515	942	955	147	146	614
v/c Ratio	0.63	0.88	0.61	0.19	0.45	0.28
Control Delay	33.1	25.1	20.9	3.5	40.7	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	25.1	20.9	3.5	40.7	8.3
Queue Length 50th (ft)	122	121	212	0	39	81
Queue Length 95th (ft)	180	#260	276	33	65	100
Internal Link Dist (ft)			605			504
Turn Bay Length (ft)	380	230		180	260	
Base Capacity (vph)	849	1086	1560	780	602	2208
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	0.61	0.87	0.61	0.19	0.24	0.28

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	250	345	164	197	242	96	610	160	371	971	96
v/c Ratio	0.95	0.61	0.78	0.45	0.59	0.62	0.39	0.21	0.78	0.54	0.11
Control Delay	103.4	49.8	83.4	59.0	12.2	78.7	28.8	7.7	70.0	27.0	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.4	49.8	83.4	59.0	12.2	78.7	28.8	7.7	70.0	27.0	5.3
Queue Length 50th (ft)	228	130	147	90	0	86	190	14	170	305	2
Queue Length 95th (ft)	#399	177	222	122	77	143	286	68	218	448	38
Internal Link Dist (ft)		886		540			374			605	
Turn Bay Length (ft)	225		245		60	245		165	275		130
Base Capacity (vph)	265	1028	265	1036	634	265	1563	772	536	1783	843
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.34	0.62	0.19	0.38	0.36	0.39	0.21	0.69	0.54	0.11

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection: 8: Armstrong Avenue & Floradora Avenue

Movement	EB	EB	WB	NB	SB
Directions Served	LT	R	LTR	TR	L
Maximum Queue (ft)	114	32	74	1246	28
Average Queue (ft)	35	4	17	143	2
95th Queue (ft)	70	22	52	734	13
Link Distance (ft)	2585		2577	1245	
Upstream Blk Time (%)				6	
Queuing Penalty (veh)				44	
Storage Bay Dist (ft)		85			100
Storage Blk Time (%)	2			15	
Queuing Penalty (veh)	0			1	

Intersection: 9: Armstrong Avenue & Olive Avenue

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	T	T	R	LT	R	LT	R	R
Maximum Queue (ft)	280	322	280	219	247	222	43	1124	150	108	66	43
Average Queue (ft)	108	139	23	53	146	92	17	1083	145	37	32	10
95th Queue (ft)	255	310	141	114	241	202	39	1102	190	82	66	29
Link Distance (ft)		821			454	454		1061		1245		
Upstream Blk Time (%)								100				
Queuing Penalty (veh)								0				
Storage Bay Dist (ft)	200		105	145			145		50		185	185
Storage Blk Time (%)		39			17	1		100	3			
Queuing Penalty (veh)		152			18	0		167	16			

Queuing and Blocking Report

Intersection: 10: Temperance Avenue & McKinley Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	L	TR	L	TR
Maximum Queue (ft)	306	1735	178	804	114	52	241	372
Average Queue (ft)	306	1424	178	804	9	4	231	335
95th Queue (ft)	306	1847	178	804	52	25	257	443
Link Distance (ft)		1820		807		1308		356
Upstream Blk Time (%)				100				89
Queuing Penalty (veh)				0				0
Storage Bay Dist (ft)	140		140		155		155	
Storage Blk Time (%)	100	100	100	100			95	
Queuing Penalty (veh)	114	123	111	175			886	

APPENDIX G

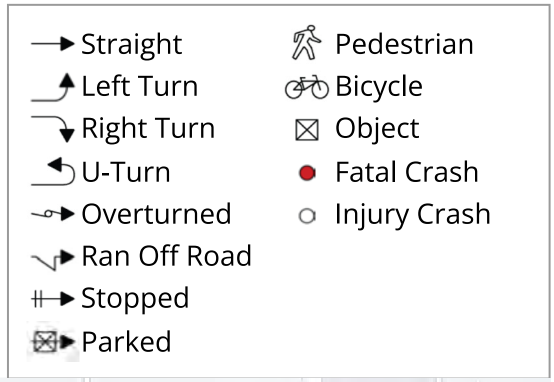
TASAS AND TIMS TRAFFIC COLLISION REPORTS

