INITIAL STUDY/NEGATIVE DECLARATION
[Pursuant to Public Resources Code Section 21080(c) and California Code of Regulations, Title 14, Sections 15070-15071]

LEAD AGENCY: San Joaquin County Community Development Department

PROJECT APPLICANT: Jaspal S. Sindhu

PROJECT TITLE/FILE NUMBER(S): PA-2200279

PROJECT DESCRIPTION: A Site Approval to establish truck parking for 102 truck and trailers and a 4,464-square-foot structure with 3 truck repair bays and a truck wash. Repairs and wash are for on site parked trucks only and are accessory to the truck parking use. On site utilities to include a private well, septic system, and detention pond. Proposed ingress/egress is via one driveway on French Camp Road and one driveway on El Dorado Street. (Use Type: Truck Services – Parking)

The project site is located on the west side of El Dorado Street, at the intersection of French Camp Road, in French Camp.

ASSESSORS PARCEL NO(S).: 193-020-56

ACRES: 6.85 acres

GENERAL PLAN: C/G

ZONING: C-G

POTENTIAL POPULATION, NUMBER OF DWELLING UNITS, OR SQUARE FOOTAGE OF USE(S):
4,464 square foot shop and truck wash and 218,857 square feet of paving for truck parking and manuevering.

SURROUNDING LAND USES:

NORTH: Undeveloped commercial; City of Stockton; French Camp Slough
SOUTH: Undeveloped commercial; San Joaquin County General Hospital
EAST: Industrial; Union Pacific Railroad
WEST: Undeveloped commercial; Interstate 5

REFERENCES AND SOURCES FOR DETERMINING ENVIRONMENTAL IMPACTS:

Original source materials and maps on file in the Community Development Department including: all County and City general plans and community plans; assessor parcel books; various local and FEMA flood zone maps; service district maps; maps of geologic instability; maps and reports on endangered species such as the Natural Diversity Data Base; noise contour maps; specific roadway plans; maps and/or records of archeological/historic resources; soil reports and maps; etc.

Many of these original source materials have been collected from other public agencies or from previously prepared EIR's and other technical studies. Additional standard sources which should be specifically cited below include on-site visits by staff (note date); staff knowledge or experience; and independent environmental studies submitted to the County as part of the project application. Copies of these reports can be found by contacting the Community Development Department.

TRIBAL CULTURAL RESOURCES:

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

Yes. Yes.

GENERAL CONSIDERATIONS:

1. Does it appear that any environmental feature of the project will generate significant public concern or controversy?

   ☐ Yes ☒ No

   Nature of concern(s): Enter concern(s).

2. Will the project require approval or permits by agencies other than the County?

   ☒ Yes ☐ No

   Agency name(s): **SJAPCD**

3. Is the project within the Sphere of Influence, or within two miles, of any city?

   ☒ Yes ☐ No

   City: **Stockton**

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

DETERMINATION: (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, and a **NEGATIVE DECLARATION** will be prepared.

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

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

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

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

Alisa Goulart
Signature

6-24-2024
Date

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) 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).

2) 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.

3) 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.

4) "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 (5) below, may be cross-referenced).

5) 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 an 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.

6) 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.

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

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

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.

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

Impact Discussion:

a) San Joaquin County is set within the greater Central Valley, composed of large expanses of generally flat, agricultural lands and urban development, and framed by the foothills of the Diablo Range to the west and the foothills of the Sierra Nevada to the east. According to the County's General Plan, scenic resources within the County include waterways, hilltops, and oak groves (County of San Joaquin 2035).

The project includes a proposal to develop the parcel for truck parking. The project site is located on E. French Camp Road and S. El Dorado Street, south of the City of Stockton, in the urban community of French Camp, in an area of heavy commercial and industrial uses. Because the site is at the edge of existing development, and because there are no scenic vistas in the area, the project's impact on a scenic vista is expected to be less-than-significant.

b) There are two officially designated state scenic highways in San Joaquin County: I-580 and I-5 (County of San Joaquin 2035). Due to distance, the project site is not visible from 1-580 or from I-5 therefore the project is not expected to impact scenic resources.

In addition, the County has designated 26 roadways within the County as local scenic routes (County of San Joaquin 2035). Neither S. El Dorado Street nor E. French Camp Road are designated scenic routes. Therefore, the project would have a less-than-significant impact associated with scenic resources within a state- or locally- designated scenic route.

c) The project site is located in the urban community of French Camp in an area of heavy commercial and industrial development. The proposed project will not conflict with applicable zoning or other regulations. The area is generally flat and there are no particular vantage points. Therefore, the project will likely not conflict with applicable zoning and other regulations governing scenic quality.

d) The existing lighting and glare conditions in the project area are typical of an area with 24-hour services. New lighting for the project would include outdoor building lighting and parking lot lighting. Parking lot lighting standards stipulate that all lighting be designed to confine direct rays to the premises, with no spillover beyond the property line except onto public thoroughfares, provided that such light does not cause a hazard to motorists (Development Title Section 9-1015.5). Therefore, the project is expected to have a less than significant impact from new sources of light or glare on day or nighttime views in the area.

II. AGRICULTURE AND FORESTRY RESOURCES.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Analyzed In The Prior EIR
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:					
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 a nonagricultural use?	☐	☒	☐	☐	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐	☐
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒	☐
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒	☐
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒	☐

Impact Discussion:

a) The project includes a proposal to develop the lot for truck parking on a parcel zoned C-G (General Commercial). The parcel is not classified as Prime Farmland or Unique Farmland on maps provided by the California Department of Conservation's Farmland Mapping and Monitoring Program. Therefore, the project will not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of State Importance to a nonagricultural use.

b) The project is zoned C-G (General Commercial) and is not under a Williamson Act contract. Therefore, the project will not conflict with existing zoning for agricultural use, nor will it conflict with a Williamson Act contract.

c-d) There are no forest resources or zoning for forestlands or timberland, as defined by Public Resources Code and Government Code, located on or near the project site, therefore, the project will have no impact on corresponding zoning or conversion of such land.

III. AIR QUALITY.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Analyzed In The Prior EIR
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:					
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐	☐
d) Result in substantial emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐	☐

Impact Discussion:

a-d) The project is an expansion of truck parking on a parcel zoned C-G (General Commercial) in the urban community of French Camp, CA. The project site is located within the San Joaquin Valley Air Basin which lies within the jurisdiction of the San Joaquin Valley Air Pollution Control District (APCD). APCD is the local agency established by the State of California Air Resources Board to regulate air quality sources and minimize air pollution.

The project was referred to APCD for review on April 7, 2023. APCD issued a response dated May 11, 2023, with the determination that the project was subject to Rule 9510 Indirect Source Review and required an Air Impact Analysis (AIA) to estimate potential construction and operational mobile and stationary emission sources, proximity to sensitive receptors and existing emission sources, which the applicant completed. In a letter from APCD, dated June 10, 2024, APCD informed the applicant that the AIA was approved and had determined that the mitigated baseline emissions for construction and operation will be less than two tons NOx per year and two tons PM10 per year therefore, the project was exempt from the requirements of Section 6.0 (General Mitigation Requirements) and Section 7.0 (Off-site Emission Reduction Fee Calculations and Fee Schedules) of District Rule 9510 Section 4.3. As such, the District determined that the project complies with the emission reduction requirements of District Rule 9510 and is not subject to payment of off-site fees to reduce project impacts on air quality.

Because these types of trucking activities can result in potentially significant health impacts to sensitive receptors within 1,000 feet of these activities, it is important to note that the nearest sensitive receptor is a non-conforming residence located 1,560 feet north of the project site. Pursuant to the analysis, because of air pollution dispersion, any trucking-related emissions generated from the proposed project site would not be expected to have a localized impact on the nearest sensitive receptors 1,560 feet (0.3 miles) away from the project site.

With implementation of the District Rules' requirements and implementation of recommendations, the project's impact on air quality is expected to be less than significant.

IV. BIOLOGICAL RESOURCES.

Would the project:

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

Impact Discussion:

a-f) The California Department of Fish and Wildlife Natural Diversity Database lists *Buteo Swainsoni* (Swainson's hawk), *athene cunicularia* (burrowing owl), and *Agelauis tricolor* (tricolored blackbird), as rare, endangered, or threatened species or habitat located within a two-mile radius of the site for the proposed project. Referrals have been sent to the San Joaquin Council of Governments (SJCOG), the agency responsible for verifying the correct implementation of the *San Joaquin County Multi-Species Habitat Conservation and Open Space Plan* (SJMSCP), which provides compensation for the conversion of Open Space to non-Open Space uses which affect the plant, fish and wildlife species covered by the Plan. Pursuant to the Final EIR/EIS for SJMSCP, dated November 15, 2000, and certified by SJCOG on December 7, 2000, implementation of the SJMSCP is expected to reduce impacts to biological resources resulting from the proposed project to a level of less-than-significant.

SJCOG responded to this project referral in a letter dated April 10, 20231, that the project is subject to the SJMSCP. The applicant has confirmed that he will participate in SJMSCP. With the applicant's participation, the proposed project is consistent with the SJMSCP and any impacts to biological resources resulting from the proposed project will be reduced to a level of less-than-significant.

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

Impact Discussion:

a-c) The proposed project includes a proposal to reclassify the zoning of a 4.96-acre parcel from AG-40 (General Agriculture, 40-acre minimum) to I-W (Warehouse Industrial) and to develop the parcel for truck parking. The site was formerly used for crop production and has not been previously developed.

A search of the National Register of Historic Places, the Office of Historic Preservation's list of California Historical Resources, and of the Register of Historic Places within San Joaquin County did not uncover any known historical resources on or near the project site as defined in CEQA Guidelines Section 15064.5.

In the event human remains are encountered during any portion of the project, California state law requires that there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county has determined manner and cause of death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation (California Health and Safety Code - Section 7050.5). At the time development, if Human burials are found to be of Native American origin, the developer shall follow the procedures pursuant to Title 14, Division 6, Chapter 3, Article 5, Section 15064.5(e) of the California State Code of Regulations.

In this way, the project would have a less-than-significant impact with regard to an adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.

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

Impact Discussion:

a-b) The California Energy Code (also titled The Energy Efficiency Standards for Residential and Non-residential Buildings) was created by the California Building Standards Commission in response to a legislative mandate to reduce California's energy consumption. The code's purpose is to advance the state's energy policy, develop renewable energy sources and prepare for energy emergencies. The code includes energy conservation standards applicable to most buildings throughout California. These requirements will be applicable to the proposed project ensuring that any impact to the environment due to wasteful, inefficient, or unnecessary consumption of energy will be less than significant and preventing any conflict with state or local plans for energy efficiency and renewable energy.

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

Impact Discussion:

a) According to the California Department of Conservation's California Geological Survey, the project site is not located within an earthquake fault zone. However, similar to other areas located in seismically active Northern California, the project area is susceptible to strong ground shaking during an earthquake, although the site would not be affected by ground shaking more than any other area in the region.

The Project would be required to comply with the most recent version of the California Building Code (CBC), which contains universal standards related to seismic load requirements and is codified within the San Joaquin County Ordinance Code under Section 8-1000. In addition, a soils report is required pursuant to CBC § 1803 for foundations and CBC appendix § J104 for grading. All recommendations of the Soils Report will be incorporated into the construction drawings. As a result, impacts associated with seismic ground shaking or possible ground liquefaction are expected to be less than significant.

The project site is located in an area that is relatively flat and does not contain any slopes that could result in landslides. Therefore, impacts associated with landslides are expected to be less than significant.

b) The project would not result in substantial soil erosion or the loss of topsoil because the project will require a grading permit in conjunction with a building permit. Therefore, the grading will be done under permit and inspection by the San Joaquin County Community Development Department's Building Division. As a result, impacts to soil erosion or loss of topsoil will be less than significant.

c) As part of the project design process, a soils report will be required for grading and foundations and all recommendations from a soils report must be incorporated into the construction plans. As a result of these grading recommendations, which are required by the California Building Code (CBC), the project would not be susceptible to the effects of any potential lateral spreading, subsidence, or liquefaction. Compliance with the CBC and the engineering recommendations in the site-specific soils report would ensure structural integrity in the event that seismic-related issues are experienced at the project site. Therefore, impacts associated with unstable geologic units are expected to be less than significant.

d) The Soil Survey of San Joaquin County does not classify the project site soil as expansive. As a result, the effects of expansive soil on the project buildings are expected to be less than significant.

e) The project will be served by an onsite septic system for the disposal of wastewater. The Environmental Health Department is requiring a soil suitability/nitrate loading study to determine the appropriate system and design prior to issuance of building permit(s). The sewage disposal system shall comply with the onsite wastewater treatment systems standards of San Joaquin County. A percolation test that meets absorption rates of the manual of septic tank practice or E.P.A. Design Manual for onsite wastewater treatment and disposal systems is required for each parcel. With these standards in place, only soils capable of adequately supporting the use of septic tanks will be approved for the septic system. As a result, impacts to soils from wastewater are expected to be less than significant.

f) The project area has not been determined to contain significant historic or prehistoric archeological artifacts that could be disturbed by project construction, therefore, damage to unique paleontological resources or sites or geologic features is expected to be less than significant.

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

Impact Discussion:

a-b) Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on earth. An individual project's GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHG are inherently considered cumulative impacts.

Implementation of the proposed project would cumulatively contribute to increases of GHG emissions. Estimated GHG emissions attributable to future development would be primarily associated with increases of carbon dioxide (CO_2) and, to a lesser extent, other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O) associated with area sources, mobile sources or vehicles, utilities (electricity and natural gas), water usage, wastewater generation, and the generation of solid waste. The primary source of GHG emissions for the project would be mobile source emissions. The common unit of measurement for GHG is expressed in terms of annual metric tons of CO_2 equivalents ($MTCO_2e$/yr).

As noted previously, the proposed project will be subject to the rules and regulations of the SJVAPCD. The SJVAPCD has adopted the *Guidance for Valley Land- use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* and the *District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency.**1*** The guidance and policy rely on the use of performance-based standards, otherwise known as Best Performance Standards (BPS) to assess significance of project specific greenhouse gas emissions on global climate change during the environmental review process, as required by CEQA. To be determined to have a less-than-significant individual and cumulative impact with regard to GHG emissions, projects must include BPS sufficient to reduce GHG emissions by 29 percent when compared to Business As Usual (BAU) GHG emissions. Per the SJVAPCD, BAU is defined as projected emissions for the 2002-2004 baseline period. Projects which do not achieve a 29 percent reduction from BAU levels with BPS alone are required to quantify additional project-specific reductions demonstrating a combined reduction of 29 percent. Potential mitigation measures may include, but not limited to: on-site renewable energy (e.g. solar photovoltaic systems), electric vehicle charging stations, the use of alternative-fueled vehicles, exceeding Title 24 energy efficiency standards, the installation of energy-efficient lighting and control systems, the installation of energy-efficient mechanical systems, the installation of drought-tolerant landscaping, efficient irrigation systems, and the use of low-flow plumbing fixtures.

It should be noted that neither the SJVAPCD nor the County provide project-level thresholds for construction-related GHG emissions. Construction GHG emissions are a one-time release and are, therefore, not typically expected to generate a significant contribution to global climate change. As such, the analysis herein is limited to discussion of long-term operational GHG emissions.

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1 San Joaquin Valley Air Pollution Control District. *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA*. December 17, 2009.San Joaquin Valley Air Pollution Control District. *District Policy Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. December 17, 2009.

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

Impact Discussion:

a-c) Pursuant to the Hazardous Materials Disclosure Survey submitted with the application, there will not be any storage of hazardous materials on site. Regulations related to the storage of hazardous materials require the owner/operator to report the use or storage of these hazardous materials to the California Environmental Reporting System (CERS) and must comply with all applicable federal, state, and local regulations pertaining to the storage of hazardous materials. In this way, impacts related to the use, transport, or disposal of hazardous materials are expected to be less than significant.

d) The project site is not listed as a hazardous materials site on the California Department of Toxic Substances Control EnviroStor database map, compiled pursuant to Government Code 65962.5 and, therefore, will not result in creating a significant hazard to the public or the environment.

e) The project site is located within the Stockton Metropolitan Airport area of influence Zone 7a Traffic Pattern Zone and is approximately 1.79 miles west of the airport runway. Pursuant to the San Joaquin County Airport Land Use Compatibility Plan (Amended 2018), the current noise exposure contour and the future noise exposure contour are

approximately one mile away from the project site. Therefore, due to the project site's distance from the airport noise contours, the project's risk of exposing people residing or working in the project area to safety hazards or excessive noise is less than significant.

f) The County of San Joaquin Emergency Operations Plan is an all-hazards document describing the County's incident management structure, compliance with relevant legal statutes, other relevant guidelines, whole community engagement, continuity of government focus, and critical components of the incident management structure. According to the Emergency Operations Plan, major transportation route I-5, would be a possible evacuation route in the event of an emergency. The Project would not affect this route, and moreover, the Project would not affect the County's ability to implement its Emergency Operations Plan in the event of an emergency. Notwithstanding, the Project would not impede access to any public route that might be needed as an evacuation route. As a result, the Project's impact on emergency response or evacuation activities is expected to be less than significant.

g) The project location is not identified as a Community at Risk from Wildfire by Cal Fire's "Fire Risk Assessment Program". Communities at Risk from Wildfire are those places within 1.5 miles of areas of High or Very High wildfire threat as determined from CDF-FRAP fuels and hazard data. Therefore, the impact of wildfires on the project are expected to be less than significant.

X. HYDROLOGY AND WATER QUALITY.	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Analyzed In The Prior EIR
Would the project:					
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐	☐
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐	☐
iv) impede or redirect flood flows?	☐	☐	☒	☐	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☒	☐	☐
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐	☐

Impact Discussion:

a) The proposed project's impact on hydrology and water is expected to be less than significant. The project, development of a truck parking facility, will be served by a private well for water and a private, onsite septic system. Construction of a well and a sewage disposal system will be under permit and inspection by the Environmental Health Department to ensure that it complies with standards of San Joaquin County.

For stormwater discharges associated with construction activity in the State of California, the State Water Resources Control Board (SWRCB) has adopted the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) to avoid and minimize water quality impacts attributable to such activities. The Construction General Permit applies to all projects in which construction activity disturbs 1 acre or more of soil. Because land disturbance for this project would exceed one acre, the project applicant would be required to obtain coverage under the Construction General Permit issued by the SWRCB prior to the start of construction. The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP), which would include and specify water quality Best Management Practices (BMPs) designed to prevent pollutants from contacting stormwater and keep all products of erosion from moving off site into receiving waters.

Routine inspection of all BMPs is required under the provisions of the Construction General Permit, and the SWPPP must be prepared and implemented by qualified individuals as defined by the State Water Resources Control Board (SWRCB).

During project operation, stormwater quality is regulated by the Stormwater Quality Control Criteria Plan (SWQCCP), which sets standards that apply to all new development. As part of the project, a new engineered stormwater drainage system would be designed and constructed to collect and treat all on-site stormwater in a method that meets the requirements of the SWQCCP.

In summary, project construction would be completed in accordance with an NPDES-mandated SWPPP, which would include standard BMPs to reduce potential off-site water quality impacts related to erosion and incidental spills and hazardous substances from equipment. Surface water runoff during project operations would be managed through an engineered stormwater drainage system, as required by the SWQCCP. Therefore, impacts associated with water quality standards, waste discharge requirements, and surface water or groundwater quality are expected to be less than significant.

b) The proposed project, development of a truck parking facility, proposes developing all of the 6.85-acre parcel with paved parking for 102 semi-trucks and trailers. The site will utilize an onsite retention pond for stormwater to allow it to collect and percolate into the ground. Therefore, although development of the site will create impervious areas equal to the size of the parcel, with the stormwater system returning stormwater to the ground, the project's interference with groundwater recharging is expected to be less than significant.

c) The construction of the proposed project would result in grading and soil-disturbing activities and the installation of new impervious surfaces. A grading permit will be required which requires plans and grading calculations, including a statement of the estimated quantities of excavation and fill, prepared by a Registered Design Professional. The grading plan must show the existing grade and finished grade in contour intervals of sufficient clarity to indicate the nature and extent of the work and show in detail that it complies with the requirements of the California Building Code (CBC). The plans must also show the existing grade on adjoining properties in sufficient detail to identify how grade changes will conform to the requirements of the CDC. A drainage plan must be submitted for review and approval, prior to release of a building permit. In this way, any impacts to the existing drainage pattern of the site will be less than significant.

d) The flood zone information contained on the San Joaquin County Flood Information viewer is provided using the Digital Flood Insurance Rate Map data received from the US Department of Homeland Security, Federal Emergency Management Agency (FEMA). Pursuant to this information, the area containing the project site has been determined to be outside of the 0.2% annual chance (500-year) floodplain. Development of this project will does not require compliance with Development Title Section 9-1605 regarding flood hazards.

The project site is not located in a tsunami nor a seiche zone.

e) The applicant will apply for permits from the Central Valley Regional Water Quality Control Board (CVRWQCB) to protect surface and groundwater on site and to ensure that the project doesn't conflict or obstruct a water quality control plan or sustainable groundwater management plan.

XII. MINERAL RESOURCES.	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Analyzed In The Prior EIR
Would the project:					
a) Result in the loss of availability of a known_mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐	☐
b) Result in the loss of availability of a locally- important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒	☐	☐

Impact Discussion:

a-b) Pursuant to the San Joaquin County General Plan Background Report, Chapter 10 - Natural Resources, the primary extractive resource in San Joaquin County is sand and gravel, with the principal areas of sand and gravel extraction located in the southwestern part of the county and along the Mokelumne, Calaveras, and Stanislaus rivers in the eastern portion of the county. The project site is located in the central portion of the county and pursuant to the California Geological Survey (CGS), the project site is in a MRZ-1 zone, an area where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. This zone is applied where well developed lines of reasoning, based on economic-geologic principles and adequate data, indicate that the likelihood for occurrence of significant mineral deposits is slight or nil. Therefore, the project's impact on the loss of important minerals is expected to be less than significant.

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

Impact Discussion:

a) The proposed project is development of a truck parking facility for 102 semi-trucks and trailers. The project does not include construction of any feature that would impair mobility within an existing community, nor does it include removal of a means of access between a community and outlying area. The project site is not used as a connection between established communities. Instead, connectivity with the area surrounding the project is facilitated via local roadways. Therefore, the project will not result in dividing an established community.

b) The project site is zoned General Commercial (C-G) which allows development of a truck parking facility with an approved Site Approval (now Administrative Use Permit). Therefore, the proposed use will be consistent with all land use policies and regulations of the County Development Code and 2035 General Plan, therefore, the project's impact on the environment due to land use conflict is expected to be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Analyzed In The Prior EIR
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?	☐	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐	☐
c) For a project 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?	☐	☐	☒	☐	☐

Impact Discussion:

a-b) The project site is located on S. El Dorado Street and S. French Camp Road, 1,000 feet east of Interstate 5 and 2,000 feet west of the Union Pacific railroad tracks. The west half of the parcel is in the 65dB noise contour of S. French Camp Road. The surrounding area is developed with trucking and other industrial uses. The project will result in a temporary increase in ambient noise level associated with project construction activities to include grading and use of heavy machinery and equipment however, the operation of the truck parking facility will contribute to the area ambient noise level. Additionally, truck uses can contribute to ground-borne vibrations however, not to an excessive level. However, due to the existing noise exposure, noise impacts from the proposed project and impacts on vibrations are expected to be less than significant.

c) The project site is located within the Stockton Metropolitan Airport area of influence Zone 7a Traffic Pattern Zone and is approximately 1.79 miles west of the airport runway. Pursuant to the San Joaquin County Airport Land Use Compatibility Plan (Amended 2018), the current noise exposure contour and the future noise exposure contour are approximately one mile away from the project site. Therefore, due to the project site's distance from the airport noise contours, the project's risk of exposing people working in the project area to safety hazards or excessive noise is less than significant.

XIV. POPULATION AND HOUSING.	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Analyzed In The Prior EIR
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)?	☐	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐	☐

Impact Discussion:

a-b) The project will not induce substantial population growth in the area either directly or indirectly because the project is not anticipated to result in an increase in the number of jobs available. The proposed project would not displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere because no residences will be removed. Therefore, the project's impact on population and housing is expected to be less than significant.

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

Impact Discussion:

a-b) The project is not expected to result in a large number of employees nor is there any residential development as part of the project. Therefore, the project is not expected to result in an increase in demand for neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility. Therefore, the project will have no impact on recreation facilities.

XVII. TRANSPORTATION.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Analyzed In The Prior EIR
Would the project:					
a) Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities?	☐	☐	☒	☐	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐	☐

Impact Discussion:

a) The project site is located on S. El Dorada Street and S. French Camp Road, 1,000 feet east of Interstate 5. Access to the project site is proposed from both S. El Dorado Street and S. French Camp Road, both county-maintained roads. Regional access to the site is provided by Interstate 5, a north-south roadway. South French Camp Road provides a west-east nexus to the project site.

Pursuant to Development Title Section 9-608.050(a), a Traffic Study for a development project is required when traffic caused by the development project is expected to exceed 50 vehicles during any hour. A Traffic Technical Memorandum may be required in lieu of a Traffic Study when the development project exceeds the 50 vehicles per hour threshold, and the Director of Public Works deems that the existing roadway capacity and traffic operations are not expected to be significantly impacted as a result of the additional traffic generated by the project. The project was referred to the Department of Public Works on April 7, 2023. The Department responded with a requirement for a Traffic Technical Memorandum. The Memorandum was completed by engineering consultant Kimley-Horn and is dated February 2. 2024. The Memorandum estimates that the project will generate 201 daily trips and the traffic produced by the project will not create deficiencies at the nearby intersections therefore, no mitigation measures were required.

In the project vicinity, due to the rural nature of the area, most of the roadways lack sidewalks and crosswalks. Bicycle facilities do not currently exist in the project vicinity. There is no transit service within the project vicinity.

To conclude, with the information from the Traffic Technical Memorandum, impacts from the project on the circulation system, including transit, roadways, bicycle, and pedestrian facilities is expected to be less than significant.

b) The project proposes a truck parking facility for 102 semi-trucks and trailers. For VMT forecasting, the San Joaquin County Transportation Analysis Guidelines (September 2020, page 5) states that VMT is only relevant for daily automobile travel. As this project is a truck parking facility, only the site buildings will be analyzed for the VMT significance criteria. Under CEQA, small office projects that are consistent with the San Joaquin County General Plan and are smaller than 11,300 square feet in size are exempt from VMT analysis and thus do not have a significant VMT impact. Since the total build out component for this project totals only 4,464 square feet, it is found to have an insignificant impact on VMT. The truck parking terminal project is also strategically located 3,000 feet from the French Camp/Arch Airport interchange of Interstate 5. decreasing the need for trucks to travel further to find adequate parking facilities. The project site is also located 1.3 miles from the Stockton Metropolitan Airport. Thus, the proposed truck parking project would have a less than significant impact on VMT.

c) The Department of Public Works will require the applicant to improve the driveway approach in accordance with the requirements of San Joaquin County Improvement Standards Drawing No. R-13 providing return radii for truck-trailer egress designed to prevent encroachment onto opposing lanes of traffic. With these improvements, the project's impact on transportation hazards is expected to be less than significant.

d) The project site would be accessed from S. El Dorado Street and S. French Camp Road. A driveway and circulation

route that meets the San Joaquin County Fire Chiefs' Association guidelines for providing fire apparatus access is required by the California Fire Code (CFC) is required. Therefore, site access will provide adequate space for fire trucks and emergency vehicles to enter and turn around, and the project's impact on emergency access is expected to be less than significant.

e)

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

Impact Discussion:

a)

i) The project site is undeveloped, therefore no buildings are listed on the State Office of Historic Preservation California Register or the National Register of Historic Places. Therefore, the project will not result in a substantial adverse change in the significance of a historical resource as defined by CEQA.

ii) The project proposes to develop a truck parking facility. At the time of development, if human remains are encountered, all work shall halt in the vicinity and the County Coroner shall be notified immediately. At the same time, a qualified archaeologist shall be contacted to evaluate the finds. If Human burials are found to be of Native American origin, steps shall be taken pursuant to Section 15064.5(e) of Guidelines for California Environmental Quality Act.

