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Attachment 4

Revised Traffic Analysis

Transportation Analysis

Potentia-Viridi BESS Project Alameda County, California

JUNE 2024 - REVISED DECEMBER 2024

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ACE	Altamont Commuter Express
ADT	Average Daily Traffic
BESS	Battery Energy Storage System
CEQA	California Environmental Quality Act
County	Alameda County
Gen-tie	Generation Tie
ISD	Intersection sight distance
I-580	Interstate 580
I-80	Interstate 80
LAVTA	Livermore Amador Valley Transit Authority
Linear Facility Route	Gen-tie line alignments, access roads, and collector line routes
LOS	Level of Service
LVK	Livermore Municipal Airport
MM	Mitigation Measure
MPH	Miles Per Hour
MW	Megawatt
OPR	Governor's Office of Planning and Research
O&M	Operation & Maintenance
PCE	Passenger Car Equivalence
Project	Potentia Viridi Solar Project
PV	Photovoltaic
SCADA	Supervisory Control and Data Acquisition
SB	Senate Bill
TCY	Tracy Municipal Airport
TMP	Traffic Management Plan
VMT	Vehicle Miles Traveled

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Executive Summary

This Transportation Analysis was prepared in support of an application submitted on behalf of Levy Alameda, LLC for the proposed development of the Potentia Viridi Battery Energy Storage System (BESS) Facility (Project). The Project will be located at 17257 Patterson Pass Road in unincorporated eastern Alameda County, California, southwest of Interstate 580 and Interstate 205 (Figure 1, Project Location and Study Area and Figure 2, Project Site Aerial). Development associated with the BESS Facility would occur on approximately 70 acres that is currently vacant land.

This Transportation Analysis includes a trip generation analysis of the Project's construction and (permanent) operations and maintenance (O&M) phases; a level of service (LOS) analysis; a vehicle miles traveled (VMT) analysis; and project access evaluation. This assessment is based on the East County Area Plan, a subplan of the Alameda County General Plan (Alameda County Community Development Agency 1994), applicable California Environmental Quality Act guidelines, including adherence to Senate Bill (SB) 743 and guidelines from the Governor's Office of Planning and Research (OPR) (OPR 2018).

The Project is expected to generate nominal vehicular trips during its O&M phase associated with routine maintenance and upkeep of the proposed facility and would not result in any transportation-related impacts. Therefore, the following assessment focuses on the peak construction phase of Project traffic, specifically where construction subphases may overlap with one another, and would temporarily generate the highest amount of Project construction traffic. The peak period of construction for the Project would generate approximately 1,626 passenger-car equivalent (PCE) daily trips, 394 AM PCE peak hour trips, and 394 PM PCE peak hour trips and would occur for an approximately three-month period. For all other phases of construction, the amount of vehicular traffic is estimated to be less than the peak period. All construction-related traffic would be temporary and short term and would be removed from the study area roadway network upon completion of the Project. The construction of the Project is not expected to have any impacts on transit, pedestrian, or bicycle infrastructure in the area.

With the addition of the Project's peak construction traffic, all study intersections would continue to operate at an acceptable LOS (LOS D and LOS E for the I-580 ramps) under existing conditions, except for the Midway Road and Patterson Pass Road intersection (#1) which would degrade to LOS E during the PM peak hour. Under the Cumulative (2027) conditions, three of the study intersections are forecast to temporarily operate below acceptable levels of service with the construction traffic. The Midway Road and Patterson Pass Road intersection (#1) would degrade to LOS E during the PM peak hour, the North Midway Road and Patterson Pass Road intersection (#2) would degrade to LOS E during the PM peak hour, and the I-580 westbound ramps at Patterson Pass Road (#5) would degrade to LOS F during the AM peak hour. Once construction is complete, the intersection LOS would return to acceptable levels of service. The construction activities would be managed through implementation of Mitigation Measure (MM-TRAF-1), which includes the preparation of a construction traffic management plan (TMP) to minimize potential impacts from construction-related traffic. The TMP would include measures such as timing worker arrivals and departures and material deliveries to avoid peak hours and the use of carpools to minimize the amount of construction-generated traffic. With implementation of the TMP, all of the study intersections would continue to operate at satisfactory LOS with the peak period of construction traffic.

A queuing analysis was also performed for the westbound and eastbound I-580 ramps at Patterson Pass Road to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially "spill back" onto the I-580 mainline. Off-ramp queuing with potential impacts to the mainline are still reported at the Patterson Pass Road/I-580 westbound ramp intersection (#5), even

with implementation of the TMP. However, reviewing additional metrics, including upstream block time percentages, show that upstream block time percentages under the “with mitigation” scenarios improve when compared to “plus Project” condition. The mitigation measures proposed would improve queuing to the furthest extent possible, particularly since the long queue lengths are an existing condition.

Additionally, review of current California Department of Transportation (Caltrans) District 10 projects indicated that extensive improvements are planned under the I-580/International Parkway/Patterson Pass Interchange project, which modifies the existing compact diamond (Tyler L-1) interchange into a Diverging Diamond Interchange (DDI). The current schedule identifies the interchange project completion date of August 2026¹. As the proposed Project is expected to start construction in 2027, the new DDI interchange would be in place prior to construction, and the interchange deficiencies noted above would be improved.

All roadways that would provide site access and driveway access to the Project site have adequate pavement width to accommodate emergency vehicles and large trucks. In some situations, it is recommended that the contractor utilize flaggers and/or advanced warning signs, as part of the TMP, to warn of slow-moving trucks ahead and to mitigate sight distance constraints at the project driveways.

A VMT analysis is not required for the Project’s operational phase based on the OPR and Small Project screening criteria because Project operation would generate fewer than 110 daily vehicle trips. Furthermore, all construction trips and related VMT would be temporary and would cease at the completion of Project construction. The VMT thresholds described in the OPR guidelines do not apply to construction trips.

¹ The current schedule is posted on Caltrans District 10 Current Project website, which identifies a project completion date of April 2025. An email was sent to District 10 Public Affairs on November 5, 2024, to confirm the posted schedule, and after additional coordination, email communication with City of Tracy Public Works on November 22, 2024, provided an updated project completion date of August 2026. <https://dot.ca.gov/caltrans-near-me/district-10/district-10-current-projects/i-580-international-pkwy-patterson-pass-interchange>

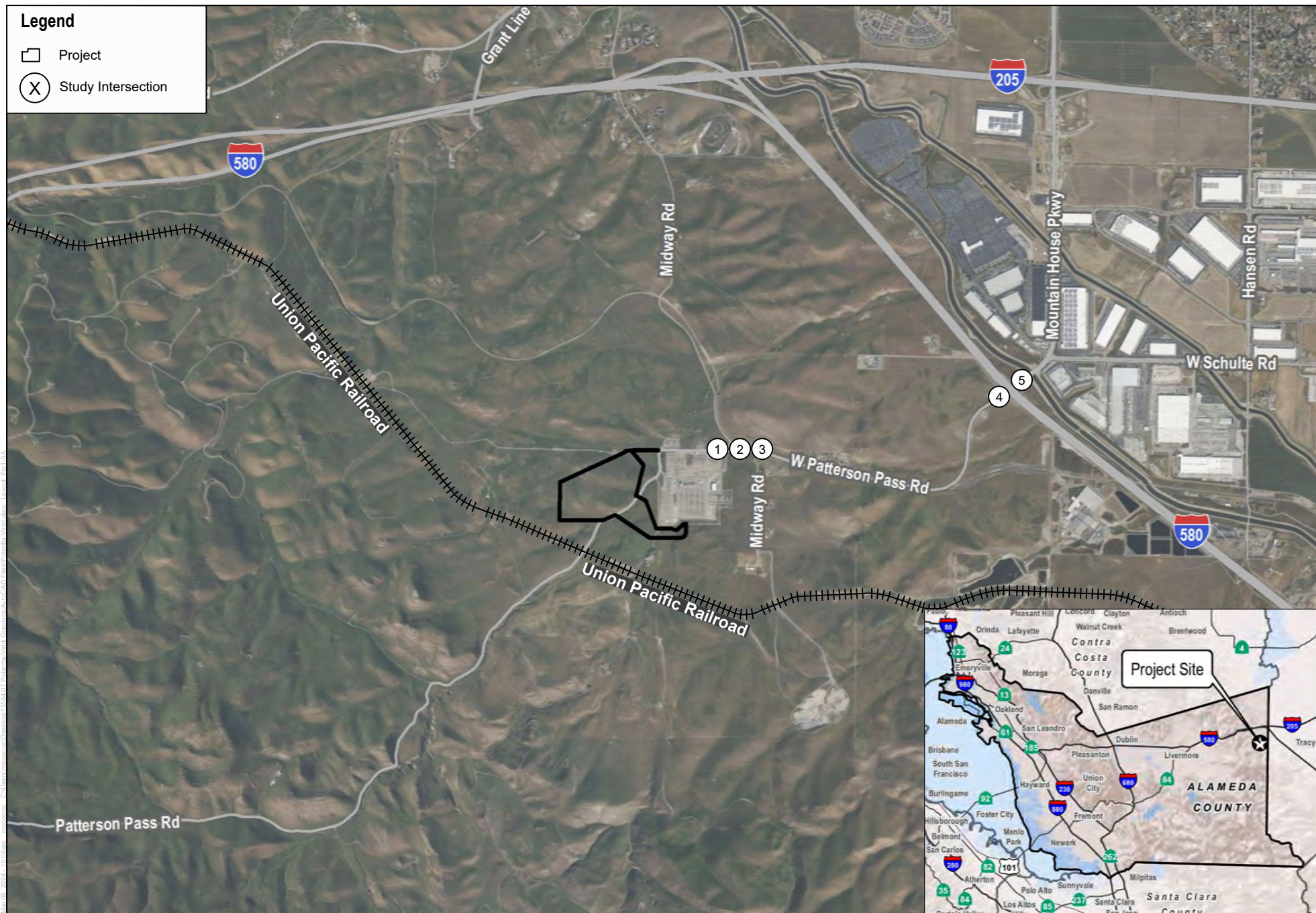
1 Project Description

The proposed Project would include the construction, operations and maintenance, and decommissioning of a battery energy storage system (BESS) facility, including a Project substation, operations and maintenance building, and 500-kV overhead generation intertie transmission (gen-tie) line. The Project would interconnect into the Tesla Substation owned and operated by Pacific Gas and Electric (PG&E), located approximately 570 feet east of the Project's eastern boundary. Improvements to the PG&E Tesla Substation would be required as part of the Project.

The project site is located within unincorporated eastern Alameda County southwest of Interstate 580 (I-580) and I-205. The project site boundaries are illustrated Figure 1, Project Location and Study Area. Primary access to the Project site would be provided via a new private driveway to the north of the site, off of Patterson Pass Road. A secondary access driveway would be provided to the southeast of the site off of Patterson Pass Road and would be used for emergency access only.

During operation, the Project would be maintained by 18 full-time dedicated operations staff. The staff would be based in a small Operations and Maintenance (O&M) building located within the O&M area, depicted in Figure 2. The O&M building would include basic offices, meeting rooms, washroom facilities and climate-controlled storage for equipment and materials. The O&M building would be powered from the Project, and would have self-contained washroom facilities with water and sewage tanks. The O&M building would have a small parking area for worker vehicles and storage space for spare parts and storage containers. The facilities would be remotely operated and monitored year-round and be available to receive or deliver energy 24 hours a day and 365 days a year. During the operational life of the Project, technicians would routinely inspect the Project facilities and conduct necessary maintenance to ensure safe operational readiness. If an issue arises, the system can be remotely shut down.

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SOURCE: Bing Maps (accessed 2024); Open Streets Map 2019

FIGURE 1

Project Location and Study Area

Potentia-Viridi BESS Project

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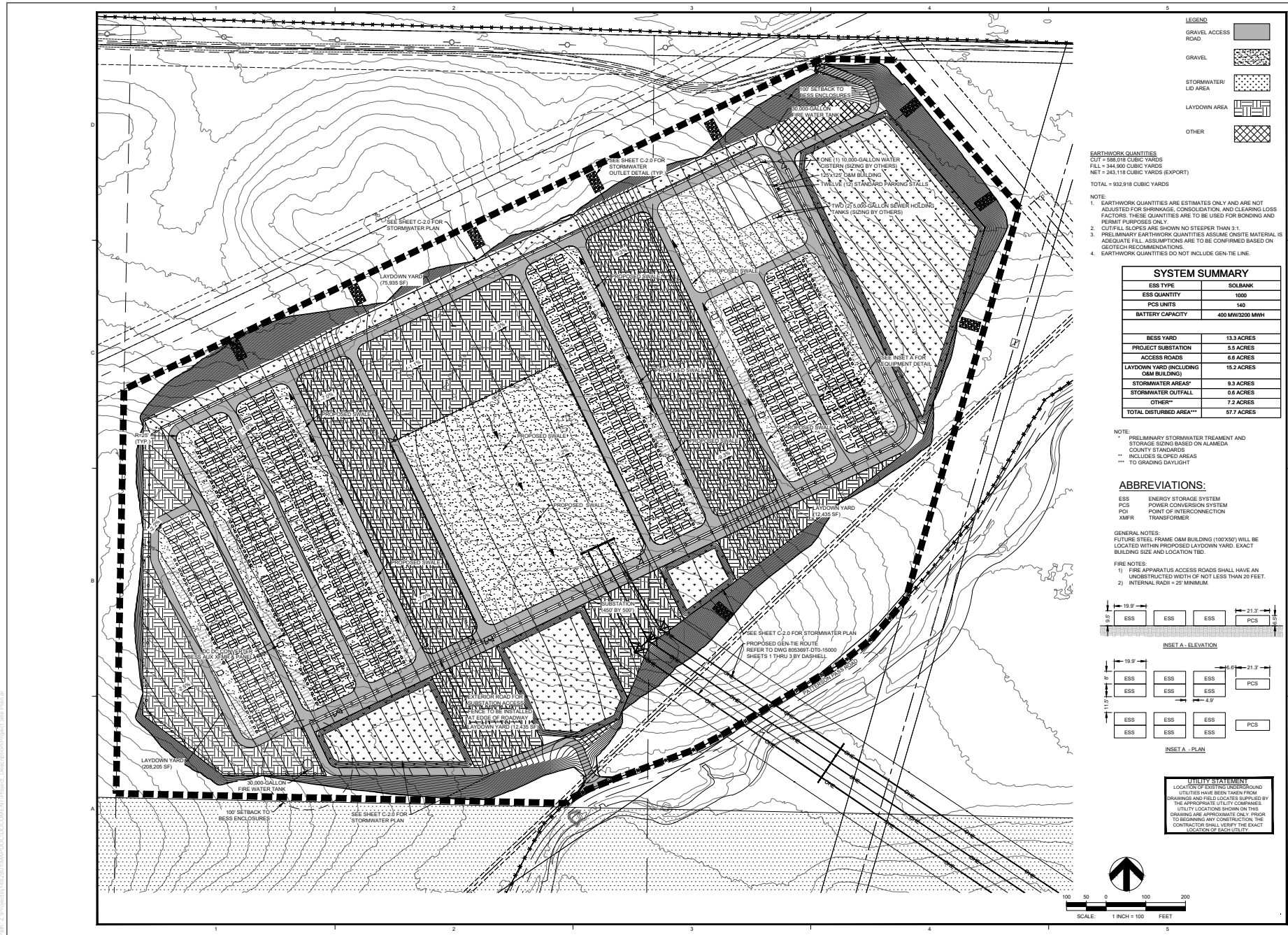


FIGURE 2
Site Plan
 Potenta Viridi BESS Project

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2 Existing Setting

This section provides a summary of the existing street network, including the major roadways serving the site, the existing transit and rail service, and bicycle and pedestrian facilities in the study area.

2.1 Roadway Network

Regional access to the site would be provided from I-580 to Patterson Pass Road – County Road 2063 to the east of the project. Characteristics of the primary roadways within the study area are described below. The County's Roadway Classification diagram is presented as Figure 3.

- **Interstate 580 (I-580)** is an east-west, divided, six to eight-lane freeway that provides regional access to the project site. I-580 is an auxiliary highway of I-80 that begins in San Francisco and extends east to Teaneck, New Jersey, and serves as a critical connection for many other regional roadways, freeways, and highways. Caltrans classifies I-580 as a designated truck route, except for a portion of the route through Oakland. The nearest interchange to the site is provided at I-580 and Patterson Pass Road, approximately 1.5 miles east of the site. The posted speed limit is 65 miles per hour (MPH).
- **Patterson Pass Road – County Road 2063** is a two-lane, undivided, east-west roadway that provides local access to the project site via the interchange with I-580 east of the project site, and will be the main roadway to access the project. Patterson Pass Road connects the project site to the City of Livermore in the west at its intersection with Vasco Way. Heavy one-directional traffic flows were observed due to its use as a commuter corridor, with less than one (1) percent of non-commute direction traffic occurring during either peak hour. South of the project site's northern driveway, Patterson Pass Road does not meet County roadway standards, and includes narrow lanes, no centerline striping, and lack of shoulders and/or paved shoulders. There are no pedestrian or bicycle facilities present. The posted speed limit ranges between 40 and 55 MPH in the vicinity of the project site, with 20 MPH posted warning signs at the sharp curve along Patterson Pass Road approaching the northern project driveway.
- **Midway Road** is a two-lane, north-south, undivided roadway which provides local connection to the project site via its intersection with Patterson Road. There are no pedestrian or bicycle facilities present. The posted speed limit is 40 MPH.

2.2 Transit and Rail System

Eastern Alameda County is served by bus services provided by Livermore Amador Valley Transit Authority (LAVTA), which provides regional and local services throughout Eastern Alameda County and Western San Joaquin County. Regionally, the project is served by passenger rail services offered by the Altamont Commuter Express (ACE). The rail and transit providers are described below.

Livermore Amador Valley Transit Authority

The Livermore Amador Valley Transit Authority provides access to various public transportation choices for those who live or work in and visit the Tri-Valley area. These include bus connections to Bay Area Rapid Transit (BART), Altamont Commuter Express (ACE) and Central Contra County Transportation Authority (County Connection). The

closest bus stop to the project site is located at the Vasco Road Transit Center, approximately 10 miles west of the project site. There are no bus routes or stops within a two-mile radius of the project site.

Altamont Commuter Express

The Altamont Commuter Express (ACE) provides heavy-rail train service for the communities in Eastern Alameda County and Western San Joaquin County. The ACE operates one route, connecting cities between Stockton and San Jose. The route operates on Mondays through Fridays; westbound in the mornings, and eastbound in the evenings. In the westbound direction, there are four trains beginning at 4:10 A.m. with approximately 70-minute headways. In the eastbound direction, there are four trains beginning at 3:30 p.m. with approximately 60-minute headways. The closest ACE station to the project site is the Tracy ACE Station, located approximately nine miles east of the project site.

Union Pacific Railroad

An east-west Union Pacific rail line is located approximately 900 feet south of the project site, crossing over Patterson Pass Road. However, a railroad bridge carries the rail line over Patterson Pass Road, thus allowing rail traffic to flow without conflicting with vehicular traffic. There are no at-grade rail crossings near the site.

Union Pacific freight operations in California handle an array of commodities, including import-export automobiles and premium intermodal cargo at the Intermodal Container Transfer Facility (ICTF). Other common freight hauled throughout the Golden State includes chemicals, manufactured goods, fruits, vegetables and canned goods (Union Pacific Railroad 2024).

2.3 Pedestrian and Bicycle Facilities

The project site is surrounded by undeveloped rural land with no pedestrian or bicycle infrastructure provided. Based on a review of the County's Bicycle and Pedestrian Master Plan (Alameda County 2019), a Class III Rural bike route (signed route only) is proposed along Patterson Pass Road in the project study area. Figure 4 presents the proposed bicycle route.