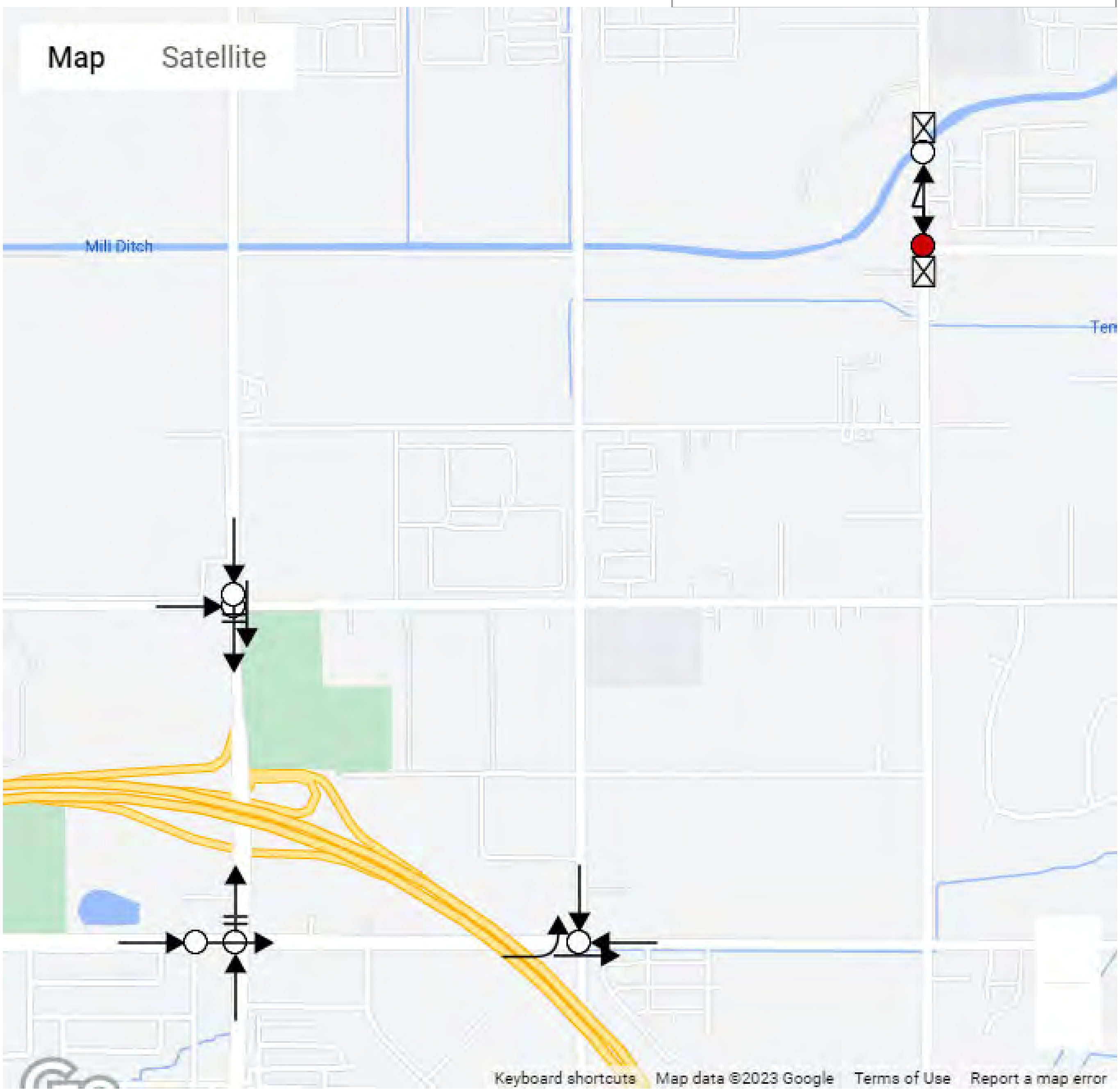
CRASH DIAGRAM

Primary Street:	Fowler Avenue
Secondary Street:	Temperance Avenue
Time Period:	Dec 2016 to Dec 2021
Agency Name:	LSA Associates