XIX. UTILITIES AND SERVICE SYSTEMS.	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Analyzed In The Prior EIR
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 effects?	☐	☐	☒	☐	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐	☐

Impact Discussion:

a-e) This project is the development of a truck parking facility. Water will be provided by a private on-site agricultural well and wastewater treatment system. Both well and on-site wastewater treatment systems are subject to the rules and regulation of the Environmental Health Department. Storm water drainage will be subject to the rules and regulations of the Department of Public Works. Therefore, the impact to utility and service systems is anticipated to be less than significant.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact	Analyzed In The Prior EIR
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?	☐	☐	☒	☐	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐	☐
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐	☐

Impact Discussion:

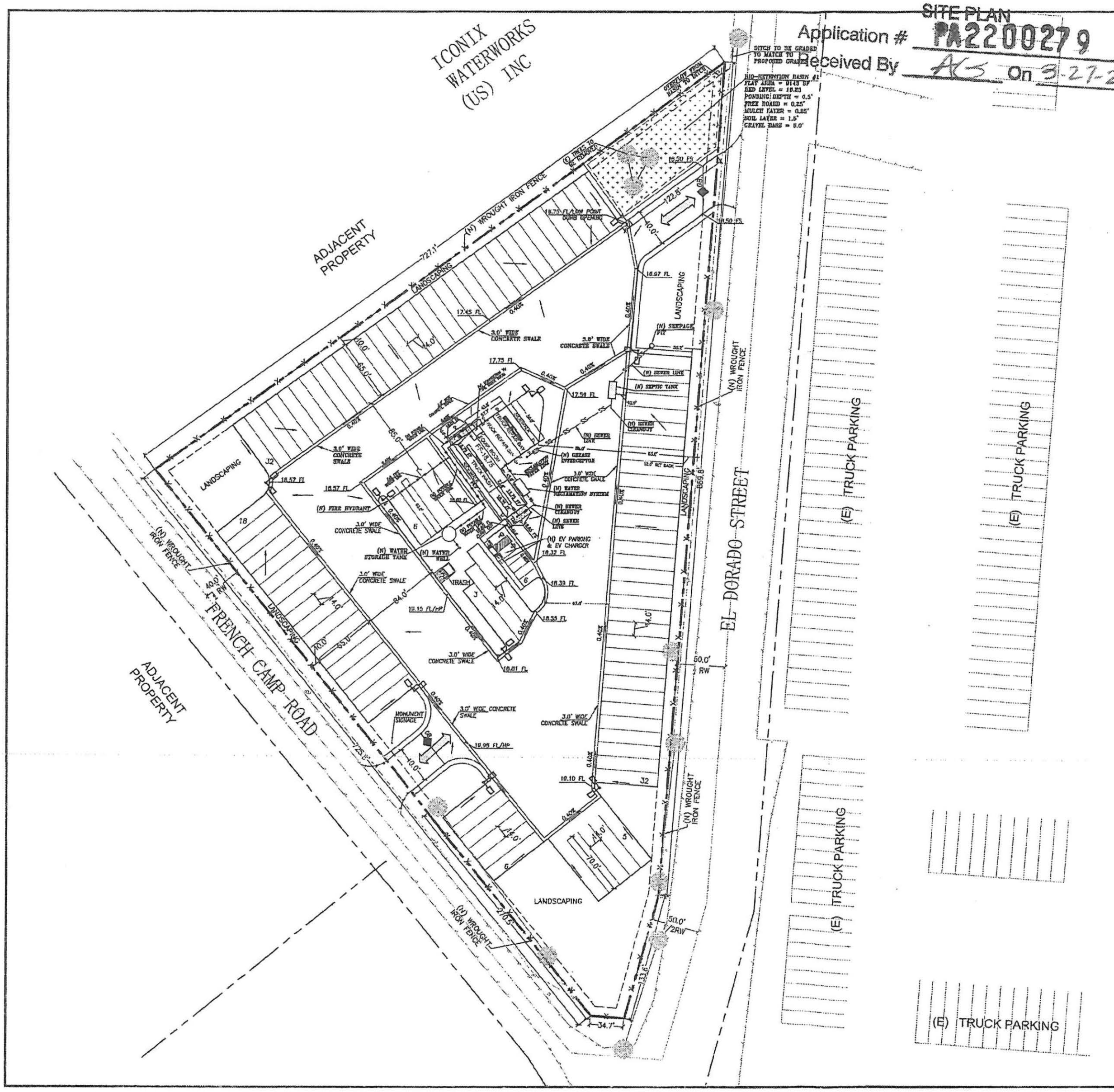
a-d) The project location is located in French Camp, CA. It is not identified as a Community at Risk from Wildfire by Cal Fire's "Fire Risk Assessment Program". Communities at Risk from Wildfire are those places within 1.5 miles of areas of High or Very High wildfire threat as determined from CDF-FRAP fuels and hazard data. Therefore, the impact of wildfires on the project are expected to be less than significant.

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

Impact Discussion:

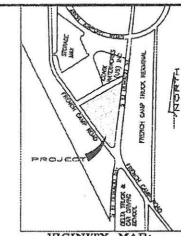
a-c) Review of this project has not indicated any features which might significantly impact the environmental quality of the site and/or surrounding area. Mitigation measures have been identified in areas where a potentially significant impact has been identified and these measures, included as conditions of approval, will reduce these impacts to a less than significant level.

SITE PLAN
Application # PA2200279
Received By AGS On 3-27-23



LEGEND:

- PROPERTY LINE
- SET BACK
- (N) EDGE OF PAVEMENT
- (N) SITE POLES AS PER ELECTRICAL PLAN (18 FEET HIGH (MAX.)
- (N) CHAIN LINK FENCE
- (N) BUILDING LINE
- (N) WATER LINE
- (N) SEWER LINE
- (N) BIO-RETENTION BASIN
- (N) CONCRETE SWALE
- (N) FIRE HYDRANT
- (N) SEWER CLEANOUT
- (N) SEPTIC TANK
- (N) SEEPAGE PIT
- (N) GREASE INTERCEPTER
- (N) WATER TANK
- (N) WATER WELL
- (E) EDGE OF PAVEMENT
- (E) POWER POLE
- (E) TREE
- (E) CENTER LINE



VICINITY MAP:
N.T.S.

PROJECT DATA

ASSESSOR'S PARCEL NUMBER:	193-020-560-000
PROJECT ADDRESS:	6344 S FRENCH CAMP ROAD FRENCH CAMP, CA
PROJECT DESCRIPTION:	TRUCK WASH AND TRUCK REPAIR
ZONING:	EXTENSIVE INDUSTRIAL
JURISDICTION:	SAN JOAQUIN COUNTY

CODE ANALYSIS

1.	OCCUPANCY CLASSIFICATION:	S-1(PROPOSED TRUCK REPAIR BUILDING)
2.	TYPE OF CONSTRUCTION:	VB
3.	FIRE SPRINKLERS:	YES (NFPA 13)
4.	HEIGHT	
	ALLOWABLE:	60' (TABLE 504.3) (FOR S-1 OCCUPANCY)
	ACTUAL:	25'-0" (TOP OF PARAPET)
5.	STORIES	
	ALLOWABLE:	2 (TABLE 504.4) (FOR S-1 OCCUPANCY)
	ACTUAL:	1
6.	AREA (TRUCK REPAIR SHOP)	
	ALLOWABLE:	27,000 SQ.FT. (TABLE 506.2) (FOR S1 OCCUPANCY)
	TOTAL PROPOSED AREA-TRUCK WASH:	4464 SQ.FT (1.53%)
7.	AREA BREAKDOWN:	
	GROSS SITE AREA	(292142 SQ.FT) 6.70 AC
	BUILDING FOOTPRINT	4484 SQ.FT (1.53%)
	LANDSCAPING AREA	68821 SQ.FT (23.55)
	PAVED AREA	218857 SQ.FT (74.91%)
9.	EXIT	
	REQUIRED:	1 (TABLE 1006.2.1)
	PROVIDED:	2
10.	REQUIRED FIRE RESISTANCE OF EXTERIOR WALLS AND PROTECTION OF OPENINGS DUE TO LOCATION ON PROPERTY	NO (FOR PROPOSED BUILDING PER TABLE 602)
11.	FIRE RESISTIVE CONSTRUCTION REQUIREMENTS	NO (TABLE 601)
12.	SPECIAL INSPECTIONS REQUIRED:	YES
13.	CODE YEAR / TYPE:	2019 CBC
14.	PROPOSED BUILDING USE:	TRUCK WASH AND TRUCK REPAIR

PARKING REQUIREMENT

TRUCK REPAIR (GROSS AREA=4464 SQ.FT.)
BAY AREA: 3 SPACES/1 BAY @ 2 BAYS

TOTAL PARKING REQUIRED	6 SPACES
TOTAL CAR PARKING PROVIDED	6 SPACES
TOTAL TRUCK PARKING PROVIDED	102 SPACES
TOTAL ACCESSIBLE PARKING REQUIRED:	1 SPACE
TOTAL ACCESSIBLE PARKING PROVIDED:	1 SPACE
TOTAL EV PARKING PROVIDED:	1 SPACE

LIGHTING NOTE:
ALL LIGHTING SHOULD BE SHIELDED FROM THE SKY AND ADJACENT PROPERTIES AND STRUCTURES, EITHER THROUGH EXTERIOR SHIELDS OR THROUGH OPTICS WITHIN THE FIXTURE. THE ACCENT LIGHTING IS TO BE COMBINED WITH FUNCTIONAL LIGHTING TO HIGHLIGHT SPECIAL FOCAL POINTS, BUILDING/SITE ENTRANCES, PUBLIC ART AND SPECIAL LANDSCAPE FEATURES. LIGHTING USED IN PARKING LOTS SHALL NOT EXCEED A MAXIMUM OF 30 FEET IN HEIGHT. PEDESTRIAN SCALE LIGHTING SHALL BE A MAXIMUM OF 16 FEET IN HEIGHT.

REVISIONS: REVISION ISSUE | DATED

ACE Design LLC
1024 Iron Point Road, SUITE 1046
Folsom, CA 95630
Phone: (702) 396-5113, Fax: (702) 446-8155
Land Planning • Civil Engineering • Architectural Design • Structural Engineering

TITLE: SITE PLAN

PROJECT: TRUCK PARKING
6344 S FRENCH CAMP ROAD
FRENCH CAMP, CA

REGISTERED PROFESSIONAL ENGINEER — CIVIL — EXP. 06/30/2023 — STATE OF CALIFORNIA

DATE: 03/24/2023
JOB : 22-12
DWG. BY: HS
CHK. BY: MG

A1.0.0

SHEET 1 OF 1

Kimley»Horn

Memorandum

To: Brian Singh
Ace Building Company

From: Tyler Mickelson
Chris Gregerson, P.E., T.E., AICP

Re: ***French Camp Truck Parking***
DRAFT *Local Transportation Analysis*

Date: February 2, 2024

The purpose of this memorandum is to summarize the local transportation analysis (LTA) completed for the proposed Truck Parking Facility (the "proposed project" or "project") located at 6344 S French Camp Road in French Camp, California. The project location (APN 193-020-560-000) is shown in **Exhibit 1**. The project proposes a truck parking facility which will include 102 truck parking stalls, as well as 6 passenger car parking stalls for a total of 108 parking spaces. In addition, the project proposes one 4,464 structure which will include both a truck wash facility and two truck repair bays. The project site plan is shown in **Exhibit 2**.

Study Facilities and Analysis Methodology

Study facilities were selected, and analysis methodology was performed in general accordance with the *San Joaquin County Traffic Impact Study Guidelines* (June 2002) as described in the following sections.

Study Facilities

The following study facilities, also illustrated in **Exhibit 1**, were identified for evaluation in this study:

Study Intersections

1. French Camp Road @ I-5 Southbound Ramps
2. French Camp Road @ I-5 Northbound Ramps
3. French Camp Road @ French Camp Road/Arch Airport Road
4. French Camp Road @ El Dorado Street
5. El Dorado Street @ Matthews Road
6. Project Driveway @ Eldorado Street (Project Conditions Only)
7. Project Driveway @ French Camp Road (Project Conditions Only)

Study Roadway Segments

1. French Camp Road, north of El Dorado Street
2. El Dorado Street, south of French Camp Road

Study Scenarios

Weekday AM and PM peak-hour Level of Service (LOS) and queueing analysis was conducted for the following scenarios:

A. Existing (2023) Conditions
B. Existing (2023) plus Pending and Approved Projects Conditions
C. Existing (2023) plus Pending and Approved Projects plus Project Conditions

Level of Service (LOS) Definitions

The LOS of a facility is a qualitative measure used to describe operational conditions. LOS ranges from A, which represents minimal delay, to F, which represents heavy delay and a facility that is operating at or near its functional capacity. LOS was determined using methods defined in the *Highway Capacity Manual* (HCM) and using Synchro® traffic analysis software.

Study Intersections

The HCM includes procedures for analyzing side-street stop controlled (SSSC), all-way stop controlled (AWSC), and signalized intersections. The SSSC procedure defines LOS as a function of average control delay for the worst (most delay) minor street approach or movement. The AWSC and signalized intersection procedures define LOS as a function of average control delay for the intersection as a whole. **Table 1** presents intersection LOS definitions as defined in the HCM.

Table 1 – Intersection Level of Service Criteria

Level of Service (LOS)	Un-Signalized	Signalized
	Average Control Delay* (sec/veh)	Average Control Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F	> 50	> 80

Source: Highway Capacity Manual, 7th Edition

* Applied to the worst lane/lane group(s) for SSSC

Study Roadway Segments

Roadway segments were evaluated using the HCM methodology for analyzing two-lane roadway segments, as shown in **Table 2**, and multilane roadway segments, as shown in **Table 3**. Two-lane roadway segments use follower density (followers/mile/lane) as the appropriate measure of effectiveness while multilane roadway segments use vehicle density (passenger cars/mile/lane) as the appropriate measure of effectiveness.

The HCM 7th Edition, the current version at the time of this project evaluation, contains a new analysis methodology separate from previous methodologies. The analysis methodology described in the HCM 7th Edition focuses on the number of followers behind a motorist while the previous methodology for analyzing 2-lane roadways focused on the percent time spent following (PTSF). The follower density is provided for two types of 2-lane roadways, those with a posted speed limit greater or equal to 50 mph, and those with a posted speed limit less than 50 mph. The analyses completed for this project analyzed roadways with posted speed limits less than 50 mph.

Table 2 – Two-Lane Roadway Level of Service Criteria

Level of Service (LOS)	Follower Density (followers/mi/ln) Lower Speed Highways (< 50 mph)
A	≤ 2.5
B	> 2.5 – 5.0
C	> 5.0 – 10.0
D	> 10.0 – 15.0
E	> 15.0

Source: Highway Capacity Manual, 7th Edition

Table 3 – Multilane Roadway Level of Service Criteria

Level of Service (LOS)	Density (pc/mi/ln)
A	≤ 11
B	> 11 – 18
C	> 18 – 26
D	> 26 – 35
E	> 35 – 45
F	> 45*

Source: Highway Capacity Manual, 7th Edition
* Density exceeds capacity

Deficiency Evaluation Criterion
Deficiencies to study facilities were determined by comparing conditions with the proposed project to those without the project. Impacts are created when traffic from the proposed Project results in the LOS to fall below a specific threshold. The project study facilities are under the jurisdiction of San Joaquin County and the County standards specify the following:

> "As defined in the San Joaquin County 2010 General Plan, adopted in 1992, all County roadways shall operate at a LOS of C or better (except in a City sphere of influence where the City had adopted LOS D); intersections shall operate at an overall LOS D or better on minor arterials and roadways of higher classification; and LOS C on all other roads; all freeways and State highways shall operate at a LOS D. The methods contained in the 'Transportation Research Board, 1997 Highway Capacity Manual' (or latest edition) shall be used to determine LOS.
>
> If the LOS for conditions at a given location is already at an unacceptable LOS, then the impacts must be assessed in terms of...delay (for intersection approaches)...If the delay at a given intersection approach under the 'Existing plus Approved Projects plus Proposed Project' conditions...exceeds the delay for the same intersection approach under 'Existing plus Approved Projects Conditions' then recommendations must be provided that would return the delay to the 'Existing' level."

Existing (2023) Conditions

Intersections
Exhibit 3 depicts the study intersections, traffic control, and lane geometries, while the turning movement volumes for Existing Conditions are summarized in **Exhibit 4**. The peak-hour intersection turning movement volumes were collected on August 1, 2023, and the traffic count sheets are provided in **Attachment A**.

Using the volumes presented in **Exhibit 4**, intersection delays were estimated for the study intersections using the Highway Capacity Manual (HCM) 7th Edition and Synchro© software. Resulting intersection delays and associated level of service results are presented in **Table 4**, while the analysis output sheets can be found in **Attachment B**.

Table 4 – Existing (2023) Intersection LOS Summary

ID	Intersection	Control	Peak Hour	Existing	
				Delay [sec]	LOS
1	French Camp Road @ I-5 Southbound Ramps	Signal	AM	6.7	A
			PM	6.2	A
2	French Camp Road @ I-5 Northbound Ramps	Signal	AM	11.5	B
			PM	9.1	A
3	French Camp Road @ French Camp Road/Arch Airport Road	Signal	AM	14.1	B
			PM	14.0	B
4	French Camp Road @ Eldorado Street	Signal	AM	22.8	C
			PM	33.5	C
5	El Dorado Street @ Matthews Road	AWSC	AM	13.7	B
			PM	18.7	C

All intersections have an LOS D threshold and **Bold** represents unacceptable operations.

As shown in **Table 4**, the study intersections are estimated to operate between LOS A and LOS C for Existing (2023) Conditions.

Roadway Segments

Exhibit 3 depicts the study intersections, traffic control, and lane geometries, while the turning movement volumes for Existing Conditions are summarized in **Exhibit 4**. The roadway segment volumes were collected on August 1, 2023, and the traffic count sheets are provided in **Attachment A**.

Using the volumes presented in **Exhibit 4**, the follower density was calculated for the study roadway segments using the Highway Capacity Manual (HCM) 7th Edition methodologies. Resulting level of service results are presented in **Table 5**, while the analysis output sheets can be found in **Attachment B**.

As shown in **Table 5**, the study roadway segments are estimated to operate between LOS A and LOS B for Existing (2023) Conditions.

Table 5 – Existing (2023) Roadway Segment LOS Summary

ID	Intersection	Peak Hour	Direction	Existing	
				Follower Density, Seg 1 (followers/mi/ln) or Density, Seg 2 (pc/hr/ln)	LOS
1	French Camp Road @ I-5 Southbound Ramps	AM	NB	1.6	A
			SB	1.1	A
		PM	NB	2.7	B
			SB	1.8	A
2	French Camp Road @ I-5 Northbound Ramps	AM	NB	2.2	A
			SB	3.2	A
		PM	NB	5.0	A
			SB	3.2	A

All segments have an LOS D threshold and **Bold** represents unacceptable operations.

Existing (2023) plus Pending and Approved Project Conditions

Per County guidance, the Existing (2023) plus Pending and Approved Project Conditions included the vehicle trips associated with pending and approved projects that have active planning applications with the County as found on the county website. These vehicle trips are anticipated to contribute traffic to the study facilities of this analysis and thus, were added to the Existing (2023) vehicle counts collected. There were four such projects identified, namely:

1. Truck Parking Facility at 6800 S El Dorado Street, French Camp (October 2020) Status: Assigned
    a. Operating at the time the Existing (2023) counts were collected, so no additional vehicle trips associated with the project were added to the network
2. Valley Truck Sales at 7400 S El Dorado Street, French Camp (September 2023) Status: Assigned
    a. Trips generated based on project description and distributed were assigned to the local roadway network based on existing travel distributions, knowledge of local traffic patterns, and engineering judgement.
3. Religious Assembly at 9698 S Priest Road, French Camp (June 2020) Status: Denied
    a. Not added to the study facilities due to project being denied
4. Trans Truck System Truck Facility at 707 E Roth Road, French Camp (June 2020) Status: Withdrawn
    a. Not added to study facilities as application was withdrawn

As directed by the County, the additional trips associated with the approved projects were added to the collected counts for Existing (2023) Conditions.

Intersections

As no geometric modifications are expected for this analysis scenario, **Exhibit 3** depicts the study intersections, traffic control, and lane geometries, while the turning movement volumes for Existing Plus Pending and Approved Projects Conditions are summarized in **Exhibit 5**.

Using the volumes presented in **Exhibit 5**, intersection delays were estimated for the study intersections using the Highway Capacity Manual (HCM) 7th Edition and Synchro© software. Resulting intersection delays and associated level of service results are presented in **Table 6**, while the analysis output sheets can be found in **Attachment C**.

Table 6 – Existing (2023) plus Pending and Approved Projects Intersection LOS Summary

ID	Intersection	Control	Peak Hour	Existing		Existing Plus Pending and Approved Projects	
				Delay [sec]	LOS	Delay [sec]	LOS
1	French Camp Road @ I-5 Southbound Ramps	Signal	AM	6.7	A	6.7	A
			PM	6.2	A	6.2	A
2	French Camp Road @ I-5 Northbound Ramps	Signal	AM	11.5	B	11.5	B
			PM	9.1	A	9.1	A
3	French Camp Road @ French Camp Road/Arch Airport Road	Signal	AM	14.1	B	14.1	B
			PM	14.0	B	14.1	B
4	French Camp Road @ Eldorado Street	Signal	AM	22.8	C	22.8	C
			PM	33.5	C	33.5	C
5	El Dorado Street @ Matthews Road	AWSC	AM	13.7	B	13.7	B
			PM	18.7	C	18.7	C

All intersections have an LOS D threshold and **Bold** represents unacceptable operations.

As shown in **Table 6**, the study intersections are estimated to operate between LOS A and LOS C for Existing (2023) plus Pending and Approved Projects Conditions.

Roadway Segments

Using the volumes presented in **Exhibit 5**, the follower density was calculated for the study roadway segments using the Highway Capacity Manual (HCM) 7th Edition methodologies. Resulting level of service results are presented in **Table 7**, while the analysis output sheets can be found in **Attachment C**.

Table 7 – Existing (2023) plus Pending and Approved Projects Roadway Segment LOS Summary

ID	Intersection	Peak Hour	Direction	Existing plus Pending and Approved Projects	
				Follower Density, Seg 1 (followers/mi/ln) or Density, Seg 2 (pc/hr/ln)	LOS
1	French Camp Road @ I-5 Southbound Ramps	AM	NB	1.6	A
			SB	1.1	A
		PM	NB	2.7	B
			SB	1.8	A
2	French Camp Road @ I-5 Northbound Ramps	AM	NB	2.2	A
			SB	3.2	A
		PM	NB	5.1	A
			SB	3.2	A

All segments have an LOS D threshold and **Bold** represents unacceptable operations.

As shown in **Table 7**, the study roadway segments are estimated to operate between LOS A and LOS B for Existing (2023) plus Pending and Approved Projects Conditions.

Trip Generation

The number of trips anticipated to be generated by the proposed Project was approximated using data provided by San Joaquin County staff[1]. The data provided by the County included trip generation rates for

[1] *Email from Jeffrey Levers, Senior Transportation Engineer*. September 7, 2023.

other truck parking lots in the general area of the proposed project. The trip generation rates were provided for the peak-hour and were based on the total acreage of each project. The trip generation rates ranged from a low of 2.46 trips per acre to a high of 4.96 trips per acre. As the proposed project is a 6.7-acre site, the peak-hour trips would range between 16 and 33 trips. As the specifics of each truck parking site were not provided, a conservative estimate of 33 peak-hour trips was used for the proposed project.

As the number of daily trips were not provided by the County, ITE's *Trip Generation Manual, 11th Edition* trip data for land use code 950 (Truck Stop) was used. The number of trips generated by the proposed project for the day, AM peak-hour, and PM peak-hour are presented in **Table 8**. As shown in **Table 8**, the proposed project is estimated to generate 201 daily trips, with 33 occurring during the AM and PM peak-hours.

Table 8 – Project Trip Generation

Source	Land Use	Size	Units	Daily Trips[1]	AM Peak[2]			PM Peak[2]		
					Total	In	Out	Total	In	Out
SANDAG	Truck Parking Facility	6.7	Acres	201	33	5	28	33	6	27
Total External Project Trips				**201**	**33**	**5**	**28**	**33**	**6**	**27**

1. Daily trip rates are based on San Diego Municipal Code Land Development Code Trip Generation Manual, May 2003, Truck Parking Facility Otay Mesa Rate

2. Peak hour trip generation is based on rates provided by County Staff.

3. Entering and exiting distribution are based on ITE Trip Gen Manual 11th Edition Truck Time-of-Day Data LUC 950

Trip Distribution

The trips generated by the proposed project were distributed to the surrounding roadway network based on existing counts, input from the project applicant, and engineering judgement. The trip distribution percentages developed are illustrated in **Exhibit 6**. The following distribution percentages were found for the proposed project:

- 35% are expected to head south on I-5 via the French Camp Road interchange with I-5
- 40% are expected to head north on I-5 via the French Camp Road interchange with I-5
- 10% are expected to head east on Arch Airport Road
- 10% are expected to head south on El Dorado Street
- 5% are expected to head east on S French Camp Road

Existing (2023) plus Pending and Approved Project plus Project Conditions

Intersections

Peak-hour traffic associated with the proposed project was added to the Existing (2023) plus Pending and Approved Projects traffic volumes previously noted, and levels of service were determined at the study intersections. Existing (2023) plus Pending and Approved Projects plus Project peak-hour traffic volumes are presented in **Exhibit 7**. The analysis worksheets for this scenario are provided in **Attachment D**.

Using the volumes presented in **Exhibit 7**, intersection delays were estimated for the study intersections using the Highway Capacity Manual (HCM) 7th Edition and Synchro© software. Note that for the intersection and roadway segment analysis, the heavy vehicle percentage was modified to account for the additional project trips all being heavy vehicles (e.g., if there were 100 vehicles at a specific movement, the heavy vehicle percentage was 10-percent, and 10 project trips were added, the new heavy vehicle percentage would be modified to be 18-percent). Resulting intersection delays and associated level of service results are presented in **Table 9**, while the analysis output sheets can be found in **Attachment D**.

Table 9 – Existing (2023) plus Pending and Approved Projects plus Project Intersection LOS Summary

ID	Intersection	Control	Peak Hour	Existing Plus Pending and Approved Projects		Existing Plus Pending and Approved Projects plus Project	
				Delay [sec]	LOS	Delay [sec]	LOS
1	French Camp Road @ I-5 Southbound Ramps	Signal	AM	6.7	A	6.7	A
			PM	6.2	A	6.3	A
2	French Camp Road @ I-5 Northbound Ramps	Signal	AM	11.5	B	11.7	B
			PM	9.1	A	9.2	A
3	French Camp Road @ French Camp Road/Arch Airport Road	Signal	AM	14.1	B	14.5	B
			PM	14.1	B	14.5	B
4	French Camp Road @ Eldorado Street	Signal	AM	22.8	C	22.9	C
			PM	33.5	C	34.0	C
5	El Dorado Street @ Matthews Road	AWSC	AM	13.7	B	13.8	B
			PM	18.7	C	19.0	C
6	Project Driveway @ Eldorado Street (Project Conditions Only)	SSSC	AM	Does not exist		13.6	B
			PM			17.2	C
7	Project Driveway @ French Camp Road (Project Conditions Only)	SSSC	AM			0.1	A
			PM			0.1	A

All intersections have an LOS D threshold and **Bold** represents unacceptable operations.