2.4 Air Traffic

Livermore Municipal Airport (LVK) is located approximately 19 miles west of the Project site. The Airport is a General Aviation Reliever Airport which serves private, business and corporate tenants and customers. LVK serves primarily the Tri-Valley region with a population of over 300,000 residents. Most of the Airport's 460 tenants are Livermore and Pleasanton residents (City of Livermore. 2023).

Tracy Municipal Airport (TCY) is located approximately 10 miles east of the Project site. The Tracy Municipal Airport is a General Aviation Airport which serves private, business, and corporate tenants and customers. TCY serves primarily the Central Valley and the I-5 Corridor (City of Tracy 2023).

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Bicycle Network Alameda County Unincorporated Areas - Northeast

Proposed Bikeways

- Class I - Multi-Use Path
- Class II - Bike Lane, Buffered Bike Lane, Climbing Lane
- Class III - Bike Boulevard or Rural Route
- Class IV - Separated Bike Lane

Existing Bikeways

- Class I - Multi-Use Path
- Class II - Bike Lane
- Class III - Wide Curb Lane/Shoulder

Transit

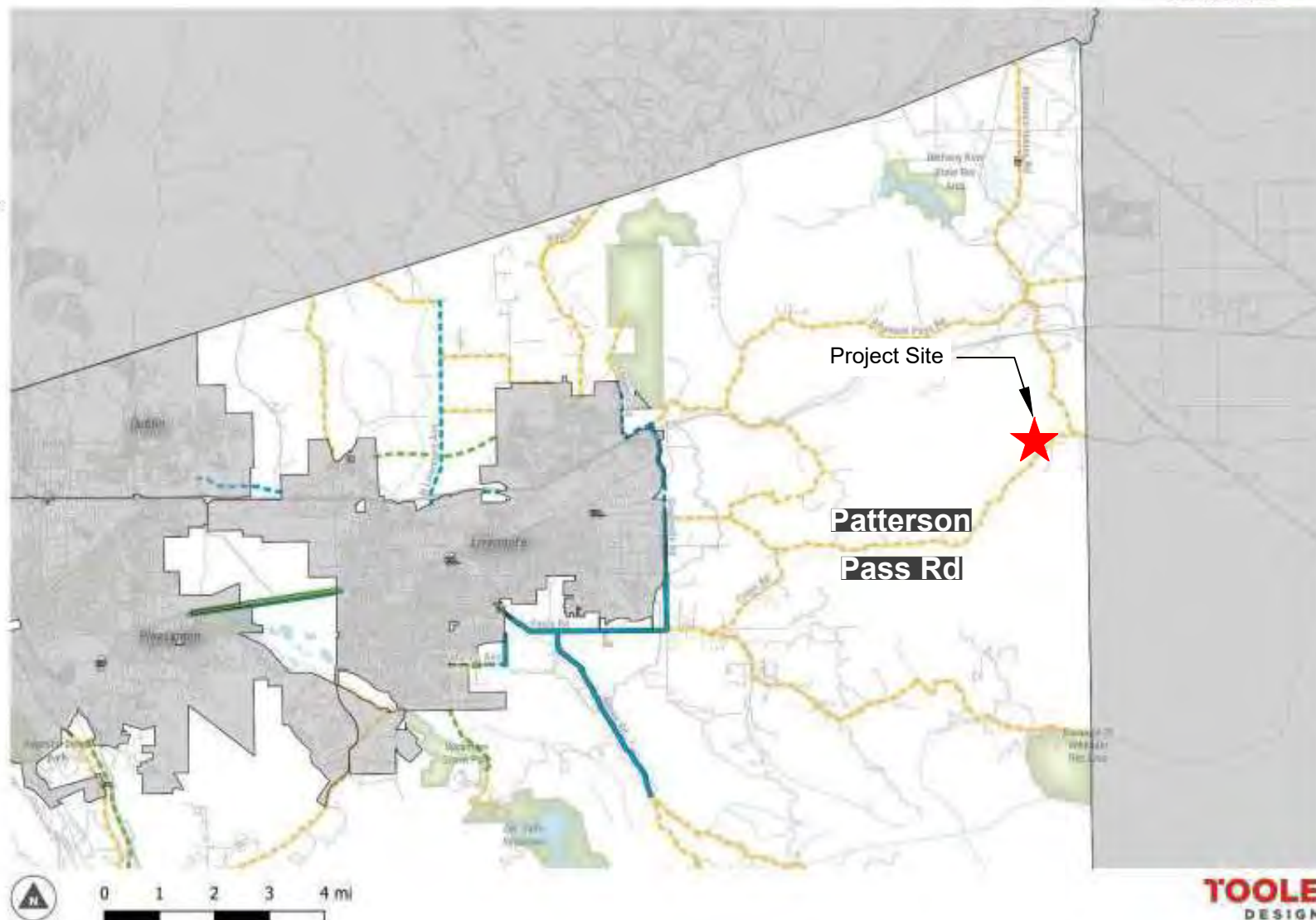
- ACE
- Amtrak
- BART

Other

- Parks
- Water
- Schools

May Affect Parking

Disclaimer: Proposed projects that may affect on-street parking are subject to further study and community review. In the interim, these streets may be implemented as Class III facilities.



TOOLE
DESIGN

SOURCE: Alameda County Bicycle & Pedestrian Master Plan for Unincorporated Areas, 2019

FIGURE 4
Proposed Bicycle Routes

Potentia-Viridi BESS Project

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3 Laws, Ordinances, Regulations, and Standards

Transportation for the Project would be governed by federal, state, and local laws. Applicable laws and regulations address roadway circulation standards and hazardous material transportation requirements. A summary of the LORS applicable to Project traffic and transportation is provided below.

Federal LORS

Code of Federal Regulations

Title 49, Parts 172, 173, and 179

CFR Title 49, Part 172 primarily deals with the labeling, marking, and placarding of hazardous materials for transportation. It establishes standards for how hazardous materials must be labeled and marked on packages, containers, and vehicles to communicate their contents and associated risks effectively.

CFR Title 49, Part 173 focuses on the general requirements for the shipping of hazardous materials. It includes regulations for packaging, including specifications for various types of containers, as well as rules for classifying, describing, and documenting hazardous materials. Section 173 also covers the conditions and exceptions under which certain hazardous materials can be transported and provides guidelines for emergency response information and training.

CFR Title 49, Part 179 pertains to the transportation of hazardous materials in the United States. This section outlines design, construction, and testing standards for portable tanks, as well as operational and maintenance procedures to ensure the safe transport of hazardous materials.

The Project would appropriately label, package, and transport hazardous materials in accordance with CFR Title 49, Parts 172, 173, and 179. Therefore, the Project would comply with these requirements.

Title 49, Part 397.9 (Hazardous Materials Transportation Act of 1974)

The Hazardous Materials Transportation Act of 1974 regulates the transportation of hazardous materials in commerce. This act establishes a framework for the safe and secure handling, labeling, packaging, and transportation of hazardous materials. It empowers the USDOT to develop and enforce regulations to minimize the risks associated with transporting hazardous materials on highways, railways, waterways, and in the air. The act also sets penalties for violations and provides funding for research, training, and emergency response planning related to hazardous materials transportation. The Project would transport hazardous materials in accordance with all applicable federal, state, and local regulations, including the Hazardous Materials Transportation Act of 1974, and thus would comply with this requirement.

Title 49, Parts 350-399 (Federal Motor Carrier Safety Regulations)

The Federal Motor Carrier Safety Regulations oversee and regulate commercial motor carriers, drivers, and the safe operation of commercial motor vehicles. Parts 350-399 address various aspects of motor carrier

safety, including driver qualifications, hours of service, vehicle inspections and maintenance, and commercial driver's license requirements. Additionally, these parts also regulate hazardous materials transportation, including the classification, packaging, and labeling of hazardous materials, as well as safety standards for transporting these materials. The Project would transport hazardous materials in accordance with all applicable federal, state, and local regulations, including the Federal Motor Carrier Safety Regulations, and thus would comply with this requirement.

Title 14, Part 77.9

CFR Title 14, Part 77.9 requires an applicant to notify the FAA of the construction of structures exceeding 200 feet above-ground level or exceeding defined imaginary surfaces within 20,000 feet of the nearest point of the nearest runway of an airport with at least one runway longer than 3,200 feet or within 10,000 feet of the nearest point of the nearest runway of an airport with the longest runway no more than 3,200 feet. The Project would not trigger this requirement and would thus conform with CFR Title 14, Part 77.9.

State

California Environmental Quality Act

CEQA requires state and local government agencies to inform decision makers and the public about the potential environmental impacts of the Project and to reduce environmental impacts to the extent feasible. Appendix G of the CEQA Guidelines includes recommended criteria for evaluating potential impacts related to traffic and transportation.

California Vehicle Code

The California Vehicle Code consists of a comprehensive set of laws and regulations that govern the operation and use of vehicles on the roadways within the state of California. Specifically, the California Vehicle Code addresses traffic regulations, driver's licensing, vehicle registration, vehicle equipment, safety regulations, parking and towing, commercial vehicle standards, environmental regulations, and penalties and enforcement. Project vehicular transportation would comply with all applicable federal, state, and local regulations, including the California Vehicle Code, and thus would conform with this requirement.

California Streets and Highways Code

The California Streets and Highways Code specifically pertains to the planning, construction, maintenance, and regulation of streets and highways within the state of California. Specifically, the California Streets and Highways Code includes highway designation, highway construction, highway maintenance, eminent domain, public transportation, bicycle and pedestrian infrastructure, emergency services, and traffic control. Project vehicular transportation would comply with all applicable federal, state, and local regulations, including the California Streets and Highways Code, and thus would conform with this requirement.

California Senate Bill 743

On September 27, 2013, Senate Bill (SB) 743 was signed into law, which created a process to change the way transportation impacts are analyzed under the California Environmental Quality Act (CEQA). SB 743 required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to LOS

as the metric for evaluating transportation/traffic impacts. Under the new transportation guidelines, LOS or vehicle delay, is no longer considered an environmental impact under CEQA. Amendments to the CEQA Guidelines required under SB 743 were approved on December 28, 2018, and the new Section 15064.3 identifies VMT as the most appropriate measure of transportation impacts under CEQA effective July 1, 2020. Related legislation, SB 32 (2016) requires California to reduce greenhouse gas emissions 40% below 1990 levels by 2030. The California Air Resources Board has determined that it is not possible to achieve this goal without reducing VMT growth and specifically California needs to reduce per capita VMT across all economic sectors. SB 743 is primarily focused on passenger-cars and the reduction in per capita VMT as it relates to individual trips.

The OPR Technical Advisory (OPR 2018) provides guidance and tools to properly carry out the principles within SB 743 and evaluate transportation impacts under CEQA. The County of Alameda has not yet adopted transportation guidelines for evaluating potential project-related impacts to VMT. Therefore, in the interim, the OPR's Technical Advisory has been used to evaluate the proposed project.

Caltrans

As the owner and operator of the State Highway System, Caltrans implements established state planning priorities in all functional plans, programs, and activities. Caltrans has the responsibility to coordinate and consult with local jurisdictions when proposed local land use planning and development may impact state highway facilities. To comply with SB 743 implementation, the Caltrans Transportation Impact Study Guide (Caltrans 2020a), replaced the Guide for the Preparation of Traffic Impact Studies (Caltrans 2002). Per the 2020 Transportation Impact Study Guide, Caltrans' primary review focus is VMT, replacing LOS as the metric used in CEQA transportation analyses. Caltrans recommends use of OPR's recommended thresholds and guidance on methods of VMT assessment found in OPR's Technical Advisory (OPR 2018). In addition to VMT, Caltrans has developed an Interim Local Development and Intergovernmental Review Safety Review Practitioners Guidance (December 2020b) which may request a targeted operational and safety analysis to address a specific geometric or operational issue related to the State Highway System and connections with the State Highway System (Caltrans 2020b). Since the permanent operation of the Project is expected to generate a nominal number of trips, there are no long-term operational issues anticipated and no further analysis required. However, due to the increase in construction related traffic at the I-580 ramps, a queuing analysis was prepared to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially "spill back" onto the I-580 mainline. The analysis is provided in Section 6.3.

Local LORS

Alameda County Transportation Commission (Alameda CTC)

The Alameda County Transportation Commission (Alameda CTC) is a joint powers authority that plans, funds and delivers transportation programs and projects that expand access and improve mobility to foster a vibrant and livable Alameda County. It was formed in 2010 from the merger of the Alameda County Transportation Improvement Authority and the Alameda County Congestion Management Agency.

As required by state law, Alameda CTC updates its Congestion Management Program (CMP) every two years by monitoring the operational performance of the designated County CMP road network. The current CMP was adopted in October 2023 (Alameda County Transportation Commission 2023). The Alameda CTC is currently in the process of transitioning to VMT as the primary metric for traffic impacts. Until this transition is complete and resolved through amended CMP legislation, the Alameda CMP minimum standard for monitored roads and freeways in the

CMP network of LOS E remains the agency's transportation metric and as such is applied to this study. I-580 is part of the CMP Road System.

The Alameda CTC CMP standards and travel demand measures are focused on traffic impacts associated with future development, and as such do not apply to construction activities such as the Project in which there are temporary, short-term traffic increases that are eliminated once construction is completed.

Alameda County East County Area Plan

The East County Area Plan, is a subplan of the Alameda County General Plan, and contains goals and policies to maintain an efficient circulation network in the eastern portion of Alameda County. The East County (formerly called the Livermore-Amador Valley Planning Unit) encompasses 418 square miles of eastern Alameda County and includes the cities of Dublin, Livermore, Pleasanton, and a portion of Hayward as well as surrounding unincorporated areas. The planning area extends from the Pleasanton/Dublin ridgeline on the west to the San Joaquin County line on the east and from the Contra Costa County line on the north to the Santa Clara County line on the south. The East County is part of the Tri-Valley subregion which includes incorporated and unincorporated areas of Contra Costa County including Danville, San Ramon, Blackhawk/Alamo and Dougherty and Tassajara Valleys.

The following goals and policies applicable to the project are summarized below.

Goal: To create and maintain a balanced, multi-modal transportation system that provides for the efficient and safe movement of people, goods, and services.

Policy 180: The County shall require that all new development in areas that are unincorporated as of the adoption of the East County Area Plan shall contribute their fair share towards the costs of transportation improvements shown on the Transportation Diagram, subject to confirmation in subsequent traffic studies, as a condition of project approval.

Goal: To reduce East County traffic congestion.

Policy 183: The County shall seek to minimize traffic congestion levels throughout the East County street and highway system.

Policy 184: The County shall seek to minimize the total number of Average Daily Traffic (ADT) trips throughout East County.

Policy 185: The County shall seek to minimize peak hour trips by exploring new methods that would discourage peak hour commuting and single vehicle occupancy trips.

Policy 190: The County shall require new non-residential developments in unincorporated areas to incorporate Transportation Demand Management (TDM) measures and shall require new residential developments to include site plan features that reduce traffic trips such as mixed-use development and transit-oriented development projects

Goal: To complete County-planned street and highway improvements which are attractively designed to integrate pedestrian and vehicle use.

Policy 193: The County shall ensure that new development pays for roadway improvements necessary to mitigate the exceedance of traffic Level of Service standards (as described below) caused directly by the development. The County shall further ensure that new development is phased to coincide with roadway improvements so that (1) traffic volumes on intercity arterials significantly affected by the project do not exceed Level of Service D on major arterial segments within unincorporated areas, and (2) that traffic volumes on Congestion Management Program (CMP) designated roadways (e.g., Interstate Highways 580 and 680 and State Highway 84) significantly affected by the project do not exceed Level of Service E within unincorporated areas. If LOS E is exceeded, Deficiency Plans for affected roadways shall be prepared in conjunction with the Congestion Management Agency. LOS shall be determined according to Congestion Management Agency adopted methodology. The County shall encourage cities to ensure that these Levels of Service standards are also met within unincorporated areas.

Policy 194: The County shall require traffic impact studies for all detailed development plans (e.g., specific plans) and major projects (see definition in Table 1) to determine compliance with Level of Service standards.

Goal: To increase investment in and use of transit.

Policy 207: The County shall require all new development to pay its fair share of the costs of meeting East County transit needs

Goal: To include a comprehensive network of bicycle and pedestrian paths in the local and subregional transportation network

Policy 213: The County shall support construction of multiple use trails (e.g., pedestrian and bicycle uses) along the "Iron Horse" (see definition in Table 1) and the Altamont Pass Southern Pacific rights-of-way only with assurances that public transit use will also be provided within the corridor.

Policy 214: The County shall require that circulation and site plans for individual developments minimize barriers to access by pedestrians, the disabled, and bicycles (e.g., collectors or arterials separating schools or parks from residential neighborhoods)

Goal: To ensure the efficient, safe, and economically beneficial operation of the Livermore Municipal Airport.

Policy 216: The County shall recognize the Livermore Municipal Airport as an important regional facility and shall promote its continued use as a general aviation facility for local-serving and business use.

Policy 217: The County shall require that, where conflicts between a new use and the airport that could interfere with the airport's operations are anticipated, the burden of mitigating the conflicts will be the responsibility of the new use.

Alameda County Bicycle and Pedestrian Master Plan Bike Plan

The County's Bicycle and Pedestrian Master Plan (BPMP) (Alameda County 2019) builds on the vision and projects from the 2012 Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas. The 2019 BPMP updates goals, an implementable bicycle network, pedestrian network recommendations to improve safety and

connectivity, and support programs for both the populated communities of West County and the rural communities of East County. Opportunities for walking and bicycling vary widely depending on the area of the county and the area's development pattern. This BPMP provides contextual recommendations to serve the topography and land uses of these areas. The following goals and policies applicable to the project are summarized below.

Goal 1: Connectivity. Develop and maintain a connected and continuous bicycle and pedestrian network.

Policy 1.1. Create and maintain a safe, convenient, and effective bicycle and pedestrian networks that maximize bicycle use and walking for commuting, recreation, and local transportation.

Policy 1.2. Eliminate gaps in the existing network and improve bicycle and pedestrian connections to transit, schools, parks/trails, retail and employment centers, community/senior centers, and libraries.

Policy 1.4. Construct and/or promote shared use paths and trails in rural and open space areas.

Goal 2: Access. Provide access for all users.

Policy 2.1. Create and maintain a safe, comfortable, and continuous pedestrian network that provides access to all users, particularly disabled users, seniors, and children.

Goal 4: Comfort. Consider the whole walking and biking experience through the provision of support amenities.

Policy 4.1. Promote the installation of secure bicycle parking at public buildings, retail areas, employment centers, transit centers, recreational facilities, and other bicycle destinations.

Policy 4.2. Provide lighting where needed, including on bicycle facilities, and pedestrian walkways, trails, etc.

Goal 6: Supportive Land Uses. Ensure that land uses support and promote walking and biking

Policy 6.1. Require that development projects include bicycle and pedestrian considerations for safety, access/circulation, and amenities such as bicycle parking/lockers and showers, as appropriate.

Policy 6.2. Through traffic impact studies/analyses of proposed street changes, address impacts on bicycling and pedestrian transportation, specifically: Consistency with General Plan and the Bicycle and Pedestrian Master Plan policies; Impact on the existing and future Bicycle and Pedestrian Master Plan Bikeway System; Permanent travel pattern or access changes including the degree to which bicycle and pedestrian travel patterns are altered or restricted due to any change to the roadway network; and Conformity to accepted bicycle and pedestrian facility design standards and guidelines.