Mapping Summary:

Fatal Crash	1
Injury Crash	7
Mapped	8
Not Drawn	4
Total	12





Date Created: 03/07/2023

Created by TIMS (https://tims.berkeley.edu) © UC Regents, 2014-2023

ATP Maps & Summary Data

The tool is designed to support the California Active Transportation Program (ATP), as well as active transportation users and practitioners throughout California. The tool utilizes interactive crash maps to allow users to track and document pedestrian and bicycle crashes and generate data summaries within specified project and/or community limits.

Step 1: Select a County/City, Bike/Ped, Severity, and Years

County: Fresno

City: Fresno

Include 1 mile buffer outside of selected County/City: No

Include State Highway Related Crashes: Yes

Involved With: Pedestrian and Bicycle

Crash Severity: Fatal, Severe Injury, Other Visible Injury, and Complaint of Pain

Year: 2016 - 2021

Crash Summary for initial parameters defined above:

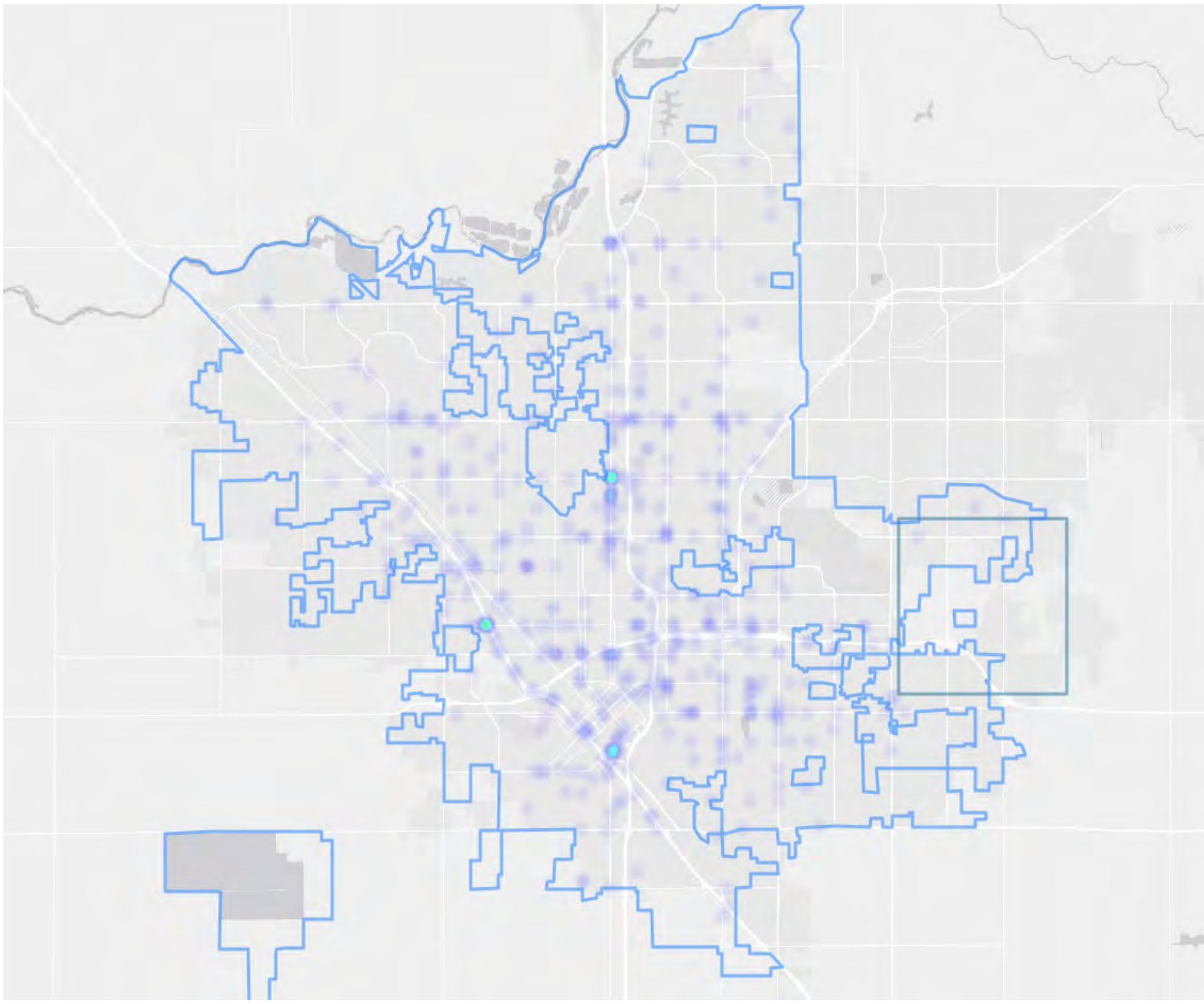
Number of Crashes by Crash Severity

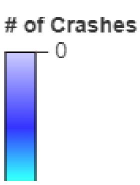
Involved With	Fatal	Severe Injury	Visible Injury	Complaint of Pain	Total
Bicycle	17	20	56	55	148
Pedestrian	139	65	120	77	401

County/City Heat Map:

Step 2: Identify your project area to develop a more localized Community Heat Map

Select the size of your proposed project limits: Less than 3 miles across.