As shown in **Table 9**, the study intersections are estimated to operate between LOS A and LOS C for Existing (2023) plus Pending and Approved Projects plus Project Conditions.

Roadway Segments

Using the volumes presented in **Exhibit 7**, the follower density was calculated for the study roadway segments using the Highway Capacity Manual (HCM) 7th Edition methodologies. Resulting level of service results are presented in **Table 10**, while the analysis output sheets can be found in **Attachment D**.

Table 10 – Existing (2023) plus Pending and Approved Projects plus Project Roadway Segment LOS Summary

ID	Intersection	Peak Hour	Direction	Existing Plus Pending and Approved Projects plus Project		Benchmark LOS	Deficiency
				Follower Density, Seg 1 (followers/mi/ln) or Density, Seg 2 (pc/hr/ln)	LOS		
1	French Camp Road @ I-5 Southbound Ramps	AM	NB	1.8	A	D	No Deficiency
			SB	1.2	A		No Deficiency
		PM	NB	2.9	B		No Deficiency
			SB	1.9	A		No Deficiency
2	French Camp Road @ I-5 Northbound Ramps	AM	NB	2.2	A	D	No Deficiency
			SB	3.3	A		No Deficiency
		PM	NB	5.1	A		No Deficiency
			SB	3.3	A		No Deficiency

All segments have an LOS D threshold and **Bold** represents unacceptable operations.

As shown in **Table 10**, the study roadway segments are estimated to operate between LOS A and LOS B for Existing (2023) plus Pending and Approved Projects plus Project Conditions and thus, no roadway segment deficiencies were identified.

Off-Site Queuing and Access Evaluation

Off-Site Queuing Analysis

Vehicle queuing for critical movements at the study intersections was evaluated to determine the 95th percentile queue. The 95th percentile queues represent a worst-case condition, as 95-percent of the time, vehicle queues are anticipated to less than the calculated lengths. **Table 11** compares the calculated 95th percentile queues to available vehicle storage lengths. Analysis worksheets are provided in **Attachments B, D, and E**.

Table 11 – 95th Percentile Queues

Intersection / Analysis Scenario	Movement	AM Peak-Hour		PM Peak-Hour	
		Available Storage (ft)	95th % Queue (ft)	Available Storage (ft)	95th % Queue (ft)
#1, French Camp Road @ I-5 SB Ramps	**SBL**				
Existing (2023)		530	35	530	26
Existing (2023) plus Pending and Approved Projects			35		26
Existing (2023) plus Pending and Approved Projects plus Project			36		**27**
#2, French Camp Road @ I-5 NB Ramps	**NBR**				
Existing (2023)		425	167	425	62
Existing (2023) plus Pending and Approved Projects			167		62
Existing (2023) plus Pending and Approved Projects plus Project			169		**159**
#3, French Camp Road @ Arch Airport Road	**NBL**				
Existing (2023)		255	52	255	73
Existing (2023) plus Pending and Approved Projects			52		73
Existing (2023) plus Pending and Approved Projects plus Project			60		**81**
	EBL				
Existing (2023)		240	73	240	56
Existing (2023) plus Pending and Approved Projects			73		56
Existing (2023) plus Pending and Approved Projects plus Project			73		**56**
#4, French Camp Road @ El Dorado Street	**NBL**				
Existing (2023)		120	32	120	47
Existing (2023) plus Pending and Approved Projects			33		49
Existing (2023) plus Pending and Approved Projects plus Project			34		**50**

Source: *Highway Capacity Manual (HCM) 7th Edition* methodology per Synchro© v11.

As seen in **Table 11**, the 95th percentile queue lengths are not anticipated to exceed available storage. Due to sufficient capacity within the available storage provided no improvements at study intersections are anticipated.

Access Evaluation

The site plan for the proposed project (**Exhibit 2**) was qualitatively reviewed for general access and on-site circulation. Specifically, the two access driveways, one along French Camp Road and one along El Dorado Street were reviewed to determine whether they would adequately allow for heavy vehicles turning into and out of the project site.

Both driveways are designed to be 40-feet wide, with the driveway along French Camp Road perpendicular to the roadway and the driveway along El Dorado Street being off-set from the roadway and parallel with the northern edge of the project parcel. When reviewing the driveways and sharing the site plan with San Joaquin County staff, they indicated that they had concerns the driveways will not be

able to fully accommodate trucks as currently designed[2]. The specific feedback provided by the County states, "[f]or the French Camp Road driveway, our concern is twofold – first, that 40' will not be wide enough for a truck to enter if a vehicle is waiting to exit, and second, that the driveway radii are not large enough to accommodate trailer tracking. For the El Dorado Street driveway, we have the same two concerns, and also concern about the driveway's angle affecting exiting trucks to make the right turn onto El Dorado Street." County staff indicated they would like to see a revised site plan that addresses these concerns.

Conclusions

Based on the analysis provided herein, the following is concluded:

- As shown in **Table 8**, the proposed project is estimated to generate 201 daily trips, with 33 occurring during the AM and PM peak-hours.
- As shown in **Table 9**, the study intersections are estimated to operate between LOS A and LOS C for Existing (2023) plus Pending and Approved Projects plus Project Conditions. Therefore, no deficiencies that require recommended improvements are necessary.
- As shown in **Table 10**, the study roadway segments are estimated to operate between LOS A and LOS B for Existing (2023) plus Pending and Approved Projects plus Project Conditions. Therefore, no deficiencies that require recommended improvements are necessary.
- As seen in **Table 11**, the 95th percentile queue lengths are not anticipated to exceed available storage. Due to sufficient capacity within the available storage provided no improvements at study intersections are anticipated.
- When reviewing the driveways and sharing the site plan with San Joaquin County staff, they indicated that they had concerns the driveways will not be able to fully accommodate trucks as currently designed. County staff indicated they would like to see a revised site plan that addresses their concerns.

Attachments

Exhibit 1 – Project Vicinity Map
Exhibit 2 – Project Site Plan
Exhibit 3 – Study Intersections, Traffic Control, and Lane Geometry
Exhibit 4 – Existing (2023) Peak-Hour Traffic Volumes
Exhibit 5 – Existing (2023) plus Pending and Approved Projects Peak-Hour Traffic Volumes
Exhibit 6 – Project Trip Distribution
Exhibit 7 – Existing (2023) plus Pending and Approved Projects plus Project Peak-Hour Traffic Volumes

Attachment A – Traffic Count Data Sheets
Attachment B – Existing (2023) Analysis Worksheets
Attachment C – Existing (2023) plus Pending and Approved Projects Analysis Worksheets
Attachment D – Existing (2023) plus Pending and Approved Projects plus Project Analysis Worksheets

[2] *Email from Jeffrey Levers,* July 18, 2023.

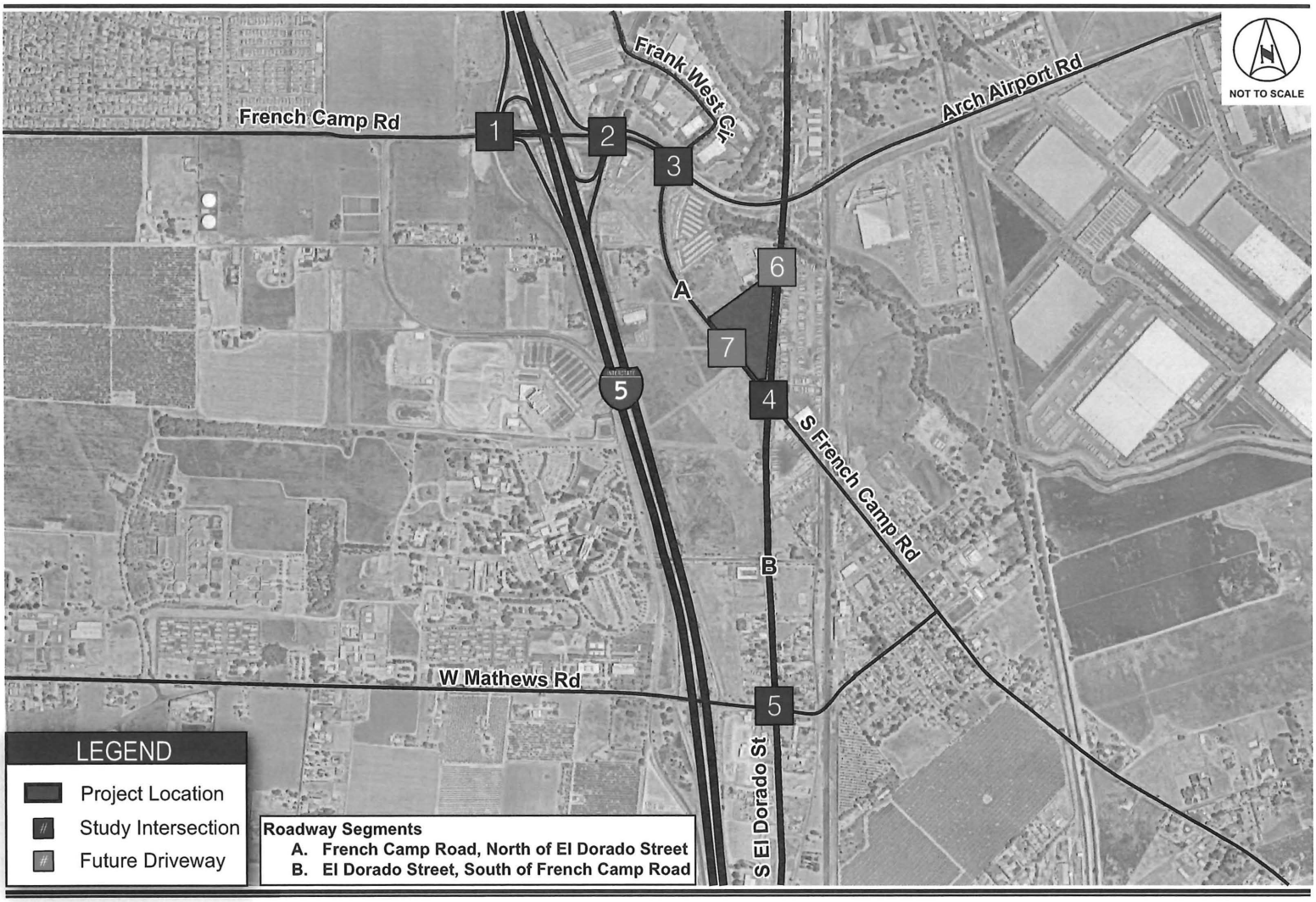


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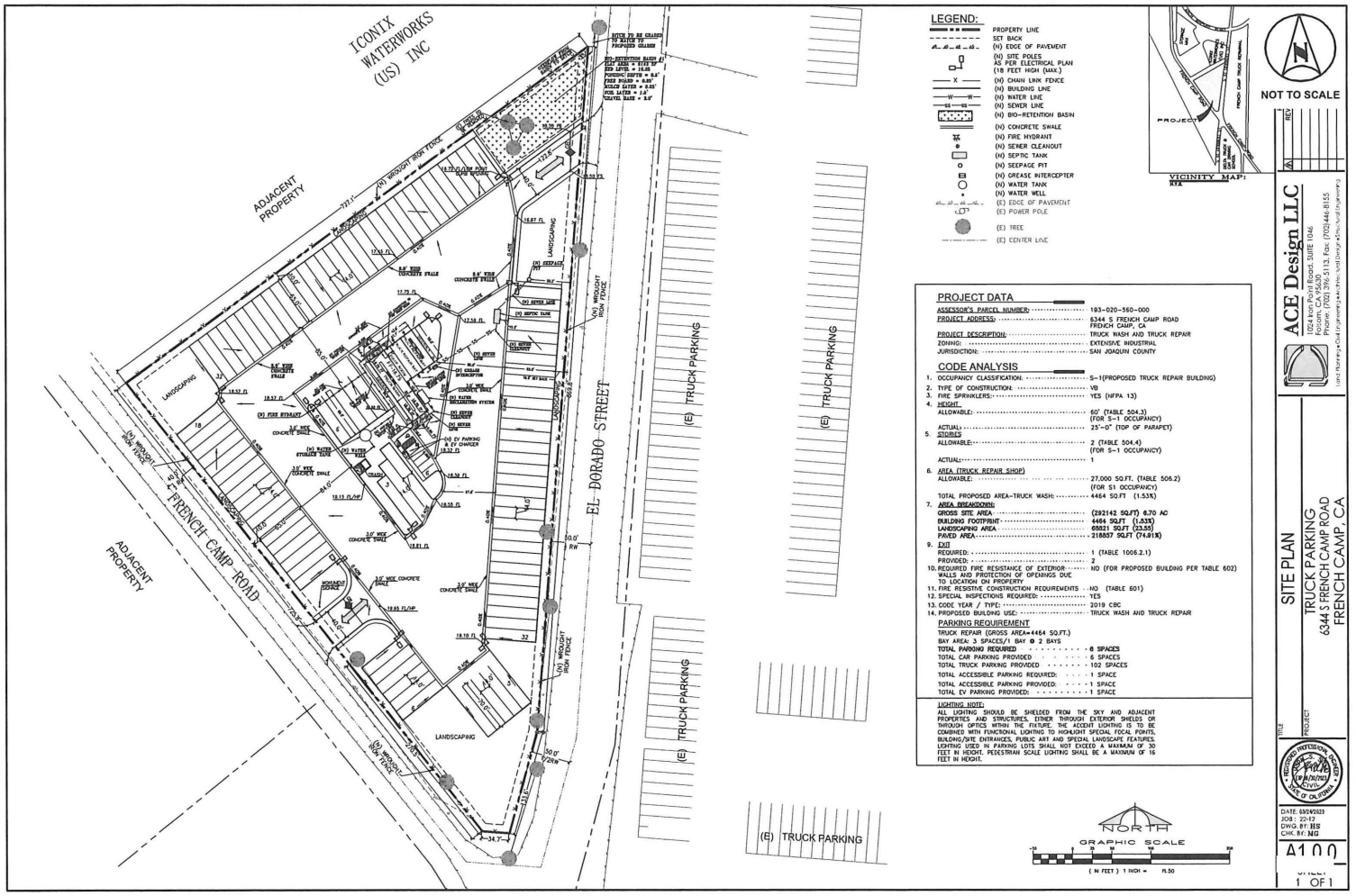
Exhibit 1
Project Vicinity Map



Site Plan Date: 08/21/2023

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Exhibit 2
Project Site Plan

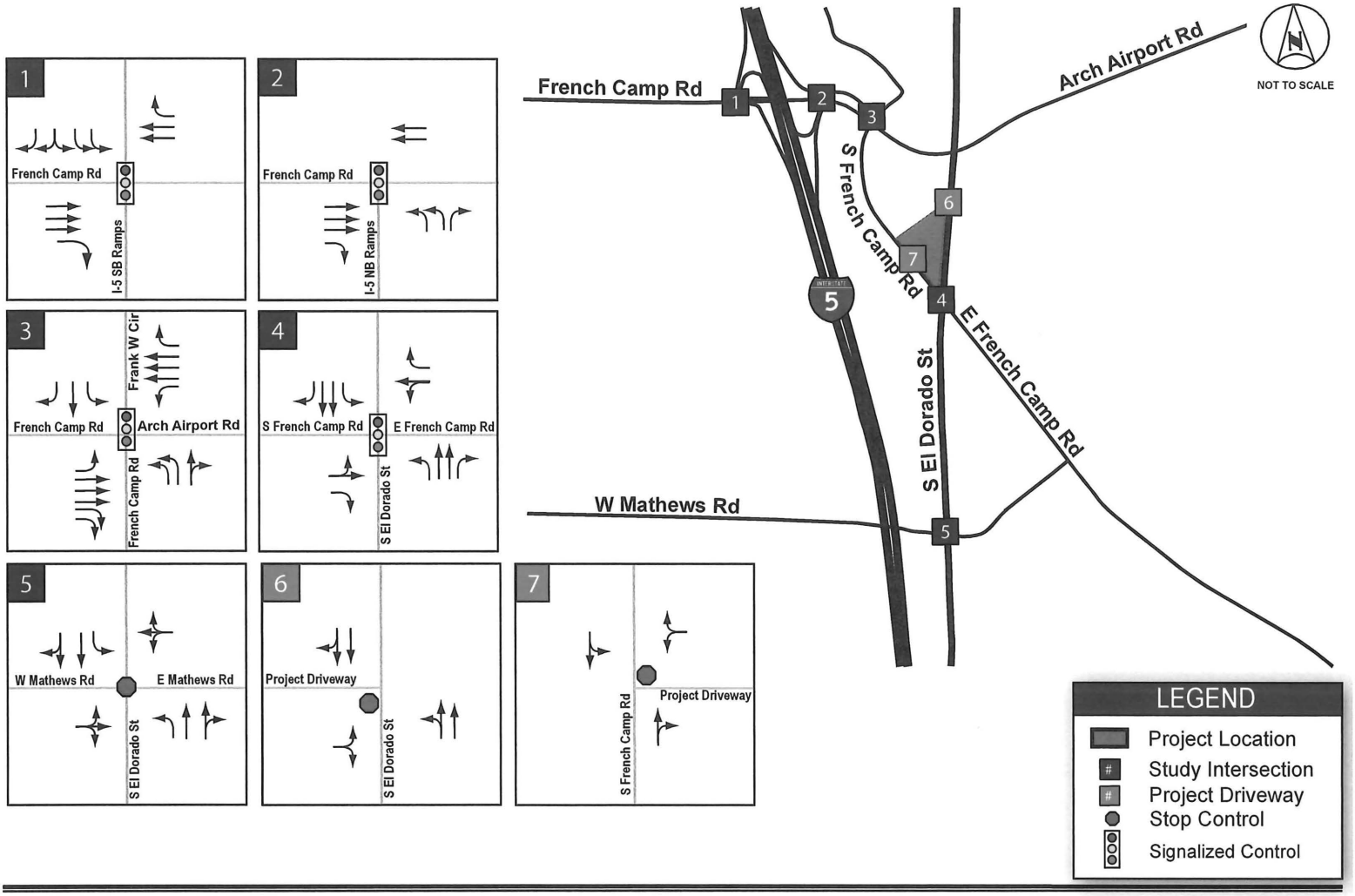

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Exhibit 3
Study Intersections, Traffic Control, and Lane Geometries

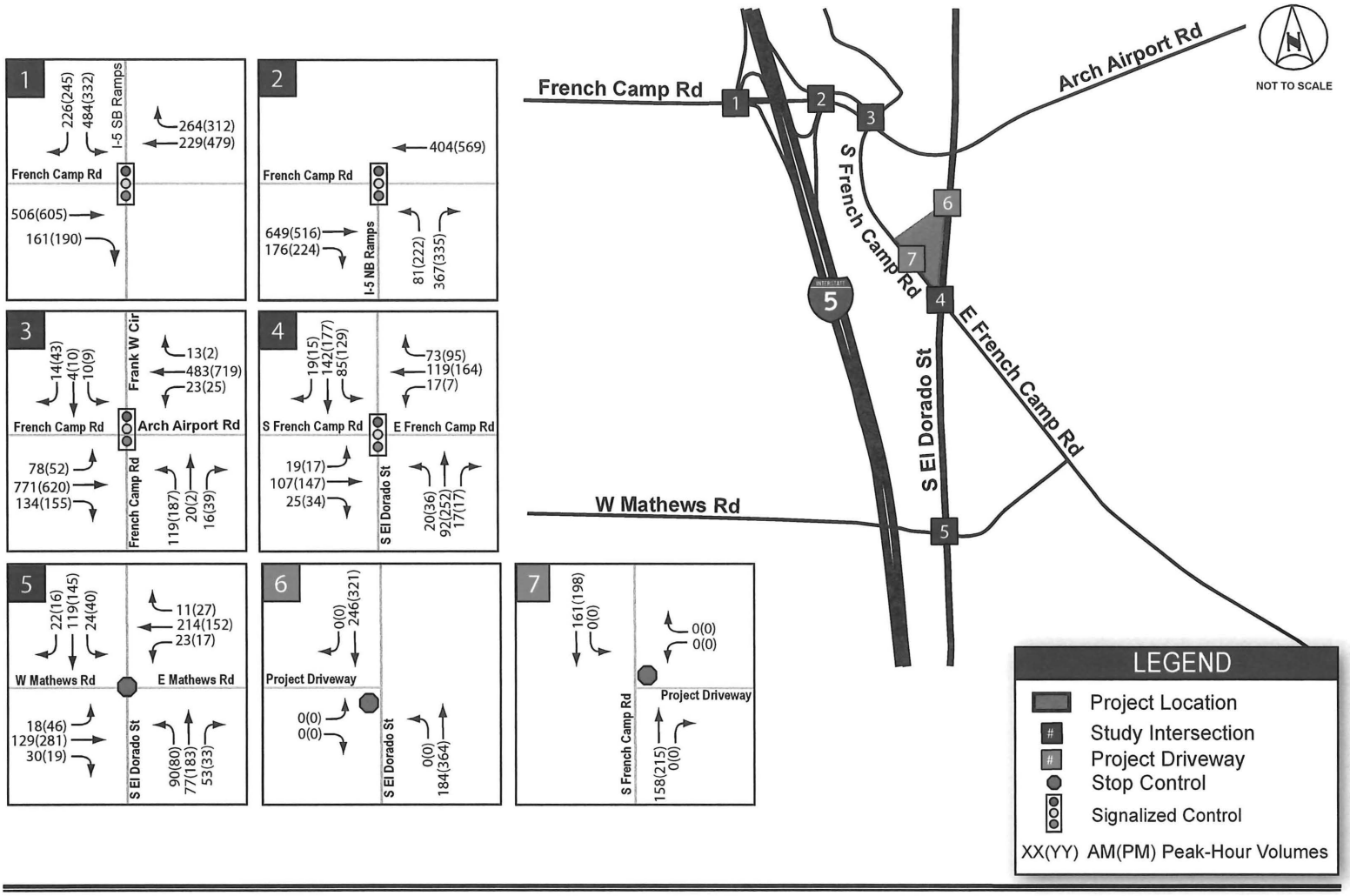

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Exhibit 4
Existing (2023) Peak-Hour Traffic Volumes

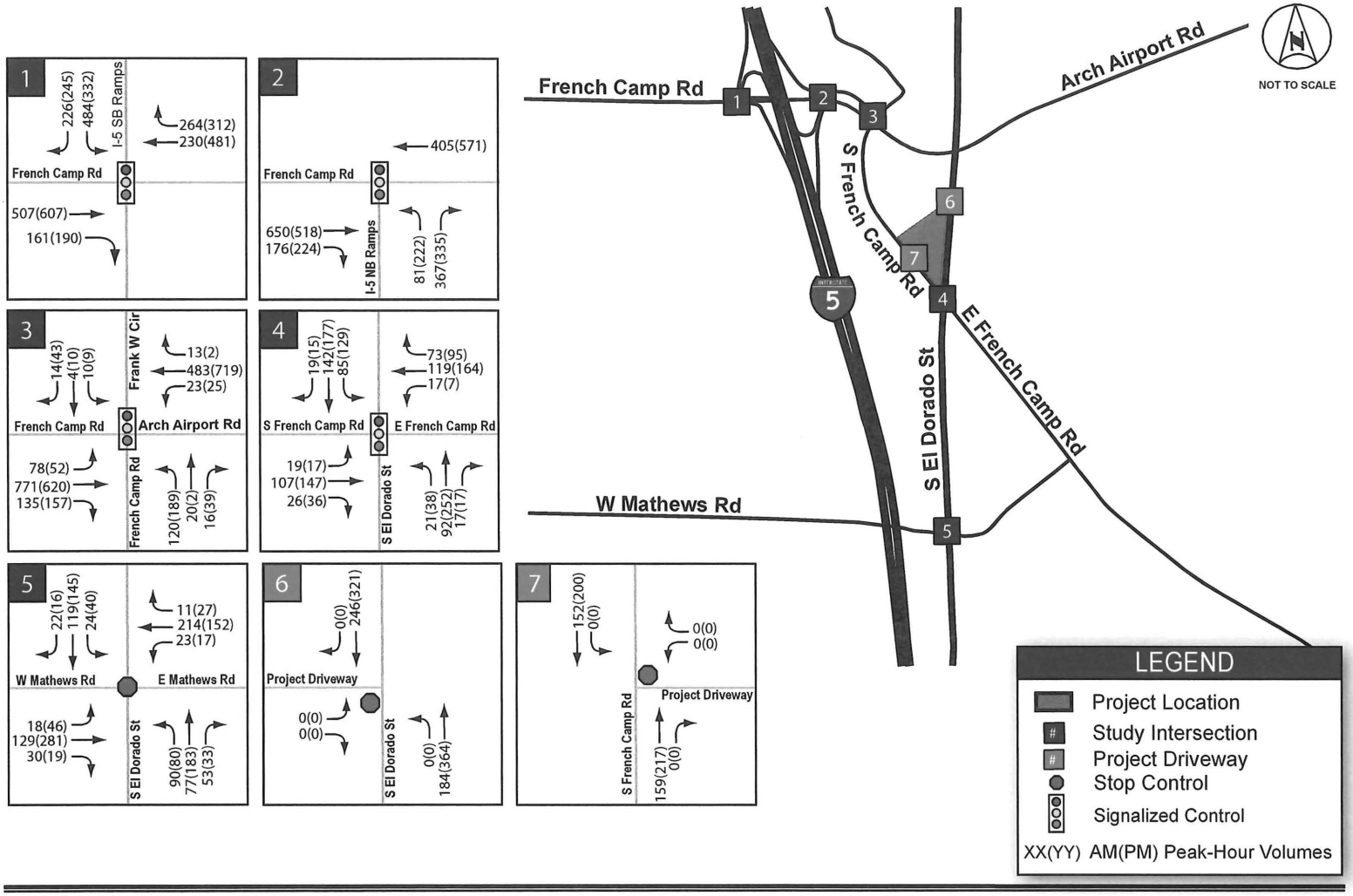

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Exhibit 5

Existing (2023) plus Pending and Approved Proejcts Peak-Hour Traffic Volumes

San Joaquin County, French Camp Truck Parking - Trip Generation and Distribution

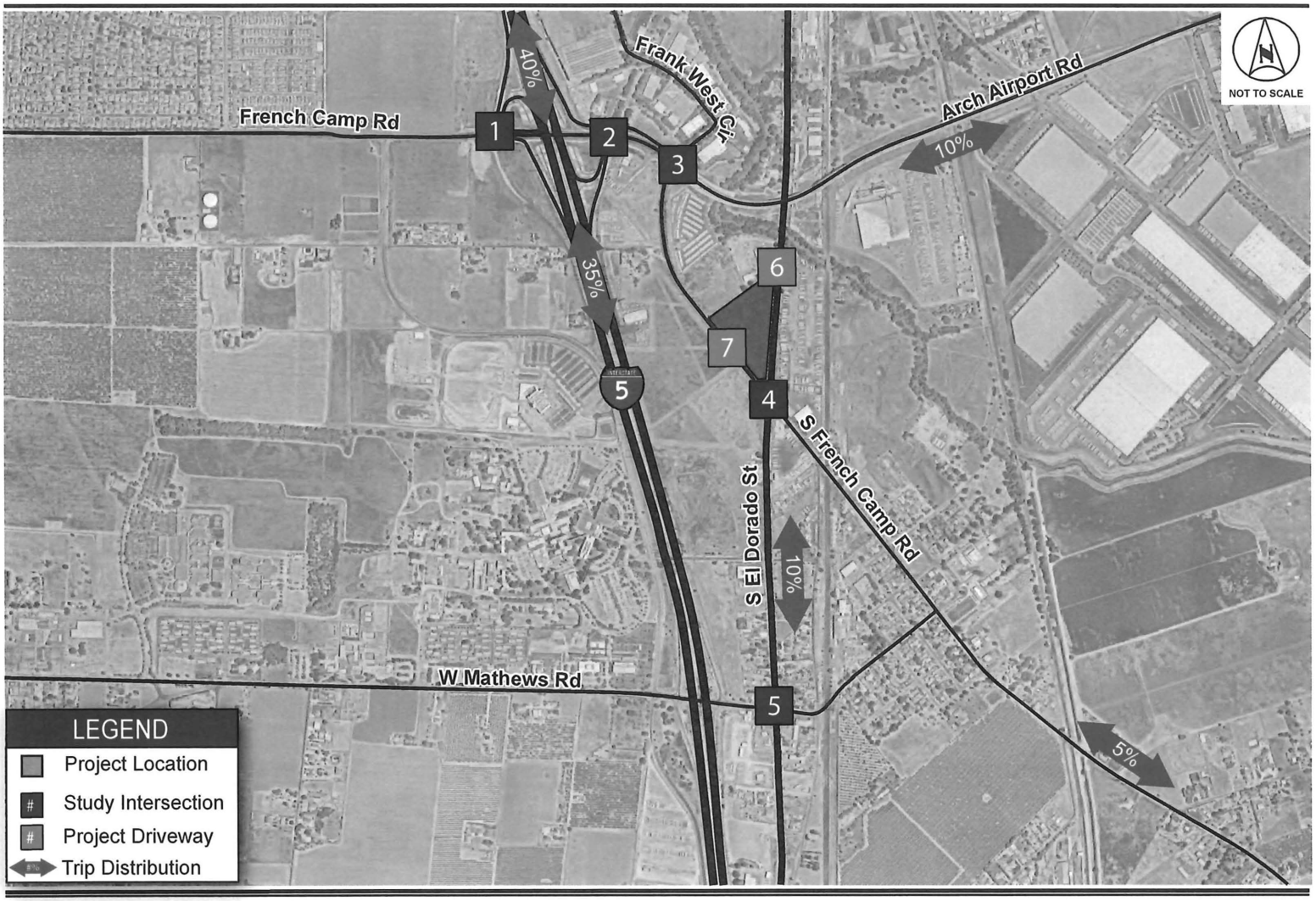

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Exhibit 6
Project Trip Distribution