4 Level of Service Methodology and Thresholds

Although automobile delay, as measured by level of service, no longer constitutes a significant environmental effect under CEQA, as previously described in Section 3, the County has vehicle LOS policies to ensure that proposed developments are consistent with the County's General Plan. Therefore, a LOS analysis for the peak period of construction activities was prepared to evaluate the Project's consistency with the County's policies. The study intersections, analysis scenarios, traffic volumes, and LOS methodology and impact criteria are presented in the following section.

4.1 Study Intersections and Roadway Segments

The following study intersections and roadways segments are included in the LOS analysis:

Study Intersections

1. Midway Road/Patterson Pass Road
2. N. Midway Road/Patterson Pass Road
3. Midway Road/Patterson Pass Road
4. I-580 Eastbound Ramps/Patterson Pass Road
5. I-580 Westbound Ramps/Patterson Pass Road

Roadway Segments

1. Patterson Pass Road, South of Union Pacific Railroad (approximately 1-mile west of Intersection #1)
2. Patterson Pass Road, West of Midway Road (immediately west of Intersection #1)

4.2 Analysis Scenarios

Intersection LOS analyses were prepared for the weekday AM and PM peak hours at the study area intersections listed above for the following analysis scenarios:

- Existing Conditions
- Existing plus Project Peak Construction Phase
- Cumulative (2027)
- Cumulative (2027) plus Project Peak Construction Phase

4.3 Traffic Volumes

Daily, AM and PM peak hour turning movements counts were collected at the study intersections and roadways on February 8, 2024. The raw traffic data is provided as Appendix A. Traffic counts were adjusted to passenger car equivalents (PCE) to reflect truck traffic according to the following industry standards below:

- Light-duty trucks (2-axle): 1.5 PCE
- Medium-duty trucks (3-axle): 2.0 PCE
- Heavy-duty trucks (4+-axle): 3.0 PCE

The Cumulative (2027) condition represents a short-term horizon period (less than 5 years) where the Project is under construction, and where the peak construction period would occur. The peak hour traffic forecasts for the Year 2027 have been projected by increasing the traffic volumes by an annual growth rate of 2 percent, per the County’s Guidelines, and adding traffic volumes generated by additional projects in the area. After correspondence with the County’s Planning Department, it was determined that there were a limited number of applicable cumulative projects due to the rural nature of the area, and because the analysis is focused on a specific period of peak construction traffic. There were no cumulative projects identified that would have a peak construction period that overlaps with the Project construction; therefore, no additional cumulative projects were added in the analysis. The Kola Battery Energy Storage System Project (Phase 2) is proposed to be constructed adjacent to the Project site, however, project construction is anticipated to occur after construction of the Proposed Project is complete. The cumulative analysis is discussed in further detail in Section 6.2.

4.4 Analysis Methodology

The Highway Capacity Manual, 7th Edition (HCM 7) methodology (Transportation Research Board 2022) was used to analyze the operation of signalized and unsignalized study intersections. Detailed LOS calculation worksheets, for each scenario analyzed, are included in Appendix C.

The HCM analysis methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding control delay experienced per vehicle for unsignalized intersections. The Synchro 12 LOS software was used to determine intersection LOS. Synchro is consistent with the HCM 7 methodology. Table 1 shows the LOS values by delay ranges for unsignalized and signalized intersections under the HCM methodology.

Table 1. Levels of Service for Intersections using HCM Methodology

Level of Service	Unsignalized Intersections Control Delay (in seconds per vehicle)	Signalized Intersections Control Delay (in seconds per vehicle)
A	≤ 10.0	≤ 10.0
B	> 10.0 to < 15.0	> 10.0 to < 20.0
C	> 15.0 to < 25.0	> 20.0 to < 35.0
D	> 25.0 to < 35.0	> 35.0 to < 55.0
E	> 35.0 to < 50.0	> 55.0 to < 80.0
F	> 50.0	> 80.0

Source: HCM 7 (Transportation Research Board 2022).

4.5 East County Area Plan Consistency Requirements

The East County Area Plan, is a subplan of the Alameda County General Plan, and contains goals and policies to maintain an efficient circulation network in the eastern portion of Alameda County. These goals include creating and maintaining a balanced multimodal transportation system, reducing East County traffic congestion, completing

County-planned street and highway improvements which are attractively designed to integrate pedestrian and vehicle use, increase investment in and use of transit, and include a comprehensive network of bicycle and pedestrian paths in the local and subregional transportation network.

The ECAP standard for major intercity arterials is LOS D or better and LOS E on Congestion Management Program (CMP) designated roadways (e.g., I-580). Alameda County has not established designated local truck routes nor adopted specific policies regarding management of construction activities. The thresholds were used to identify the project's potential impacts on intersections and roadway LOS.

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5 Project Trip Generation and Distribution

Construction would occur over an approximately 18-month period with initial mobilization and site preparation anticipated to begin no later than Q1 2027 and testing and commissioning anticipated to conclude no later than Q2 2028. The peak construction period of the Project when the highest volumes of construction-related traffic would be generated is planned to occur over a three-month period, when multiple phases of Project construction would occur concurrently. Trip generation estimates for the peak construction phase are based on the number of workers and trucks that would be required for the proposed construction activities, including the number of workers and the amount of truck traffic that would be generated to and from the site daily and during the AM and PM peak commuting hours. The project trip generation estimates are based on the following activities:

- Site Preparation – 8 Weeks (February 2027 – March 2027)
- Grading – 22 weeks (March 2027 – August 2027)
- BESS Foundations – 16 weeks (March 2027 – June 2027)
- Battery/Container Installation – 20 weeks (June 2027 – October 2027)
- PV Substation Installation – 32 weeks (August 2027 – March 2028)
- PG&E Substation Upgrades – 32 weeks (November 2027 – March 2028)
- Gen-tie foundation and Pole installation – 8 weeks (March 2027 – April 2027)
- Gen-tie stringing and pulling – 2 weeks (April 2027 – May 2027)
- Testing and commissioning – 26 weeks (November 2027 – April 2028)
- Decommissioning – 6 months (year 2053)

5.1 Construction Trip Generation

Generally, construction work schedules are expected to be at least 8 hours per day Monday through Friday, excluding federal holidays. Typically, the workday would consist of one shift beginning as early as 6:00 a.m. and ending as late as 7:00 p.m. The work schedule may be modified throughout the year to account for the changing weather conditions. To provide a conservative analysis, all construction workers were assumed to arrive inbound to the site during the AM peak period (7:00 a.m. to 9:00 a.m.) and all workers were assumed to depart the site during the PM peak period (4:00 p.m. to 6:00 p.m.). Truck deliveries are typically sporadic throughout the workday, therefore, truck arrivals and departures were assumed to be distributed evenly over the course of an 8-hour workday. The typical construction workday would be expected to be longer than 8-hours, therefore the analysis is conservative.

The trip generation estimates during the peak construction period for the Project are summarized in Table 2 below. To account for the impact construction-related trucks may have compared to passenger vehicles, PCE factors were applied to the trip generation estimates to account for truck traffic associated with construction activity.

Table 2. Peak Period of Construction Trip Generation Estimates

Vehicle Type	Daily Quantity		Daily Trips	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Non-PCE Adjusted Trip Generation									
Construction Workers ¹	254	Workers	508	254	0	254	0	254	254
Vendor Trucks ²	53	Trucks	106	13	0	13	0	13	13
Haul Trucks ²	151	Trucks	302	38	0	38	0	38	38
Peak Trip Total (Non-PCE)			916	305	0	305	0	305	305
PCE Adjusted Trip Generation									
Construction Workers	254	Workers	508	254	0	254	0	254	254
Vendor Trucks ³	53	Trucks	212	26	0	26	0	26	26
Haul Trucks ³	151	Trucks	906	114	0	114	0	114	114
Peak Trip Total (PCE)			1,626	394	0	394	0	394	394

Notes: PCE = passenger car equivalence.

¹ Conservatively assumes all construction workers arrive in the AM peak hour and depart the site in the PM peak hour.

² Vendor and Haul trucks are assumed to arrive and depart the site evenly throughout the workday.

³ Vendor trucks were estimated to have an approximately 2.0 PCE adjusted value, while haul trucks were estimated to have an approximately 3.0 PCE adjusted value.

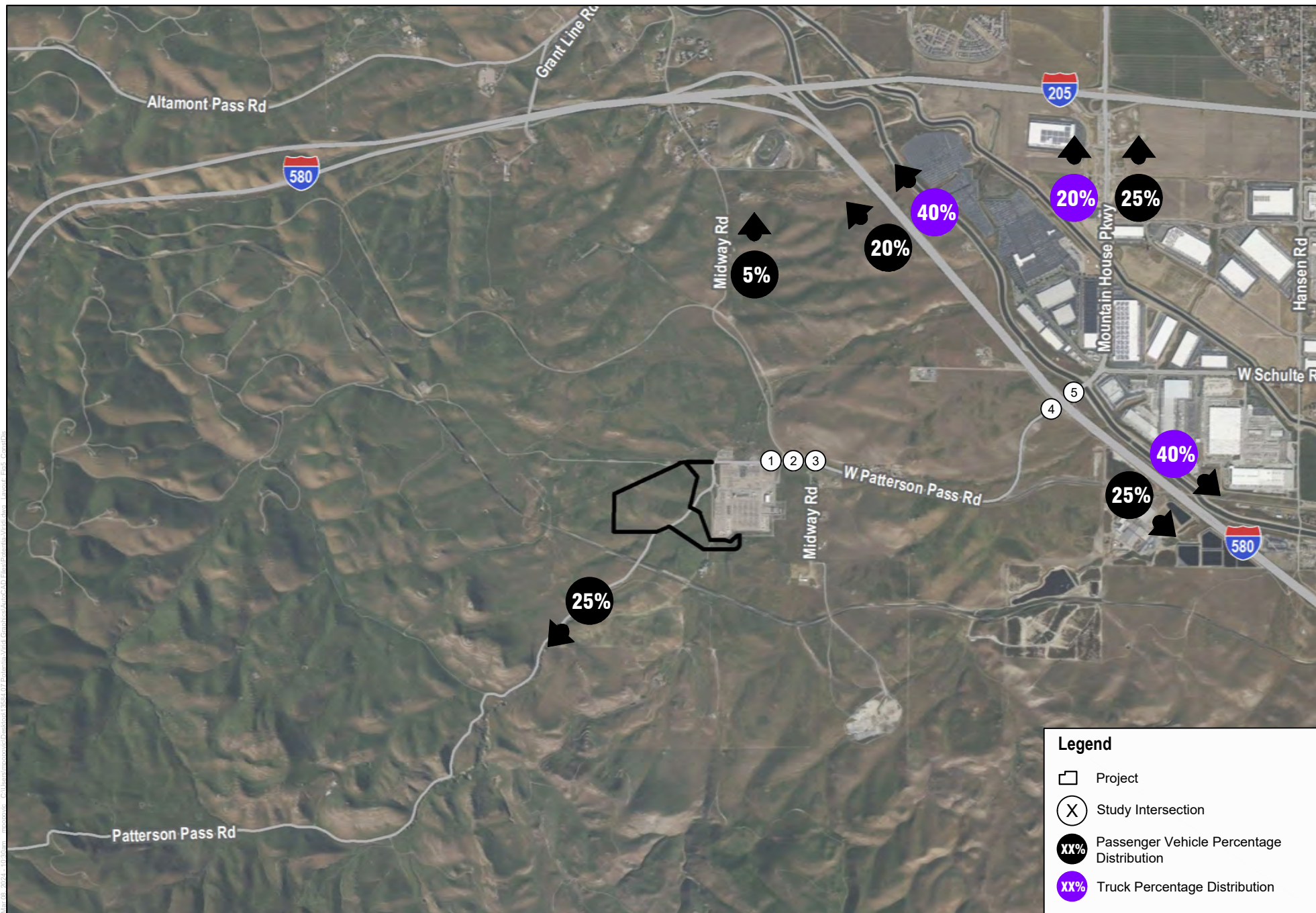
As shown in Table 2, the peak period of construction for the Project would generate approximately 916 daily trips, 305 AM peak hour trips, and 305 PM peak hour trips. After trip generation estimates were adjusted utilizing PCE factors, the peak period of construction for the Project would generate approximately 1,626 daily PCE trips, 394 AM peak hour PCE trips, and 394 PM peak hour PCE trips. For all other phases of construction, the amount of vehicular traffic is estimated to be less than the peak period. All construction-related traffic would be temporary and short term and would be removed from the study area roadway network upon completion of the Project.

Decommissioning

The Project has an operational life of at least 25 years. Transportation impacts of decommissioning at the end of the Project's operational life are expected to be similar to the impacts from construction outlined above. However, traffic volumes within the study area cannot be projected that far in the future, and as such a specific analysis and outcome of impacts cannot be determined at this time. A Decommissioning Plan will be prepared for the Project, which will be updated immediately prior to decommissioning. The Decommissioning Plan will include measures specific to transportation impacts of decommissioning if necessary.

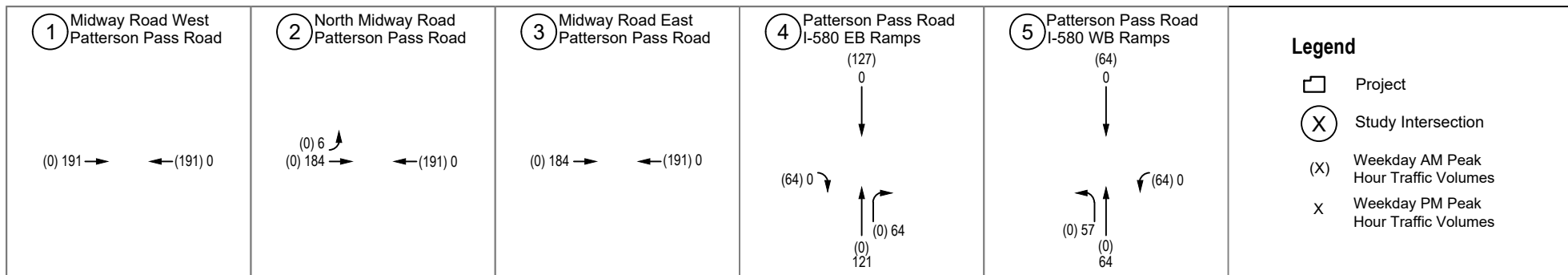
5.2 Construction Trip Distribution and Assignment

Regional Project trip distribution percentages are based on logical travel paths to and from the project site. Project trip distribution percentages are shown in Figure 5. Project trips were assigned to the study area intersections by applying the above-referenced project trip generation estimates to the trip distribution percentages at each study area intersections. The project trip assignments are shown in Figures 6, 7, and 8 for passenger vehicle, truck, and total trip assignments, respectively.



SOURCE: Bing Maps (accessed 2024); Open Streets Map 2019

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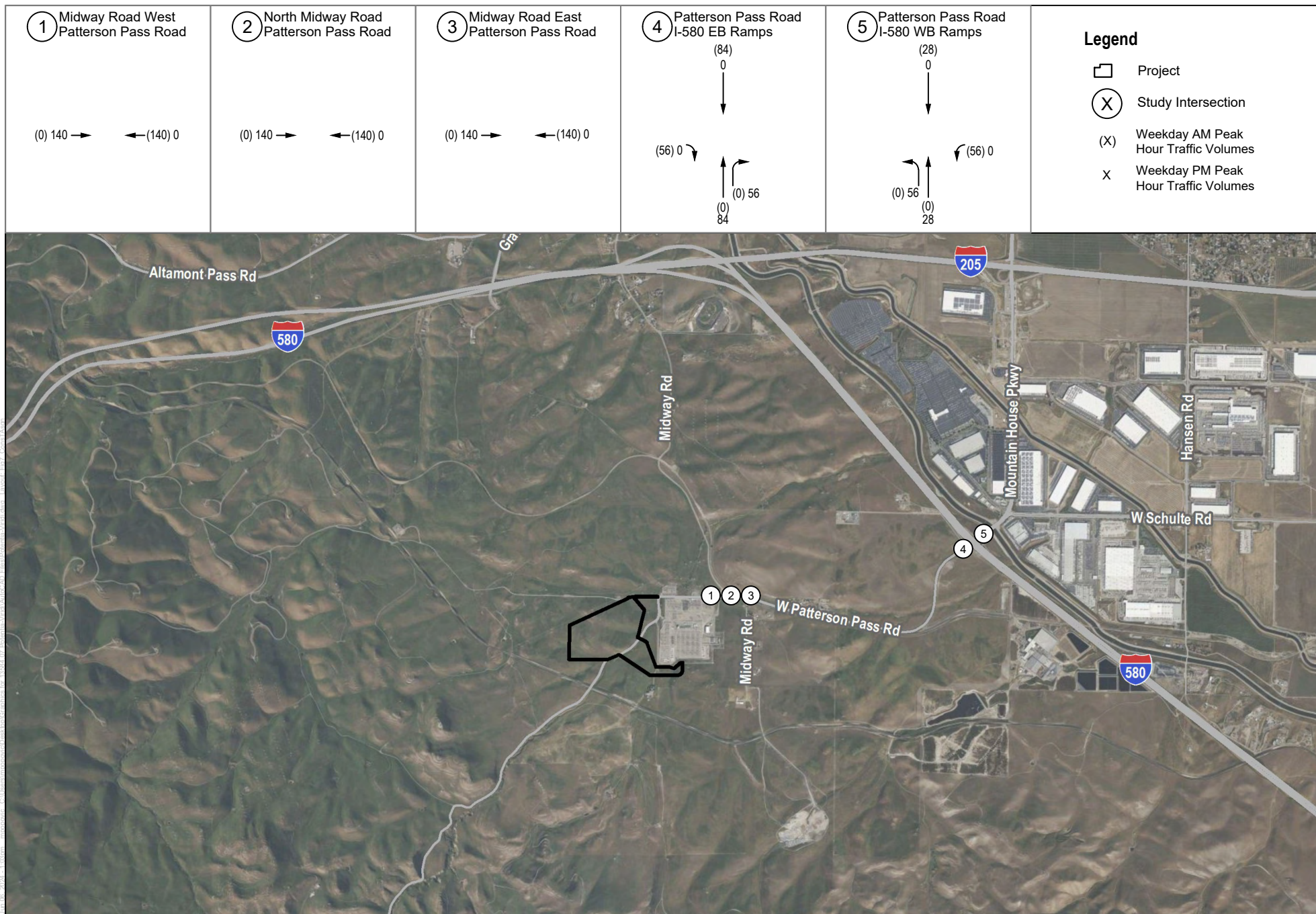
SOURCE: Bing Maps (accessed 2024); Open Streets Map 2019

FIGURE 6

Construction Project Passenger Vehicle Trip Assignment

Potentia-Viridi BESS Project

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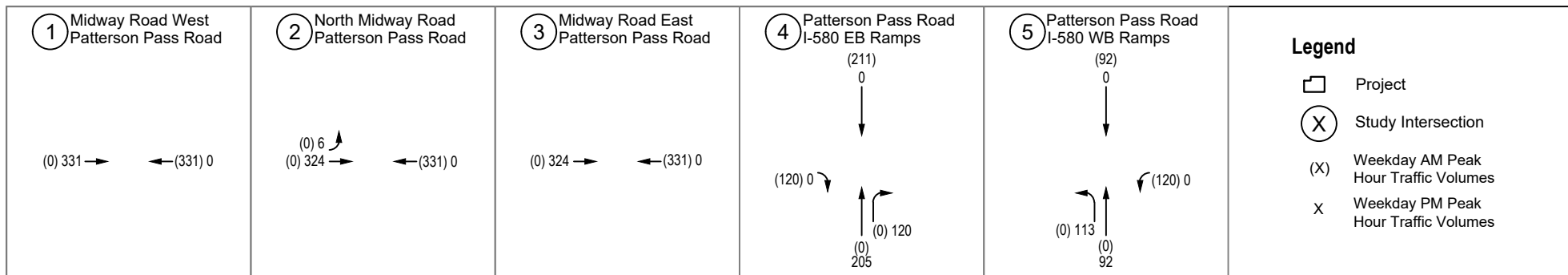
SOURCE: Bing Maps (accessed 2024); Open Streets Map 2019

FIGURE 7

Construction Project Truck Trip Assignment (PCE)

Potentia-Viridi BESS Project

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SOURCE: Bing Maps (accessed 2024); Open Streets Map 2019

FIGURE 8
Construction Project Total Trip Assignment (PCE)

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5.3 Permanent Operations

Upon commissioning, the Project would enter the operational phase. For the duration of the operational phase, the Project would be maintained by up to 18 permanent staff employees and monitored remotely via a SCADA system. On-site maintenance staff would be responsible for security, vegetation management, permit compliance, and Project repairs. Daily trips generated by the project would be approximately 36 daily trips associated with the 18 permanent employees commuting to the site, visitors, and/or light deliveries.