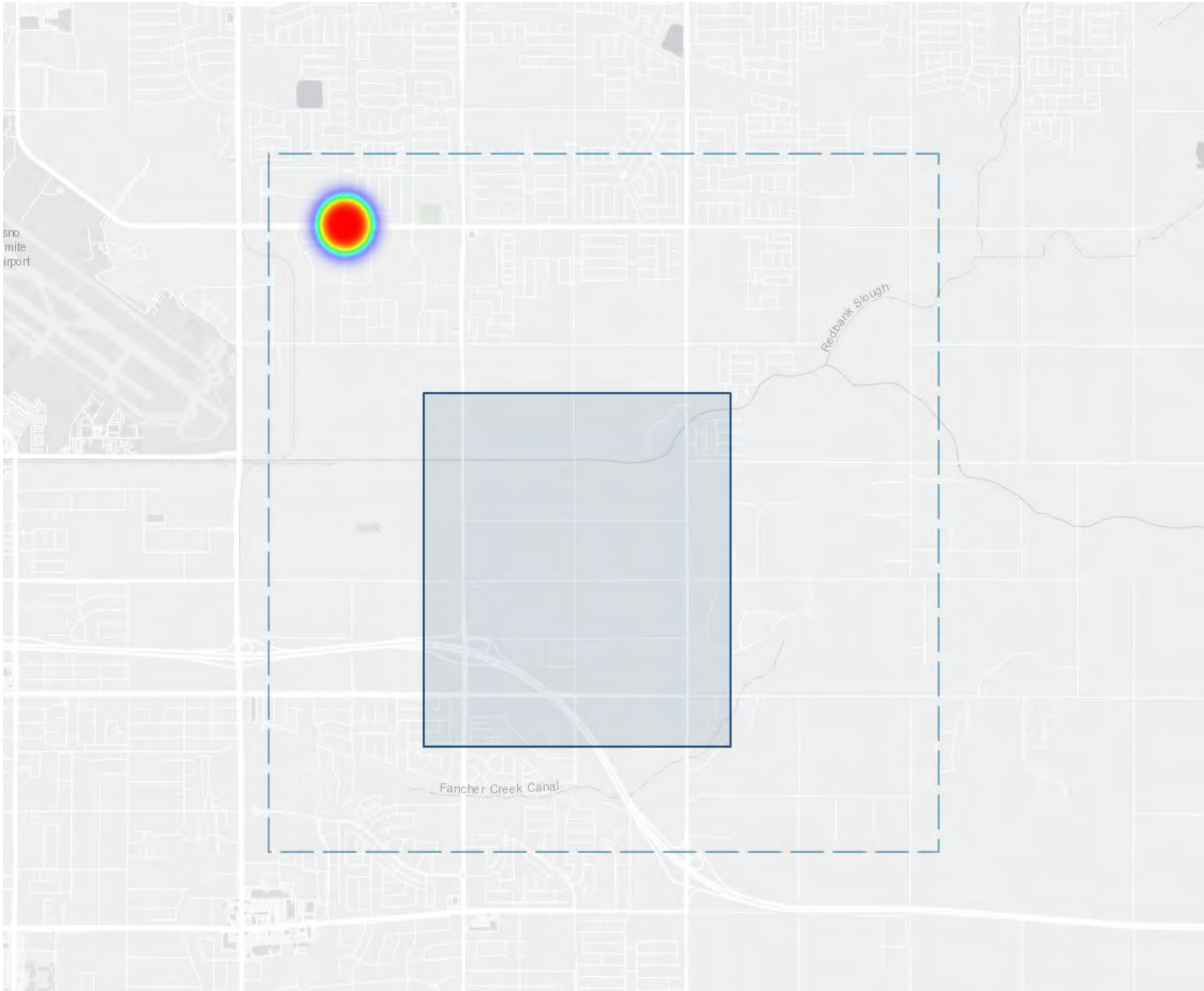




The heat map intensity scale is constant throughout the state.

Community Heat Map:

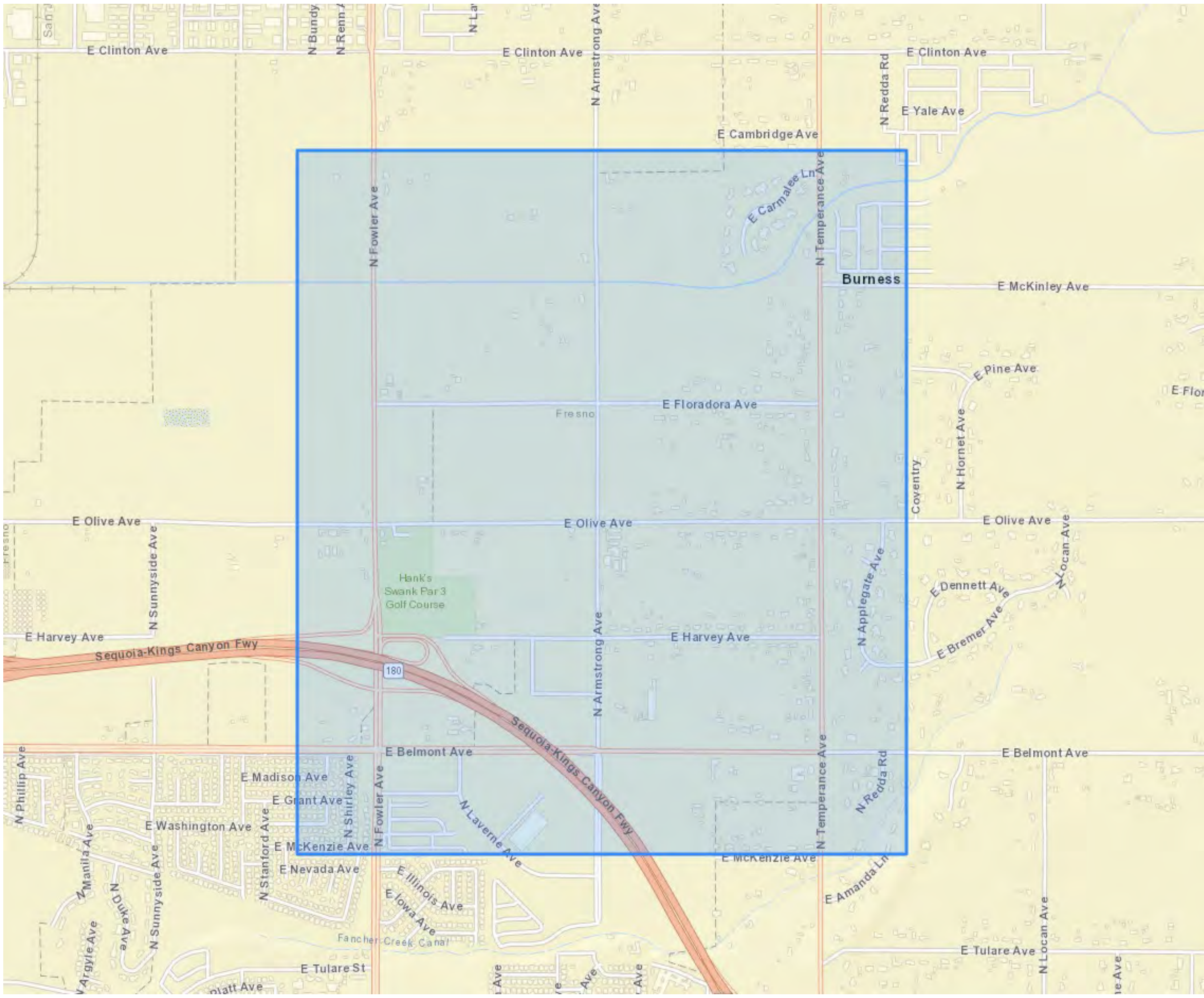
Step 3: Draw the project boundaries to get detailed crash data summaries and map