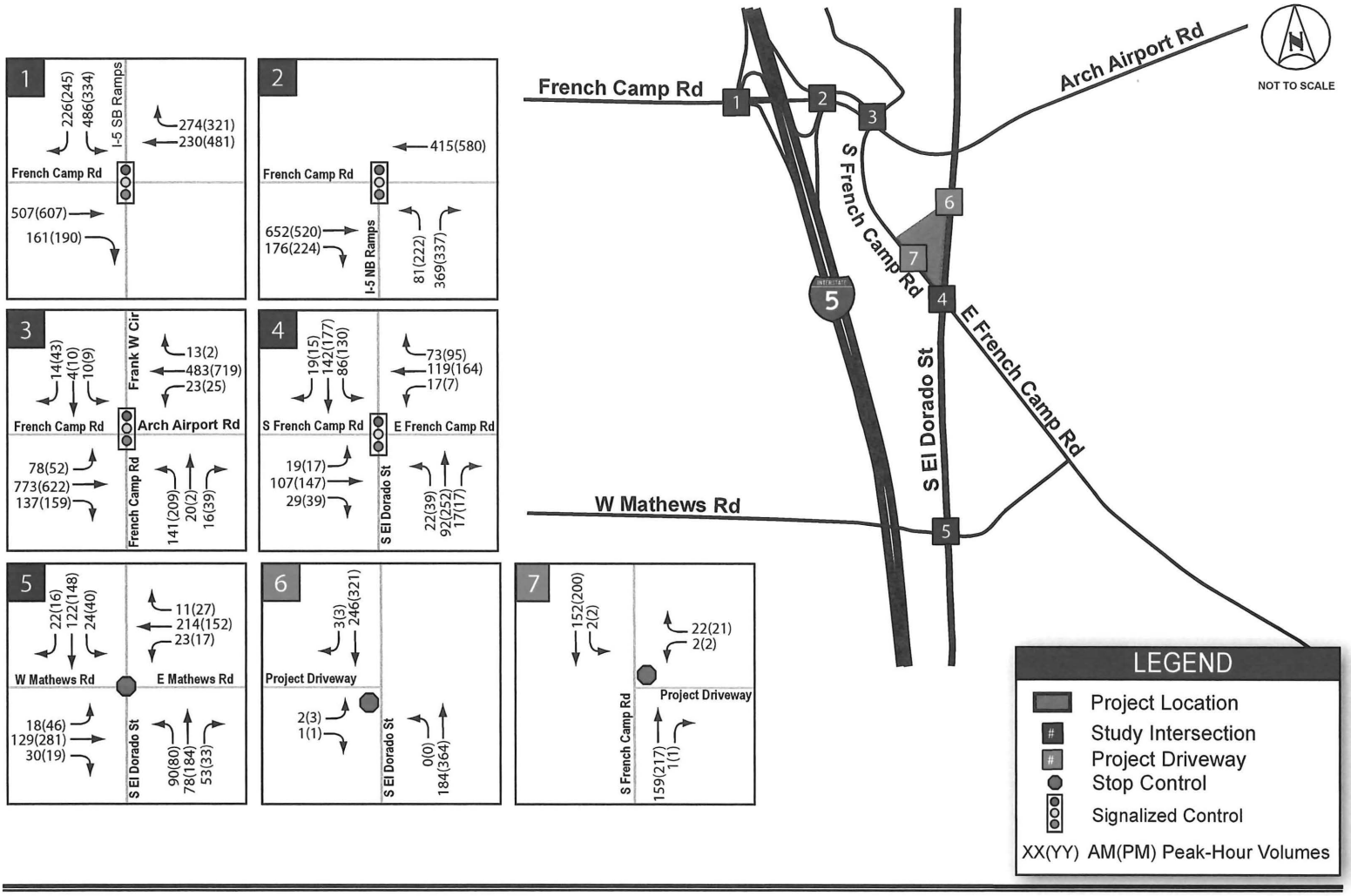

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Exhibit 7

Existing (2023) plus Pending and Approved Proejcts plus Project Peak-Hour Traffic Volumes

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Attachment A
Traffic Count Data Sheets

Prepared by National Data & Surveying Services

1-5 SB Ramps & French Camp Rd

Peak Hour Turning Movement Count

ID: 23-090083-001
City: French Camp

Day: Tuesday
Date: 8/1/2023

PEAK HOURS

AM	07:00 AM - 08:00 AM
NOON	NONE
PM	05:00 PM - 06:00 PM

COUNT PERIODS

AM	7:00 AM - 08:00 AM
NOON	NONE
PM	5:00 PM - 06:00 PM

SOUTHBOUND (1-5 SB Ramps)

AM	226	2	482	0	264	AM
NOON	0	0	0	0	0	NOON
PM	245	1	331	0	312	PM

1.5 | 0 | 2.5 | 0

EASTBOUND (French Camp Rd)

AM	NOON	PM		
455	0	724	⇦	
0	0	0	↶	0
0	0	0	↱	0
345	0	415	→	3
161	0	190	↴	1
AM	NOON	PM		

WESTBOUND (French Camp Rd)

PM	NOON	AM		
312	0	264	↰	1
479	0	229	←	2
0	0	0	↶	0
0	0	0	↰	0
746	0	827	⇨	
PM	NOON	AM		

CONTROL

Signalized

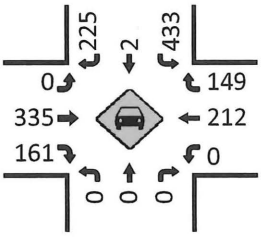
	AM	NOON	PM
TEV	1709	0	1973
PHF	0.80		0.93

0 | 0 | 0 | 0

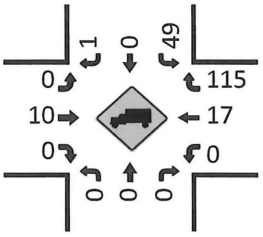
NORTHBOUND (1-5 SB Ramps)

PM	191	0	0	0	0	PM
NOON	0	0	0	0	0	NOON
AM	163	0	0	0	0	AM

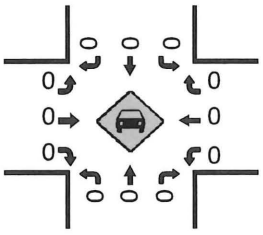
Cars (AM)



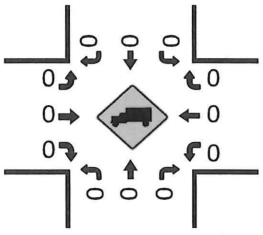
HT (AM)



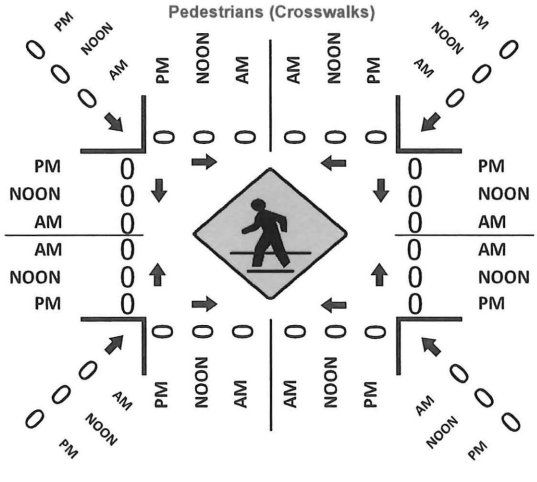
Cars (NOON)



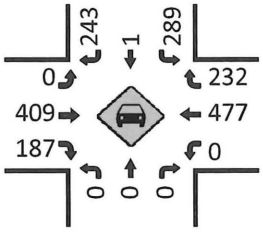
HT (NOON)



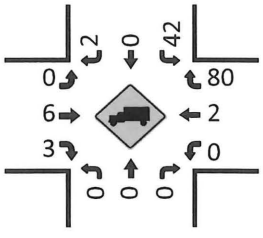
Pedestrians (Crosswalks)



Cars (PM)



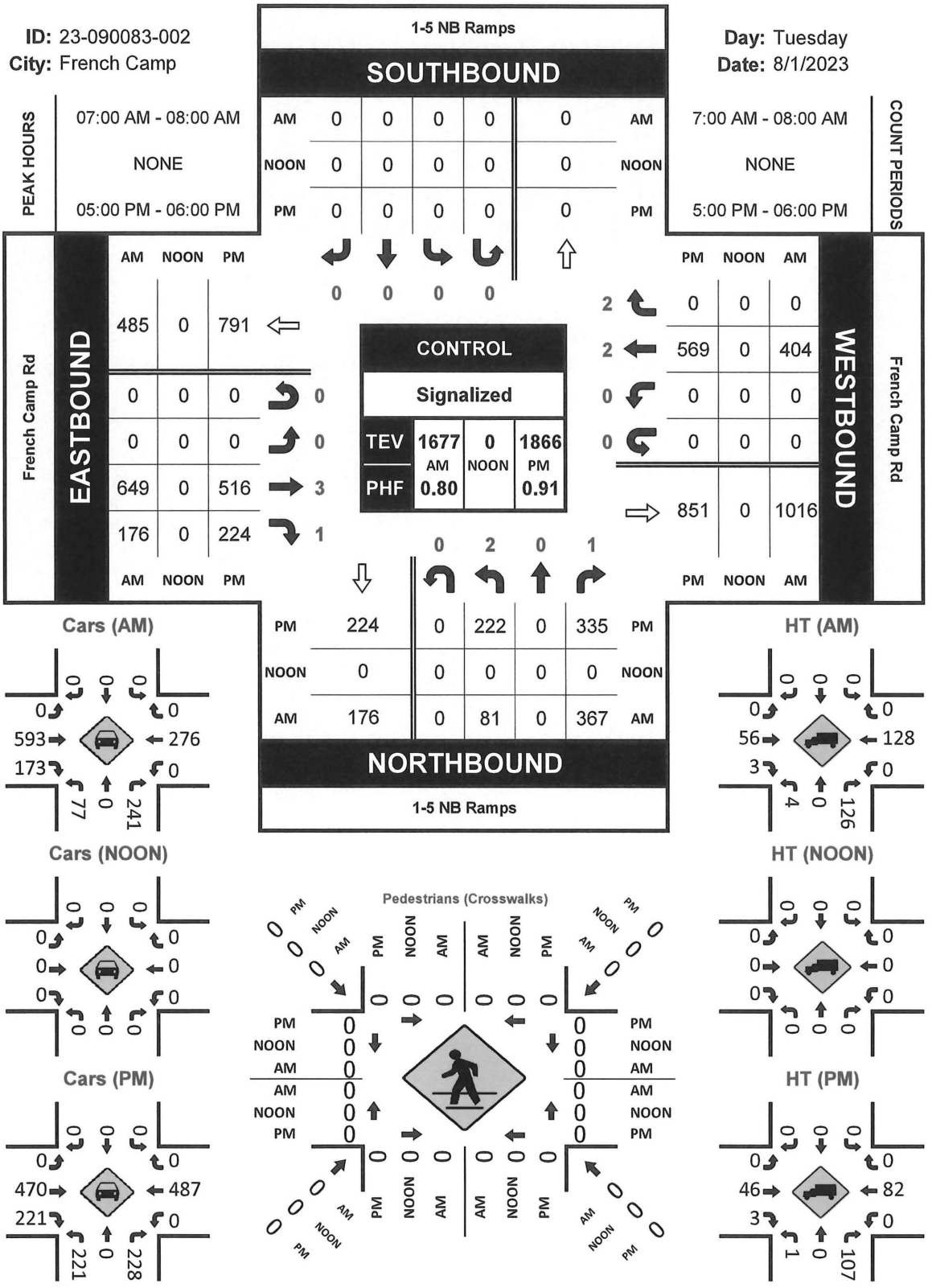
HT (PM)



Prepared by National Data & Surveying Services

1-5 NB Ramps & French Camp Rd

Peak Hour Turning Movement Count



Prepared by National Data & Surveying Services

French Camp Rd/Frank W Cir & French Camp Rd/Arch Airport Rd

Peak Hour Turning Movement Count

ID: 23-090083-003
City: French Camp

Day: Tuesday
Date: 8/1/2023

PEAK HOURS

AM: 07:00 AM - 08:00 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 7:00 AM - 08:00 AM
NOON: NONE
PM: 5:00 PM - 06:00 PM

SOUTHBOUND — French Camp Rd/Frank W Cir

AM	14	4	10	0	91	AM
NOON	0	0	0	0	0	NOON
PM	43	10	9	0	12	PM
	1	1	1	0		

EASTBOUND — French Camp Rd/Arch Airport Rd

AM	NOON	PM	
636	0	993	
20	0	44	0
58	0	8	1
771	0	620	3
134	0	155	2
AM	NOON	PM	

WESTBOUND — French Camp Rd/Arch Airport Rd

PM	NOON	AM	
2	0	13	1
719	0	483	3
25	0	23	1
0	0	0	0
668	0	797	
PM	NOON	AM	

NORTHBOUND — French Camp Rd/Frank W Cir

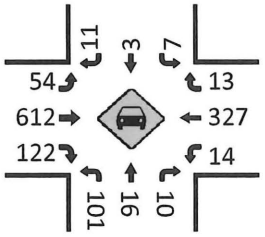
PM	190	0	187	2	39	PM
NOON	0	0	0	0	0	NOON
AM	161	0	119	20	16	AM
		0	2	1	0	

CONTROL

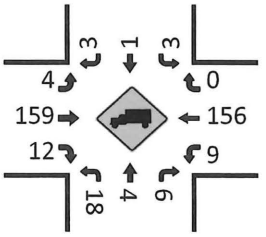
Signalized

TEV	1685 AM	0 NOON	1863 PM
PHF	0.80		0.87

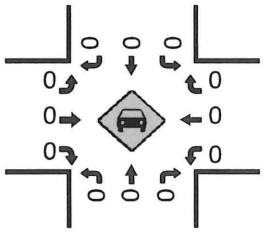
Cars (AM)



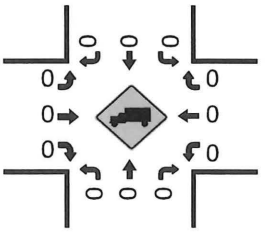
HT (AM)



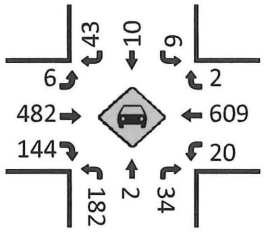
Cars (NOON)



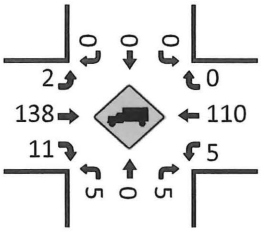
HT (NOON)



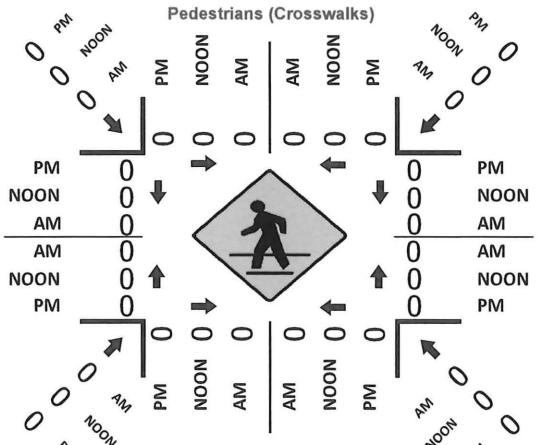
Cars (PM)



HT (PM)



Pedestrians (Crosswalks)



Prepared by National Data & Surveying Services

S El Dorado St & French Camp Rd

Peak Hour Turning Movement Count

ID: 23-090083-004
City: French Camp

Day: Tuesday
Date: 8/1/2023

PEAK HOURS

AM	07:00 AM - 08:00 AM
NOON	NONE
PM	05:00 PM - 06:00 PM

COUNT PERIODS

AM	7:00 AM - 08:00 AM
NOON	NONE
PM	5:00 PM - 06:00 PM

CONTROL: Signalized

	AM	NOON	PM
TEV	735	0	1090
PHF	0.88	NOON	0.78

SOUTHBOUND (S El Dorado St)

	L	T	R	U	Total	
AM	19	142	85	0	184	AM
NOON	0	0	0	0	0	NOON
PM	15	177	127	2	366	PM

EASTBOUND (French Camp Rd)

	L	T	R	U	
AM	158	0	215		
NOON	0	0	0	0	0
PM	19	0	17	0	0
	107	0	147	0	0.5
	25	0	34	0	0.5

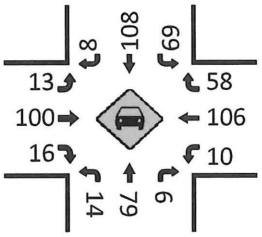
WESTBOUND (French Camp Rd)

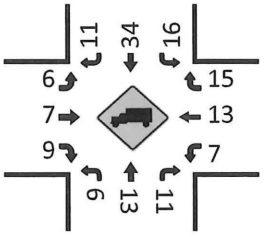
	L	T	R	U	
PM	95	0	73		0.5
NOON	164	0	119		0.5
AM	7	0	17		0
	0	0	0		0
	291	0	209		

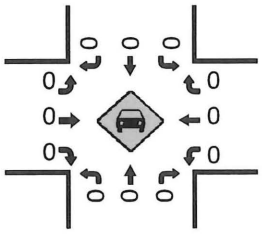
NORTHBOUND (S El Dorado St)

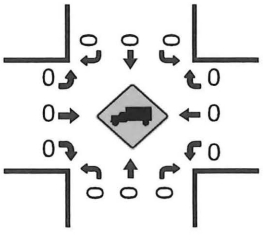
	L	T	R	U	Total	
PM	218	0	36	252	17	PM
NOON	0	0	0	0	0	NOON
AM	184	0	20	92	17	AM

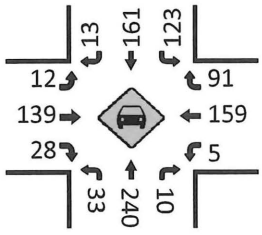
0 1 1.5 0.5

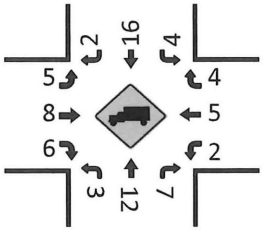


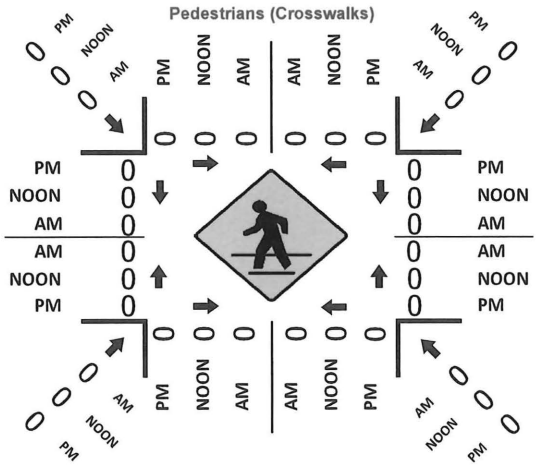








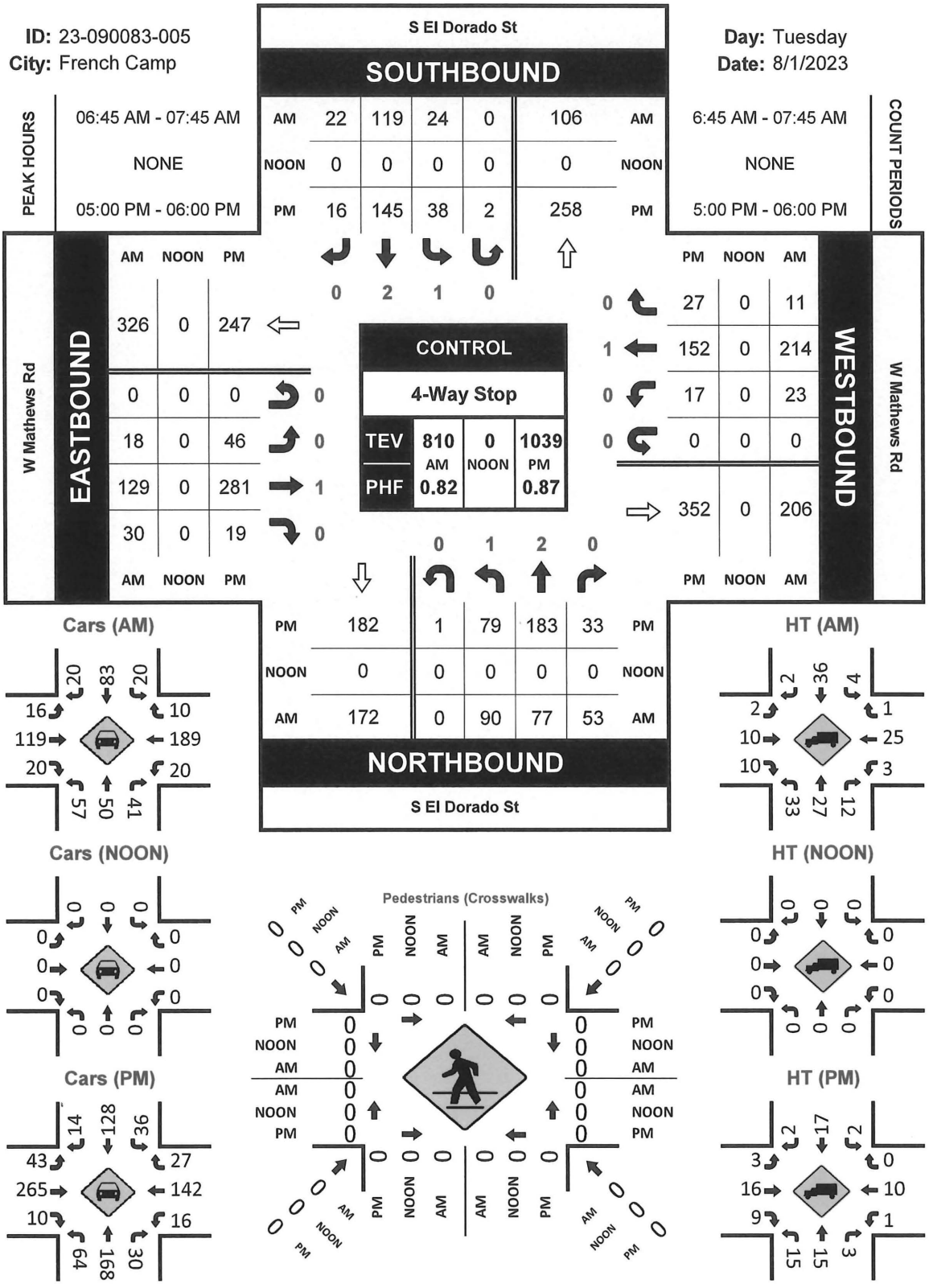




Prepared by National Data & Surveying Services

S El Dorado St & W Mathews Rd

Peak Hour Turning Movement Count



Prepared by National Data & Surveying Services

VOLUME

French Camp Rd W/O S El Dorado St

Day: Tuesday
Date: 8/1/2023

City: French Camp
Project #: CA23_090084_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,583	2,811	5,394

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00			3		7		10		12:00			52		45		97	
0:15			5		5		10		12:15			33		29		62	
0:30			3		5		8		12:30			42		32		74	
0:45			5	16	4	21	9	37	12:45			47	174	50	156	97	330
1:00			8		4		12		13:00			36		36		72	
1:15			6		6		12		13:15			54		33		87	
1:30			1		7		8		13:30			49		37		86	
1:45			4	19	5	22	9	41	13:45			36	175	38	144	74	319
2:00			3		10		13		14:00			52		60		112	
2:15			7		5		12		14:15			33		42		75	
2:30			3		3		6		14:30			47		44		91	
2:45			9	22	6	24	15	46	14:45			42	174	53	199	95	373
3:00			4		7		11		15:00			42		49		91	
3:15			13		3		16		15:15			47		52		99	
3:30			5		6		11		15:30			53		56		109	
3:45			12	34	10	26	22	60	15:45			44	186	69	226	113	412
4:00			12		8		20		16:00			49		69		118	
4:15			9		14		23		16:15			57		59		116	
4:30			17		5		22		16:30			46		81		127	
4:45			23	61	19	46	42	107	16:45			35	187	67	276	102	463
5:00			17		19		36		17:00			58		70		128	
5:15			23		14		37		17:15			58		69		127	
5:30			20		26		46		17:30			41		40		81	
5:45			26	86	18	77	44	163	17:45			42	199	38	217	80	416
6:00			22		18		40		18:00			30		42		72	
6:15			32		17		49		18:15			21		37		58	
6:30			41		19		60		18:30			34		32		66	
6:45			36	131	41	95	77	226	18:45			29	114	30	141	59	255
7:00			36		35		71		19:00			31		34		65	
7:15			37		29		66		19:15			31		32		63	
7:30			35		48		83		19:30			18		31		49	
7:45			41	149	46	158	87	307	19:45			25	105	35	132	60	237
8:00			36		44		80		20:00			13		26		39	
8:15			35		32		67		20:15			23		29		52	
8:30			32		17		49		20:30			16		23		39	
8:45			33	136	26	119	59	255	20:45			13	65	17	95	30	160
9:00			25		28		53		21:00			10		26		36	
9:15			28		26		54		21:15			12		20		32	
9:30			36		25		61		21:30			5		32		37	
9:45			34	123	50	129	84	252	21:45			9	36	24	102	33	138
10:00			31		31		62		22:00			9		20		29	
10:15			33		26		59		22:15			9		13		22	
10:30			52		30		82		22:30			8		12		20	
10:45			39	155	31	118	70	273	22:45			12	38	22	67	34	105
11:00			29		38		67		23:00			8		12		20	
11:15			47		35		82		23:15			7		12		19	
11:30			43		49		92		23:30			9		12		21	
11:45			49	168	44	166	93	334	23:45			6	30	19	55	25	85
TOTALS				1100		1001		2101	TOTALS				1483		1810		3293
SPLIT %				52.4%		47.6%		39.0%	SPLIT %				45.0%		55.0%		61.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,583	2,811	5,394