Project maintenance performed on the site would consist of vegetation management, maintaining compliance with Project permits, and inspection and replacement of Project equipment. Maintenance would occur during daylight hours, when possible. Maintenance program elements include:

- Managing a group of prequalified maintenance and repair firms who can meet the O&M needs of the facility throughout its life
- Implementing a responsive, optimized cleaning schedule
- Responding to facility emergencies and failures in a timely manner
- Maintaining an inventory of spare parts to ensure timely repairs and consistent plant output
- Maintaining a log to effectively record and track all maintenance problems
- Performing maintenance on the Project site as required to clear obstructive ground cover

The permanent operations, or O&M phase, of the Project is expected to have nominal operational vehicular trips associated with routine maintenance and upkeep of facilities including annual panel washing and therefore the number of permanent trips (38 daily trips) associated with the Project are not expected to impact the study area roadway network. The roadway conditions in the Project vicinity would not substantially differ from existing conditions.

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6 Level of Service and Queuing Analysis

This section details the Existing (2024) and Cumulative (2027) intersection and roadway operations within the study area, with and without the project-added traffic.

6.1 Existing (2024) Conditions Analysis

Existing traffic controls and geometrics at all study intersections are shown in Figure 9 and existing peak hour traffic volumes are shown in Figure 10. The existing plus project traffic volumes are shown on Figure 11.

Table 3 summarizes the results of the intersection analysis for the AM and PM peak hours for existing conditions, with and without the project. As shown in the table, all the study intersections are currently operating at satisfactory levels of service (LOS D or better and LOS E at the I-580 ramps) under existing conditions and will continue to operate at satisfactory LOS with the peak period of construction traffic added, except for the Midway Road and Patterson Pass Road intersection (#1) which would degrade to LOS E during the PM peak hour. However, the construction activities would be temporary and would be managed through implementation of a Traffic Management Plan (TMP), as further described in Section 7.3 and provided in Appendix D. The TMP would include measures such as timing worker arrivals and departures and material deliveries to avoid peak hours and the use of carpools to minimize the amount of construction-generated traffic. The LOS analysis was rerun assuming measures to reduce construction related peak hour traffic are in place as part of the TMP, as part of a “with mitigation” analysis. The results of the analysis are provided in Section 6.4.

Table 4 presents the existing and project-added ADT on the regional roadways near the site, including the percentage of truck trips. The percent increase in both total daily ADT and truck ADT with the project-added traffic would be minimal on I-580 and on Patterson Road, south of the Union Pacific Railroad. Under the existing conditions, the project-related increase in traffic would range from 0.6 percent to 1.8 percent on these road segments.

Construction traffic could cause a substantial traffic increase on Patterson Pass Road, west of Midway Road. The increase in construction trips would range from 11.1 percent of total ADT to a 668.9 percent increase in truck traffic on this segment of Patterson Pass Road. The substantial increase in construction traffic, especially during the AM and PM peak commute hours, could potentially cause degradation of traffic operation on this local road segment. However, implementation of the TMP would reduce the impact of increased traffic on Patterson Pass Road to a less-than-significant level.

Table 3. Existing Weekday Peak Hour Intersection LOS (with and without Project)

No.	Intersection	Traffic Control ¹	Existing				Existing plus Peak period Construction				Change in Delay (Sec.)		Threshold Exceeded?	
			AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
			Delay ²	LOS ²	Delay ²	LOS ²	Delay ²	LOS ²	Delay ²	LOS ²				
1	Midway Rd./Patterson Pass Rd.	OWSC	15.8	C	23.3	C	23.6	C	37.9	E	7.8	14.6	No	Yes
2	N. Midway Rd./Patterson Pass Rd.	OWSC	16.3	C	21.0	C	24.1	C	33.7	D	7.8	12.7	No	No
3	Midway Rd./Patterson Pass Rd.	OWSC	8.3	A	10.3	B	8.3	A	12.3	B	0.0	2.0	No	No
4	I-580 EB Ramps/Patterson Pass Rd.	Signal	16.8	B	18.4	B	40.0	D	22.6	C	23.2	4.2	No	No
5	I-580 WB Ramps/Patterson Pass Rd.	Signal	53.5	D	17.3	B	79.0	E	21.9	C	25.5	4.6	No	No

Source: Appendix B.

Notes:

¹ OWSC = one-way stop control.

² Delay in seconds per vehicle; highest movement delay is reported for OWSC intersections; LOS = Level of Service.

Bold: Exceeds County's threshold.

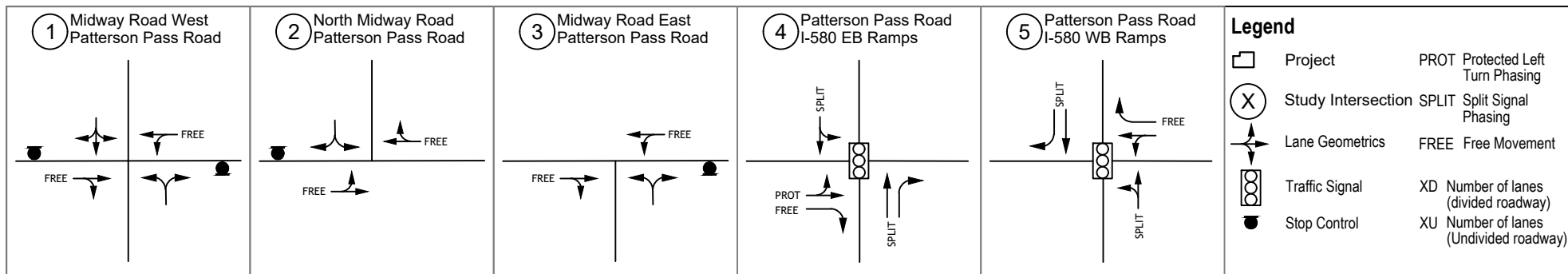
Table 4. Estimated Existing Construction Trips on Regional Roadways (Peak Construction Period)

Roadway	Existing AADT	Total Project AADT/Percentage Change	Existing Truck AADT	Project Truck AADT/Percentage Change
I-580, west of Patterson Pass Road	40,500 ¹	285/0.7%	8,222	164/2.0%
I-580, east of Patterson Pass Road	47,000 ¹	290/0.6%	8,319	164/2.0%
Patterson Pass Road, south of Union Pacific Railroad	7,052 ²	127/1.8%	44	0/0.0%
Patterson Pass Road, west of Midway Road	7,107 ²	790/11.1%	61	408/668.9%

Notes:

¹ Volume obtained from Caltrans Traffic Census Program, 2021.

² Volume provided from average daily traffic (ADT) counts conducted on February 15, 2024



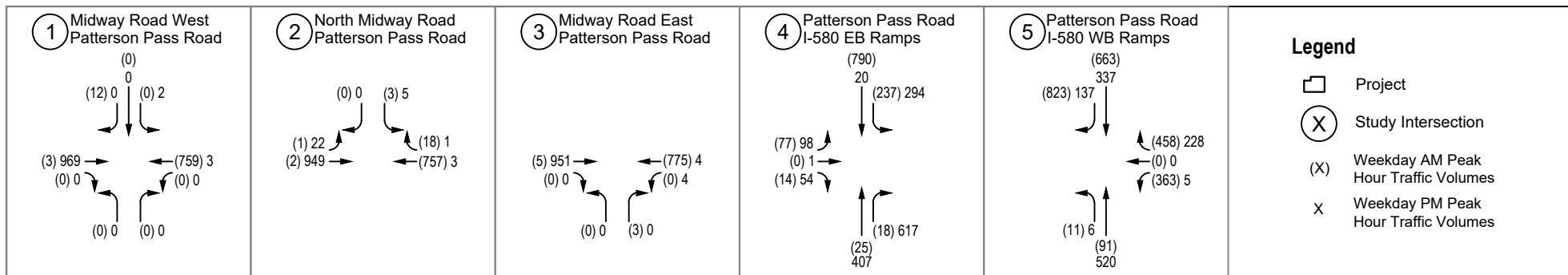
SOURCE: Bing Maps (accessed 2024); Open Streets Map 2019

FIGURE 9

Existing Intersection Controls and Geometrics

Potentia-Viridi BESS Project

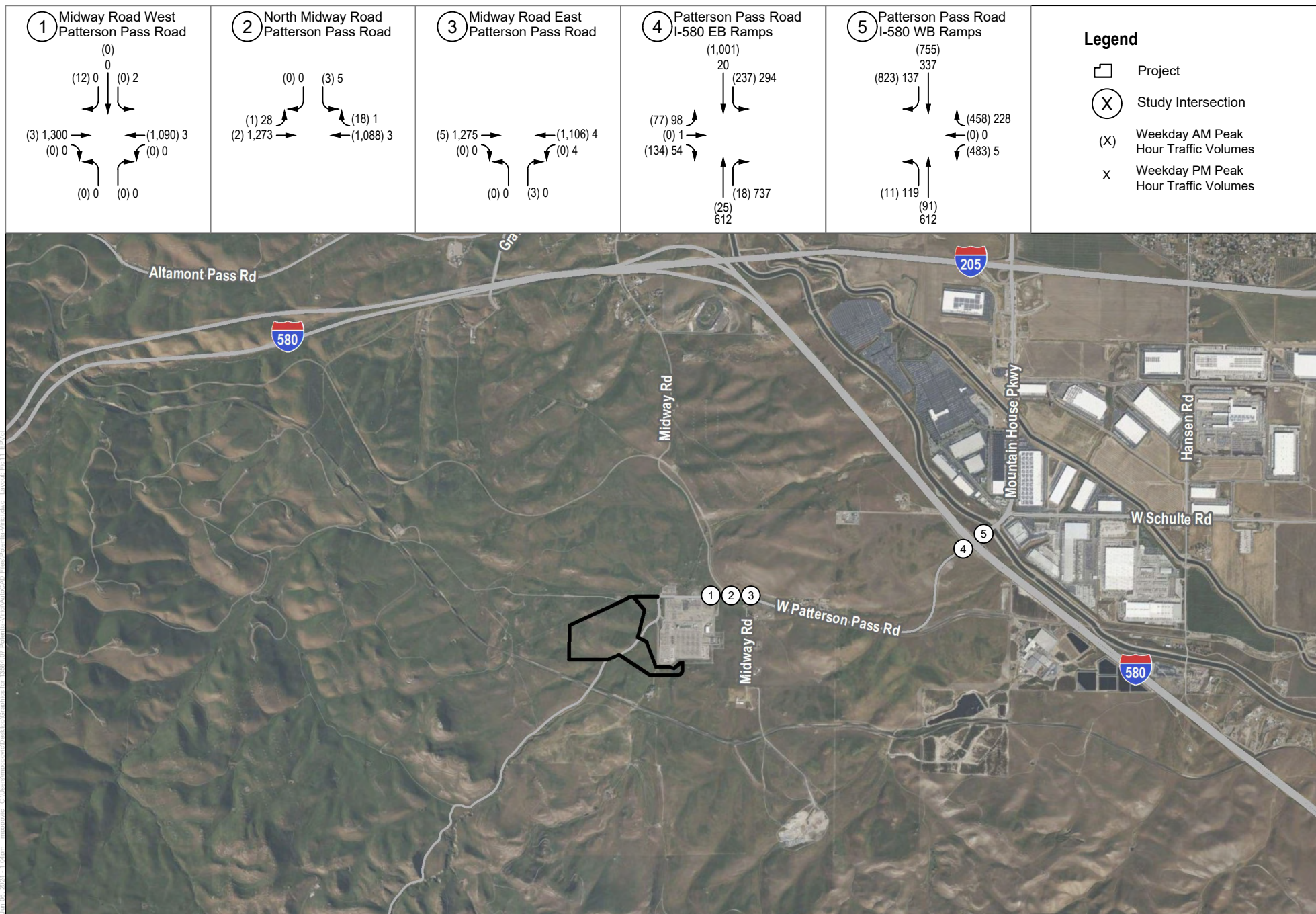
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SOURCE: Bing Maps (accessed 2024); Open Streets Map 2019

FIGURE 10
Existing Peak Hour Traffic Volumes (PCE)

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SOURCE: Bing Maps (accessed 2024); Open Streets Map 2019

FIGURE 11
Existing plus Peak Day Construction Peak Hour Traffic Volumes (PCE)

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6.2 Cumulative (2027) Analysis

The peak hour traffic forecasts for the Year 2027 have been projected by increasing the traffic volumes by an annual growth rate of 2 percent. There were no cumulative projects identified that would have a peak construction period that overlaps with the Project construction; therefore, no additional cumulative projects were added in the analysis. The Cumulative peak hour traffic volumes are presented in Figure 12. The Cumulative plus project traffic volumes are shown on Figure 13.

Table 5 summarizes the results of the intersection analysis for the AM and PM peak hours for the Cumulative (2027) condition, with and without the project. As shown in the table, three of the study intersections are forecast to operate below acceptable levels of service under Cumulative (2027) conditions with the peak period of construction traffic added. The Midway Road and Patterson Pass Road intersection (#1) would degrade to LOS E during the PM peak hour, the North Midway Road and Patterson Pass Road intersection (#2) would degrade to LOS E during the PM peak hours, and the I-580 westbound ramps at Patterson Pass Road (#5) would degrade to LOS F during the AM peak hour. As previously noted, the construction activities would be managed through implementation of a TMP, as further described in Section 7.3 and provided in Appendix D. The LOS analysis was rerun to assess the change in project-related traffic conditions with implementation of the TMP. The results of the analysis are provided in Section 6.4.

Table 6 presents the Cumulative and project-added ADT on the regional roadways near the site, including the percentage of truck trips. The percent increase in both total daily ADT and truck ADT with the project-added traffic would be minimal on I-580 and on Patterson Road, south of the Union Pacific Railroad. Under the Cumulative conditions, the project-related increase in traffic would range from 0.6 percent to 1.7 percent on these road segments.

Construction traffic could cause a substantial traffic increase on Patterson Pass Road, west of Midway Road. The increase in construction trips would range from 10.5 percent of total ADT to a 637.5 percent increase in truck traffic on this segment of Patterson Pass Road. The substantial increase in construction traffic, especially during the AM and PM peak commute hours, could potentially cause degradation of traffic operation on this local road segment. However, implementation of the TMP would reduce the impact of increased traffic on Patterson Pass Road to a less-than-significant level.

Table 5. Cumulative (2027) Weekday Peak Hour Intersection LOS (with and without Project)

No.	Intersection	Traffic Control ¹	Cumulative (2027)				Cumulative (2027) plus Peak period Construction				Change in Delay (Sec.)		Threshold Exceeded?	
			AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
			Delay ²	LOS ²	Delay ²	LOS ²	Delay ²	LOS ²	Delay ²	LOS ²				
1	Midway Rd./Patterson Pass Rd.	OWSC	16.6	C	25.3	D	25.2	D	36.4	E	8.6	16.3	No	Yes
2	N. Midway Rd./Patterson Pass Rd.	OWSC	17.1	C	22.7	C	25.6	D	37.3	E	8.5	14.6	No	Yes
3	Midway Rd./Patterson Pass Rd.	OWSC	8.3	A	10.6	B	8.3	A	12.7	B	0.0	2.1	No	No
4	I-580 EB Ramps/Patterson Pass Rd.	Signal	21.3	C	20.4	C	55.9	E	26.6	C	34.6	6.2	No	No
5	I-580 WB Ramps/Patterson Pass Rd.	Signal	71.8	E	18.3	B	98.2	F	24.4	C	26.4	6.1	Yes	No

Source: Appendix B.

Notes:

¹ OWSC = one-way stop control.

² Delay in seconds per vehicle; highest movement delay is reported for OWSC intersections; LOS = Level of Service.

Bold: Exceeds County's threshold.

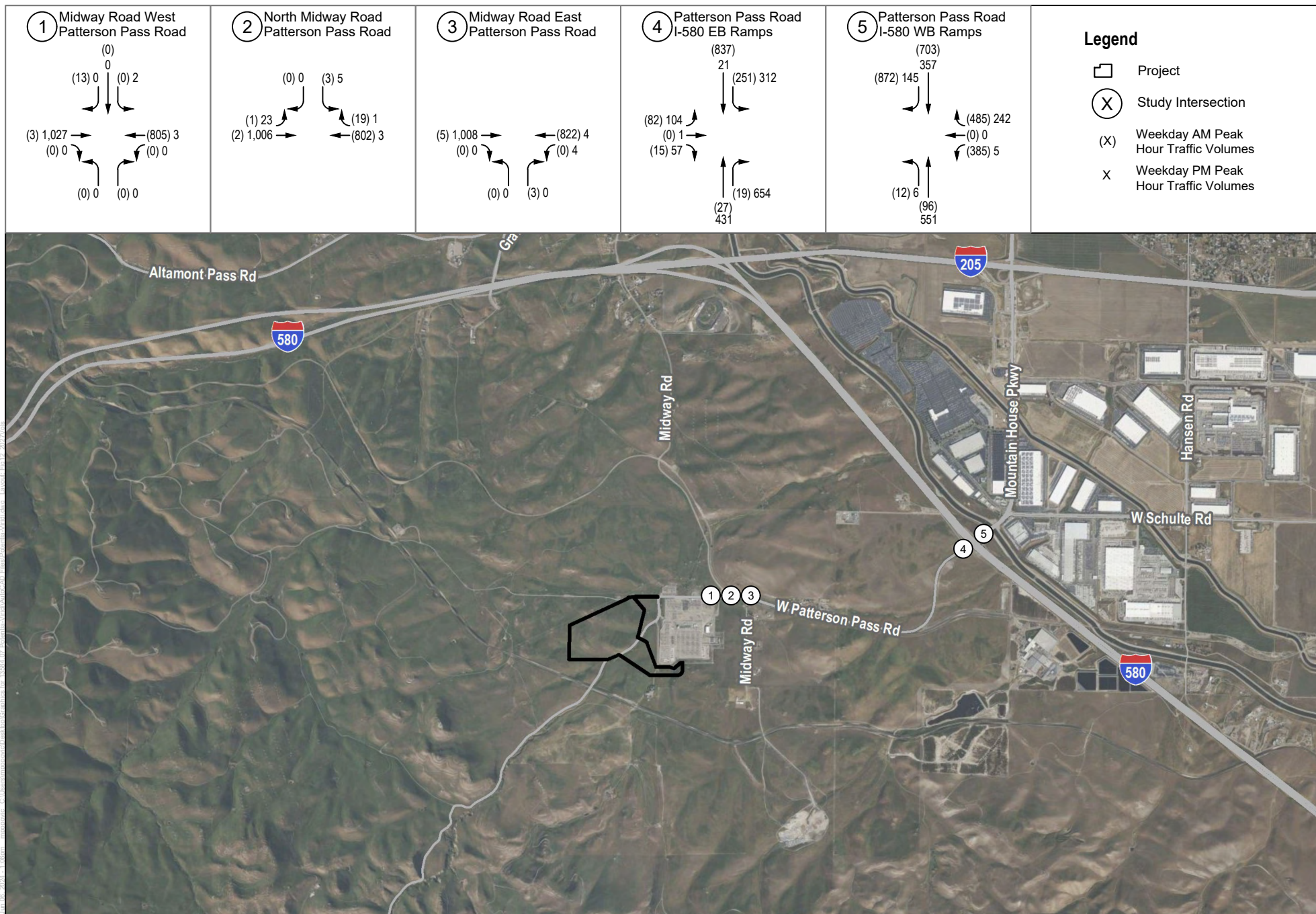
Table 6. Estimated Cumulative (2027) Construction Trips on Regional Roadways (Peak Construction Period)

Roadway	Cumulative (2027) AADT	Total Project AADT/Percentage Change	Cumulative (2027) Truck AADT	Project Truck AADT/Percentage Change
I-580, west of Patterson Pass Road	42,930	285/0.7%	8,715	164/1.9%
I-580, east of Patterson Pass Road	49,820	290/0.6%	8,818	164/1.9%
Patterson Pass Road, south of Union Pacific Railroad	7,475	127/1.7%	46	0/0.0%
Patterson Pass Road, west of Midway Road	7,533	790/10.5%	64	408/637.5%

Notes:

¹ Volume obtained from Caltrans Traffic Census Program, 2021.