The heat map intensity scale is custom generated for the selected community.

Project Area Crash Map: 0 total crashes.

Step 4: Review the project-specific crash map



Step 5: Review the crash summary data, graphs and tables provided.

Summary Results

Involved With	Fatal	Severe Injury	Visible Injury	Complaint of Pain	Total
Bicycle	0	0	0	0	0
Pedestrian	0	0	0	0	0

Crash List

CASE ID	Date	Time	Primary Rd	Secondary Rd	Dist & Dir from Int.	Bike	Ped	Killed	Injured

Traffic Accident Surveillance and Analysis System (TASAS)
Crash Data Summary:

The contents of these reports shall be considered confidential and may be privileged pursuant to 23 U.S.C. Section 409 and are for the sole use of the intended recipient(s). Any unauthorized review, use, disclosure, or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message. Do not print, copy or forward.

Table 1 summarizes collision rates for the requested Route 180 mainline segment in eastbound and westbound directions from Postmile (PM) R62.902- to Postmile (PM) R65.328 in the County of Fresno. The Table B reports were generated on February 14, 2023, and they depict existing collision rates per million vehicle miles for the most recent 36-month period from August 1, 2019 to July 31, 2022 from the Traffic Accident Surveillance and Analysis System (TASAS).

TABLE 1

TASAS Table B Collision Rates (08-01-2019 to 07-31-2022)

Fre 180 Segment	TOTAL No. of Collisions	ACTUAL (per million vehicle miles)			AVERAGE (per million vehicle miles)		
		Fatal Collisions	Fatal + Injury Collisions	Total (1)	Fatal Collisions	Fatal + Injury Collisions	Total (1)
Eastbound PM R62.902 / R65.328	28	0.016	0.17	0.44	0.006	0.36	1.05
Westbound PM R62.902 / R65.328	53	0.000	0.22	0.84	0.006	0.36	1.05

(1) All reported collisions (includes Property Damage Only (PDO) Collisions)

<u>Eastbound Fre 180 (PM R62.902 to R65.328)</u>

Analysis of the TASAS Table B records provided in Table 1 shows a total of 28 collisions (1 Fatal, 10 Injury, 17 PDO) within the segment of eastbound Route 180 from PM R62.902 to PM R65.328. The total rate of fatal related collisions is above the average for similar facilities statewide. The total rate of injury related collisions and the total rate of collisions are below the average for similar facilities statewide. At PM R63.690, a fatal automobile versus pedestrian collision occurred when a man, for unknown reasons, entered the westbound Number 3 lane and was struck by a passenger car.