AM Peak Hour	11:15	11:15	11:15	PM Peak Hour	15:30	16:30	16:30
AM Pk Volume	191	173	364	PM Pk Volume	203	287	484
Pk Hr Factor	0.918	0.883	0.938	Pk Hr Factor	0.890	0.886	0.945
7 - 9 Volume	285	277	562	4 - 6 Volume	386	493	879
7 - 9 Peak Hour	7:00	7:30	7:30	4 - 6 Peak Hour	17:00	16:30	16:30
7 - 9 Pk Volume	149	170	317	4 - 6 Pk Volume	199	287	484
Pk Hr Factor	0.909	0.885	0.911	Pk Hr Factor	0.858	0.886	0.945

Prepared by National Data & Surveying Services

VOLUME

French Camp Rd W/O S El Dorado St

Day: Wednesday
Date: 8/2/2023

City: French Camp
Project #: CA23_090084_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,509	2,707	5,216

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
0:00			2		11		13		12:00			49		47		96	
0:15			3		1		4		12:15			42		41		83	
0:30			0		6		6		12:30			48		30		78	
0:45			5	10	6	24	11	34	12:45			38	177	33	151	71	328
1:00			4		3		7		13:00			49		35		84	
1:15			3		5		8		13:15			33		39		72	
1:30			3		5		8		13:30			35		52		87	
1:45			7	17	4	17	11	34	13:45			42	159	56	182	98	341
2:00			5		2		7		14:00			50		41		91	
2:15			3		4		7		14:15			45		41		86	
2:30			7		5		12		14:30			41		48		89	
2:45			10	25	8	19	18	44	14:45			42	178	50	180	92	358
3:00			5		5		10		15:00			44		48		92	
3:15			8		10		18		15:15			41		46		87	
3:30			10		2		12		15:30			47		41		88	
3:45			8	31	14	31	22	62	15:45			38	170	61	196	99	366
4:00			11		7		18		16:00			51		48		99	
4:15			8		12		20		16:15			47		48		95	
4:30			23		14		37		16:30			53		58		111	
4:45			15	57	22	55	37	112	16:45			53	204	57	211	110	415
5:00			17		15		32		17:00			49		51		100	
5:15			30		20		50		17:15			49		60		109	
5:30			20		15		35		17:30			45		56		101	
5:45			27	94	16	66	43	160	17:45			33	176	54	221	87	397
6:00			17		20		37		18:00			38		46		84	
6:15			32		17		49		18:15			26		53		79	
6:30			35		31		66		18:30			30		43		73	
6:45			35	119	33	101	68	220	18:45			24	118	23	165	47	283
7:00			34		39		73		19:00			30		30		60	
7:15			39		27		66		19:15			19		39		58	
7:30			28		41		69		19:30			18		33		51	
7:45			39	140	40	147	79	287	19:45			15	82	19	121	34	203
8:00			39		24		63		20:00			23		20		43	
8:15			28		36		64		20:15			27		32		59	
8:30			44		28		72		20:30			22		30		52	
8:45			45	156	34	122	79	278	20:45			12	84	16	98	28	182
9:00			24		38		62		21:00			12		23		35	
9:15			45		23		68		21:15			9		23		32	
9:30			24		30		54		21:30			14		22		36	
9:45			25	118	42	133	67	251	21:45			13	48	15	83	28	131
10:00			36		37		73		22:00			11		10		21	
10:15			29		38		67		22:15			13		16		29	
10:30			30		37		67		22:30			9		15		24	
10:45			30	125	31	143	61	268	22:45			9	42	11	52	20	94
11:00			42		42		84		23:00			7		8		15	
11:15			40		32		72		23:15			8		9		17	
11:30			36		34		70		23:30			5		11		16	
11:45			37	155	45	153	82	308	23:45			4	24	8	36	12	60
TOTALS				1047		1011		**2058**	**TOTALS**				1462		1696		**3158**
SPLIT %				50.9%		49.1%		**39.5%**	**SPLIT %**				46.3%		53.7%		**60.5%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	2,509	2,707	5,216

AM Peak Hour	11:45	11:30	**11:45**	**PM Peak Hour**	16:00	16:30	**16:30**
AM Pk Volume	176	167	**339**	**PM Pk Volume**	204	226	**430**
Pk Hr Factor	0.898	0.888	**0.883**	**Pk Hr Factor**	0.962	0.942	**0.968**
7 - 9 Volume	296	269	**565**	**4 - 6 Volume**	380	432	**812**
7 - 9 Peak Hour	8:00	7:00	**7:00**	**4 - 6 Peak Hour**	16:00	16:30	**16:30**
7 - 9 Pk Volume	156	147	**287**	**4 - 6 Pk Volume**	204	226	**430**
Pk Hr Factor	0.867	0.896	**0.908**	**Pk Hr Factor**	0.962	0.942	**0.968**

Prepared by National Data & Surveying Services

VOLUME

S El Dorado St S/O French Camp Rd

Day: Tuesday
Date: 8/1/2023

City: French Camp
Project #: CA23_090084_002

DAILY TOTALS	NB	SB	EB	WB	Total
	4,338	3,618	0	0	7,956

AM Period	NB		SB		EB		WB		TOTAL	
0:00	16		6						22	
0:15	10		6						16	
0:30	7		8						15	
0:45	7	40	9	29					16	69
1:00	7		6						13	
1:15	14		8						22	
1:30	8		5						13	
1:45	9	38	10	29					19	67
2:00	18		11						29	
2:15	4		6						10	
2:30	9		7						16	
2:45	14	45	11	35					25	80
3:00	13		20						33	
3:15	7		13						20	
3:30	7		26						33	
3:45	8	35	33	92					41	127
4:00	9		32						41	
4:15	24		33						57	
4:30	18		42						60	
4:45	21	72	35	142					56	214
5:00	14		35						49	
5:15	26		58						84	
5:30	18		66						84	
5:45	19	77	50	209					69	286
6:00	26		48						74	
6:15	26		59						85	
6:30	27		52						79	
6:45	36	115	60	219					96	334
7:00	38		46						84	
7:15	21		38						59	
7:30	28		52						80	
7:45	38	125	52	188					90	313
8:00	28		52						80	
8:15	36		42						78	
8:30	39		35						74	
8:45	35	138	46	175					81	313
9:00	39		39						78	
9:15	40		35						75	
9:30	36		60						96	
9:45	38	153	40	174					78	327
10:00	33		37						70	
10:15	45		41						86	
10:30	53		40						93	
10:45	43	174	46	164					89	338
11:00	40		55						95	
11:15	50		51						101	
11:30	60		63						123	
11:45	49	199	46	215					95	414
TOTALS		1211		1671						**2882**
SPLIT %		42.0%		58.0%						**36.2%**

PM Period	NB		SB		EB		WB		TOTAL	
12:00	51		61						112	
12:15	51		49						100	
12:30	61		54						115	
12:45	51	214	40	204					91	418
13:00	47		50						97	
13:15	50		57						107	
13:30	64		48						112	
13:45	58	219	50	205					108	424
14:00	55		60						115	
14:15	70		63						133	
14:30	89		66						155	
14:45	89	303	54	243					143	546
15:00	114		60						174	
15:15	124		50						174	
15:30	157		78						235	
15:45	268	663	63	251					331	914
16:00	232		89						321	
16:15	195		80						275	
16:30	192		43						235	
16:45	152	771	65	277					217	1048
17:00	111		67						178	
17:15	69		44						113	
17:30	70		55						125	
17:45	55	305	47	213					102	518
18:00	51		30						81	
18:15	59		34						93	
18:30	46		42						88	
18:45	46	202	30	136					76	338
19:00	44		29						73	
19:15	35		41						76	
19:30	39		33						72	
19:45	23	141	30	133					53	274
20:00	29		28						57	
20:15	19		26						45	
20:30	26		28						54	
20:45	28	102	24	106					52	208
21:00	30		20						50	
21:15	23		25						48	
21:30	22		14						36	
21:45	15	90	33	92					48	182
22:00	16		12						28	
22:15	12		10						22	
22:30	20		10						30	
22:45	5	53	15	47					20	100
23:00	18		14						32	
23:15	18		6						24	
23:30	14		12						26	
23:45	14	64	8	40					22	104
TOTALS		3127		1947						**5074**
SPLIT %		61.6%		38.4%						**63.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	4,338	3,618	0	0	7,956

AM Peak Hour	11:45	5:30	**11:15**
AM Pk Volume	212	223	**431**
Pk Hr Factor	0.869	0.845	**0.876**
7 - 9 Volume	263	363	**626**
7 - 9 Peak Hour	7:45	7:30	**7:30**
7 - 9 Pk Volume	141	198	**328**
Pk Hr Factor	0.904	0.952	**0.911**

PM Peak Hour	15:45	15:30	**15:30**
PM Pk Volume	887	310	**1162**
Pk Hr Factor	0.827	0.871	**0.878**
4 - 6 Volume	1076	490	**1566**
4 - 6 Peak Hour	16:00	16:00	**16:00**
4 - 6 Pk Volume	771	277	**1048**
Pk Hr Factor	0.831	0.778	**0.816**

Prepared by National Data & Surveying Services

VOLUME

S El Dorado St S/O French Camp Rd

Day: Wednesday
Date: 8/2/2023

City: French Camp
Project #: CA23_090084_002

DAILY TOTALS	NB	SB	EB	WB	Total
	3,555	3,514	0	0	7,069

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
0:00	8		5				13		12:00	44		53				97	
0:15	5		4				9		12:15	59		54				113	
0:30	8		8				16		12:30	49		53				102	
0:45	4	25	4	21			8	46	12:45	48	200	45	205			93	405
1:00	11		6				17		13:00	43		53				96	
1:15	7		9				16		13:15	61		52				113	
1:30	5		9				14		13:30	49		61				110	
1:45	14	37	9	33			23	70	13:45	76	229	53	219			129	448
2:00	5		4				9		14:00	67		57				124	
2:15	11		5				16		14:15	62		49				111	
2:30	13		11				24		14:30	77		57				134	
2:45	18	47	16	36			34	83	14:45	81	287	57	220			138	507
3:00	9		9				18		15:00	92		49				141	
3:15	8		18				26		15:15	96		53				149	
3:30	8		30				38		15:30	96		61				157	
3:45	12	37	36	93			48	130	15:45	113	397	72	235			185	632
4:00	8		33				41		16:00	95		58				153	
4:15	13		39				52		16:15	72		67				139	
4:30	15		35				50		16:30	98		62				160	
4:45	16	52	39	146			55	198	16:45	84	349	56	243			140	592
5:00	20		50				70		17:00	61		62				123	
5:15	25		75				100		17:15	102		56				158	
5:30	21		79				100		17:30	88		66				154	
5:45	24	90	57	261			81	351	17:45	70	321	51	235			121	556
6:00	22		48				70		18:00	53		30				83	
6:15	25		51				76		18:15	52		39				91	
6:30	23		52				75		18:30	34		32				66	
6:45	25	95	41	192			66	287	18:45	41	180	31	132			72	312
7:00	33		45				78		19:00	28		29				57	
7:15	32		33				65		19:15	29		22				51	
7:30	26		46				72		19:30	32		25				57	
7:45	26	117	52	176			78	293	19:45	28	117	24	100			52	217
8:00	46		42				88		20:00	23		24				47	
8:15	36		43				79		20:15	27		38				65	
8:30	41		47				88		20:30	27		25				52	
8:45	44	167	37	169			81	336	20:45	22	99	28	115			50	214
9:00	38		40				78		21:00	29		12				41	
9:15	35		44				79		21:15	17		18				35	
9:30	44		36				80		21:30	22		18				40	
9:45	38	155	45	165			83	320	21:45	16	84	10	58			26	142
10:00	49		56				105		22:00	17		16				33	
10:15	29		42				71		22:15	8		13				21	
10:30	46		59				105		22:30	16		17				33	
10:45	40	164	31	188			71	352	22:45	8	49	4	50			12	99
11:00	51		33				84		23:00	8		11				19	
11:15	66		55				121		23:15	18		6				24	
11:30	39		56				95		23:30	11		5				16	
11:45	45	201	49	193			94	394	23:45	19	56	7	29			26	85
TOTALS		1187		1673				2860	TOTALS		2368		1841				4209
SPLIT %		41.5%		58.5%				40.5%	SPLIT %		56.3%		43.7%				59.5%

DAILY TOTALS	NB	SB	EB	WB	Total
	3,555	3,514	0	0	7,069

AM Peak Hour	10:30	5:00	11:15	PM Peak Hour	15:15	15:45	15:15
AM Pk Volume	203	261	407	PM Pk Volume	400	259	644
Pk Hr Factor	0.769	0.826	0.841	Pk Hr Factor	0.885	0.899	0.870
7 - 9 Volume	284	345	629	4 - 6 Volume	670	478	1148
7 - 9 Peak Hour	8:00	7:45	8:00	4 - 6 Peak Hour	16:00	16:15	16:00
7 - 9 Pk Volume	167	184	336	4 - 6 Pk Volume	349	247	592
Pk Hr Factor	0.908	0.885	0.955	Pk Hr Factor	0.890	0.922	0.925

Kimley»Horn

Attachment B

Existing (2023) Analysis Worksheets

Lane Group	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	633	286	330	681	207
v/c Ratio	0.31	0.26	0.29	0.42	0.34
Control Delay	7.6	7.9	0.7	7.3	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	7.9	0.7	7.3	3.2
Queue Length 50th (ft)	17	13	0	21	0
Queue Length 95th (ft)	29	28	0	35	18
Internal Link Dist (ft)	761	603		1157	
Turn Bay Length (ft)			570	530	780
Base Capacity (vph)	5356	2820	1122	4471	1348
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.10	0.29	0.15	0.15

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	506	229	264	484	226
Future Volume (veh/h)	0	506	229	264	484	226
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	0	1870	1796	1248	1752	1900
Adj Flow Rate, veh/h	0	632	286	0	661	222
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	0	2	7	44	10	0
Cap, veh/h	0	1954	1036		1654	532
Arrive On Green	0.00	0.30	0.30	0.00	0.33	0.33
Sat Flow, veh/h	0	6958	3503	1058	5005	1610
Grp Volume(v), veh/h	0	632	286	0	661	222
Grp Sat Flow(s),veh/h/ln	0	1609	1706	1058	1668	1610
Q Serve(g_s), s	0.0	1.9	1.6	0.0	2.5	2.6
Cycle Q Clear(g_c), s	0.0	1.9	1.6	0.0	2.5	2.6
Prop In Lane	0.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1954	1036		1654	532
V/C Ratio(X)	0.00	0.32	0.28		0.40	0.42
Avail Cap(c_a), veh/h	0	5886	3122		5800	1866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	6.6	6.5	0.0	6.4	6.4
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.0	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	0.0	0.5	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	6.7	6.7	0.0	6.5	6.9
LnGrp LOS	A	A	A		A	A
Approach Vol, veh/h		632	286		883	
Approach Delay, s/veh		6.7	6.7		6.6	
Approach LOS		A	A		A	

Timer - Assigned Phs		4		6	8
Phs Duration (G+Y+Rc), s		12.0		12.6	12.0
Change Period (Y+Rc), s		4.5		4.5	4.5
Max Green Setting (Gmax), s		22.5		28.5	22.5
Max Q Clear Time (g_c+I1), s		3.9		4.6	3.6
Green Ext Time (p_c), s		3.6		3.5	1.5

Intersection Summary	
HCM 6th Ctrl Delay	6.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBT	NBL	NBR
Lane Group Flow (vph)	811	220	505	101	459
v/c Ratio	0.54	0.34	0.59	0.06	0.79
Control Delay	15.9	4.5	18.2	6.6	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.9	4.5	18.2	6.6	22.0
Queue Length 50th (ft)	66	0	60	7	96
Queue Length 95th (ft)	106	29	108	14	167
Internal Link Dist (ft)	369		148	574	
Turn Bay Length (ft)		300		430	430
Base Capacity (vph)	1947	777	1119	2438	881
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.28	0.45	0.04	0.52

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	649	176	0	404	81	367
Future Volume (veh/h)	649	176	0	404	81	367
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	1767	1870	0	1426	1826	1396
Adj Flow Rate, veh/h	811	220	0	505	101	459
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	9	2	0	32	5	34
Cap, veh/h	1488	489	0	836	1527	536
Arrive On Green	0.31	0.31	0.00	0.31	0.45	0.45
Sat Flow, veh/h	4982	1585	0	2852	3374	1183
Grp Volume(v), veh/h	811	220	0	505	101	459
Grp Sat Flow(s),veh/h/ln	1608	1585	0	1354	1687	1183
Q Serve(g_s), s	5.3	4.2	0.0	6.0	0.6	13.1
Cycle Q Clear(g_c), s	5.3	4.2	0.0	6.0	0.6	13.1
Prop In Lane		1.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1488	489	0	836	1527	536
V/C Ratio(X)	0.55	0.45	0.00	0.60	0.07	0.86
Avail Cap(c_a), veh/h	2305	757	0	1294	2955	1036
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.8	10.5	0.0	11.1	5.8	9.2
Incr Delay (d2), s/veh	0.3	0.6	0.0	0.7	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.0	0.0	1.2	0.1	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.1	11.1	0.0	11.8	5.8	13.3
LnGrp LOS	B	B	A	B	A	B
Approach Vol, veh/h	1031			505	560	
Approach Delay, s/veh	11.1			11.8	12.0	
Approach LOS	B			B	B	

Timer - Assigned Phs		2		4			8
Phs Duration (G+Y+Rc), s		21.6		16.1			16.1
Change Period (Y+Rc), s		4.5		4.5			4.5
Max Green Setting (Gmax), s		33.0		18.0			18.0
Max Q Clear Time (g_c+I1), s		15.1		7.3			8.0
Green Ext Time (p_c), s		2.0		4.4			2.2

Intersection Summary	
HCM 6th Ctrl Delay	11.5
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	98	964	168	29	604	16	149	45	13	5	18
v/c Ratio	0.35	0.50	0.13	0.17	0.46	0.02	0.31	0.12	0.08	0.03	0.05
Control Delay	28.4	13.4	2.5	30.1	17.9	0.1	27.3	15.9	31.4	30.0	0.3
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	28.4	13.4	2.5	30.1	17.9	0.1	27.3	15.9	31.4	30.0	0.3
Queue Length 50th (ft)	30	67	0	9	63	0	23	6	4	2	0
Queue Length 95th (ft)	73	134	10	32	93	0	52	33	20	11	0
Internal Link Dist (ft)		356			582			682		429	
Turn Bay Length (ft)	285		330	230		340	260		140		70
Base Capacity (vph)	452	2751	1739	225	2263	1029	653	703	156	605	673
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	0.22	0.35	0.10	0.13	0.27	0.02	0.23	0.06	0.08	0.01	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	771	134	23	483	13	119	20	16	10	4	14
Future Volume (veh/h)	78	771	134	23	483	13	119	20	16	10	4	14
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	1752	1589	1767	1322	1426	1900	1678	1604	1337	1455	1530	1589
Adj Flow Rate, veh/h	98	964	168	29	604	16	149	25	20	12	5	18
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	10	21	9	39	32	0	15	20	38	30	25	21
Cap, veh/h	129	1649	1002	42	1310	542	285	152	121	21	164	145
Arrive On Green	0.08	0.38	0.38	0.03	0.34	0.34	0.09	0.18	0.18	0.02	0.11	0.11
Sat Flow, veh/h	1668	4337	2635	1259	3892	1610	3100	825	660	1386	1530	1346
Grp Volume(v), veh/h	98	964	168	29	604	16	149	0	45	12	5	18
Grp Sat Flow(s),veh/h/ln	1668	1446	1317	1259	1297	1610	1550	0	1485	1386	1530	1346
Q Serve(g_s), s	2.7	8.2	2.0	1.1	5.7	0.3	2.1	0.0	1.2	0.4	0.1	0.6
Cycle Q Clear(g_c), s	2.7	8.2	2.0	1.1	5.7	0.3	2.1	0.0	1.2	0.4	0.1	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	129	1649	1002	42	1310	542	285	0	273	21	164	145
V/C Ratio(X)	0.76	0.58	0.17	0.69	0.46	0.03	0.52	0.00	0.16	0.56	0.03	0.12
Avail Cap(c_a), veh/h	484	3124	1898	230	2385	987	700	0	782	164	641	564
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	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	11.5	9.5	22.2	12.1	10.3	20.1	0.0	16.0	22.7	18.6	18.8
Incr Delay (d2), s/veh	8.9	0.3	0.1	17.8	0.3	0.0	1.5	0.0	0.3	21.0	0.1	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	1.2	1.9	0.4	0.5	1.2	0.1	0.8	0.0	0.4	0.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	11.8	9.6	40.0	12.4	10.4	21.6	0.0	16.3	43.7	18.7	19.2
LnGrp LOS	C	B	A	D	B	B	C	A	B	D	B	B
Approach Vol, veh/h		1230			649			194			35	
Approach Delay, s/veh		13.0			13.6			20.4			27.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	13.1	6.1	22.2	8.8	9.5	8.1	20.2
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	5.5	24.5	8.5	33.5	10.5	19.5	13.5	28.5
Max Q Clear Time (g_c+I1), s	2.4	3.2	3.1	10.2	4.1	2.6	4.7	7.7
Green Ext Time (p_c), s	0.0	0.2	0.0	7.4	0.2	0.0	0.1	3.9

Intersection Summary	
HCM 6th Ctrl Delay	14.1
HCM 6th LOS	B

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	144	28	154	83	23	105	19	97	161	22
v/c Ratio	0.48	0.09	0.51	0.06	0.16	0.08	0.04	0.52	0.11	0.04
Control Delay	32.1	0.5	32.2	0.1	33.8	20.9	0.2	42.6	17.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.1	0.5	32.2	0.1	33.8	20.9	0.2	42.6	17.6	0.1
Queue Length 50th (ft)	54	0	58	0	9	16	0	38	18	0
Queue Length 95th (ft)	110	0	115	0	32	40	0	#108	55	0
Internal Link Dist (ft)	350		828			628			994	
Turn Bay Length (ft)		100		100	115		150	150		150
Base Capacity (vph)	517	458	497	1346	153	1304	487	198	1440	577
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.06	0.31	0.06	0.15	0.08	0.04	0.49	0.11	0.04

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	107	25	17	119	73	20	92	17	85	142	19
Future Volume (veh/h)	19	107	25	17	119	73	20	92	17	85	142	19
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	1426	1811	1366	1292	1737	1604	1455	1693	937	1618	1544	1040
Adj Flow Rate, veh/h	22	122	0	19	135	0	23	105	0	97	161	0
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, %	32	6	36	41	11	20	30	14	65	19	24	58
Cap, veh/h	30	167		26	181		38	1122		118	1169	
Arrive On Green	0.11	0.11	0.00	0.12	0.12	0.00	0.03	0.35	0.00	0.08	0.40	0.00
Sat Flow, veh/h	275	1523	1158	213	1513	1359	1386	3216	794	1541	2934	882
Grp Volume(v), veh/h	144	0	0	154	0	0	23	105	0	97	161	0
Grp Sat Flow(s),veh/h/ln	1797	0	1158	1726	0	1359	1386	1608	794	1541	1467	882
Q Serve(g_s), s	4.0	0.0	0.0	4.5	0.0	0.0	0.9	1.1	0.0	3.2	1.8	0.0
Cycle Q Clear(g_c), s	4.0	0.0	0.0	4.5	0.0	0.0	0.9	1.1	0.0	3.2	1.8	0.0
Prop In Lane	0.15		1.00	0.12		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	197	0		207	0		38	1122		118	1169	
V/C Ratio(X)	0.73	0.00		0.74	0.00		0.61	0.09		0.82	0.14	
Avail Cap(c_a), veh/h	620	0		596	0		175	1122		231	1169	
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	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.5	0.0	0.0	22.2	0.0	0.0	25.1	11.4	0.0	23.7	10.0	0.0
Incr Delay (d2), s/veh	5.2	0.0	0.0	5.2	0.0	0.0	14.9	0.2	0.0	13.2	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	1.8	0.0	0.0	1.9	0.0	0.0	0.4	0.3	0.0	1.4	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.6	0.0	0.0	27.4	0.0	0.0	40.0	11.6	0.0	37.0	10.2	0.0
LnGrp LOS	C	A		C	A		D	B		D	B	
Approach Vol, veh/h		144			154			128			258	
Approach Delay, s/veh		27.6			27.4			16.7			20.3	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.5	22.7		10.2	5.9	25.3		10.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.8	18.2		18.0	6.6	19.4		18.0				
Max Q Clear Time (g_c+I1), s	5.2	3.1		6.0	2.9	3.8		6.5				
Green Ext Time (p_c), s	0.0	0.4		0.5	0.0	0.7		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		22.8	
HCM 6th LOS		C	

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	13.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	129	30	23	214	11	90	77	53	24	119	22
Future Vol, veh/h	18	129	30	23	214	11	90	77	53	24	119	22
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	11	8	33	13	12	9	37	35	23	17	30	9
Mvmt Flow	22	157	37	28	261	13	110	94	65	29	145	27
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	13.7	17.2	11.7	11.3
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	10%	9%	100%	0%	0%
Vol Thru, %	0%	100%	33%	73%	86%	0%	100%	64%
Vol Right, %	0%	0%	67%	17%	4%	0%	0%	36%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	51	79	177	248	24	79	62
LT Vol	90	0	0	18	23	24	0	0
Through Vol	0	51	26	129	214	0	79	40
RT Vol	0	0	53	30	11	0	0	22
Lane Flow Rate	110	63	96	216	302	29	97	75
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.238	0.126	0.175	0.396	0.551	0.062	0.196	0.14
Departure Headway (Hd)	7.8	7.251	6.557	6.608	6.556	7.591	7.303	6.679
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	458	491	544	542	547	469	489	533
Service Time	5.585	5.036	4.341	4.39	4.331	5.383	5.095	4.47
HCM Lane V/C Ratio	0.24	0.128	0.176	0.399	0.552	0.062	0.198	0.141
HCM Control Delay	13	11.1	10.7	13.7	17.2	10.9	11.9	10.6
HCM Lane LOS	B	B	B	B	C	B	B	B
HCM 95th-tile Q	0.9	0.4	0.6	1.9	3.3	0.2	0.7	0.5

Lane Group	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	651	515	335	475	145
v/c Ratio	0.29	0.40	0.26	0.34	0.29
Control Delay	6.4	7.4	0.5	6.3	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.4	7.4	0.5	6.3	3.7
Queue Length 50th (ft)	15	23	0	11	0
Queue Length 95th (ft)	28	46	0	26	22
Internal Link Dist (ft)	761	603		1157	
Turn Bay Length (ft)			570	530	780
Base Capacity (vph)	6069	3419	1282	4288	1310
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.15	0.26	0.11	0.11

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	605	479	312	332	245
Future Volume (veh/h)	0	605	479	312	332	245
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	0	1870	1900	1515	1707	1885
Adj Flow Rate, veh/h	0	651	515	0	310	313
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	0	26	13	1
Cap, veh/h	0	2160	1212		871	856
Arrive On Green	0.00	0.34	0.34	0.00	0.27	0.27
Sat Flow, veh/h	0	6958	3705	1284	3252	3195
Grp Volume(v), veh/h	0	651	515	0	310	313
Grp Sat Flow(s),veh/h/ln	0	1609	1805	1284	1626	1598
Q Serve(g_s), s	0.0	1.7	2.5	0.0	1.8	1.8
Cycle Q Clear(g_c), s	0.0	1.7	2.5	0.0	1.8	1.8
Prop In Lane	0.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2160	1212		871	856
V/C Ratio(X)	0.00	0.30	0.42		0.36	0.37
Avail Cap(c_a), veh/h	0	7226	4054		3652	3589
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	5.6	5.8	0.0	6.7	6.7
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.0	0.2	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	0.0	0.1	0.2	0.0	0.3	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	5.7	6.1	0.0	7.0	7.0
LnGrp LOS	A	A	A		A	A
Approach Vol, veh/h		651	515		623	
Approach Delay, s/veh		5.7	6.1		7.0	
Approach LOS		A	A		A	