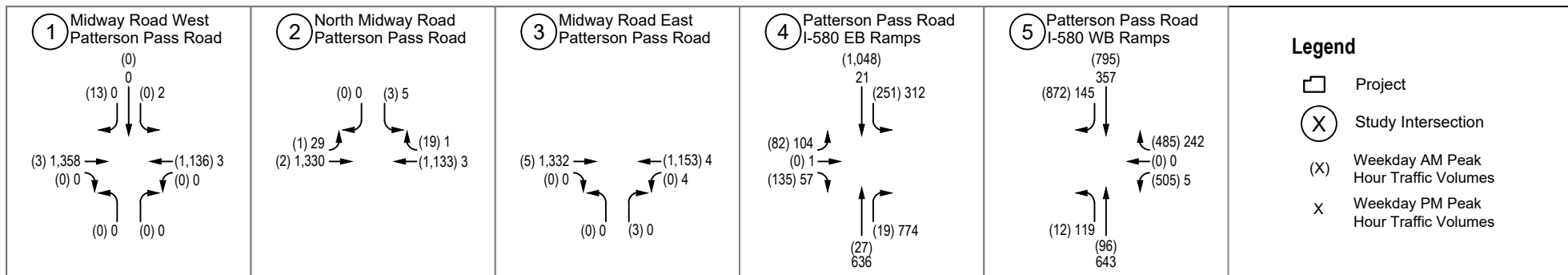
² Volume provided from average daily traffic (ADT) counts conducted on February 15, 2024



SOURCE: Bing Maps (accessed 2024); Open Streets Map 2019

FIGURE 12
Cumulative (2027) Peak Hour Traffic Volumes (PCE)

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SOURCE: Bing Maps (accessed 2024); Open Streets Map 2019

FIGURE 13
Cumulative (2027) plus Peak Day Construction Peak Hour Traffic Volumes (PCE)

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6.3 Caltrans Queuing Analysis

A queuing analysis was performed for the westbound and eastbound I-580 ramps at Patterson Pass Road to assess vehicle queues for the off ramps that may potentially result in deficient peak hour operations at the ramp-to-arterial intersections and may potentially “spill back” onto the I-580 mainline.

The queuing analysis was prepared for the Caltrans freeway ramps as part of the Caltrans safety analysis and to evaluate the intersections from a safety perspective. Queuing was analyzed utilizing the SimTraffic 12 software, which calculates the 95th percentile (design) queue. All queuing analysis data and SimTraffic queuing worksheets are provided in Appendix C.

Table 7 provides a summary of queuing results for the Existing and Existing plus Project conditions, and Table 8 provides the queuing results for the Cumulative (2027) and Cumulative plus Project conditions. As shown in the tables, the calculated 95th percentile (design) queues exceed the available stacking distances at the following locations and scenarios:

- Int. #4 (Patterson Pass Road/I-580 EB Ramps):
 - *Eastbound Left-Through and Right Turn Lanes (Off-Ramp Movements):*
 - Eastbound right turn lane during the PM peak hour under the Existing and Cumulative (2027) conditions, and during both peak hours under Existing plus Project and Cumulative plus Project conditions. Although traffic may spill back from the channelized right-turn lane into to eastbound left-through lane, as shown in Tables 7 and 8, traffic would be accommodated by the total available stacking distance of the off-ramp (approximately 1,060 feet) under all analyzed scenarios as minimal queuing was reported in the eastbound left-through lane. Traffic generated by the project construction traffic would not increase the traffic at this off-ramp such that overflow onto the freeway mainline lanes would occur.
 - *Northbound Through and Right Turn Lanes:*
 - Northbound right turn storage lane during the PM peak hour under all scenarios.
 - Northbound through lane during the PM peak hour under Existing plus Project and Cumulative plus Project conditions. It must be noted that the approximate available stacking distance was measured from the intersection stop bar to the nearest intersection (Via Nicolo Road); however, queuing greater than 200 feet, which occurs under all PM peak hour scenarios, may impact egress from the Mobil Gas Station.
 - *Southbound Left-Through Lane:*
 - Southbound left-through lane under all peak hours and scenarios. 95th percentile queuing was reported to extend upstream into the I-580 WB ramp intersection, indicating that southbound vehicles traveling along Patterson Pass Road may not be able to continue through the upstream intersection on a green through movement.
- Int. #5 (Patterson Pass Road/I-580 WB Ramps):
 - *Westbound Left-Through and Right Turn Lanes (Off-Ramp Movements):*

- Although reported 95th percentile queue lengths fall within the available stacking distance under all peak hours and scenarios, upstream block times² were recorded for the westbound off-ramp movements in the AM peak hour, which indicate that vehicles were queued at the off-ramp lane entrance and queues shown in Tables 7 and 8 below may be longer. As such, all AM peak hour baseline Existing and Cumulative (2027) conditions indicate some existing traffic overflow on the I-580 WB Off-Ramp, and traffic generated by the project construction traffic is likely to increase the traffic overflow onto the freeway mainline lanes, which constitutes a potential safety issue at the off-ramp.

The queuing analysis was rerun to assess the change in project-related traffic conditions with implementation of the TMP. The results of the analysis are provided in Section 6.4.

² Simtraffic queuing analysis reports upstream block time percentages for each movement, which represent the proportion of time that the upstream end of a lane is blocked. At off-ramp links, this can be indicative of queuing that extends to the freeway mainline.

Table 7. Existing Peak-Hour Freeway Queuing Summary

No.	Intersection or Driveway Access	Movement	Available Stacking Distance (Feet)	Existing				Existing plus Peak period Construction			
				95th Percentile Queue (Feet)		Exceeds Available Stacking Distance? ¹		95th Percentile Queue (Feet)		Exceeds Available Stacking Distance? ¹	
				AM	PM	AM	PM	AM	PM	AM	PM
4	Patterson Pass Road/ I-580 EB Ramps	EBLT	1,060	92	145	No	No	161	142	No	No
		EBR	50	41	73	No	Yes	88	75	Yes	Yes
		NBT ²	2,850	47	639	No	No	43	3598	No	Yes
		NBR	65	34	105	No	Yes	31	109	No	Yes
		SBLT ³	275	303	288	Yes	Yes	415	310	Yes	Yes
5	Patterson Pass Road/ I-580 WB Ramps	WBLT	1,000	~706 (4%)	18	Yes	No	~913 (63%)	21	Yes	No
		WBR	300	253	0	No	No	243	0	No	No
		NBLT ³	275	132	254	No	No	125	231	No	No
		SBT ³	1,050	497	190	No	No	793	231	No	No
		SBR ³	1,050	460	43	No	No	848	45	No	No

Source: Appendix C

Notes: EBLT = eastbound left through; EBR = eastbound right; NBT = northbound through; NBR = northbound right; SBLT = southbound left-through; WBLT = westbound left through; WBR = westbound right; NBLT = northbound left-through; SBT = southbound through; SBR = southbound right

Yes – 95th Percentile queue exceeds available stacking distance

Yes – 95th Percentile queue exceeds available stacking distance on off-ramp movement and backs into freeway mainline, and/or upstream block time reported at off-ramp link. Upstream block time indicates the proportion of time that the upstream end of the lane is blocked.

~XX (%) – 95th percentile volume exceeds capacity and upstream block time (%) reported at off-ramp link; 95th percentile queue may be longer.

¹ Stacking distance is exceeded if the measured queue is greater than the available stacking distance.

² Approximate available stacking distance measured to the nearest intersection (Via Nicolo Road); queuing greater than 200 feet may impact egress from the Mobil Gas Station.

³ Approximate available stacking distance measured from stop bar to the nearest signalized intersection.

Table 8. Cumulative (Year 2027) Peak-Hour Freeway Queuing Summary

No.	Intersection or Driveway Access	Movement	Available Stacking Distance (Feet)	Cumulative (2027)				Cumulative (2027) plus Peak period Construction			
				95th Percentile Queue (Feet)		Exceeds Available Stacking Distance? ¹		95th Percentile Queue (Feet)		Exceeds Available Stacking Distance? ¹	
				AM	PM	AM	PM	AM	PM	AM	PM
4	Patterson Pass Road/ I-580 EB Ramps	EBLT	1,060	95	147	No	No	167	146	No	No
		EBR	50	40	78	No	Yes	89	75	Yes	Yes
		NBT ²	2,850	47	1200	No	No	47	3446	No	Yes
		NBR	65	34	104	No	Yes	34	110	No	Yes
		SBLT ³	275	331	295	Yes	Yes	407	321	Yes	Yes
5	Patterson Pass Road/ I-580 WB Ramps	WBLT	1,000	~899 (10%)	20	Yes	No	~847 (65%)	23	Yes	No
		WBR	300	254	0	No	No	237	0	No	No
		NBLT ³	275	125	276	No	Yes	136	297	No	Yes
		SBT ³	1,050	594	205	No	No	668	229	No	No
		SBR ³	1,050	607	45	No	No	699	45	No	No

Source: Appendix C

Notes: EBLT = eastbound left through; EBR = eastbound right; NBT = northbound through; NBR = northbound right; SBLT = southbound left-through; WBLT = westbound left through; WBR = westbound right; NBLT = northbound left-through; SBT = southbound through; SBR = southbound right

Yes – 95th Percentile queue exceeds available stacking distance

Yes – 95th Percentile queue exceeds available stacking distance on off-ramp movement and backs into freeway mainline, and/or upstream block time reported at off-ramp link. Upstream block time indicates the proportion of time that the upstream end of the lane is blocked.

~XX (%) – 95th percentile volume exceeds capacity and upstream block time (%) reported at off-ramp link; 95th percentile queue may be longer.

¹ Stacking distance is exceeded if the measured queue is greater than the available stacking distance.

² Approximate available stacking distance measured to the nearest intersection (Via Nicolo Road); queuing greater than 200 feet may impact egress from the Mobil Gas Station.

³ Approximate available stacking distance measured from stop bar to the nearest signalized intersection.

6.4 LOS and Queuing Analysis with Mitigation

Although automobile delay, as measured by level of service, no longer constitutes a significant environmental effect under CEQA, the County has vehicle LOS policies to ensure that proposed developments are consistent with the County's General Plan. As shown in the previous sections, the LOS would fall below the County and CMP LOS standards at several intersections with the project-added traffic. While this is not considered an impact under CEQA, the LOS analysis was rerun assuming the proposed TMP measures would be in place to assess the LOS "with mitigation". The queuing analysis for the I-580 ramps was also rerun as the queuing at the ramps could result in a potential safety impact which is still evaluated under CEQA.³

The "with mitigation" analysis assumes that all truck traffic would be restricted to off-peak hours, construction workers would carpool at a rate of 2.21 workers per vehicle⁴, and approximately 10 percent of the workforce would arrive and depart during the peak hour, with the remaining 90 percent arriving/departing outside of peak hours.

As shown in Tables 9 and 10, with implementation of the TMP, all of the study intersections would continue to operate at satisfactory LOS (LOS D or better and LOS E at the I-580 ramps) with the peak period of construction traffic added.

Tables 11 and 12 present the results of the queuing analysis for the I-580 ramps. As shown in the tables, queuing is still reported at several movements, and off-ramp queuing with potential impacts to the mainline are still reported at the Patterson Pass Road/I-580 WB Ramp intersection, even with implementation of the TMP. Due to the variable nature of simulating queuing on lanes with volumes over (or near) capacity, it must be noted that reported Simtraffic 95th percentile queue lengths show high variability on the WB Off-Ramp approach to Patterson Pass Road. However, reviewing additional metrics, including upstream block time percentages as defined in Section 6.3, show that upstream block time percentages under the "with mitigation" scenarios improve when compared to "plus Project" conditions, as detailed below:

- Between Existing and Existing plus Project conditions during the AM peak hour, the upstream block time increases from four (4) percent to 63 percent, indicating that under Existing conditions, the off-ramp lane is blocked (e.g., queuing may back into mainline lane) 4 percent of the time during the peak hour, and under Existing plus Project conditions, the off-ramp lane is blocked 63 percent of the peak hour. With mitigation under the Existing plus Project conditions, the upstream block time drops back to 4 percent.
- Between Cumulative (2027) and Cumulative (2027) plus Project conditions during the AM peak hour, the upstream block time increases from 10 percent to 65 percent, indicating that under Cumulative (2027) conditions, the off-ramp lane is blocked 10 percent of the time during the peak hour, and under Cumulative plus Project conditions, the off-ramp lane is blocked 65 percent of the peak hour. With mitigation under the Cumulative (2027) plus Project conditions, the upstream block time drops to 27 percent.

³ This "with mitigation" LOS and queuing analysis assumes that the I-580/International Parkway/Patterson Pass Interchange project, which modifies the existing compact diamond (Tyler L-1) interchange into a Diverging Diamond Interchange (DDI), is not yet in place. As the proposed Project is expected to start construction in 2027, it is anticipated that the new DDI interchange would be in place prior to construction, and the interchange deficiencies noted in Sections 6.1-6.3 would be improved. Should the proposed Project begin construction prior to the completion of the DDI interchange, some TMP measures may not be applicable, as further detailed in the TMP (Appendix D).

⁴ The 2.21 vehicle occupancy assumption is derived from U.S. Census data on annual average vehicle occupancy in the County of Alameda: U.S. Census Bureau, U.S. Department of Commerce. "Commuting Characteristics by Sex." American Community Survey, ACS 1-Year Estimates Subject Tables, Table S0801, 2023, <https://data.census.gov/table/ACSST1Y2023.S0801?q=Commuting&g=050XX0-0US06001>. Accessed on October 22, 2024.

Table 9. Existing Weekday Peak Hour Intersection LOS (with Mitigation)

No.	Intersection	Existing				Existing plus Peak period Construction				Change in Delay (Sec.)		Threshold Exceeded?	
		AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
		Delay ²	LOS ²	Delay ²	LOS ²	Delay ²	LOS ²	Delay ²	LOS ²				
1	Midway Rd./Patterson Pass Rd.	15.8	C	23.3	C	16.1	C	23.9	C	0.3	0.6	No	No
2	N. Midway Rd./ Patterson Pass Rd.	16.3	C	21.0	C	16.6	C	21.5	C	0.3	0.5	No	No
3	Midway Rd./Patterson Pass Rd.	8.3	A	10.3	B	8.3	A	10.4	B	0.0	0.1	No	No
4	I-580 EB Ramps/ Patterson Pass Rd.	16.8	B	18.4	B	17.5	B	18.5	B	0.7	0.1	No	No
5	I-580 WB Ramps/ Patterson Pass Rd.	53.5	D	17.3	B	54.8	D	17.5	B	1.3	0.2	No	No

Source: Appendix B.

Table 10. Cumulative (2027) Weekday Peak Hour Intersection LOS (with Mitigation)

No.	Intersection	Cumulative (2027)				Cumulative (2027) plus Peak period Construction				Change in Delay (Sec.)		Threshold Exceeded?	
		AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
		Delay ²	LOS ²	Delay ²	LOS ²	Delay ²	LOS ²	Delay ²	LOS ²				
1	Midway Rd./Patterson Pass Rd.	16.6	C	25.3	D	17.0	C	25.9	D	0.4	0.6	No	No
2	N. Midway Rd./Patterson Pass Rd.	17.1	C	22.7	C	17.5	C	23.2	C	0.4	0.5	No	No
3	Midway Rd./Patterson Pass Rd.	8.3	A	10.6	B	8.3	A	10.7	B	0.0	0.1	No	No
4	I-580 EB Ramps/Patterson Pass Rd.	21.3	C	20.4	C	22.2	C	20.6	C	0.9	0.2	No	No
5	I-580 WB Ramps/Patterson Pass Rd.	71.8	E	18.3	B	73.1	E	18.4	C	1.3	0.1	No	No

Source: Appendix B.

Table 11. Existing Peak-Hour Freeway Queuing Summary (With Mitigation)

No.	Intersection or Driveway Access	Movement	Available Stacking Distance (Feet)	Existing				Existing plus Peak period Construction (with mitigation)			
				95th Percentile Queue (Feet)		Exceeds Available Stacking Distance? ¹		95th Percentile Queue (Feet)		Exceeds Available Stacking Distance? ¹	
				AM	PM	AM	PM	AM	PM	AM	PM
4	Patterson Pass Road/ I-580 EB Ramps	EBLT	1,060	92	145	No	No	95	125	No	No
		EBR	50	41	73	No	Yes	47	71	No	Yes
		NBT ²	2,850	47	639	No	No	42	722	No	No
		NBR	65	34	105	No	Yes	32	99	No	Yes
		SBLT ³	275	303	288	Yes	Yes	317	284	Yes	Yes
5	Patterson Pass Road/ I-580 WB Ramps	WBLT	1,000	~706 (4%)	18	Yes	No	~773 (4%)	20	Yes	No
		WBR	300	253	0	No	No	254	0	No	No
		NBLT ³	275	132	254	No	No	120	270	No	Yes
		SBT ³	1,050	497	190	No	No	404	190	No	No
		SBR ³	1,050	460	43	No	No	318	45	No	No

Source: Appendix C

Notes: EBLT = eastbound left through; EBR = eastbound right; NBT = northbound through; NBR = northbound right; SBLT = southbound left-through; WBLT = westbound left through; WBR = westbound right; NBLT = northbound left-through; SBT = southbound through; SBR = southbound right

Yes – 95th Percentile queue exceeds available stacking distance

Yes – 95th Percentile queue exceeds available stacking distance on off-ramp movement and backs into freeway mainline, and/or upstream block time reported at off-ramp link. Upstream block time indicates the proportion of time that the upstream end of the lane is blocked.

~XX (%) – 95th percentile volume exceeds capacity and upstream block time (%) reported at off-ramp link; 95th percentile queue may be longer.

¹ Stacking distance is exceeded if the measured queue is greater than the available stacking distance.

² Approximate available stacking distance measured to the nearest intersection (Via Nicolo Road); queuing greater than 200 feet may impact egress from the Mobil Gas Station.

³ Approximate available stacking distance measured from stop bar to the nearest signalized intersection.