Detailed analysis per the TASAS Selective Accident Retrieval (TSAR) generated on February 14, 2023 shows that the primary collision factors in the eastbound segment were:

- 13 “Improper Turn,”
- 4 “Other Violations,”
- 4 “Speeding,”
- 4 “Influence of Alcohol,”
- 1 “Failure to Yield,”
- 1 “Other than Driver,” and
- 1 “Unknown.”

The types of collision included:

- 9 “Sideswipe,”
- 7 “Hit Object,”
- 6 “Rear End,”
- 2 “Overturn,”
- 2 “Broadside,”
- 1 “Head On,” and
- 1 “Auto/Pedestrian.”

The objects struck from the 7 hit object collisions included the following:

- 2 “Traffic Sign/Sign Post”
- 1 “Guardrail,”
- 1 “Barrier”
- 1 “Cut Slope or Embankment”
- 1 “Side of Bridge Railing,” and
- 1 “Other Object on The Road.”

Of the 28 total collisions, 18 occurred in daylight and 3 of the total occurred under wet conditions.

Westbound Fre 180 (PM R62.902 to R65.328)

Analysis of the TASAS Table B records provided in Table 1 shows a total of 53 collisions (0 Fatal, 14 Injury, 39 PDO) within the segment of westbound Route 180 from PM R62.902 to PM R65.328. The total rate of fatal related collisions, the total rate of injury related collisions, and the total rate of collisions are all below the average for similar facilities statewide.

Detailed analysis per the TASAS Selective Accident Retrieval (TSAR) generated on February 14, 2023, shows that the primary collision factors in the westbound segment were:

- 21 “Speeding,”
- 16 “Improper Turn,”
- 6 “Other Violations,”
- 6 “Influence of Alcohol,”
- 2 “Unknown,”
- 1 “Following Too Close,” and
- 1 “Other than Driver.”

The types of collision included:
- 22 “Hit Object,”
- 10 “Rear End,”
- 8 “Sideswipe,”
- 8 “Overturn,”
- 3 “Broadside,” and
- 2 “Other.”

The objects struck from the 22 hit object collisions included the following:

- 5 “Guardrail,”
- 3 “Traffic Sign/Sign Post”
- 3 “Barrier,”
- 2 “Dike or Curb,”
- 2 “Does Not Apply,”
- 1 “Traffic Island,”
- 1 “End of Guardrail,”
- 1 “Over Embankment,”
- 1 “Other Object Off Road,”
- 1 “Other Object On Road,”
- 1 “Unknown Object Struck,” and
- 1 “No Object Involved.”

Of the 53 total collisions, 38 occurred in daylight and 15 of the total occurred under wet conditions.

End of summary.

WB/TC

APPENDIX H

VMT CALCULATION WORKSHEETS

Appendix H
VMT Calculations
TTM 6360

2019	TTM 6360 (Project) *	City of Fresno **
Total project households	328	
Total project population (a)	987	
Percent Population traveling to outside (b) *	7.79%	
Project Population traveling to outside (c=b*a)	77	
Total Internal-Internal (II) Project VMT (d) **	13,812	
Internal project population (e=a-c)	910	
II VMT per capita (f=d/e)	15.2	
IX VMT per capita (g) ***	2.0	
Total IX VMT (h=g*c)	156	
Total project VMT (i=d+h)	13,968	
VMT per capita (j=i/a)	14.2	
VMT adjustment factor for new base model (k)	1.08	
Adjusted project VMT per capita (l = k*j)	15.3	14.0

** : Obtained from "Fresno_worker_ixxifractions.dat" from model inputs. Used same percentages/values as the parent TAZ (1029)*

***: Includes all tours and all sub-tours from the ABM model run for VMT estimation*

****: IX VMT per capita was estimated as weighted average for all TAZs in the CSTDM Zone 2417*

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