Timer - Assigned Phs			4		6	8
Phs Duration (G+Y+Rc), s			12.1		10.6	12.1
Change Period (Y+Rc), s			4.5		4.5	4.5
Max Green Setting (Gmax), s			25.5		25.5	25.5
Max Q Clear Time (g_c+I1), s			3.7		3.8	4.5
Green Ext Time (p_c), s			3.9		2.4	2.9

Intersection Summary	
HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBT	NBL	NBR
Lane Group Flow (vph)	567	246	625	244	368
v/c Ratio	0.36	0.36	0.60	0.16	0.69
Control Delay	12.6	4.1	15.8	7.4	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	4.1	15.8	7.4	17.1
Queue Length 50th (ft)	34	0	58	15	62
Queue Length 95th (ft)	82	41	146	36	157
Internal Link Dist (ft)	369		148	574	
Turn Bay Length (ft)		300		430	430
Base Capacity (vph)	2391	926	1591	2717	949
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.24	0.27	0.39	0.09	0.39

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	516	224	0	569	222	335
Future Volume (veh/h)	516	224	0	569	222	335
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	1767	1885	0	1693	1900	1426
Adj Flow Rate, veh/h	567	246	0	625	244	368
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	9	1	0	14	0	32
Cap, veh/h	1556	516	0	1038	1387	478
Arrive On Green	0.32	0.32	0.00	0.32	0.40	0.40
Sat Flow, veh/h	4982	1598	0	3385	3510	1208
Grp Volume(v), veh/h	567	246	0	625	244	368
Grp Sat Flow(s),veh/h/ln	1608	1598	0	1608	1755	1208
Q Serve(g_s), s	2.9	3.9	0.0	5.2	1.4	8.5
Cycle Q Clear(g_c), s	2.9	3.9	0.0	5.2	1.4	8.5
Prop In Lane		1.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1556	516	0	1038	1387	478
V/C Ratio(X)	0.36	0.48	0.00	0.60	0.18	0.77
Avail Cap(c_a), veh/h	2947	976	0	1965	3466	1193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.3	8.7	0.0	9.1	6.3	8.4
Incr Delay (d2), s/veh	0.1	0.7	0.0	0.6	0.1	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.8	0.0	1.0	0.3	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.4	9.3	0.0	9.6	6.3	11.1
LnGrp LOS	A	A	A	A	A	B
Approach Vol, veh/h	813			625	612	
Approach Delay, s/veh	8.7			9.6	9.2	
Approach LOS	A			A	A	

Timer - Assigned Phs		2		4			8
Phs Duration (G+Y+Rc), s		17.1		14.8			14.8
Change Period (Y+Rc), s		4.5		4.5			4.5
Max Green Setting (Gmax), s		31.5		19.5			19.5
Max Q Clear Time (g_c+I1), s		10.5		5.9			7.2
Green Ext Time (p_c), s		2.2		3.7			3.1

Intersection Summary	
HCM 6th Ctrl Delay	9.1
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	60	713	178	29	826	2	215	47	10	11	49
v/c Ratio	0.26	0.44	0.16	0.16	0.57	0.00	0.37	0.09	0.05	0.05	0.14
Control Delay	28.3	14.3	3.1	29.7	18.2	0.0	25.1	8.8	30.1	29.0	0.9
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	28.3	14.3	3.1	29.7	18.2	0.0	25.1	8.8	30.1	29.0	0.9
Queue Length 50th (ft)	19	49	0	9	89	0	35	1	3	4	0
Queue Length 95th (ft)	56	110	17	35	139	0	73	25	18	19	0
Internal Link Dist (ft)		356			582			682		429	
Turn Bay Length (ft)	285		330	230		340	260		140		70
Base Capacity (vph)	361	2610	1700	219	2417	950	828	795	193	759	754
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	0.17	0.27	0.10	0.13	0.34	0.00	0.26	0.06	0.05	0.01	0.06

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	620	155	25	719	2	187	2	39	9	10	43
Future Volume (veh/h)	52	620	155	25	719	2	187	2	39	9	10	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	1722	1574	1796	1604	1678	1900	1856	1900	1707	1900	1900	1900
Adj Flow Rate, veh/h	60	713	178	29	826	2	215	2	45	10	11	49
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	12	22	7	20	15	0	3	0	13	0	0	0
Cap, veh/h	97	1453	906	52	1434	504	365	14	321	24	215	183
Arrive On Green	0.06	0.34	0.34	0.03	0.31	0.31	0.11	0.21	0.21	0.01	0.11	0.11
Sat Flow, veh/h	1640	4297	2679	1527	4580	1610	3428	69	1552	1810	1900	1610
Grp Volume(v), veh/h	60	713	178	29	826	2	215	0	47	10	11	49
Grp Sat Flow(s),veh/h/ln	1640	1432	1340	1527	1527	1610	1714	0	1621	1810	1900	1610
Q Serve(g_s), s	1.6	5.8	2.1	0.8	6.7	0.0	2.6	0.0	1.0	0.2	0.2	1.2
Cycle Q Clear(g_c), s	1.6	5.8	2.1	0.8	6.7	0.0	2.6	0.0	1.0	0.2	0.2	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.96	1.00		1.00
Lane Grp Cap(c), veh/h	97	1453	906	52	1434	504	365	0	335	24	215	183
V/C Ratio(X)	0.62	0.49	0.20	0.56	0.58	0.00	0.59	0.00	0.14	0.42	0.05	0.27
Avail Cap(c_a), veh/h	428	3069	1914	260	2856	1004	972	0	1011	226	883	748
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	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	11.6	10.3	21.0	12.7	10.4	18.8	0.0	14.3	21.6	17.4	17.9
Incr Delay (d2), s/veh	6.3	0.3	0.1	9.1	0.4	0.0	1.5	0.0	0.2	11.5	0.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.3	0.4	0.4	1.7	0.0	1.0	0.0	0.3	0.2	0.1	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	11.8	10.5	30.1	13.1	10.4	20.3	0.0	14.5	33.1	17.5	18.7
LnGrp LOS	C	B	B	C	B	B	C	A	B	C	B	B
Approach Vol, veh/h		951			857			262			70	
Approach Delay, s/veh		12.5			13.6			19.3			20.5	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	13.6	6.0	19.4	9.2	9.5	7.1	18.3
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	5.5	27.5	7.5	31.5	12.5	20.5	11.5	27.5
Max Q Clear Time (g_c+I1), s	2.2	3.0	2.8	7.8	4.6	3.2	3.6	8.7
Green Ext Time (p_c), s	0.0	0.2	0.0	5.5	0.4	0.1	0.1	5.1

Intersection Summary	
HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	210	44	219	122	46	323	22	165	227	19
v/c Ratio	0.79	0.11	0.65	0.08	0.32	0.38	0.06	0.89	0.21	0.03
Control Delay	50.7	0.5	37.8	0.1	40.1	25.8	0.3	79.6	21.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	0.5	37.8	0.1	40.1	25.8	0.3	79.6	21.9	0.1
Queue Length 50th (ft)	92	0	97	0	21	67	0	79	45	0
Queue Length 95th (ft)	#157	0	139	0	47	93	0	#162	67	0
Internal Link Dist (ft)	350		828			628			994	
Turn Bay Length (ft)		100		100	115		150	150		150
Base Capacity (vph)	307	444	448	1553	150	855	392	186	1099	569
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.10	0.49	0.08	0.31	0.38	0.06	0.89	0.21	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	147	34	7	164	95	36	252	17	129	177	15
Future Volume (veh/h)	17	147	34	7	164	95	36	252	17	129	177	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	1470	1100	1633	1470	1856	1841	1781	1826	1292	1856	1767	1707
Adj Flow Rate, veh/h	22	188	0	9	210	0	46	323	0	165	227	0
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	29	54	18	29	3	4	8	5	41	3	9	13
Cap, veh/h	25	211		11	266		72	911		199	1116	
Arrive On Green	0.22	0.22	0.00	0.15	0.15	0.00	0.04	0.26	0.00	0.11	0.33	0.00
Sat Flow, veh/h	115	979	1384	76	1776	1560	1697	3469	1095	1767	3357	1447
Grp Volume(v), veh/h	210	0	0	219	0	0	46	323	0	165	227	0
Grp Sat Flow(s),veh/h/ln	1094	0	1384	1852	0	1560	1697	1735	1095	1767	1678	1447
Q Serve(g_s), s	12.9	0.0	0.0	7.9	0.0	0.0	1.9	5.3	0.0	6.3	3.4	0.0
Cycle Q Clear(g_c), s	12.9	0.0	0.0	7.9	0.0	0.0	1.9	5.3	0.0	6.3	3.4	0.0
Prop In Lane	0.10		1.00	0.04		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	236	0		277	0		72	911		199	1116	
V/C Ratio(X)	0.89	0.00		0.79	0.00		0.64	0.35		0.83	0.20	
Avail Cap(c_a), veh/h	284	0		481	0		161	911		199	1116	
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	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.4	0.0	0.0	28.4	0.0	0.0	32.7	20.8	0.0	30.1	16.6	0.0
Incr Delay (d2), s/veh	24.5	0.0	0.0	5.0	0.0	0.0	9.1	1.1	0.0	24.6	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	0.0	3.6	0.0	0.0	0.9	2.0	0.0	3.8	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.9	0.0	0.0	33.4	0.0	0.0	41.8	21.9	0.0	54.7	17.0	0.0
LnGrp LOS	D	A		C	A		D	C		D	B	
Approach Vol, veh/h		210			219			369			392	
Approach Delay, s/veh		50.9			33.4			24.4			32.8	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.3	22.7		19.5	7.4	27.6		14.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.8	18.2		18.0	6.6	19.4		18.0				
Max Q Clear Time (g_c+I1), s	8.3	7.3		14.9	3.9	5.4		9.9				
Green Ext Time (p_c), s	0.0	1.3		0.3	0.0	1.0		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		33.5	
HCM 6th LOS		C	

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	18.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	281	19	17	152	27	80	183	33	40	145	16
Future Vol, veh/h	46	281	19	17	152	27	80	183	33	40	145	16
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	6	6	47	6	7	0	19	8	9	5	12	12
Mvmt Flow	53	323	22	20	175	31	92	210	38	46	167	18
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	29.1	15.9	12.8	12.4
HCM LOS	D	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	13%	9%	100%	0%	0%
Vol Thru, %	0%	100%	65%	81%	78%	0%	100%	75%
Vol Right, %	0%	0%	35%	5%	14%	0%	0%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	122	94	346	196	40	97	64
LT Vol	80	0	0	46	17	40	0	0
Through Vol	0	122	61	281	152	0	97	48
RT Vol	0	0	33	19	27	0	0	16
Lane Flow Rate	92	140	108	398	225	46	111	74
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.209	0.291	0.217	0.767	0.454	0.104	0.24	0.156
Departure Headway (Hd)	8.179	7.467	7.23	6.946	7.254	8.161	7.765	7.584
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	439	481	496	521	496	439	462	472
Service Time	5.934	5.221	4.984	4.69	5.007	5.92	5.524	5.343
HCM Lane V/C Ratio	0.21	0.291	0.218	0.764	0.454	0.105	0.24	0.157
HCM Control Delay	13.1	13.3	12	29.1	15.9	11.9	13	11.8
HCM Lane LOS	B	B	B	D	C	B	B	B
HCM 95th-tile Q	0.8	1.2	0.8	6.8	2.3	0.3	0.9	0.5

HCS Two-Lane Highway Report

Project Information

Analyst	Kimley-Horn	Date	11/7/2023
Agency	San Joaquin County	Analysis Year	2023
Jurisdiction	San Joaquin County	Time Analyzed	AM Peak-Hour - Existing
Project Description	French Camp Road, North of El Dorado Street, NB	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5280
Lane Width, ft	12	Shoulder Width, ft	4
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	209	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.75	Total Trucks, %	19.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.12

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	48.8
Speed Slope Coefficient (m)	3.20336	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37129	PF Power Coefficient (p)	0.73135
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	47.5

Vehicle Results

Average Speed, mi/h	47.5	Percent Followers, %	35.4
Segment Travel Time, minutes	1.26	Follower Density (FD), followers/mi/ln	1.6
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	39	0.02	1.6	A

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HCS Two-Lane Highway Report

Project Information

Analyst	Kimley-Horn	Date	11/7/2023
Agency	San Joaquin County	Analysis Year	2023
Jurisdiction	San Joaquin County	Time Analyzed	AM Peak-Hour - Existing
Project Description	French Camp Road, North of El Dorado Street, SB	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5280
Lane Width, ft	12	Shoulder Width, ft	4
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	171	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	14.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.10

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	48.9
Speed Slope Coefficient (m)	3.21238	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37112	PF Power Coefficient (p)	0.73117
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	47.9

Vehicle Results

Average Speed, mi/h	47.9	Percent Followers, %	31.4
Segment Travel Time, minutes	1.25	Follower Density (FD), followers/mi/ln	1.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	39	0.02	1.1	A

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HCS Two-Lane Highway Report

Project Information

Analyst	Kimley-Horn	Date	11/7/2023
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Jurisdiction	San Joaquin County	Time Analyzed	AM Peak-Hour - Existing
Project Description	French Camp Road, North of El Dorado Street, SB	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5280
Lane Width, ft	12	Shoulder Width, ft	4
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	170	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	14.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.10

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	48.9
Speed Slope Coefficient (m)	3.21238	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37112	PF Power Coefficient (p)	0.73117
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	47.9

Vehicle Results

Average Speed, mi/h	47.9	Percent Followers, %	31.2
Segment Travel Time, minutes	1.25	Follower Density (FD), followers/mi/ln	1.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	39	0.02	1.1	A

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HCS Two-Lane Highway Report

Project Information

Analyst	Kimley-Horn	Date	11/7/2023
Agency	San Joaquin County	Analysis Year	2023
Jurisdiction	San Joaquin County	Time Analyzed	PM Peak-Hour - Existing
Project Description	French Camp Road, North of El Dorado Street, SB	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5280
Lane Width, ft	12	Shoulder Width, ft	4
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	228	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.85	Total Trucks, %	9.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.13

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	49.1
Speed Slope Coefficient (m)	3.22141	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37094	PF Power Coefficient (p)	0.73098
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	47.7

Vehicle Results

Average Speed, mi/h	47.7	Percent Followers, %	37.2
Segment Travel Time, minutes	1.26	Follower Density (FD), followers/mi/ln	1.8
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	49	0.03	1.8	A

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HCS Multilane Highway Report

Project Information

Analyst	Kimley-Horn	Date	11/7/2023
Agency	San Joaquin County	Analysis Year	2023
Jurisdiction	San Joaquin County	Time Analyzed	AM Peak-Hour - Existing
Project Description	El Dorado Street, South of French Camp Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	4.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	42.4	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	118	Heavy Vehicle Adjustment Factor (f_{HV})	0.794
Peak Hour Factor	0.81	Flow Rate (V_p), pc/h/ln	92
Total Trucks, %	26.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.05

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.4
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	2.2
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	1.0		

Direction 2 Geometric Data			
Direction 2	SB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	4.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	42.4	Total Lateral Clearance (TLC), ft	12
Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		
Direction 2 Demand and Capacity			
Volume (V) veh/h	175	Heavy Vehicle Adjustment Factor (f_{HV})	0.794
Peak Hour Factor	0.81	Flow Rate (V_p), pc/h/ln	136
Total Trucks, %	26.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.07
Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.4
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	3.2
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	1.0		

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HCS Multilane Highway Report

Project Information

Analyst	Kimley-Horn	Date	11/7/2023
Agency	San Joaquin County	Analysis Year	2023
Jurisdiction	San Joaquin County	Time Analyzed	PM Peak-Hour - Existing
Project Description	El Dorado Street, South of French Camp Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	4.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	42.4	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	281	Heavy Vehicle Adjustment Factor (f_{HV})	0.935
Peak Hour Factor	0.70	Flow Rate (V_p), pc/h/ln	214
Total Trucks, %	7.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.11

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.4
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	5.0
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	1.0		

Direction 2 Geometric Data			
Direction 2	SB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	4.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	42.4	Total Lateral Clearance (TLC), ft	12
Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		
Direction 2 Demand and Capacity			
Volume (V) veh/h	210	Heavy Vehicle Adjustment Factor (f_{HV})	0.901
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	134
Total Trucks, %	11.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.07
Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.4
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	3.2
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	1.0		

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Kimley»Horn

Attachment C

Existing (2023) plus Pending and Approved Projects Analysis Worksheets

Lane Group	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	634	288	330	681	207
v/c Ratio	0.31	0.27	0.29	0.42	0.34
Control Delay	7.6	7.9	0.7	7.3	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	7.9	0.7	7.3	3.2
Queue Length 50th (ft)	17	13	0	21	0
Queue Length 95th (ft)	29	28	0	35	18
Internal Link Dist (ft)	761	603		1157	
Turn Bay Length (ft)			570	530	780
Base Capacity (vph)	5354	2819	1122	4468	1347
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.10	0.29	0.15	0.15

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	507	230	264	484	226
Future Volume (veh/h)	0	507	230	264	484	226
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	0	1870	1796	1248	1752	1900
Adj Flow Rate, veh/h	0	634	288	0	661	222
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	0	2	7	44	10	0
Cap, veh/h	0	1957	1038		1653	532
Arrive On Green	0.00	0.30	0.30	0.00	0.33	0.33
Sat Flow, veh/h	0	6958	3503	1058	5005	1610
Grp Volume(v), veh/h	0	634	288	0	661	222
Grp Sat Flow(s),veh/h/ln	0	1609	1706	1058	1668	1610
Q Serve(g_s), s	0.0	1.9	1.6	0.0	2.5	2.6
Cycle Q Clear(g_c), s	0.0	1.9	1.6	0.0	2.5	2.6
Prop In Lane	0.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1957	1038		1653	532
V/C Ratio(X)	0.00	0.32	0.28		0.40	0.42
Avail Cap(c_a), veh/h	0	5881	3119		5794	1864
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	6.6	6.5	0.0	6.4	6.4
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.0	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	0.0	0.5	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	6.7	6.7	0.0	6.5	6.9
LnGrp LOS	A	A	A		A	A
Approach Vol, veh/h		634	288		883	
Approach Delay, s/veh		6.7	6.7		6.6	
Approach LOS		A	A		A	

Timer - Assigned Phs			4		6	8
Phs Duration (G+Y+Rc), s			12.0		12.6	12.0
Change Period (Y+Rc), s			4.5		4.5	4.5
Max Green Setting (Gmax), s			22.5		28.5	22.5
Max Q Clear Time (g_c+I1), s			3.9		4.6	3.6
Green Ext Time (p_c), s			3.6		3.5	1.5

Intersection Summary	
HCM 6th Ctrl Delay	6.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBT	NBL	NBR
Lane Group Flow (vph)	813	220	506	101	459
v/c Ratio	0.54	0.34	0.59	0.06	0.79
Control Delay	15.9	4.5	18.2	6.6	22.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.9	4.5	18.2	6.6	22.0
Queue Length 50th (ft)	66	0	60	7	96
Queue Length 95th (ft)	107	29	108	14	167
Internal Link Dist (ft)	369		148	574	
Turn Bay Length (ft)		300		430	430
Base Capacity (vph)	1947	777	1119	2438	881
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.28	0.45	0.04	0.52

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	650	176	0	405	81	367
Future Volume (veh/h)	650	176	0	405	81	367
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	1767	1870	0	1426	1826	1396
Adj Flow Rate, veh/h	812	220	0	506	101	459
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	9	2	0	32	5	34
Cap, veh/h	1488	489	0	836	1527	535
Arrive On Green	0.31	0.31	0.00	0.31	0.45	0.45
Sat Flow, veh/h	4982	1585	0	2852	3374	1183
Grp Volume(v), veh/h	812	220	0	506	101	459
Grp Sat Flow(s),veh/h/ln	1608	1585	0	1354	1687	1183
Q Serve(g_s), s	5.3	4.2	0.0	6.0	0.6	13.1
Cycle Q Clear(g_c), s	5.3	4.2	0.0	6.0	0.6	13.1
Prop In Lane		1.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1488	489	0	836	1527	535
V/C Ratio(X)	0.55	0.45	0.00	0.61	0.07	0.86
Avail Cap(c_a), veh/h	2303	757	0	1294	2954	1036
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.8	10.5	0.0	11.1	5.8	9.2
Incr Delay (d2), s/veh	0.3	0.6	0.0	0.7	0.0	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.0	0.0	1.2	0.1	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.1	11.1	0.0	11.8	5.8	13.3
LnGrp LOS	B	B	A	B	A	B
Approach Vol, veh/h	1032			506	560	
Approach Delay, s/veh	11.1			11.8	12.0	
Approach LOS	B			B	B	

Timer - Assigned Phs		2		4		8
Phs Duration (G+Y+Rc), s		21.6		16.1		16.1
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		33.0		18.0		18.0
Max Q Clear Time (g_c+I1), s		15.1		7.3		8.0
Green Ext Time (p_c), s		2.0		4.4		2.2

Intersection Summary		
HCM 6th Ctrl Delay		11.5
HCM 6th LOS		B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	98	964	169	29	604	16	150	45	13	5	18
v/c Ratio	0.35	0.50	0.13	0.17	0.46	0.02	0.31	0.12	0.08	0.03	0.05
Control Delay	28.4	13.4	2.5	30.1	17.9	0.1	27.3	15.9	31.4	30.0	0.3
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	28.4	13.4	2.5	30.1	17.9	0.1	27.3	15.9	31.4	30.0	0.3
Queue Length 50th (ft)	30	67	0	9	63	0	23	6	4	2	0
Queue Length 95th (ft)	73	134	10	32	93	0	52	33	20	11	0
Internal Link Dist (ft)		356			582			682		429	
Turn Bay Length (ft)	285		330	230		340	260		140		70
Base Capacity (vph)	452	2751	1739	225	2263	1029	653	703	156	605	673
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	0.22	0.35	0.10	0.13	0.27	0.02	0.23	0.06	0.08	0.01	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	771	135	23	483	13	120	20	16	10	4	14
Future Volume (veh/h)	78	771	135	23	483	13	120	20	16	10	4	14
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	1752	1589	1767	1322	1426	1900	1678	1604	1337	1455	1530	1589
Adj Flow Rate, veh/h	98	964	169	29	604	16	150	25	20	12	5	18
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	10	21	9	39	32	0	15	20	38	30	25	21
Cap, veh/h	129	1649	1002	42	1310	542	285	152	121	21	164	145
Arrive On Green	0.08	0.38	0.38	0.03	0.34	0.34	0.09	0.18	0.18	0.02	0.11	0.11
Sat Flow, veh/h	1668	4337	2635	1259	3892	1610	3100	825	660	1386	1530	1346
Grp Volume(v), veh/h	98	964	169	29	604	16	150	0	45	12	5	18
Grp Sat Flow(s),veh/h/ln	1668	1446	1317	1259	1297	1610	1550	0	1485	1386	1530	1346
Q Serve(g_s), s	2.7	8.2	2.0	1.1	5.7	0.3	2.1	0.0	1.2	0.4	0.1	0.6
Cycle Q Clear(g_c), s	2.7	8.2	2.0	1.1	5.7	0.3	2.1	0.0	1.2	0.4	0.1	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	129	1649	1002	42	1310	542	285	0	273	21	164	145
V/C Ratio(X)	0.76	0.58	0.17	0.69	0.46	0.03	0.53	0.00	0.16	0.56	0.03	0.12
Avail Cap(c_a), veh/h	484	3123	1897	230	2384	986	700	0	782	164	641	564
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	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	11.5	9.6	22.2	12.1	10.3	20.2	0.0	16.0	22.7	18.6	18.8
Incr Delay (d2), s/veh	8.9	0.3	0.1	17.8	0.3	0.0	1.5	0.0	0.3	21.0	0.1	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	1.2	1.9	0.4	0.5	1.2	0.1	0.8	0.0	0.4	0.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.9	11.8	9.6	40.1	12.4	10.4	21.7	0.0	16.3	43.7	18.7	19.2
LnGrp LOS	C	B	A	D	B	B	C	A	B	D	B	B
Approach Vol, veh/h		1231			649			195			35	
Approach Delay, s/veh		13.0			13.6			20.4			27.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	13.1	6.1	22.2	8.8	9.5	8.1	20.2
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	5.5	24.5	8.5	33.5	10.5	19.5	13.5	28.5
Max Q Clear Time (g_c+I1), s	2.4	3.2	3.1	10.2	4.1	2.6	4.7	7.7
Green Ext Time (p_c), s	0.0	0.2	0.0	7.4	0.2	0.0	0.1	3.9

Intersection Summary	
HCM 6th Ctrl Delay	14.1
HCM 6th LOS	B

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	144	30	154	83	24	105	19	97	161	22
v/c Ratio	0.48	0.09	0.51	0.06	0.17	0.08	0.04	0.52	0.11	0.04
Control Delay	32.1	0.6	32.2	0.1	33.9	20.9	0.2	42.6	17.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.1	0.6	32.2	0.1	33.9	20.9	0.2	42.6	17.6	0.1
Queue Length 50th (ft)	54	0	58	0	9	16	0	38	18	0
Queue Length 95th (ft)	110	0	115	0	33	40	0	#108	55	0
Internal Link Dist (ft)	350		828			628			994	
Turn Bay Length (ft)		100		100	115		150	150		150
Base Capacity (vph)	517	458	497	1346	153	1304	487	198	1440	577
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.07	0.31	0.06	0.16	0.08	0.04	0.49	0.11	0.04

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	107	26	17	119	73	21	92	17	85	142	19
Future Volume (veh/h)	19	107	26	17	119	73	21	92	17	85	142	19
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	1426	1811	1366	1292	1737	1604	1455	1693	937	1618	1544	1040
Adj Flow Rate, veh/h	22	122	0	19	135	0	24	105	0	97	161	0
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, %	32	6	36	41	11	20	30	14	65	19	24	58
Cap, veh/h	30	167		26	181		39	1122		118	1166	
Arrive On Green	0.11	0.11	0.00	0.12	0.12	0.00	0.03	0.35	0.00	0.08	0.40	0.00
Sat Flow, veh/h	275	1523	1158	213	1513	1359	1386	3216	794	1541	2934	882
Grp Volume(v), veh/h	144	0	0	154	0	0	24	105	0	97	161	0
Grp Sat Flow(s),veh/h/ln	1797	0	1158	1726	0	1359	1386	1608	794	1541	1467	882
Q Serve(g_s), s	4.0	0.0	0.0	4.5	0.0	0.0	0.9	1.1	0.0	3.2	1.8	0.0
Cycle Q Clear(g_c), s	4.0	0.0	0.0	4.5	0.0	0.0	0.9	1.1	0.0	3.2	1.8	0.0
Prop In Lane	0.15		1.00	0.12		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	197	0		207	0		39	1122		118	1166	
V/C Ratio(X)	0.73	0.00		0.74	0.00		0.61	0.09		0.82	0.14	
Avail Cap(c_a), veh/h	620	0		596	0		175	1122		231	1166	
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	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.5	0.0	0.0	22.2	0.0	0.0	25.1	11.4	0.0	23.7	10.0	0.0
Incr Delay (d2), s/veh	5.2	0.0	0.0	5.2	0.0	0.0	14.7	0.2	0.0	13.2	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	1.8	0.0	0.0	1.9	0.0	0.0	0.4	0.3	0.0	1.4	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.6	0.0	0.0	27.4	0.0	0.0	39.7	11.6	0.0	37.0	10.3	0.0
LnGrp LOS	C	A		C	A		D	B		D	B	
Approach Vol, veh/h		144			154			129			258	
Approach Delay, s/veh		27.6			27.4			16.8			20.3	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.5	22.7		10.2	6.0	25.2		10.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.8	18.2		18.0	6.6	19.4		18.0				
Max Q Clear Time (g_c+I1), s	5.2	3.1		6.0	2.9	3.8		6.5				
Green Ext Time (p_c), s	0.0	0.4		0.5	0.0	0.7		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		22.8	
HCM 6th LOS		C	