Table 12. Cumulative (Year 2027) Peak-Hour Freeway Queuing Summary (With Mitigation)

No.	Intersection or Driveway Access	Movement	Available Stacking Distance (Feet)	Cumulative (2027)				Cumulative (2027) plus Peak period Construction (with mitigation)			
				95th Percentile Queue (Feet)		Exceeds Available Stacking Distance? ¹		95th Percentile Queue (Feet)		Exceeds Available Stacking Distance? ¹	
				AM	PM	AM	PM	AM	PM	AM	PM
4	Patterson Pass Road/ I-580 EB Ramps	EBLT	1,060	95	147	No	No	95	143	No	No
		EBR	50	40	78	No	Yes	51	75	Yes	Yes
		NBT ²	2,850	47	1200	No	No	48	1534	No	No
		NBR	65	34	104	No	Yes	34	98	No	Yes
		SBLT ³	275	331	295	Yes	Yes	347	296	Yes	Yes
5	Patterson Pass Road/ I-580 WB Ramps	WBLT	1,000	~899 (10%)	20	Yes	No	~1075 (27%)	18	Yes	No
		WBR	300	254	0	No	No	252	0	No	No
		NBLT ³	275	125	276	No	Yes	130	282	No	Yes
		SBT ³	1,050	594	205	No	No	737	195	No	No
		SBR ³	1,050	607	45	No	No	758	46	No	No

Source: Appendix C

Notes: EBLT = eastbound left through; EBR = eastbound right; NBT = northbound through; NBR = northbound right; SBLT = southbound left-through; WBLT = westbound left through; WBR = westbound right; NBLT = northbound left-through; SBT = southbound through; SBR = southbound right

Yes – 95th Percentile queue exceeds available stacking distance

Yes – 95th Percentile queue exceeds available stacking distance on off-ramp movement and backs into freeway mainline, and/or upstream block time reported at off-ramp link. Upstream block time indicates the proportion of time that the upstream end of the lane is blocked.

~XX (%) – 95th percentile volume exceeds capacity and upstream block time (%) reported at off-ramp link; 95th percentile queue may be longer.

¹ Stacking distance is exceeded if the measured queue is greater than the available stacking distance.

² Approximate available stacking distance measured to the nearest intersection (Via Nicolo Road); queuing greater than 200 feet may impact egress from the Mobil Gas Station.

³ Approximate available stacking distance measured from stop bar to the nearest signalized intersection.

7 Project Access

This section describes the proposed site access and presents the results of sight distance analysis conducted for the project driveways along Patterson Pass Road.

7.1 Site Access

As shown in Figure 2, there would be two access roads to the Project site; via an existing private driveway to the north of the site from Patterson Pass Road and a new private driveway to the southeast of the site, from Patterson Pass Road. The northern access road will be used throughout the construction period of the project. During project operations, primary access to the site will be provided from the north driveway and the south driveway will be used for emergency access only. All internal roadways and private driveways would be constructed to meet access requirements for operations and maintenance activities and be in accordance with Alameda County Fire Department Standards.

The surrounding roadways do not have pedestrian or bicycle facilities, and have enough pavement width to accommodate large trucks. It is expected that construction workers would park on-site and would not be staged or transported from any offsite location. Additionally, the project site would be readily accessible by emergency vehicles along Patterson Pass Road.

The northern project site access roads would be located such that slow trucks exiting the site would be visible to oncoming traffic and would allow for traffic to slow down and be aware of trucks. In situations where there may be a large amount of slow-moving truck traffic entering or exiting the project site at one time, the contractor should perform this activity during off-peak times and use flaggers to warn of slow-moving trucks ahead. Due to potential sight constraints at the southern driveway as noted below, it is recommended that this driveway is designed as emergency vehicle access only. In the event that construction equipment must utilize the southern driveway, flaggers should always be used when construction traffic is entering or exiting the site, and/or the Project should obtain temporary road closure permits with the County, depending on the volume and type of construction equipment needing to utilize the southern driveway. These items are described as part of the Construction TMP described in Section 7.3 and provided in Appendix D.

7.2 Sight Distance Analysis

A sight distance analysis was conducted for both project driveways in accordance with the County of Alameda Engineering Design Guidelines (Alameda County 2008): *“At unsignalized intersections, a clear line of sight for adequate corner sight distance (7-1/2 Second Criteria) must be provided in conformance with Chapter 400 of the Caltrans Highway Design Manual (HDM).”*

As such, corner sight distance at project access driveways was calculated⁵ using the methodology provided in the Caltrans HDM Chapter 405.1 – Sight Distance, Figure 405.1 – Corner Sight Distance, and Table 405.1A – Corner Sight Distance Time Gap for Unsignalized Intersections.

⁵ Corner Sight Distance = $1.47V_{\text{major}}t_g$ where: Corner Sight Distance is length of the leg of sight triangle along the major road in ft; V_{major} = design speed of major road (mph); t_g = time gap for minor road vehicle to enter the major road (in sec)

The posted speed near the project site is 40 miles per hour (mph). For the purpose of this analysis, a design speed of 45 mph was assumed along the extent of Patterson Pass Road near the project driveways, from the railroad bridge crossing south of the project site to Midway Road.

South Project Driveway

The south project driveway operates as a full access, one-way stop-controlled intersection, with the stop-control on the minor approach to Patterson Pass Road. As such, the corner sight distance for vehicles exiting this driveway to travel southbound onto Patterson Pass Road was analyzed under Right Turn from Stop criteria, and the corner sight distance for vehicles exiting this driveway to travel northbound onto Patterson Pass Road was analyzed under Left Turn from Stop criteria.

Right Turn from Stop

As shown in Figure 14, the recommended corner sight distance would be 430 feet per Caltrans HDM Table 405.1A – Right-Turn from Stop for passenger cars and 695 feet for trucks exiting the driveway to travel southbound onto Patterson Pass Road. The following object is present within the clear sight triangle for right-turning movements as identified in Figure 14:

- Raised hillside along the western extent of Patterson Pass Road

Left Turn from Stop

As shown in Figure 14, the recommended intersection sight distance (ISD) would be 500 feet per Caltrans HDM Table 405.1A – Left Turn from Stop for passenger cars and 765 feet exiting this driveway to travel northbound onto Patterson Pass Road. The following object is present within the clear sight triangle left-turning movements as identified in Figure 14:

- Large tree with low/overhanging canopy on eastern side of Patterson Pass Road

North Project Driveway

The north project driveway operates as a full access, one-way stop-controlled intersection, with the stop-control on the minor approach to Patterson Pass Road. As such, the corner sight distance for vehicles exiting this driveway to travel southbound onto Patterson Pass Road was analyzed under Right Turn from Stop criteria, and the corner sight distance for vehicles exiting this driveway to travel eastbound onto Patterson Pass Road was analyzed under Left Turn from Stop criteria. As such, the ISD for vehicles exiting this driveway to travel southbound onto Patterson Pass Road was analyzed under AASHTO Case B2 – Right Turn from Stop, and the ISD for vehicles exiting this driveway to travel eastbound onto Patterson Pass Road was analyzed under Case B1 – Left Turn from Stop.

Right Turn from Stop

As shown in Figure 15, the recommended corner sight distance would be 430 feet per Caltrans HDM Table 405.1A – Right-Turn from Stop for passenger cars and 695 feet for trucks exiting the driveway to travel southbound onto Patterson Pass Road. No objects are present within the clear sight triangle for right-turning movements as identified in Figure 15.

Left Turn from Stop

As shown in Figure 15, the recommended corner sight distance would be 500 feet per Caltrans HDM Table 405.1A –Left Turn from Stop for passenger cars and 765 feet exiting this driveway to travel eastbound onto Patterson Pass Road. No objects are present within the clear sight triangle for right-turning movements as identified in Figure 15.

Conclusions

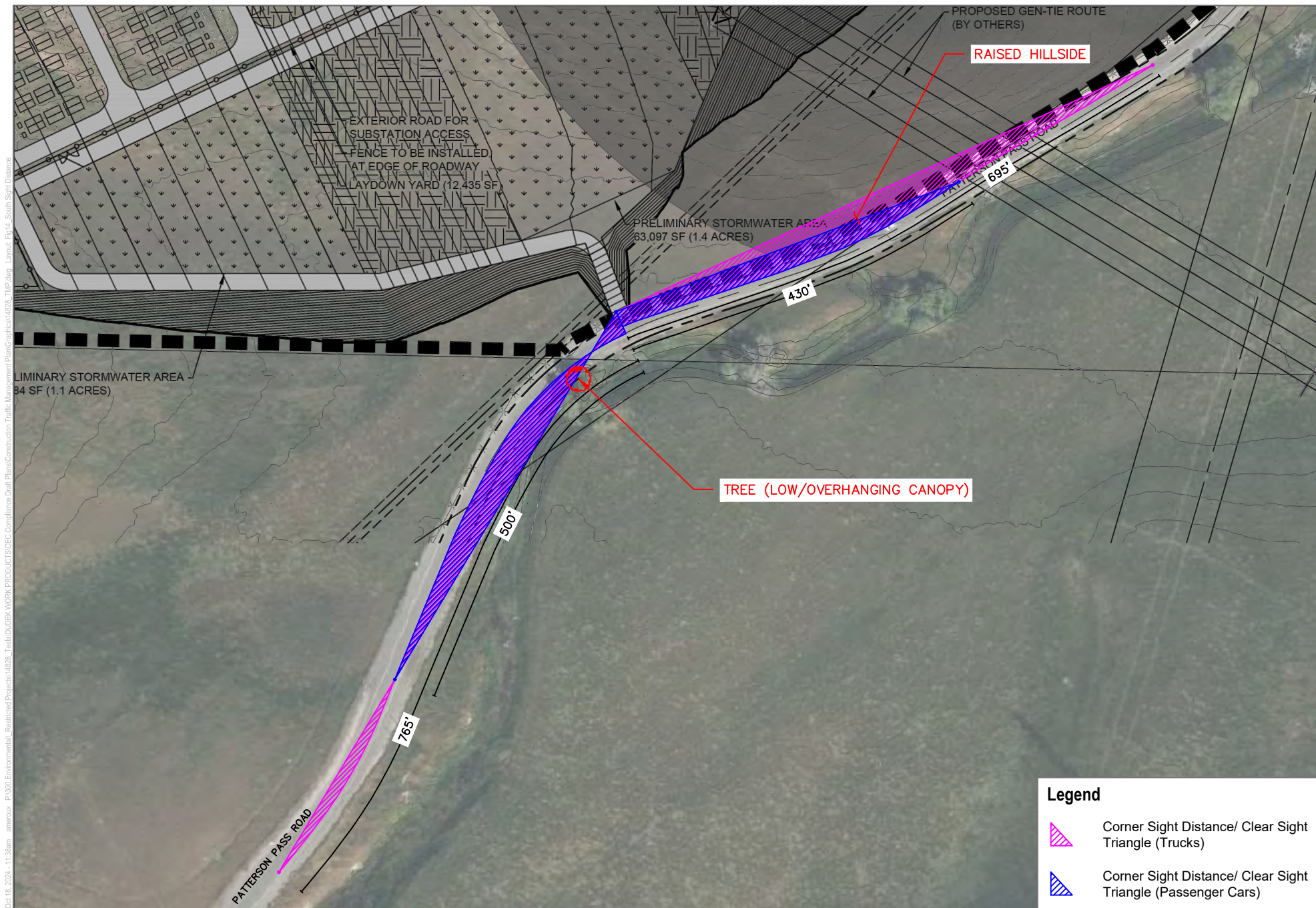
Per the sight distance analysis, adequate corner sight distance is available at the northern driveway, and no significant obstructions are present within the clear sight triangle. Any existing landscaping (e.g., trees or vegetation) was observed to be maintained within the clear sight triangles and shall continue to be maintained along the County right-of-way.

At the southern driveway, a large tree with low/overhanging canopy located on the eastern side of Patterson Pass Road as identified in Figure 14 could prevent clear corner sight distance for vehicles making a left turn from the project driveway. Additionally, the hillside along the western extent of Patterson Pass Road is elevated along the curve of the roadway and falls within the clear sight triangle for both passenger cars and trucks exiting southbound onto Patterson Pass Road.

Recommendations to mitigate sight distance constraints are included as part of the Construction TMP described in Section 7.3 and provided in Appendix D.

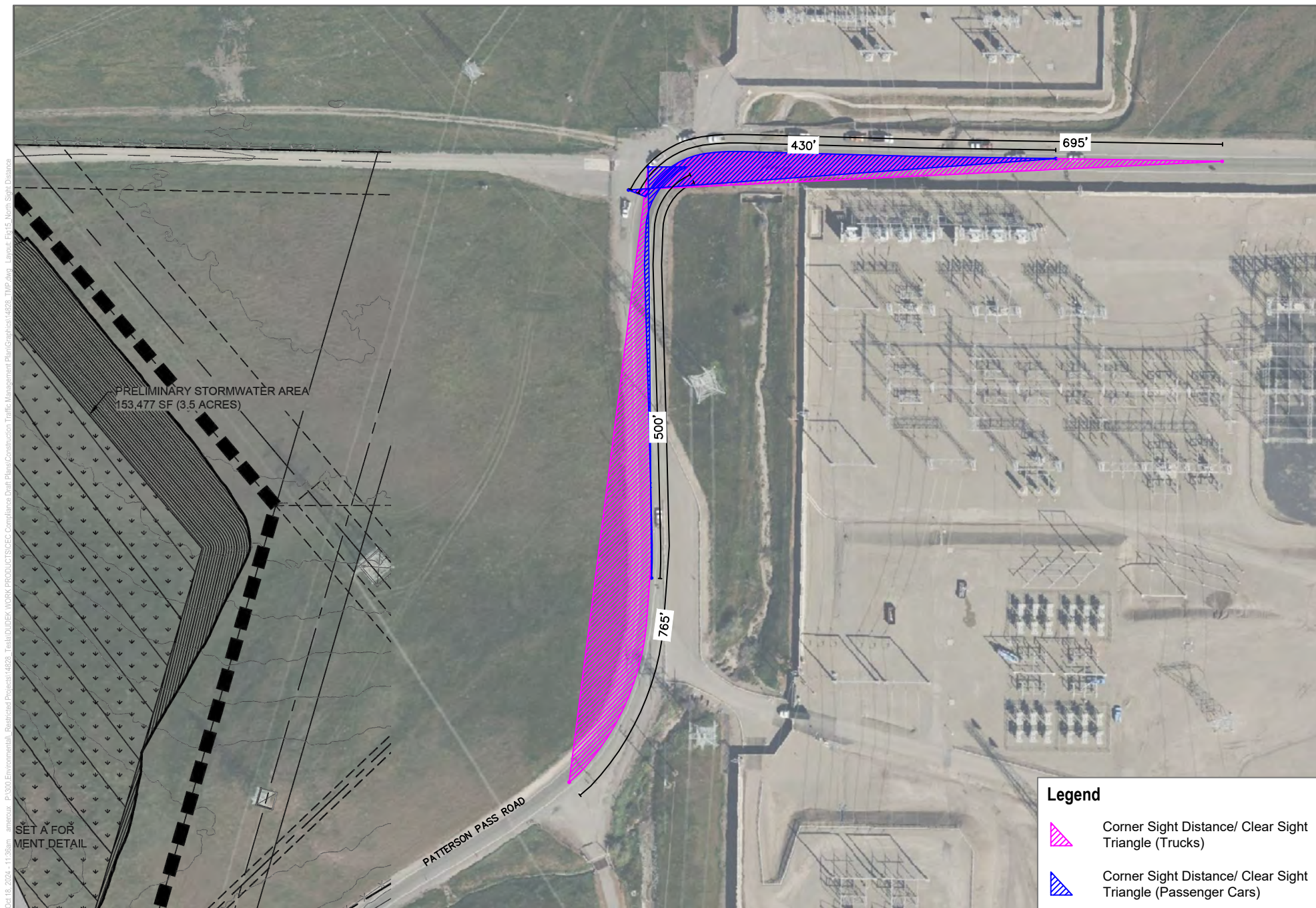
With the recommendation noted above, no other sight obstructions are present, and the project meets the sight distance requirements at the intersection of the project driveway and Patterson Pass Road pursuant to applicable Caltrans HDM and in accordance with County of Alameda Engineering Design Guidelines.

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SOURCE: Bing Maps (accessed 2024); Open Streets Map 2019; Coffman Engineers 2024

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SOURCE: Bing Maps (accessed 2024); Open Streets Map 2019; Coffman Engineers 2024

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7.3 Construction Traffic Management Plan

As shown in Table 2, the peak period of construction for the Project would generate approximately 916 daily trips, 305 AM peak hour trips, and 305 PM peak hour trips. After trip generation estimates were adjusted utilizing PCE factors, the peak period of construction for the Project would generate approximately 1,626 daily PCE trips, 394 AM peak hour PCE trips, and 394 PM peak hour PCE trips. All construction related trips would be temporary for the duration of Project construction and background traffic volumes and travel patterns would return to pre-construction conditions upon the completion of construction.

However, due to the increase in slow moving over-sized vehicles and the level of service and queuing changes at the intersections near the site, a mitigation measure in the form of a Construction TMP is recommended in order to minimize impacts during construction. The mitigation measure is described below and a draft TMP is provided in Appendix D.

MM-TRAF-1

Prior to initiation of construction activities, the construction traffic management plan provided in Appendix D will be filed with the County. The construction traffic management plan would include strategies to reduce the number of construction vehicles that would be generated during both the AM and PM peak hours. Potential traffic management measures should include, but not be limited to the following:

- Warning signage to meet County and Caltrans requirements for driver awareness of construction activity in the vicinity.
- Timing worker commute schedules to avoid peak commuting hours (7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM). At a minimum, no more than 23 vehicles should be allowed to arrive or depart during peak hours.
- Scheduling truck deliveries outside of peak hours (7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM).
- Use of construction personnel carpools or shuttles to minimize the amount of construction generated traffic.
- Use of flaggers at key locations to alert motorists to slow moving trucks and minimize potential sight distance constraints at the project driveways.
- Information packet for affected neighborhoods to bring awareness to the Project activities and measures to minimize impacts.
- Informing emergency service providers of construction traffic schedule.

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8 Vehicle Miles Traveled Analysis

In compliance with the new CEQA guidelines, a VMT analysis was prepared for the project and is presented below.

8.1 VMT Analysis Methodology

The County of Alameda has not yet adopted transportation guidelines for evaluating potential project-related impacts to VMT. In the interim, the OPR's Technical Advisory and CEQA Guidelines Section 15064.3(b) Criteria for Analyzing Transportation Impacts have been used to evaluate the proposed project.

CEQA Guidelines Section 15064.3(b) focuses on specific criteria (VMT) for determining the significance of transportation impacts. It is further divided into four subdivisions: (1) land use projects, (2) transportation projects, (3) qualitative analysis, and (4) methodology. The CEQA Guidelines are accompanied by an OPR Technical Advisory, which includes specifications for how to estimate and forecast VMT for these subdivisions.

The proposed project is not a land use or transportation project, and therefore neither Section 15064.3(b)(1) nor Section 15064.3(b)(2) of the CEQA Guidelines apply. Instead, the proposed project would be categorized under Section 15064.3(b)(3) qualitative analysis. The following paragraph from the Section 15064.3(b)(3) provides guidance regarding qualitative analysis:

If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

The updated CEQA Guidelines do not establish a significance threshold, however, recommend a threshold of significance for land use development (residential, office, and other land uses) and transportation projects. It should be noted that there is no significance threshold for construction or maintenance projects.

The project would involve construction that would generate temporary construction-related traffic for approximately 18 months and nominal operations and maintenance traffic; these would be categorized under Section 15064.3(b)(3), qualitative analysis. Section 15064.3(b)(3) recognizes that lead agencies may not be able to quantitatively estimate VMT for every project type. For many projects, a qualitative analysis of construction traffic may be appropriate.