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	13.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	129	30	23	214	11	90	77	53	24	119	22
Future Vol, veh/h	18	129	30	23	214	11	90	77	53	24	119	22
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	11	8	33	13	12	9	37	35	23	17	30	9
Mvmt Flow	22	157	37	28	261	13	110	94	65	29	145	27
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	13.7	17.2	11.7	11.3
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	10%	9%	100%	0%	0%
Vol Thru, %	0%	100%	33%	73%	86%	0%	100%	64%
Vol Right, %	0%	0%	67%	17%	4%	0%	0%	36%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	51	79	177	248	24	79	62
LT Vol	90	0	0	18	23	24	0	0
Through Vol	0	51	26	129	214	0	79	40
RT Vol	0	0	53	30	11	0	0	22
Lane Flow Rate	110	63	96	216	302	29	97	75
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.238	0.126	0.175	0.396	0.551	0.062	0.196	0.14
Departure Headway (Hd)	7.8	7.251	6.557	6.608	6.556	7.591	7.303	6.679
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	458	491	544	542	547	469	489	533
Service Time	5.585	5.036	4.341	4.39	4.331	5.383	5.095	4.47
HCM Lane V/C Ratio	0.24	0.128	0.176	0.399	0.552	0.062	0.198	0.141
HCM Control Delay	13	11.1	10.7	13.7	17.2	10.9	11.9	10.6
HCM Lane LOS	B	B	B	B	C	B	B	B
HCM 95th-tile Q	0.9	0.4	0.6	1.9	3.3	0.2	0.7	0.5

Lane Group	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	653	517	335	475	145
v/c Ratio	0.29	0.40	0.26	0.34	0.29
Control Delay	6.4	7.4	0.5	6.3	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.4	7.4	0.5	6.3	3.7
Queue Length 50th (ft)	15	23	0	11	0
Queue Length 95th (ft)	28	46	0	26	22
Internal Link Dist (ft)	761	603		1157	
Turn Bay Length (ft)			570	530	780
Base Capacity (vph)	6069	3419	1282	4288	1310
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.15	0.26	0.11	0.11

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	607	481	312	332	245
Future Volume (veh/h)	0	607	481	312	332	245
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	0	1870	1900	1515	1707	1885
Adj Flow Rate, veh/h	0	653	517	0	310	313
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	0	26	13	1
Cap, veh/h	0	2163	1214		871	855
Arrive On Green	0.00	0.34	0.34	0.00	0.27	0.27
Sat Flow, veh/h	0	6958	3705	1284	3252	3195
Grp Volume(v), veh/h	0	653	517	0	310	313
Grp Sat Flow(s),veh/h/ln	0	1609	1805	1284	1626	1598
Q Serve(g_s), s	0.0	1.7	2.5	0.0	1.8	1.8
Cycle Q Clear(g_c), s	0.0	1.7	2.5	0.0	1.8	1.8
Prop In Lane	0.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2163	1214		871	855
V/C Ratio(X)	0.00	0.30	0.43		0.36	0.37
Avail Cap(c_a), veh/h	0	7219	4050		3649	3585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	5.6	5.8	0.0	6.7	6.8
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.0	0.2	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	0.0	0.1	0.2	0.0	0.3	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	5.6	6.1	0.0	7.0	7.0
LnGrp LOS	A	A	A		A	A
Approach Vol, veh/h		653	517		623	
Approach Delay, s/veh		5.6	6.1		7.0	
Approach LOS		A	A		A	

Timer - Assigned Phs			4		6	8
Phs Duration (G+Y+Rc), s			12.1		10.6	12.1
Change Period (Y+Rc), s			4.5		4.5	4.5
Max Green Setting (Gmax), s			25.5		25.5	25.5
Max Q Clear Time (g_c+I1), s			3.7		3.8	4.5
Green Ext Time (p_c), s			3.9		2.4	2.9

Intersection Summary	
HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBT	NBL	NBR
Lane Group Flow (vph)	569	246	627	244	368
v/c Ratio	0.36	0.36	0.60	0.16	0.69
Control Delay	12.6	4.1	15.8	7.4	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	4.1	15.8	7.4	17.1
Queue Length 50th (ft)	34	0	59	15	62
Queue Length 95th (ft)	82	41	146	36	157
Internal Link Dist (ft)	369		148	574	
Turn Bay Length (ft)		300		430	430
Base Capacity (vph)	2388	925	1589	2716	948
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.24	0.27	0.39	0.09	0.39

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	518	224	0	571	222	335
Future Volume (veh/h)	518	224	0	571	222	335
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	1767	1885	0	1693	1900	1426
Adj Flow Rate, veh/h	569	246	0	627	244	368
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	9	1	0	14	0	32
Cap, veh/h	1559	516	0	1040	1387	477
Arrive On Green	0.32	0.32	0.00	0.32	0.40	0.40
Sat Flow, veh/h	4982	1598	0	3385	3510	1208
Grp Volume(v), veh/h	569	246	0	627	244	368
Grp Sat Flow(s),veh/h/ln	1608	1598	0	1608	1755	1208
Q Serve(g_s), s	2.9	3.9	0.0	5.2	1.4	8.5
Cycle Q Clear(g_c), s	2.9	3.9	0.0	5.2	1.4	8.5
Prop In Lane		1.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1559	516	0	1040	1387	477
V/C Ratio(X)	0.36	0.48	0.00	0.60	0.18	0.77
Avail Cap(c_a), veh/h	2943	975	0	1963	3461	1191
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.3	8.6	0.0	9.1	6.3	8.4
Incr Delay (d2), s/veh	0.1	0.7	0.0	0.6	0.1	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.8	0.0	1.0	0.3	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.4	9.3	0.0	9.7	6.3	11.1
LnGrp LOS	A	A	A	A	A	B
Approach Vol, veh/h	815			627	612	
Approach Delay, s/veh	8.7			9.7	9.2	
Approach LOS	A			A	A	

Timer - Assigned Phs		2		4			8
Phs Duration (G+Y+Rc), s		17.1		14.8			14.8
Change Period (Y+Rc), s		4.5		4.5			4.5
Max Green Setting (Gmax), s		31.5		19.5			19.5
Max Q Clear Time (g_c+I1), s		10.5		5.9			7.2
Green Ext Time (p_c), s		2.2		3.7			3.1

Intersection Summary	
HCM 6th Ctrl Delay	9.1
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	60	713	180	29	826	2	217	47	10	11	49
v/c Ratio	0.26	0.44	0.16	0.16	0.57	0.00	0.37	0.09	0.05	0.05	0.14
Control Delay	28.3	14.3	3.1	29.8	18.2	0.0	25.1	8.8	30.1	29.1	0.9
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	28.3	14.3	3.1	29.8	18.2	0.0	25.1	8.8	30.1	29.1	0.9
Queue Length 50th (ft)	19	49	0	9	89	0	36	1	3	4	0
Queue Length 95th (ft)	56	110	17	35	139	0	73	25	18	19	0
Internal Link Dist (ft)		356			582			682		429	
Turn Bay Length (ft)	285		330	230		340	260		140		70
Base Capacity (vph)	360	2607	1698	219	2414	949	827	794	192	758	753
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	0.17	0.27	0.11	0.13	0.34	0.00	0.26	0.06	0.05	0.01	0.07

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	620	157	25	719	2	189	2	39	9	10	43
Future Volume (veh/h)	52	620	157	25	719	2	189	2	39	9	10	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	1722	1574	1796	1604	1678	1900	1856	1900	1707	1900	1900	1900
Adj Flow Rate, veh/h	60	713	180	29	826	2	217	2	45	10	11	49
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	12	22	7	20	15	0	3	0	13	0	0	0
Cap, veh/h	97	1452	905	52	1433	504	368	14	322	24	215	182
Arrive On Green	0.06	0.34	0.34	0.03	0.31	0.31	0.11	0.21	0.21	0.01	0.11	0.11
Sat Flow, veh/h	1640	4297	2679	1527	4580	1610	3428	69	1552	1810	1900	1610
Grp Volume(v), veh/h	60	713	180	29	826	2	217	0	47	10	11	49
Grp Sat Flow(s),veh/h/ln	1640	1432	1340	1527	1527	1610	1714	0	1621	1810	1900	1610
Q Serve(g_s), s	1.6	5.8	2.1	0.8	6.7	0.0	2.7	0.0	1.0	0.2	0.2	1.2
Cycle Q Clear(g_c), s	1.6	5.8	2.1	0.8	6.7	0.0	2.7	0.0	1.0	0.2	0.2	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.96	1.00		1.00
Lane Grp Cap(c), veh/h	97	1452	905	52	1433	504	368	0	336	24	215	182
V/C Ratio(X)	0.62	0.49	0.20	0.56	0.58	0.00	0.59	0.00	0.14	0.42	0.05	0.27
Avail Cap(c_a), veh/h	427	3066	1912	259	2853	1003	971	0	1009	225	882	748
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	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	11.6	10.4	21.0	12.7	10.4	18.8	0.0	14.3	21.6	17.5	17.9
Incr Delay (d2), s/veh	6.3	0.3	0.1	9.1	0.4	0.0	1.5	0.0	0.2	11.5	0.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.3	0.4	0.4	1.7	0.0	1.0	0.0	0.3	0.2	0.1	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	11.9	10.5	30.2	13.1	10.4	20.3	0.0	14.5	33.2	17.6	18.7
LnGrp LOS	C	B	B	C	B	B	C	A	B	C	B	B
Approach Vol, veh/h		953			857			264			70	
Approach Delay, s/veh		12.5			13.7			19.3			20.6	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	13.7	6.0	19.4	9.2	9.5	7.1	18.3
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	5.5	27.5	7.5	31.5	12.5	20.5	11.5	27.5
Max Q Clear Time (g_c+I1), s	2.2	3.0	2.8	7.8	4.7	3.2	3.6	8.7
Green Ext Time (p_c), s	0.0	0.2	0.0	5.5	0.4	0.1	0.1	5.1

Intersection Summary	
HCM 6th Ctrl Delay	14.1
HCM 6th LOS	B

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	210	46	219	122	49	323	22	165	227	19
v/c Ratio	0.79	0.11	0.65	0.08	0.34	0.38	0.06	0.89	0.21	0.03
Control Delay	50.7	0.6	37.8	0.1	40.7	25.8	0.3	79.6	21.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	0.6	37.8	0.1	40.7	25.8	0.3	79.6	21.9	0.1
Queue Length 50th (ft)	92	0	97	0	22	67	0	79	45	0
Queue Length 95th (ft)	#157	0	139	0	49	93	0	#162	67	0
Internal Link Dist (ft)	350		828			628			994	
Turn Bay Length (ft)		100		100	115		150	150		150
Base Capacity (vph)	307	444	448	1553	150	855	392	186	1099	569
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.10	0.49	0.08	0.33	0.38	0.06	0.89	0.21	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	147	36	7	164	95	38	252	17	129	177	15
Future Volume (veh/h)	17	147	36	7	164	95	38	252	17	129	177	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	1470	1100	1633	1470	1856	1841	1781	1826	1292	1856	1767	1707
Adj Flow Rate, veh/h	22	188	0	9	210	0	49	323	0	165	227	0
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	29	54	18	29	3	4	8	5	41	3	9	13
Cap, veh/h	25	211		11	266		75	911		199	1111	
Arrive On Green	0.22	0.22	0.00	0.15	0.15	0.00	0.04	0.26	0.00	0.11	0.33	0.00
Sat Flow, veh/h	115	979	1384	76	1776	1560	1697	3469	1095	1767	3357	1447
Grp Volume(v), veh/h	210	0	0	219	0	0	49	323	0	165	227	0
Grp Sat Flow(s),veh/h/ln	1094	0	1384	1852	0	1560	1697	1735	1095	1767	1678	1447
Q Serve(g_s), s	12.9	0.0	0.0	7.9	0.0	0.0	2.0	5.3	0.0	6.3	3.4	0.0
Cycle Q Clear(g_c), s	12.9	0.0	0.0	7.9	0.0	0.0	2.0	5.3	0.0	6.3	3.4	0.0
Prop In Lane	0.10		1.00	0.04		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	236	0		277	0		75	911		199	1111	
V/C Ratio(X)	0.89	0.00		0.79	0.00		0.66	0.35		0.83	0.20	
Avail Cap(c_a), veh/h	284	0		481	0		161	911		199	1111	
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	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.4	0.0	0.0	28.4	0.0	0.0	32.6	20.8	0.0	30.1	16.6	0.0
Incr Delay (d2), s/veh	24.5	0.0	0.0	5.0	0.0	0.0	9.3	1.1	0.0	24.6	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	0.0	3.6	0.0	0.0	0.9	2.0	0.0	3.8	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.9	0.0	0.0	33.4	0.0	0.0	42.0	21.9	0.0	54.7	17.1	0.0
LnGrp LOS	D	A		C	A		D	C		D	B	
Approach Vol, veh/h		210			219			372			392	
Approach Delay, s/veh		50.9			33.4			24.5			32.9	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.3	22.7		19.5	7.6	27.4		14.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.8	18.2		18.0	6.6	19.4		18.0				
Max Q Clear Time (g_c+I1), s	8.3	7.3		14.9	4.0	5.4		9.9				
Green Ext Time (p_c), s	0.0	1.3		0.3	0.0	1.0		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		33.5	
HCM 6th LOS		C	

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	18.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	281	19	17	152	27	80	183	33	40	145	16
Future Vol, veh/h	46	281	19	17	152	27	80	183	33	40	145	16
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	6	6	47	6	7	0	19	8	9	5	12	12
Mvmt Flow	53	323	22	20	175	31	92	210	38	46	167	18
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	29.1	15.9	12.8	12.4
HCM LOS	D	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	13%	9%	100%	0%	0%
Vol Thru, %	0%	100%	65%	81%	78%	0%	100%	75%
Vol Right, %	0%	0%	35%	5%	14%	0%	0%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	122	94	346	196	40	97	64
LT Vol	80	0	0	46	17	40	0	0
Through Vol	0	122	61	281	152	0	97	48
RT Vol	0	0	33	19	27	0	0	16
Lane Flow Rate	92	140	108	398	225	46	111	74
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.209	0.291	0.217	0.767	0.454	0.104	0.24	0.156
Departure Headway (Hd)	8.179	7.467	7.23	6.946	7.254	8.161	7.765	7.584
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	439	481	496	521	496	439	462	472
Service Time	5.934	5.221	4.984	4.69	5.007	5.92	5.524	5.343
HCM Lane V/C Ratio	0.21	0.291	0.218	0.764	0.454	0.105	0.24	0.157
HCM Control Delay	13.1	13.3	12	29.1	15.9	11.9	13	11.8
HCM Lane LOS	B	B	B	D	C	B	B	B
HCM 95th-tile Q	0.8	1.2	0.8	6.8	2.3	0.3	0.9	0.5

HCS Two-Lane Highway Report

Project Information

Analyst	Kimley-Horn	Date	11/7/2023
Agency	San Joaquin County	Analysis Year	2023
Jurisdiction	San Joaquin County	Time Analyzed	AM Peak-Hour - Existing plus Pending and Approved Projects
Project Description	French Camp Road, North of El Dorado Street, NB	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5280
Lane Width, ft	12	Shoulder Width, ft	4
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	211	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.75	Total Trucks, %	18.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.12

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	48.8
Speed Slope Coefficient (m)	3.20516	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37125	PF Power Coefficient (p)	0.73132
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	47.5

Vehicle Results

Average Speed, mi/h	47.5	Percent Followers, %	35.5
Segment Travel Time, minutes	1.26	Follower Density (FD), followers/mi/ln	1.6
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	40	0.02	1.6	A

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HCS Two-Lane Highway Report

Project Information

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Jurisdiction	San Joaquin County	Time Analyzed	PM Peak-Hour - Existing plus Pending and Approved Projects
Project Description	French Camp Road, North of El Dorado Street, NB	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5280
Lane Width, ft	12	Shoulder Width, ft	4
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	299	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.75	Total Trucks, %	4.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.18

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	49.3
Speed Slope Coefficient (m)	3.23043	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37075	PF Power Coefficient (p)	0.73079
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	47.6

Vehicle Results

Average Speed, mi/h	47.6	Percent Followers, %	43.3
Segment Travel Time, minutes	1.26	Follower Density (FD), followers/mi/ln	2.7
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	56	0.04	2.7	B

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HCS Two-Lane Highway Report

Project Information

Analyst	Kimley-Horn	Date	11/7/2023
Agency	San Joaquin County	Analysis Year	2023
Jurisdiction	San Joaquin County	Time Analyzed	AM Peak-Hour - Existing plus Pending and Approved Projects
Project Description	French Camp Road, North of El Dorado Street, SB	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5280
Lane Width, ft	12	Shoulder Width, ft	4
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	171	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	14.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.10

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	48.9
Speed Slope Coefficient (m)	3.21238	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37112	PF Power Coefficient (p)	0.73117
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	47.9

Vehicle Results

Average Speed, mi/h	47.9	Percent Followers, %	31.4
Segment Travel Time, minutes	1.25	Follower Density (FD), followers/mi/ln	1.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	39	0.02	1.1	A

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HCS Two-Lane Highway Report

Project Information

Analyst	Kimley-Horn	Date	11/7/2023
Agency	San Joaquin County	Analysis Year	2023
Jurisdiction	San Joaquin County	Time Analyzed	PM Peak-Hour - Existing plus Pending and Approved Projects
Project Description	French Camp Road, North of El Dorado Street, SB	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5280
Lane Width, ft	12	Shoulder Width, ft	4
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	231	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.85	Total Trucks, %	9.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.14

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	49.1
Speed Slope Coefficient (m)	3.22141	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37094	PF Power Coefficient (p)	0.73098
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	47.7

Vehicle Results

Average Speed, mi/h	47.7	Percent Followers, %	37.4
Segment Travel Time, minutes	1.26	Follower Density (FD), followers/mi/ln	1.8
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	49	0.03	1.8	A

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HCS Multilane Highway Report

Project Information

Analyst	Kimley-Horn	Date	11/7/2023
Agency	San Joaquin County	Analysis Year	2023
Jurisdiction	San Joaquin County	Time Analyzed	AM Peak-Hour - Existing plus Pending and Approved Projects
Project Description	El Dorado Street, South of French Camp Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	4.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	42.4	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	118	Heavy Vehicle Adjustment Factor (f_{HV})	0.794
Peak Hour Factor	0.81	Flow Rate (V_p), pc/h/ln	92
Total Trucks, %	26.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.05

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.4
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	2.2
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	1.0		

Direction 2 Geometric Data			
Direction 2	SB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	4.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	42.4	Total Lateral Clearance (TLC), ft	12
Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		
Direction 2 Demand and Capacity			
Volume (V) veh/h	175	Heavy Vehicle Adjustment Factor (f_{HV})	0.794
Peak Hour Factor	0.81	Flow Rate (V_p), pc/h/ln	136
Total Trucks, %	26.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.07
Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.4
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	3.2
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	1.0		

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HCS Multilane Highway Report

Project Information

Analyst	Kimley-Horn	Date	11/7/2023
Agency	San Joaquin County	Analysis Year	2023
Jurisdiction	San Joaquin County	Time Analyzed	PM Peak-Hour - Existing plus Pending and Approved Projects
Project Description	El Dorado Street, South of French Camp Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	4.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	42.4	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	282	Heavy Vehicle Adjustment Factor (f_{HV})	0.935
Peak Hour Factor	0.70	Flow Rate (V_p), pc/h/ln	216
Total Trucks, %	7.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.11

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.4
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	5.1
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	1.0		

Direction 2 Geometric Data			
Direction 2	SB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	4.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	42.4	Total Lateral Clearance (TLC), ft	12
Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		
Direction 2 Demand and Capacity			
Volume (V) veh/h	211	Heavy Vehicle Adjustment Factor (f_{HV})	0.901
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	134
Total Trucks, %	11.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.07
Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.4
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	3.2
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	1.0		

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Kimley»Horn

Attachment D

Existing (2023) plus Pending and Approved Projects plus Project Analysis Worksheets

Lane Group	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	634	288	343	684	207
v/c Ratio	0.31	0.27	0.31	0.42	0.34
Control Delay	7.6	7.9	0.7	7.3	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.6	7.9	0.7	7.3	3.2
Queue Length 50th (ft)	17	13	0	21	0
Queue Length 95th (ft)	29	28	0	36	18
Internal Link Dist (ft)	761	603		1157	
Turn Bay Length (ft)			570	530	780
Base Capacity (vph)	5354	2819	1106	4468	1347
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.12	0.10	0.31	0.15	0.15

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	507	230	274	486	226
Future Volume (veh/h)	0	507	230	274	486	226
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	0	1870	1796	1218	1752	1900
Adj Flow Rate, veh/h	0	634	288	0	664	222
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	0	2	7	46	10	0
Cap, veh/h	0	1956	1038		1655	532
Arrive On Green	0.00	0.30	0.30	0.00	0.33	0.33
Sat Flow, veh/h	0	6958	3503	1032	5005	1610
Grp Volume(v), veh/h	0	634	288	0	664	222
Grp Sat Flow(s),veh/h/ln	0	1609	1706	1032	1668	1610
Q Serve(g_s), s	0.0	1.9	1.6	0.0	2.5	2.6
Cycle Q Clear(g_c), s	0.0	1.9	1.6	0.0	2.5	2.6
Prop In Lane	0.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1956	1038		1655	532
V/C Ratio(X)	0.00	0.32	0.28		0.40	0.42
Avail Cap(c_a), veh/h	0	5877	3117		5791	1863
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	6.6	6.5	0.0	6.4	6.4
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.0	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.2	0.0	0.5	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	6.7	6.7	0.0	6.5	6.9
LnGrp LOS	A	A	A		A	A
Approach Vol, veh/h		634	288		886	
Approach Delay, s/veh		6.7	6.7		6.6	
Approach LOS		A	A		A	

Timer - Assigned Phs			4		6	8
Phs Duration (G+Y+Rc), s			12.0		12.6	12.0
Change Period (Y+Rc), s			4.5		4.5	4.5
Max Green Setting (Gmax), s			22.5		28.5	22.5
Max Q Clear Time (g_c+I1), s			3.9		4.6	3.6
Green Ext Time (p_c), s			3.6		3.5	1.5

Intersection Summary	
HCM 6th Ctrl Delay	6.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBT	NBL	NBR
Lane Group Flow (vph)	815	220	519	101	461
v/c Ratio	0.55	0.34	0.61	0.06	0.80
Control Delay	16.2	4.5	18.8	6.5	22.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	16.2	4.5	18.8	6.5	22.3
Queue Length 50th (ft)	67	0	63	7	98
Queue Length 95th (ft)	107	29	111	14	169
Internal Link Dist (ft)	369		148	574	
Turn Bay Length (ft)		300		430	430
Base Capacity (vph)	1927	771	1099	2421	868
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.42	0.29	0.47	0.04	0.53

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	652	176	0	415	81	369
Future Volume (veh/h)	652	176	0	415	81	369
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	1767	1870	0	1411	1826	1381
Adj Flow Rate, veh/h	815	220	0	519	101	461
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	9	2	0	33	5	35
Cap, veh/h	1481	487	0	823	1542	535
Arrive On Green	0.31	0.31	0.00	0.31	0.46	0.46
Sat Flow, veh/h	4982	1585	0	2822	3374	1171
Grp Volume(v), veh/h	815	220	0	519	101	461
Grp Sat Flow(s),veh/h/ln	1608	1585	0	1340	1687	1171
Q Serve(g_s), s	5.4	4.3	0.0	6.3	0.6	13.5
Cycle Q Clear(g_c), s	5.4	4.3	0.0	6.3	0.6	13.5
Prop In Lane		1.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1481	487	0	823	1542	535
V/C Ratio(X)	0.55	0.45	0.00	0.63	0.07	0.86
Avail Cap(c_a), veh/h	2275	748	0	1264	2917	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.0	10.6	0.0	11.4	5.8	9.3
Incr Delay (d2), s/veh	0.3	0.7	0.0	0.8	0.0	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.1	0.0	1.3	0.1	2.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.3	11.3	0.0	12.2	5.8	13.5
LnGrp LOS	B	B	A	B	A	B
Approach Vol, veh/h	1035			519	562	
Approach Delay, s/veh	11.3			12.2	12.1	
Approach LOS	B			B	B	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	21.9	16.2	16.2
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	33.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	15.5	7.4	8.3
Green Ext Time (p_c), s	2.0	4.3	2.2

Intersection Summary	
HCM 6th Ctrl Delay	11.7
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	98	966	171	29	604	16	176	45	13	5	18
v/c Ratio	0.38	0.53	0.14	0.18	0.50	0.02	0.41	0.10	0.09	0.03	0.05
Control Delay	29.4	14.5	2.6	30.9	19.0	0.1	28.7	15.7	31.9	30.2	0.3
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	29.4	14.5	2.6	30.9	19.0	0.1	28.7	15.7	31.9	30.2	0.3
Queue Length 50th (ft)	30	71	0	9	64	0	27	6	4	2	0
Queue Length 95th (ft)	73	134	11	32	93	0	60	33	20	11	0
Internal Link Dist (ft)		356			582			682		429	
Turn Bay Length (ft)	285		330	230		340	260		140		70
Base Capacity (vph)	403	2612	1646	200	2037	951	522	628	139	539	625
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	0.24	0.37	0.10	0.14	0.30	0.02	0.34	0.07	0.09	0.01	0.03

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	773	137	23	483	13	141	20	16	10	4	14
Future Volume (veh/h)	78	773	137	23	483	13	141	20	16	10	4	14
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	1752	1589	1752	1322	1426	1900	1485	1604	1337	1455	1530	1589
Adj Flow Rate, veh/h	98	966	171	29	604	16	176	25	20	12	5	18
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	10	21	10	39	32	0	28	20	38	30	25	21
Cap, veh/h	128	1643	990	42	1307	541	271	156	125	21	163	143
Arrive On Green	0.08	0.38	0.38	0.03	0.34	0.34	0.10	0.19	0.19	0.02	0.11	0.11
Sat Flow, veh/h	1668	4337	2613	1259	3892	1610	2744	825	660	1386	1530	1346
Grp Volume(v), veh/h	98	966	171	29	604	16	176	0	45	12	5	18
Grp Sat Flow(s),veh/h/ln	1668	1446	1306	1259	1297	1610	1372	0	1485	1386	1530	1346
Q Serve(g_s), s	2.7	8.4	2.0	1.1	5.7	0.3	2.9	0.0	1.2	0.4	0.1	0.6
Cycle Q Clear(g_c), s	2.7	8.4	2.0	1.1	5.7	0.3	2.9	0.0	1.2	0.4	0.1	0.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	128	1643	990	42	1307	541	271	0	282	21	163	143
V/C Ratio(X)	0.77	0.59	0.17	0.69	0.46	0.03	0.65	0.00	0.16	0.56	0.03	0.13
Avail Cap(c_a), veh/h	479	3088	1860	227	2357	975	612	0	773	162	634	558
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	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.3	11.7	9.7	22.5	12.3	10.5	20.4	0.0	15.9	23.0	18.9	19.0
Incr Delay (d2), s/veh	9.1	0.3	0.1	17.9	0.3	0.0	2.6	0.0	0.3	21.0	0.1	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	1.2	1.9	0.4	0.5	1.2	0.1	0.9	0.0	0.4	0.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.4	12.0	9.8	40.4	12.5	10.5	23.0	0.0	16.2	44.0	18.9	19.4
LnGrp LOS	C	B	A	D	B	B	C	A	B	D	B	B
Approach Vol, veh/h		1235			649			221			35	
Approach Delay, s/veh		13.2			13.7			21.6			27.8	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	13.4	6.1	22.3	9.1	9.5	8.1	20.3
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	5.5	24.5	8.5	33.5	10.5	19.5	13.5	28.5
Max Q Clear Time (g_c+I1), s	2.4	3.2	3.1	10.4	4.9	2.6	4.7	7.7
Green Ext Time (p_c), s	0.0	0.2	0.0	7.5	0.3	0.0	0.1	3.9

Intersection Summary	
HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	144	33	154	83	25	105	19	98	161	22
v/c Ratio	0.48	0.10	0.51	0.06	0.18	0.08	0.04	0.53	0.11	0.04
Control Delay	32.1	0.7	32.3	0.1	34.2	20.9	0.2	43.2	17.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.1	0.7	32.3	0.1	34.2	20.9	0.2	43.2	17.7	0.1
Queue Length 50th (ft)	54	0	58	0	10	16	0	38	18	0
Queue Length 95th (ft)	110	0	116	0	34	40	0	#111	56	0
Internal Link Dist (ft)	350		828			628			994	
Turn Bay Length (ft)		100		100	115		150	150		150
Base Capacity (vph)	517	445	493	1335	151	1303	487	196	1439	577
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.07	0.31	0.06	0.17	0.08	0.04	0.50	0.11	0.04

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	107	29	17	119	73	22	92	17	86	142	19
Future Volume (veh/h)	19	107	29	17	119	73	22	92	17	86	142	19
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	1426	1811	1292	1292	1722	1589	1426	1693	937	1604	1544	1040
Adj Flow Rate, veh/h	22	122	0	19	135	0	25	105	0	98	161	0
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, %	32	6	41	41	12	21	32	14	65	20	24	58
Cap, veh/h	30	167		25	181		40	1119		119	1164	
Arrive On Green	0.11	0.11	0.00	0.12	0.12	0.00	0.03	0.35	0.00	0.08	0.40	0.00
Sat Flow, veh/h	275	1523	1095	211	1500	1346	1358	3216	794	1527	2934	882
Grp Volume(v), veh/h	144	0	0	154	0	0	25	105	0	98	161	0
Grp Sat Flow(s),veh/h/ln	1797	0	1095	1712	0	1346	1358	1608	794	1527	1467	882
Q Serve(g_s), s	4.1	0.0	0.0	4.5	0.0	0.0	1.0	1.2	0.0	3.3	1.8	0.0
Cycle Q Clear(g_c), s	4.1	0.0	0.0	4.5	0.0	0.0	1.0	1.2	0.0	3.3	1.8	0.0
Prop In Lane	0.15		1.00	0.12		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	197	0		206	0		40	1119		119	1164	
V/C Ratio(X)	0.73	0.00		0.75	0.00		0.63	0.09		0.83	0.14	
Avail Cap(c_a), veh/h	619	0		589	0		171	1119		228	1164	
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	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.5	0.0	0.0	22.2	0.0	0.0	25.1	11.5	0.0	23.8	10.1	0.0
Incr Delay (d2), s/veh	5.2	0.0	0.0	5.3	0.0	0.0	15.5	0.2	0.0	13.3	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	1.8	0.0	0.0	1.9	0.0	0.0	0.4	0.3	0.0	1.5	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.7	0.0	0.0	27.5	0.0	0.0	40.6	11.7	0.0	37.1	10.3	0.0
LnGrp LOS	C	A		C	A		D	B		D	B	
Approach Vol, veh/h		144			154			130			259	
Approach Delay, s/veh		27.7			27.5			17.2			20.4	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	22.7		10.2	6.0	25.2		10.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.8	18.2		18.0	6.6	19.4		18.0				
Max Q Clear Time (g_c+I1), s	5.3	3.2		6.1	3.0	3.8		6.5				
Green Ext Time (p_c), s	0.0	0.4		0.5	0.0	0.7		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		22.9	
HCM 6th LOS		C	

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	13.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	129	30	23	214	11	90	78	53	24	122	22
Future Vol, veh/h	18	129	30	23	214	11	90	78	53	24	122	22
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Heavy Vehicles, %	11	8	33	13	12	9	37	36	23	17	32	9
Mvmt Flow	22	157	37	28	261	13	110	95	65	29	149	27
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	13.8	17.2	11.8	11.3
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	10%	9%	100%	0%	0%
Vol Thru, %	0%	100%	33%	73%	86%	0%	100%	65%
Vol Right, %	0%	0%	67%	17%	4%	0%	0%	35%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	52	79	177	248	24	81	63
LT Vol	90	0	0	18	23	24	0	0
Through Vol	0	52	26	129	214	0	81	41
RT Vol	0	0	53	30	11	0	0	22
Lane Flow Rate	110	63	96	216	302	29	99	76
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.238	0.128	0.176	0.397	0.552	0.062	0.202	0.142
Departure Headway (Hd)	7.812	7.281	6.571	6.629	6.576	7.6	7.348	6.692
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	458	490	542	540	547	469	486	532
Service Time	5.598	5.066	4.356	4.409	4.349	5.39	5.137	4.481
HCM Lane V/C Ratio	0.24	0.129	0.177	0.4	0.552	0.062	0.204	0.143
HCM Control Delay	13	11.1	10.8	13.8	17.2	10.9	12	10.6
HCM Lane LOS	B	B	B	B	C	B	B	B
HCM 95th-tile Q	0.9	0.4	0.6	1.9	3.3	0.2	0.7	0.5

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	1	0	184	246	3
Future Vol, veh/h	3	1	0	184	246	3
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	85	85	85	85	85	85
Heavy Vehicles, %	100	100	100	18	25	100
Mvmt Flow	4	1	0	216	289	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	399	147	293	0	-	0
Stage 1	291	-	-	-	-	-
Stage 2	108	-	-	-	-	-
Critical Hdwy	8.8	8.9	6.1	-	-	-
Critical Hdwy Stg 1	7.8	-	-	-	-	-
Critical Hdwy Stg 2	7.8	-	-	-	-	-
Follow-up Hdwy	4.5	4.3	3.2	-	-	-
Pot Cap-1 Maneuver	383	635	778	-	-	-
Stage 1	508	-	-	-	-	-
Stage 2	677	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	383	635	778	-	-	-
Mov Cap-2 Maneuver	383	-	-	-	-	-
Stage 1	508	-	-	-	-	-
Stage 2	677	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	778	-	425	-	-
HCM Lane V/C Ratio	-	-	0.011	-	-
HCM Control Delay (s)	0	-	13.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	159	1	2	152
Future Vol, veh/h	0	0	159	1	2	152
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	75	75	75	75	75	75
Heavy Vehicles, %	100	100	19	100	100	15
Mvmt Flow	0	0	212	1	3	203

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	422	213	0	0	213	0
Stage 1	213	-	-	-	-	-
Stage 2	209	-	-	-	-	-
Critical Hdwy	7.4	7.2	-	-	5.1	-
Critical Hdwy Stg 1	6.4	-	-	-	-	-
Critical Hdwy Stg 2	6.4	-	-	-	-	-
Follow-up Hdwy	4.4	4.2	-	-	3.1	-
Pot Cap-1 Maneuver	440	632	-	-	940	-
Stage 1	636	-	-	-	-	-
Stage 2	639	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	438	632	-	-	940	-
Mov Cap-2 Maneuver	438	-	-	-	-	-
Stage 1	636	-	-	-	-	-
Stage 2	636	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	940	-
HCM Lane V/C Ratio	-	-	-	0.003	-
HCM Control Delay (s)	-	-	0	8.8	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-

Lane Group	EBT	WBT	WBR	SBL	SBR
Lane Group Flow (vph)	653	517	345	477	145
v/c Ratio	0.28	0.40	0.27	0.34	0.29
Control Delay	6.4	7.4	0.5	6.4	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	6.4	7.4	0.5	6.4	3.7
Queue Length 50th (ft)	15	23	0	11	0
Queue Length 95th (ft)	28	46	0	27	22
Internal Link Dist (ft)	761	603		1157	
Turn Bay Length (ft)			570	530	780
Base Capacity (vph)	6062	3381	1262	4283	1308
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.15	0.27	0.11	0.11

Intersection Summary

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	607	481	321	334	245
Future Volume (veh/h)	0	607	481	321	334	245
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	0	1870	1885	1485	1707	1885
Adj Flow Rate, veh/h	0	653	517	0	311	314
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	2	1	28	13	1
Cap, veh/h	0	2162	1204		872	857
Arrive On Green	0.00	0.34	0.34	0.00	0.27	0.27
Sat Flow, veh/h	0	6958	3676	1259	3252	3195
Grp Volume(v), veh/h	0	653	517	0	311	314
Grp Sat Flow(s),veh/h/ln	0	1609	1791	1259	1626	1598
Q Serve(g_s), s	0.0	1.7	2.5	0.0	1.8	1.8
Cycle Q Clear(g_c), s	0.0	1.7	2.5	0.0	1.8	1.8
Prop In Lane	0.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2162	1204		872	857
V/C Ratio(X)	0.00	0.30	0.43		0.36	0.37
Avail Cap(c_a), veh/h	0	7213	4016		3646	3582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	5.6	5.9	0.0	6.7	6.8
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.0	0.2	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	0.0	0.1	0.2	0.0	0.3	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.0	5.7	6.1	0.0	7.0	7.0
LnGrp LOS	A	A	A		A	A
Approach Vol, veh/h		653	517		625	
Approach Delay, s/veh		5.7	6.1		7.0	
Approach LOS		A	A		A	

Timer - Assigned Phs		4		6	8
Phs Duration (G+Y+Rc), s		12.1		10.6	12.1
Change Period (Y+Rc), s		4.5		4.5	4.5
Max Green Setting (Gmax), s		25.5		25.5	25.5
Max Q Clear Time (g_c+I1), s		3.7		3.8	4.5
Green Ext Time (p_c), s		3.9		2.4	2.9

Intersection Summary	
HCM 6th Ctrl Delay	6.3
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBT	NBL	NBR
Lane Group Flow (vph)	571	246	637	244	370
v/c Ratio	0.36	0.35	0.62	0.16	0.69
Control Delay	12.6	4.1	16.1	7.4	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	4.1	16.1	7.4	17.4
Queue Length 50th (ft)	34	0	61	16	64
Queue Length 95th (ft)	82	41	150	36	159
Internal Link Dist (ft)	369		148	574	
Turn Bay Length (ft)		300		430	430
Base Capacity (vph)	2362	917	1544	2691	940
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.24	0.27	0.41	0.09	0.39

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	520	224	0	580	222	337
Future Volume (veh/h)	520	224	0	580	222	337
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	1767	1885	0	1663	1900	1426
Adj Flow Rate, veh/h	571	246	0	637	244	370
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	9	1	0	16	0	32
Cap, veh/h	1579	523	0	1035	1387	478
Arrive On Green	0.33	0.33	0.00	0.33	0.40	0.40
Sat Flow, veh/h	4982	1598	0	3326	3510	1208
Grp Volume(v), veh/h	571	246	0	637	244	370
Grp Sat Flow(s),veh/h/ln	1608	1598	0	1580	1755	1208
Q Serve(g_s), s	2.9	4.0	0.0	5.5	1.5	8.7
Cycle Q Clear(g_c), s	2.9	4.0	0.0	5.5	1.5	8.7
Prop In Lane		1.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1579	523	0	1035	1387	478
V/C Ratio(X)	0.36	0.47	0.00	0.62	0.18	0.77
Avail Cap(c_a), veh/h	2898	960	0	1898	3407	1173
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.3	8.7	0.0	9.2	6.4	8.6
Incr Delay (d2), s/veh	0.1	0.7	0.0	0.6	0.1	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.8	0.0	1.1	0.3	1.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.5	9.3	0.0	9.8	6.4	11.3
LnGrp LOS	A	A	A	A	A	B
Approach Vol, veh/h	817			637	614	
Approach Delay, s/veh	8.7			9.8	9.4	
Approach LOS	A			A	A	

Timer - Assigned Phs		2		4			8
Phs Duration (G+Y+Rc), s		17.3		15.1			15.1
Change Period (Y+Rc), s		4.5		4.5			4.5
Max Green Setting (Gmax), s		31.5		19.5			19.5
Max Q Clear Time (g_c+I1), s		10.7		6.0			7.5
Green Ext Time (p_c), s		2.2		3.7			3.1

Intersection Summary	
HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	60	715	183	29	826	2	240	47	10	11	49
v/c Ratio	0.26	0.45	0.17	0.16	0.57	0.00	0.42	0.09	0.05	0.05	0.14
Control Delay	28.6	14.7	3.2	30.1	18.5	0.0	25.8	8.8	30.3	29.3	0.9
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	28.6	14.7	3.2	30.1	18.5	0.0	25.8	8.8	30.3	29.3	0.9
Queue Length 50th (ft)	20	51	0	10	92	0	40	1	3	4	0
Queue Length 95th (ft)	56	111	18	35	139	0	81	25	18	19	0
Internal Link Dist (ft)		356			582			682		429	
Turn Bay Length (ft)	285		330	230		340	260		140		70
Base Capacity (vph)	355	2548	1663	216	2379	937	750	784	190	747	745
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	0.17	0.28	0.11	0.13	0.35	0.00	0.32	0.06	0.05	0.01	0.07

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	622	159	25	719	2	209	2	39	9	10	43
Future Volume (veh/h)	52	622	159	25	719	2	209	2	39	9	10	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	1722	1559	1781	1604	1678	1900	1722	1900	1707	1900	1900	1900
Adj Flow Rate, veh/h	60	715	183	29	826	2	240	2	45	10	11	49
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	12	23	8	20	15	0	12	0	13	0	0	0
Cap, veh/h	96	1425	890	52	1420	499	383	15	339	24	211	179
Arrive On Green	0.06	0.33	0.33	0.03	0.31	0.31	0.12	0.22	0.22	0.01	0.11	0.11
Sat Flow, veh/h	1640	4256	2657	1527	4580	1610	3182	69	1552	1810	1900	1610
Grp Volume(v), veh/h	60	715	183	29	826	2	240	0	47	10	11	49
Grp Sat Flow(s),veh/h/ln	1640	1419	1329	1527	1527	1610	1591	0	1621	1810	1900	1610
Q Serve(g_s), s	1.6	6.0	2.2	0.8	6.8	0.0	3.2	0.0	1.1	0.2	0.2	1.3
Cycle Q Clear(g_c), s	1.6	6.0	2.2	0.8	6.8	0.0	3.2	0.0	1.1	0.2	0.2	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.96	1.00		1.00
Lane Grp Cap(c), veh/h	96	1425	890	52	1420	499	383	0	354	24	211	179
V/C Ratio(X)	0.62	0.50	0.21	0.56	0.58	0.00	0.63	0.00	0.13	0.42	0.05	0.27
Avail Cap(c_a), veh/h	419	2979	1860	254	2798	984	884	0	990	221	865	733
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	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.7	12.0	10.7	21.4	13.1	10.7	18.8	0.0	14.2	22.0	17.9	18.3
Incr Delay (d2), s/veh	6.5	0.3	0.1	9.2	0.4	0.0	1.7	0.0	0.2	11.6	0.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.4	0.5	0.4	1.7	0.0	1.1	0.0	0.3	0.2	0.1	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	12.2	10.8	30.7	13.5	10.7	20.5	0.0	14.3	33.6	18.0	19.2
LnGrp LOS	C	B	B	C	B	B	C	A	B	C	B	B
Approach Vol, veh/h		958			857			287			70	
Approach Delay, s/veh		12.9			14.0			19.5			21.0	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	14.3	6.0	19.6	9.9	9.5	7.1	18.5
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	5.5	27.5	7.5	31.5	12.5	20.5	11.5	27.5
Max Q Clear Time (g_c+I1), s	2.2	3.1	2.8	8.0	5.2	3.3	3.6	8.8
Green Ext Time (p_c), s	0.0	0.2	0.0	5.5	0.5	0.1	0.1	5.1

Intersection Summary	
HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	210	50	219	122	50	323	22	167	227	19
v/c Ratio	0.79	0.13	0.65	0.08	0.35	0.38	0.06	0.90	0.21	0.03
Control Delay	50.7	0.7	37.8	0.1	41.3	25.8	0.3	83.3	21.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	0.7	37.8	0.1	41.3	25.8	0.3	83.3	21.9	0.1
Queue Length 50th (ft)	92	0	97	0	23	67	0	80	45	0
Queue Length 95th (ft)	#157	0	139	0	50	93	0	#166	67	0
Internal Link Dist (ft)	350		828			628			994	
Turn Bay Length (ft)		100		100	115		150	150		150
Base Capacity (vph)	307	430	448	1553	148	855	392	185	1099	569
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.12	0.49	0.08	0.34	0.38	0.06	0.90	0.21	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	147	39	7	164	95	39	252	17	130	177	15
Future Volume (veh/h)	17	147	39	7	164	95	39	252	17	130	177	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	1470	1100	1559	1470	1856	1841	1752	1826	1292	1841	1767	1707
Adj Flow Rate, veh/h	22	188	0	9	210	0	50	323	0	167	227	0
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	29	54	23	29	3	4	10	5	41	4	9	13
Cap, veh/h	25	211		11	266		74	911		197	1109	
Arrive On Green	0.22	0.22	0.00	0.15	0.15	0.00	0.04	0.26	0.00	0.11	0.33	0.00
Sat Flow, veh/h	115	979	1321	76	1776	1560	1668	3469	1095	1753	3357	1447
Grp Volume(v), veh/h	210	0	0	219	0	0	50	323	0	167	227	0
Grp Sat Flow(s),veh/h/ln	1094	0	1321	1852	0	1560	1668	1735	1095	1753	1678	1447
Q Serve(g_s), s	12.9	0.0	0.0	7.9	0.0	0.0	2.0	5.3	0.0	6.5	3.4	0.0
Cycle Q Clear(g_c), s	12.9	0.0	0.0	7.9	0.0	0.0	2.0	5.3	0.0	6.5	3.4	0.0
Prop In Lane	0.10		1.00	0.04		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	236	0		277	0		74	911		197	1109	
V/C Ratio(X)	0.89	0.00		0.79	0.00		0.67	0.35		0.85	0.20	
Avail Cap(c_a), veh/h	284	0		481	0		159	911		197	1109	
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	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.4	0.0	0.0	28.4	0.0	0.0	32.6	20.8	0.0	30.2	16.7	0.0
Incr Delay (d2), s/veh	24.5	0.0	0.0	5.0	0.0	0.0	10.0	1.1	0.0	27.4	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	0.0	3.6	0.0	0.0	1.0	2.0	0.0	4.0	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.9	0.0	0.0	33.4	0.0	0.0	42.7	21.9	0.0	57.6	17.1	0.0
LnGrp LOS	D	A		C	A		D	C		E	B	
Approach Vol, veh/h		210			219			373			394	
Approach Delay, s/veh		50.9			33.4			24.7			34.3	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.3	22.7		19.5	7.6	27.4		14.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.8	18.2		18.0	6.6	19.4		18.0				
Max Q Clear Time (g_c+I1), s	8.5	7.3		14.9	4.0	5.4		9.9				
Green Ext Time (p_c), s	0.0	1.3		0.3	0.0	1.0		0.6				

Intersection Summary		
HCM 6th Ctrl Delay		34.0
HCM 6th LOS		C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	19
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	281	19	17	152	27	80	184	33	40	148	16
Future Vol, veh/h	46	281	19	17	152	27	80	184	33	40	148	16
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	7	6	47	6	7	0	19	9	9	5	14	13
Mvmt Flow	53	323	22	20	175	31	92	211	38	46	170	18
Number of Lanes	0	1	0	0	1	0	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	3	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	3	3	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	3	1	1
HCM Control Delay	29.7	16	12.9	12.4
HCM LOS	D	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	13%	9%	100%	0%	0%
Vol Thru, %	0%	100%	65%	81%	78%	0%	100%	76%
Vol Right, %	0%	0%	35%	5%	14%	0%	0%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	123	94	346	196	40	99	65
LT Vol	80	0	0	46	17	40	0	0
Through Vol	0	123	61	281	152	0	99	49
RT Vol	0	0	33	19	27	0	0	16
Lane Flow Rate	92	141	108	398	225	46	113	75
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.21	0.294	0.218	0.772	0.456	0.104	0.246	0.159
Departure Headway (Hd)	8.202	7.507	7.253	6.986	7.281	8.179	7.818	7.622
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	438	478	494	517	493	438	458	469
Service Time	5.959	5.263	5.009	4.73	5.036	5.94	5.579	5.383
HCM Lane V/C Ratio	0.21	0.295	0.219	0.77	0.456	0.105	0.247	0.16
HCM Control Delay	13.1	13.4	12	29.7	16	11.9	13.1	11.8
HCM Lane LOS	B	B	B	D	C	B	B	B
HCM 95th-tile Q	0.8	1.2	0.8	6.9	2.3	0.3	1	0.6

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	1	0	364	321	3
Future Vol, veh/h	3	1	0	364	321	3
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	83	83	83	83	83	83
Heavy Vehicles, %	100	100	0	6	7	100
Mvmt Flow	4	1	0	439	387	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	609	196	391	0	-	0
Stage 1	389	-	-	-	-	-
Stage 2	220	-	-	-	-	-
Critical Hdwy	8.8	8.9	4.1	-	-	-
Critical Hdwy Stg 1	7.8	-	-	-	-	-
Critical Hdwy Stg 2	7.8	-	-	-	-	-
Follow-up Hdwy	4.5	4.3	2.2	-	-	-
Pot Cap-1 Maneuver	258	578	1179	-	-	-
Stage 1	435	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	258	578	1179	-	-	-
Mov Cap-2 Maneuver	258	-	-	-	-	-
Stage 1	435	-	-	-	-	-
Stage 2	568	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.2	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1179	-	299	-	-
HCM Lane V/C Ratio	-	-	0.016	-	-
HCM Control Delay (s)	0	-	17.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	217	1	2	200
Future Vol, veh/h	0	0	217	1	2	200
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	74	74	74	74	74	74
Heavy Vehicles, %	0	0	5	100	100	10
Mvmt Flow	0	0	293	1	3	270

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	570	294	0	0	294	0
Stage 1	294	-	-	-	-	-
Stage 2	276	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	5.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	3.1	-
Pot Cap-1 Maneuver	486	750	-	-	867	-
Stage 1	761	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	484	750	-	-	867	-
Mov Cap-2 Maneuver	484	-	-	-	-	-
Stage 1	761	-	-	-	-	-
Stage 2	772	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	867	-
HCM Lane V/C Ratio	-	-	-	0.003	-
HCM Control Delay (s)	-	-	0	9.2	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-

HCS Two-Lane Highway Report

Project Information

Analyst	Kimley-Horn	Date	11/7/2023
Agency	San Joaquin County	Analysis Year	2023
Jurisdiction	San Joaquin County	Time Analyzed	AM Peak-Hour - Existing plus Pending and Approved Projects plus Project
Project Description	French Camp Road, North of El Dorado Street, NB	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5280
Lane Width, ft	12	Shoulder Width, ft	4
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	225	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.75	Total Trucks, %	24.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.13

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	48.6
Speed Slope Coefficient (m)	3.19433	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37144	PF Power Coefficient (p)	0.73154
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	47.3

Vehicle Results

Average Speed, mi/h	47.3	Percent Followers, %	36.9
Segment Travel Time, minutes	1.27	Follower Density (FD), followers/mi/ln	1.8
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	42	0.02	1.8	A

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HCS Two-Lane Highway Report

Project Information

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Jurisdiction	San Joaquin County	Time Analyzed	PM Peak-Hour - Existing plus Pending and Approved Projects plus Project
Project Description	French Camp Road, North of El Dorado Street, NB	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5280
Lane Width, ft	12	Shoulder Width, ft	4
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	312	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.75	Total Trucks, %	9.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.18

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	49.1
Speed Slope Coefficient (m)	3.22141	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37094	PF Power Coefficient (p)	0.73098
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	47.4

Vehicle Results

Average Speed, mi/h	47.4	Percent Followers, %	44.3
Segment Travel Time, minutes	1.27	Follower Density (FD), followers/mi/ln	2.9
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	59	0.04	2.9	B

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HCS Two-Lane Highway Report

Project Information

Analyst	Kimley-Horn	Date	11/7/2023
Agency	San Joaquin County	Analysis Year	2023
Jurisdiction	San Joaquin County	Time Analyzed	AM Peak-Hour - Existing plus Pending and Approved Projects plus Project
Project Description	French Camp Road, North of El Dorado Street, SB	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5280
Lane Width, ft	12	Shoulder Width, ft	4
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	174	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	15.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.10

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	48.9
Speed Slope Coefficient (m)	3.21058	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37116	PF Power Coefficient (p)	0.73120
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	47.8

Vehicle Results

Average Speed, mi/h	47.8	Percent Followers, %	31.7
Segment Travel Time, minutes	1.25	Follower Density (FD), followers/mi/ln	1.2
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	40	0.02	1.2	A

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HCS Two-Lane Highway Report

Project Information

Analyst	Kimley-Horn	Date	11/7/2023
Agency	San Joaquin County	Analysis Year	2023
Jurisdiction	San Joaquin County	Time Analyzed	PM Peak-Hour - Existing plus Pending and Approved Projects plus Project
Project Description	French Camp Road, North of El Dorado Street, SB	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5280
Lane Width, ft	12	Shoulder Width, ft	4
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	234	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.85	Total Trucks, %	10.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.14

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	49.1
Speed Slope Coefficient (m)	3.21960	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37098	PF Power Coefficient (p)	0.73102
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5280	-	-	47.7

Vehicle Results

Average Speed, mi/h	47.7	Percent Followers, %	37.8
Segment Travel Time, minutes	1.26	Follower Density (FD), followers/mi/ln	1.9
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	50	0.03	1.9	A

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HCS Multilane Highway Report

Project Information

Analyst	Kimley-Horn	Date	11/7/2023
Agency	San Joaquin County	Analysis Year	2023
Jurisdiction	San Joaquin County	Time Analyzed	AM Peak-Hour - Existing plus Pending and Approved Projects plus Project
Project Description	El Dorado Street, South of French Camp Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	4.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	42.4	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	119	Heavy Vehicle Adjustment Factor (f_{HV})	0.794
Peak Hour Factor	0.81	Flow Rate (V_p), pc/h/ln	92
Total Trucks, %	26.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.05

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.4
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	2.2
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	1.0		

Direction 2 Geometric Data			
Direction 2	SB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	4.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	42.4	Total Lateral Clearance (TLC), ft	12
Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		
Direction 2 Demand and Capacity			
Volume (V) veh/h	178	Heavy Vehicle Adjustment Factor (f_{HV})	0.781
Peak Hour Factor	0.81	Flow Rate (V_p), pc/h/ln	140
Total Trucks, %	28.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.07
Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.4
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	3.3
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	1.0		

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HCS Multilane Highway Report

Project Information

Analyst	Kimley-Horn	Date	11/7/2023
Agency	San Joaquin County	Analysis Year	2023
Jurisdiction	San Joaquin County	Time Analyzed	PM Peak-Hour - Existing plus Pending and Approved Projects plus Project
Project Description	El Dorado Street, South of French Camp Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	4.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	42.4	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	283	Heavy Vehicle Adjustment Factor (f_{HV})	0.935
Peak Hour Factor	0.70	Flow Rate (V_p), pc/h/ln	216
Total Trucks, %	7.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.11

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.4
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	5.1
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	1.0		

Direction 2 Geometric Data			
Direction 2	SB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	4.0
Median Type	Undivided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	42.4	Total Lateral Clearance (TLC), ft	12
Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		
Direction 2 Demand and Capacity			
Volume (V) veh/h	214	Heavy Vehicle Adjustment Factor (f_{HV})	0.893
Peak Hour Factor	0.87	Flow Rate (V_p), pc/h/ln	138
Total Trucks, %	12.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.07
Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.4
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	3.3
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	1.0		

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