8.2 Construction

The project construction related vehicle-trip generation (for workers and trucks) is summarized in Table 2. Per OPR, heavy vehicle traffic is not required to be included in the estimation of a project's VMT. As part of the project's air quality and greenhouse gas emissions analysis, the VMT for the overall project (using approximate trip lengths for worker commute, vendor, and haul trips) has been estimated using default values for the region from the California Emissions Estimator Model (CalEEMod) land use emissions computer model. The default CalEEMod trip distance for construction vehicles was assumed for all phases except for the Battery/Container installation phase. Default trip distances are a one-way distance of 11.97 miles for worker trips, 7.63 miles for vendor truck trips, and 20 miles

for haul truck trips. In the Battery/Container Installation phase, the haul truck trip distance was assumed to be 55 miles, which is the approximate distance from the Project site to the Port of Oakland.

However, construction related trips are temporary and would not generate permanent trips. Therefore, for the purposes of this analysis, the VMT from construction is not required to be quantified per SB 743 requirements. The project construction would be consistent with typical construction activities in terms of the temporary nature of activities, trip generation characteristics, and the types of vehicles and equipment required. There would be no special conditions for constructing the project. Further, measures to reduce the VMT generated by workers and trucks are limited, and there are no thresholds or significance criteria for temporary, construction related VMT.

While worker and vendor trips would generate VMT, once construction is completed, the construction-related traffic would cease and VMT would return to pre-construction conditions. Therefore, impacts related to construction VMT would be less than significant.

8.3 Operation and Maintenance

Based on OPR guidance, projects that generate or attract fewer than 110 trips per day⁶ generally may be assumed to cause a less-than-significant transportation impact. As noted previously, the operation of the project would require up to 18 full-time employees and is estimated to generate approximately 36 daily trips, and therefore would not generate significant VMT.

Therefore, utilizing the guidance provided by OPR, the operation of the project would not generate a significant number of trips and thereby not cause a substantial amount of VMT. VMT impacts related to project operations would be less than significant.

⁶ CEQA provides a categorical exemption for existing facilities, including additions to existing structures of up to 10,000 square feet, so long as the project is in an area where public infrastructure is available to allow for maximum planned development and the project is not in an environmentally sensitive area. (CEQA Guidelines, § 15301, subd. (e)(2).) Typical project types for which trip generation increases relatively linearly with building footprint (i.e., general office building, single tenant office building, office park, and business park) generate or attract an additional 110-124 trips per 10,000 square feet. Therefore, absent substantial evidence otherwise, it is reasonable to conclude that the addition of 110 or fewer trips could be considered not to lead to a significant impact.

9 References

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Appendix A

Raw Traffic Counts

National Data & Surveying Services

Intersection Turning Movement Count

Location: Midway Rd W & Patterson Pass Rd
City: Tracy
Control: 1-Way Stop (SB)

Project ID: 24-080036-001
Date: 2/8/2024

Data - Total

NS/EW Streets:	Midway Rd W				Midway Rd W				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	2	0	0	1	0	0	0	218	0	0	221
7:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	189	0	0	191
7:30 AM	0	0	0	0	0	0	2	0	0	1	0	0	0	204	0	0	207
7:45 AM	0	0	0	0	0	0	4	0	0	1	0	0	0	144	0	0	149
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	96	0	0	96
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	92	0	0	93
8:30 AM	0	0	0	0	0	0	2	0	0	1	0	0	0	75	0	0	78
8:45 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	48	0	0	51
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	12	0	0	8	0	0	0	1066	0	0	1086
PEAK HR :	07:00 AM - 08:00 AM				0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	0	0	10	0	0	3	0	0	0	755	0	0	768
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.750	0.000	0.000	0.000	0.866	0.000	0.000	0.869
							0.625				0.750				0.866		
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	153	0	0	0	1	0	0	154
4:15 PM	0	0	0	0	1	0	0	0	1	239	0	0	0	3	0	0	244
4:30 PM	0	0	0	0	0	0	0	0	2	214	0	0	0	0	0	0	216
4:45 PM	0	0	0	0	0	0	0	0	2	248	0	0	0	0	0	0	250
5:00 PM	0	0	0	0	1	0	0	0	1	261	0	0	0	0	0	0	263
5:15 PM	0	0	0	0	0	0	0	0	0	216	0	0	0	0	0	0	216
5:30 PM	0	0	0	0	0	0	0	0	0	218	0	0	0	0	0	0	218
5:45 PM	0	0	0	0	0	0	0	0	1	190	0	0	0	0	0	0	191
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	2	0	0	0	7	1739	0	0	0	4	0	0	1752
PEAK HR :	04:15 PM - 05:15 PM				100.00%	0.00%	0.00%	0.00%	0.40%	99.60%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	2	0	0	0	6	962	0	0	0	3	0	0	973
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.750	0.921	0.000	0.000	0.000	0.250	0.000	0.000	0.925
							0.500				0.924				0.250		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Midway Rd W & Patterson Pass Rd
City: Tracy
Control: 1-Way Stop (SB)

Project ID: 24-080036-001
Date: 2/8/2024

Data - Passenger Vehicles

NS/EW Streets:	Midway Rd W				Midway Rd W				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	217	0	0	219
7:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	187	0	0	189
7:30 AM	0	0	0	0	0	0	2	0	0	1	0	0	0	202	0	0	205
7:45 AM	0	0	0	0	0	0	4	0	0	1	0	0	0	144	0	0	149
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	94	0	0	94
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	88	0	0	89
8:30 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	75	0	0	77
8:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	47	0	0	49
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	11	0	0	6	0	0	0	1054	0	0	1071
PEAK HR :	07:00 AM - 08:00 AM				0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	0	0	9	0	0	3	0	0	0	750	0	0	TOTAL
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.563	0.000	0.000	0.750	0.000	0.000	0.000	0.864	0.000	0.000	0.870
							0.563				0.750			0.864			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	152	0	0	0	1	0	0	153
4:15 PM	0	0	0	0	1	0	0	0	1	238	0	0	0	3	0	0	243
4:30 PM	0	0	0	0	0	0	0	0	2	214	0	0	0	0	0	0	216
4:45 PM	0	0	0	0	0	0	0	0	2	246	0	0	0	0	0	0	248
5:00 PM	0	0	0	0	1	0	0	0	1	258	0	0	0	0	0	0	260
5:15 PM	0	0	0	0	0	0	0	0	0	216	0	0	0	0	0	0	216
5:30 PM	0	0	0	0	0	0	0	0	0	217	0	0	0	0	0	0	217
5:45 PM	0	0	0	0	0	0	0	0	1	190	0	0	0	0	0	0	191
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	2	0	0	0	7	1731	0	0	0	4	0	0	1744
PEAK HR :	04:15 PM - 05:15 PM				100.00%	0.00%	0.00%	0.00%	0.40%	99.60%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	2	0	0	0	6	956	0	0	0	3	0	0	TOTAL
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.750	0.926	0.000	0.000	0.000	0.250	0.000	0.000	0.930
							0.500				0.929			0.250			

Project ID: 24-080036-001
Date: 2/8/2024

Location: Midway Rd W & Patterson Pass Rd
City: Tracy
Control: 1-Way Stop (SB)

Data - Bikes

[illegible]

National Data & Surveying Services

Intersection Turning Movement Count

Location: Midway Rd W & Patterson Pass Rd
City: Tracy

Project ID: 24-080036-001
Date: 2/8/2024

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Midway Rd W		Midway Rd W		Patterson Pass Rd		Patterson Pass Rd	
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB
APPROACH %'s :	0	0	0	0	0	0	0	0
PEAK HR :	07:00 AM - 08:00 AM							
PEAK HR VOL :	0	0	0	0	0	0	0	0
PEAK HR FACTOR :								
								TOTAL
								0

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB
APPROACH %'s :	0	0	0	0	0	0	0	0
PEAK HR :	04:15 PM - 05:15 PM							
PEAK HR VOL :	0	0	0	0	0	0	0	0
PEAK HR FACTOR :								
								TOTAL
								0

National Data & Surveying Services

Intersection Turning Movement Count

Location: Midway Rd W & Patterson Pass Rd
City: Tracy
Control: 1-Way Stop (SB)

Project ID: 24-080036-001
Date: 2/8/2024

Data - Total PCE

NS/EW Streets:	Midway Rd W				Midway Rd W				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	4	0	0	1	0	0	0	219	0	0	224
7:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	191	0	0	193
7:30 AM	0	0	0	0	0	0	2	0	0	1	0	0	0	205	0	0	208
7:45 AM	0	0	0	0	0	0	4	0	0	1	0	0	0	144	0	0	149
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	98	0	0	98
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	96	0	0	97
8:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	75	0	0	79
8:45 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	49	0	0	53
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	14	0	0	10	0	0	0	1077	0	0	1101
PEAK HR :	07:00 AM - 08:00 AM				0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	0	0	12	0	0	3	0	0	0	759	0	0	774
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.866	0.000	0.000	0.864
							0.750				0.750				0.866		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	154	0	0	0	1	0	0	155
4:15 PM	0	0	0	0	1	0	0	0	1	240	0	0	0	3	0	0	245
4:30 PM	0	0	0	0	0	0	0	0	2	214	0	0	0	0	0	0	216
4:45 PM	0	0	0	0	0	0	0	0	2	250	0	0	0	0	0	0	252
5:00 PM	0	0	0	0	1	0	0	0	1	265	0	0	0	0	0	0	267
5:15 PM	0	0	0	0	0	0	0	0	0	216	0	0	0	0	0	0	216
5:30 PM	0	0	0	0	0	0	0	0	0	219	0	0	0	0	0	0	219
5:45 PM	0	0	0	0	0	0	0	0	1	190	0	0	0	0	0	0	191
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	2	0	0	0	7	1748	0	0	0	4	0	0	1761
PEAK HR :	04:15 PM - 05:15 PM				100.00%	0.00%	0.00%	0.00%	0.40%	99.60%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	2	0	0	0	6	969	0	0	0	3	0	0	980
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.750	0.914	0.000	0.000	0.000	0.250	0.000	0.000	0.918
							0.500				0.916				0.250		

National Data & Surveying Services

Intersection Turning Movement Count

Location: Midway Rd W & Patterson Pass Rd
City: Tracy
Control: 1-Way Stop (SB)

Project ID: 24-080036-001
Date: 2/8/2024

Data - Passenger Vehicles PCE

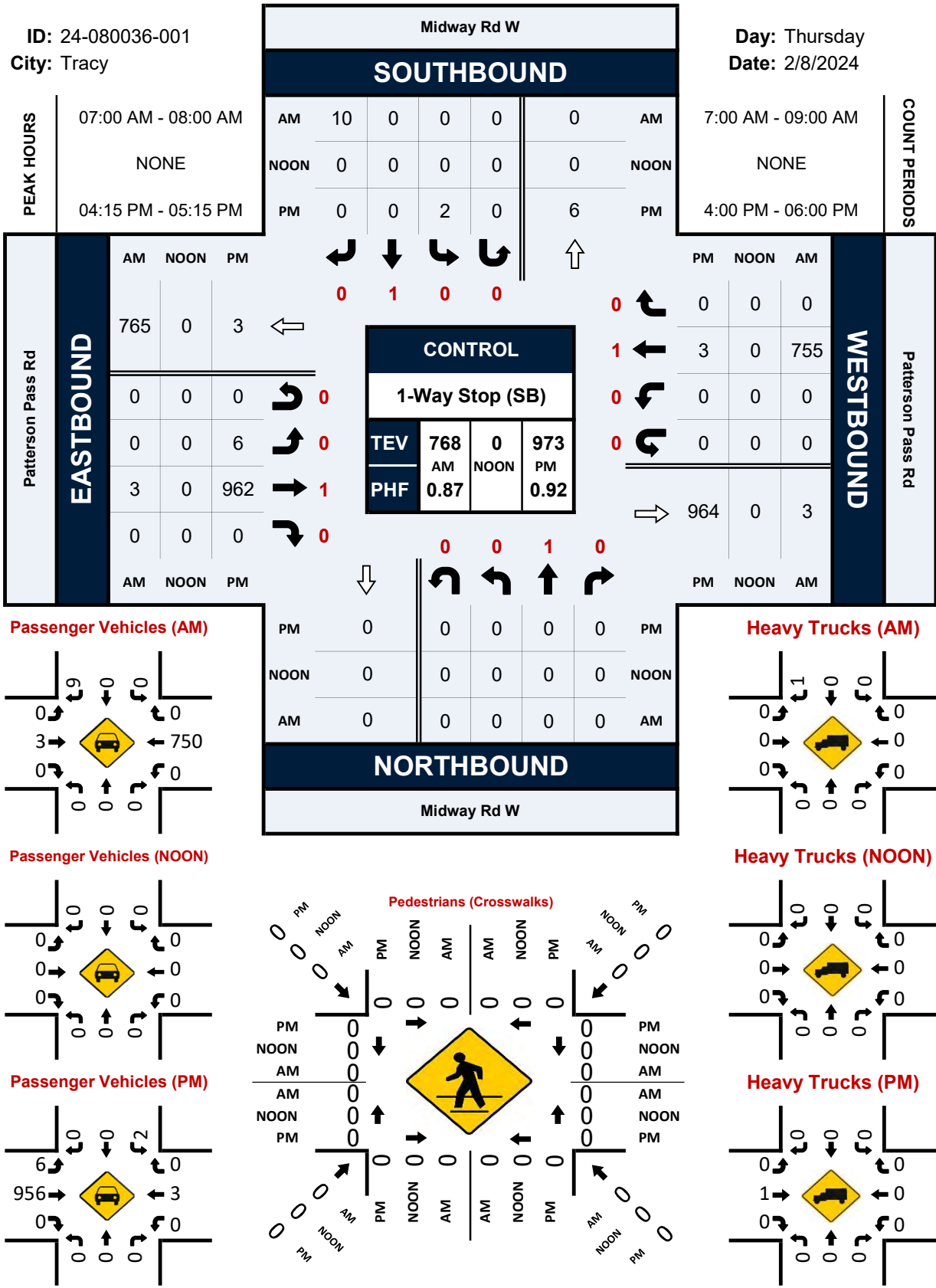
NS/EW Streets:	Midway Rd W				Midway Rd W				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	217	0	0	219
7:15 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	187	0	0	189
7:30 AM	0	0	0	0	0	0	2	0	0	1	0	0	0	203	0	0	206
7:45 AM	0	0	0	0	0	0	4	0	0	1	0	0	0	144	0	0	149
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	94	0	0	94
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	88	0	0	89
8:30 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	75	0	0	77
8:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	47	0	0	49
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	11	0	0	6	0	0	0	1055	0	0	1072
PEAK HR :	07:00 AM - 08:00 AM				0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	0	0	9	0	0	3	0	0	0	751	0	0	763
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.563	0.000	0.000	0.750	0.000	0.000	0.000	0.865	0.000	0.000	0.871
							0.563			0.750				0.865			
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	152	0	0	0	1	0	0	153
4:15 PM	0	0	0	0	1	0	0	0	1	238	0	0	0	3	0	0	243
4:30 PM	0	0	0	0	0	0	0	0	2	214	0	0	0	0	0	0	216
4:45 PM	0	0	0	0	0	0	0	0	2	246	0	0	0	0	0	0	248
5:00 PM	0	0	0	0	1	0	0	0	1	258	0	0	0	0	0	0	260
5:15 PM	0	0	0	0	0	0	0	0	0	216	0	0	0	0	0	0	216
5:30 PM	0	0	0	0	0	0	0	0	0	217	0	0	0	0	0	0	217
5:45 PM	0	0	0	0	0	0	0	0	1	190	0	0	0	0	0	0	191
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	2	0	0	0	7	1731	0	0	0	4	0	0	1744
PEAK HR :	04:15 PM - 05:15 PM				100.00%	0.00%	0.00%	0.00%	0.40%	99.60%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	2	0	0	0	6	956	0	0	0	3	0	0	967
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.750	0.926	0.000	0.000	0.000	0.250	0.000	0.000	0.930
							0.500			0.929				0.250			

Midway Rd W & Patterson Pass Rd

Peak Hour Turning Movement Count

ID: 24-080036-001
City: Tracy

Day: Thursday
Date: 2/8/2024



National Data & Surveying Services

Intersection Turning Movement Count

Location: N Midway Rd & Patterson Pass Rd
City: Tracy
Control: 1-Way Yield (SB)

Project ID: 24-080036-002
Date: 2/8/2024

Data - Total

NS/EW Streets:	N Midway Rd				N Midway Rd				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	216	4	0	221
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	193	6	0	200
7:30 AM	0	0	0	0	1	0	0	0	0	1	0	0	0	200	2	0	204
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	144	4	0	149
8:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	96	5	0	102
8:15 AM	0	0	0	0	1	0	0	0	0	1	0	0	0	93	1	0	96
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	76	1	0	78
8:45 AM	0	0	0	0	2	0	0	0	0	2	0	0	0	46	0	0	50
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	6	0	0	0	1	6	0	0	0	1064	23	0	1100
					100.00%	0.00%	0.00%	0.00%	14.29%	85.71%	0.00%	0.00%	0.00%	97.88%	2.12%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM				2	0	0	0	1	2	0	0	0	753	16	0	774
PEAK HR VOL :	0	0	0	0	2	0	0	0	1	2	0	0	0	753	16	0	774
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.250	0.500	0.000	0.000	0.000	0.872	0.667	0.000	0.876
						0.500				0.750				0.874			

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	1	0	0	0	1	152	0	0	0	1	0	0	155
4:15 PM	0	0	0	0	2	0	0	0	7	232	0	0	0	3	0	0	244
4:30 PM	0	0	0	0	0	0	0	0	3	212	0	0	0	0	0	0	215
4:45 PM	0	0	0	0	2	0	0	0	4	241	0	0	0	0	1	0	248
5:00 PM	0	0	0	0	1	0	0	0	8	257	0	0	0	0	0	0	266
5:15 PM	0	0	0	0	0	0	0	0	6	210	0	0	0	0	0	0	216
5:30 PM	0	0	0	0	1	0	0	0	3	211	0	0	0	0	0	0	215
5:45 PM	0	0	0	0	2	0	0	0	2	192	0	0	0	0	0	0	196
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	9	0	0	0	34	1707	0	0	0	4	1	0	1755
					100.00%	0.00%	0.00%	0.00%	1.95%	98.05%	0.00%	0.00%	0.00%	80.00%	20.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM				5	0	0	0	22	942	0	0	0	3	1	0	973
PEAK HR VOL :	0	0	0	0	5	0	0	0	22	942	0	0	0	3	1	0	973
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.688	0.916	0.000	0.000	0.000	0.250	0.250	0.000	0.914
						0.625				0.909				0.333			

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Midway Rd & Patterson Pass Rd
City: Tracy
Control: 1-Way Yield (SB)

Project ID: 24-080036-002
Date: 2/8/2024

Data - Passenger Vehicles

NS/EW Streets:	N Midway Rd				N Midway Rd				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	215	4	0	220
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	191	5	0	197
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	198	1	0	200
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	144	4	0	149
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	94	5	0	99
8:15 AM	0	0	0	0	1	0	0	0	0	1	0	0	0	89	1	0	92
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	76	1	0	77
8:45 AM	0	0	0	0	2	0	0	0	0	2	0	0	0	45	0	0	49
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	4	0	0	0	1	5	0	0	0	1052	21	0	1083
PEAK HR :	07:00 AM - 08:00 AM				100.00%	0.00%	0.00%	0.00%	16.67%	83.33%	0.00%	0.00%	0.00%	98.04%	1.96%	0.00%	
PEAK HR VOL :	0	0	0	0	1	0	0	0	1	2	0	0	0	748	14	0	766
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.500	0.000	0.000	0.000	0.870	0.700	0.000	0.870
							0.250				0.750				0.870		
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	1	0	0	0	1	151	0	0	0	1	0	0	154
4:15 PM	0	0	0	0	2	0	0	0	7	231	0	0	0	3	0	0	243
4:30 PM	0	0	0	0	0	0	0	0	3	212	0	0	0	0	0	0	215
4:45 PM	0	0	0	0	2	0	0	0	4	239	0	0	0	0	1	0	246
5:00 PM	0	0	0	0	1	0	0	0	8	254	0	0	0	0	0	0	263
5:15 PM	0	0	0	0	0	0	0	0	6	210	0	0	0	0	0	0	216
5:30 PM	0	0	0	0	1	0	0	0	3	210	0	0	0	0	0	0	214
5:45 PM	0	0	0	0	2	0	0	0	2	192	0	0	0	0	0	0	196
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	9	0	0	0	34	1699	0	0	0	4	1	0	1747
PEAK HR :	04:15 PM - 05:15 PM				100.00%	0.00%	0.00%	0.00%	1.96%	98.04%	0.00%	0.00%	0.00%	80.00%	20.00%	0.00%	
PEAK HR VOL :	0	0	0	0	5	0	0	0	22	936	0	0	0	3	1	0	967
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.688	0.921	0.000	0.000	0.000	0.250	0.250	0.000	0.919
							0.625				0.914				0.333		

Location: N Midway Rd & Patterson Pass Rd
City: Tracy
Control: 1-Way Yield (SB)

Data - Buses

[illegible]

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Midway Rd & Patterson Pass Rd
City: Tracy
Control: 1-Way Yield (SB)

Project ID: 24-080036-002
Date: 2/8/2024

Data - Medium Trucks

NS/EW Streets:	N Midway Rd				N Midway Rd				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3
7:30 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	3
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	2	0	0	0	0	1	0	0	0	11	2	0	16
					100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	84.62%	15.38%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	1	0	0	0	0	0	0	0	0	4	2	0	7
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.500	0.000	0.583
								0.250								0.500	
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7
									0.00%	100.00%	0.00%	0.00%					
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.625
												0.625					

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Midway Rd & Patterson Pass Rd
City: Tracy

Project ID: 24-080036-002
Date: 2/8/2024

Data - Pedestrians (Crosswalks)

NS/EW Streets:	N Midway Rd		N Midway Rd		Patterson Pass Rd		Patterson Pass Rd	
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB
APPROACH %'s :	0	0	0	0	0	0	0	0
PEAK HR :	07:00 AM - 08:00 AM							
PEAK HR VOL :	0	0	0	0	0	0	0	0
PEAK HR FACTOR :								
								TOTAL
								0

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB
APPROACH %'s :	0	0	0	0	0	0	0	0
PEAK HR :	04:15 PM - 05:15 PM							
PEAK HR VOL :	0	0	0	0	0	0	0	0
PEAK HR FACTOR :								
								TOTAL
								0

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Midway Rd & Patterson Pass Rd
City: Tracy
Control: 1-Way Yield (SB)

Project ID: 24-080036-002
Date: 2/8/2024

Data - Total PCE

NS/EW Streets:	N Midway Rd				N Midway Rd				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	217	4	0	222
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	195	7	0	203
7:30 AM	0	0	0	0	2	0	0	0	0	1	0	0	0	201	3	0	207
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	144	4	0	149
8:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	0	98	5	0	105
8:15 AM	0	0	0	0	1	0	0	0	0	1	0	0	0	97	1	0	100
8:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	76	1	0	79
8:45 AM	0	0	0	0	2	0	0	0	0	2	0	0	0	47	0	0	51
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	8	0	0	0	1	7	0	0	0	1075	25	0	1116
PEAK HR :	07:00 AM - 08:00 AM				100.00%	0.00%	0.00%	0.00%	12.50%	87.50%	0.00%	0.00%	0.00%	97.73%	2.27%	0.00%	
PEAK HR VOL :	0	0	0	0	3	0	0	0	1	2	0	0	0	757	18	0	TOTAL
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.250	0.500	0.000	0.000	0.000	0.872	0.643	0.000	781
						0.375				0.750				0.877			0.880

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	1	0	0	0	1	153	0	0	0	1	0	0	156
4:15 PM	0	0	0	0	2	0	0	0	7	233	0	0	0	3	0	0	245
4:30 PM	0	0	0	0	0	0	0	0	3	212	0	0	0	0	0	0	215
4:45 PM	0	0	0	0	2	0	0	0	4	243	0	0	0	0	1	0	250
5:00 PM	0	0	0	0	1	0	0	0	8	261	0	0	0	0	0	0	270
5:15 PM	0	0	0	0	0	0	0	0	6	210	0	0	0	0	0	0	216
5:30 PM	0	0	0	0	1	0	0	0	3	212	0	0	0	0	0	0	216
5:45 PM	0	0	0	0	2	0	0	0	2	192	0	0	0	0	0	0	196
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	9	0	0	0	34	1716	0	0	0	4	1	0	1764
PEAK HR :	04:15 PM - 05:15 PM				100.00%	0.00%	0.00%	0.00%	1.94%	98.06%	0.00%	0.00%	0.00%	80.00%	20.00%	0.00%	
PEAK HR VOL :	0	0	0	0	5	0	0	0	22	949	0	0	0	3	1	0	TOTAL
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.688	0.909	0.000	0.000	0.000	0.250	0.250	0.000	980
						0.625				0.902				0.333			0.907

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Midway Rd & Patterson Pass Rd
City: Tracy
Control: 1-Way Yield (SB)

Project ID: 24-080036-002
Date: 2/8/2024

Data - Passenger Vehicles PCE

NS/EW Streets:	N Midway Rd				N Midway Rd				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	215	4	0	220
7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	191	5	0	197
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	199	1	0	201
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	144	4	0	149
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	94	5	0	99
8:15 AM	0	0	0	0	1	0	0	0	0	1	0	0	0	89	1	0	92
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	76	1	0	77
8:45 AM	0	0	0	0	2	0	0	0	0	2	0	0	0	45	0	0	49
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	4	0	0	0	1	5	0	0	0	1053	21	0	1084
PEAK HR :	07:00 AM - 08:00 AM				100.00%	0.00%	0.00%	0.00%	16.67%	83.33%	0.00%	0.00%	0.00%	98.04%	1.96%	0.00%	
PEAK HR VOL :	0	0	0	0	1	0	0	0	1	2	0	0	0	749	14	0	767
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.500	0.000	0.000	0.000	0.871	0.700	0.000	0.872
							0.250				0.750				0.871		

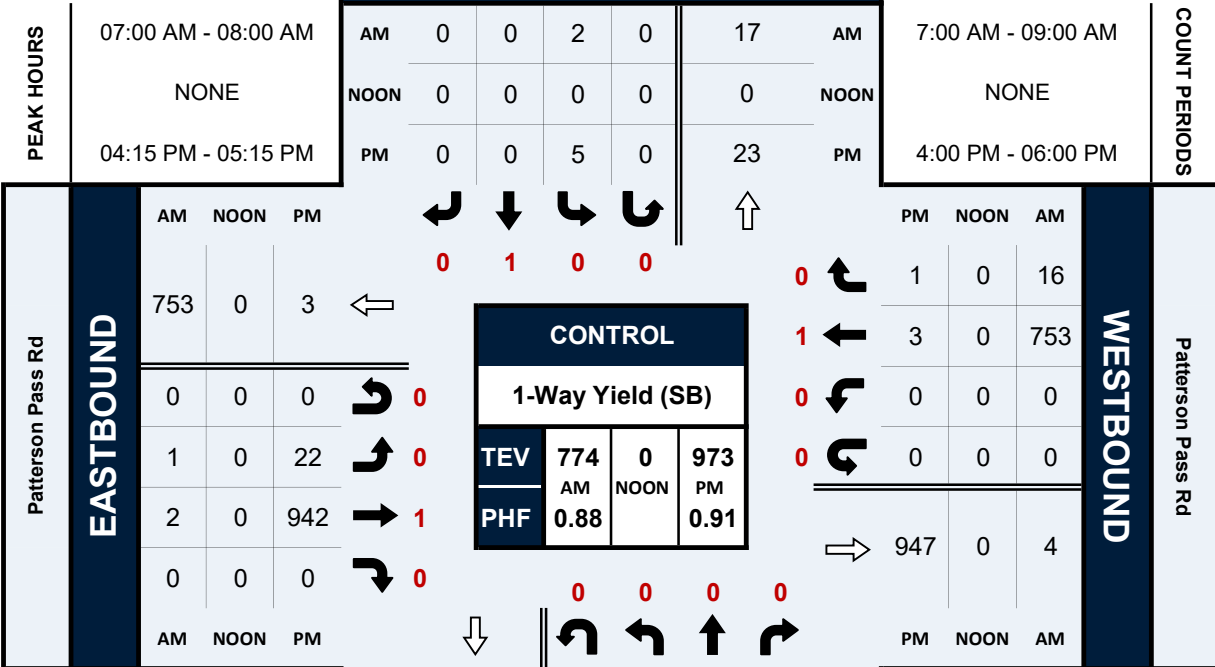
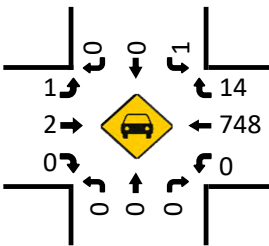
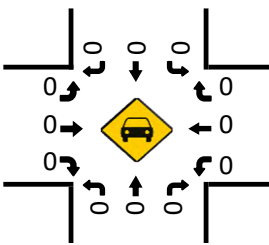
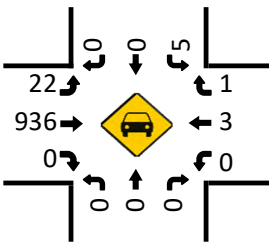
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0 SL	1 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	1	0	0	0	1	151	0	0	0	1	0	0	154
4:15 PM	0	0	0	0	2	0	0	0	7	231	0	0	0	3	0	0	243
4:30 PM	0	0	0	0	0	0	0	0	3	212	0	0	0	0	0	0	215
4:45 PM	0	0	0	0	2	0	0	0	4	239	0	0	0	0	1	0	246
5:00 PM	0	0	0	0	1	0	0	0	8	254	0	0	0	0	0	0	263
5:15 PM	0	0	0	0	0	0	0	0	6	210	0	0	0	0	0	0	216
5:30 PM	0	0	0	0	1	0	0	0	3	210	0	0	0	0	0	0	214
5:45 PM	0	0	0	0	2	0	0	0	2	192	0	0	0	0	0	0	196
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	9	0	0	0	34	1699	0	0	0	4	1	0	1747
PEAK HR :	04:15 PM - 05:15 PM				100.00%	0.00%	0.00%	0.00%	1.96%	98.04%	0.00%	0.00%	0.00%	80.00%	20.00%	0.00%	
PEAK HR VOL :	0	0	0	0	5	0	0	0	22	936	0	0	0	3	1	0	967
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.688	0.921	0.000	0.000	0.000	0.250	0.250	0.000	0.919
							0.625				0.914				0.333		

Project ID: 24-080036-002
Date: 2/8/2024

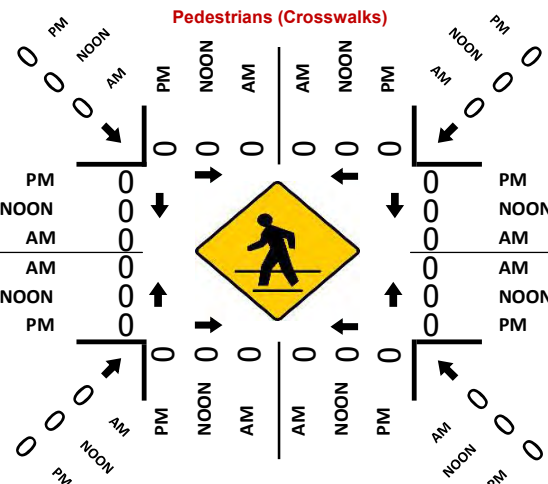
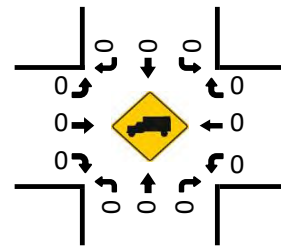
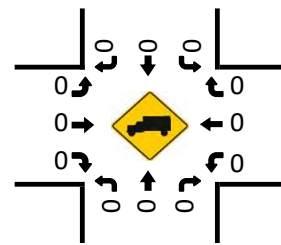
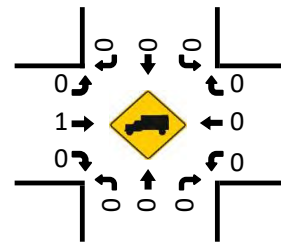
N Midway Rd & Patterson Pass Rd**Peak Hour Turning Movement Count**

ID: 24-080036-002
City: Tracy

Day: Thursday
Date: 2/8/2024

**Passenger Vehicles (AM)****Passenger Vehicles (NOON)****Passenger Vehicles (PM)****NORTHBOUND**

N Midway Rd

**Heavy Trucks (AM)****Heavy Trucks (NOON)****Heavy Trucks (PM)**

National Data & Surveying Services

Intersection Turning Movement Count

Location: Midway Rd E & Patterson Pass Rd
City: Tracy
Control: 1-Way Stop (SB)

Project ID: 24-080036-003
Date: 2/8/2024

Data - Total

NS/EW Streets:	Midway Rd E				Midway Rd E				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	219	0	0	219
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	201	0	0	202
7:30 AM	0	0	2	0	0	0	0	0	0	2	0	0	0	200	0	0	204
7:45 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	149	0	0	151
8:00 AM	1	0	1	0	0	0	0	0	0	1	0	0	1	99	0	0	103
8:15 AM	1	0	0	0	0	0	0	0	0	2	0	0	0	94	0	0	97
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	76	0	0	77
8:45 AM	0	0	1	0	0	0	0	0	0	4	0	0	2	46	0	1	54
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	2	0	5	0	0	0	0	0	0	12	0	0	3	1084	0	1	1107
	28.57%	0.00%	71.43%	0.00%					0.00%	100.00%	0.00%	0.00%	0.28%	99.63%	0.00%	0.09%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	3	0	0	0	0	0	0	4	0	0	0	769	0	0	776
PEAK HR FACTOR :	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.878	0.000	0.000	0.886
	0.375								0.500				0.878				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	154	0	0	1	1	0	0	156
4:15 PM	0	0	0	0	0	0	0	0	0	232	0	0	1	3	0	0	236
4:30 PM	0	0	0	0	0	0	0	0	0	211	0	0	0	0	0	0	211
4:45 PM	0	0	0	0	0	0	0	0	0	246	0	0	1	1	0	0	248
5:00 PM	0	0	0	0	0	0	0	0	0	255	0	0	1	0	0	0	256
5:15 PM	0	0	0	0	0	0	0	0	0	213	0	0	0	0	0	0	213
5:30 PM	0	0	0	0	0	0	0	0	0	209	0	0	0	0	0	0	209
5:45 PM	0	0	0	0	0	0	0	0	0	197	0	0	0	0	0	0	197
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	1717	0	0	4	5	0	0	1726
									0.00%	100.00%	0.00%	0.00%	44.44%	55.56%	0.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	944	0	0	3	4	0	0	951
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.925	0.000	0.000	0.750	0.333	0.000	0.000	0.929
									0.925				0.438				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Midway Rd E & Patterson Pass Rd
City: Tracy
Control: 1-Way Stop (SB)

Project ID: 24-080036-003
Date: 2/8/2024

Data - Passenger Vehicles

NS/EW Streets:	Midway Rd E				Midway Rd E				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	218	0	0	218
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	198	0	0	199
7:30 AM	0	0	2	0	0	0	0	0	0	1	0	0	0	197	0	0	200
7:45 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	149	0	0	151
8:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	1	97	0	0	100
8:15 AM	1	0	0	0	0	0	0	0	0	2	0	0	0	90	0	0	93
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	76	0	0	76
8:45 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	45	0	0	49
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	33.33%	0.00%	66.67%	0.00%	0	0	0	0	0.00%	100.00%	0.00%	0.00%	0.09%	99.91%	0.00%	0.00%	1086
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	3	0	0	0	0	0	0	3	0	0	0	762	0	0	768
PEAK HR FACTOR :	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.874	0.000	0.000	0.881
	0.375								0.750				0.874				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	153	0	0	1	1	0	0	155
4:15 PM	0	0	0	0	0	0	0	0	0	231	0	0	1	3	0	0	235
4:30 PM	0	0	0	0	0	0	0	0	0	211	0	0	0	0	0	0	211
4:45 PM	0	0	0	0	0	0	0	0	0	244	0	0	0	1	0	0	245
5:00 PM	0	0	0	0	0	0	0	0	0	252	0	0	1	0	0	0	253
5:15 PM	0	0	0	0	0	0	0	0	0	213	0	0	0	0	0	0	213
5:30 PM	0	0	0	0	0	0	0	0	0	208	0	0	0	0	0	0	208
5:45 PM	0	0	0	0	0	0	0	0	0	197	0	0	0	0	0	0	197
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	1709	0	0	3	5	0	0	1717
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	938	0	0	2	4	0	0	944
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.931	0.000	0.000	0.500	0.333	0.000	0.000	0.933
									0.931				0.375				

Location: Midway Rd E & Patterson Pass Rd
City: Tracy
Control: 1-Way Stop (SB)

[illegible]

National Data & Surveying Services

Intersection Turning Movement Count

Location: Midway Rd E & Patterson Pass Rd
City: Tracy
Control: 1-Way Stop (SB)

Project ID: 24-080036-003
Date: 2/8/2024

Data - Medium Trucks

NS/EW Streets:	Midway Rd E				Midway Rd E				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0	3
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4
8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	2	1	0	0	4
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	1	0	0	0	0	0	0	3	0	0	2	13	0	0	19
	0.00%	0.00%	100.00%	0.00%					0.00%	100.00%	0.00%	0.00%	13.33%	86.67%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	1	0	0	0	6	0	0	7
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.583
										0.250				0.500			
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	3
5:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	7	0	0	1	0	0	0	8
									0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	5	0	0	1	0	0	0	6
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.250	0.000	0.000	0.000	0.500
										0.625				0.250			

Location: Midway Rd E & Patterson Pass Rd
City: Tracy
Control: 1-Way Stop (SB)

Data - Heavy Trucks

NS/EW Streets:		Midway Rd E				Midway Rd E				Patterson Pass Rd				Patterson Pass Rd				
AM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		0 1 NL	0 1 NT	0 0 NR	0 0 NU	0 0 SL	0 0 ST	0 0 SR	0 0 SU	0 0 EL	0 1 ET	0 0 ER	0 0 EU	0 0 WL	0 1 WT	0 0 WR	0 0 WU	TOTAL
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
TOTAL VOLUMES : APPROACH %'s :		0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 1	100.00%
PEAK HR :		07:00 AM - 08:00 AM																TOTAL 0
PEAK HR VOL :		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PEAK HR FACTOR :		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
		0 1 NL	0 1 NT	0 0 NR	0 0 NU	0 0 SL	0 0 ST	0 0 SR	0 0 SU	0 0 EL	0 1 ET	0 0 ER	0 0 EU	0 0 WL	0 1 WT	0 0 WR	0 0 WU	TOTAL
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES : APPROACH %'s :		0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 1	0 0	0 0	0 0	0 0	0 0	0 0	100.00%
PEAK HR :		04:15 PM - 05:15 PM																TOTAL 1 0.250
PEAK HR VOL :		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	
PEAK HR FACTOR :		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	

National Data & Surveying Services

Intersection Turning Movement Count

Location: Midway Rd E & Patterson Pass Rd
City: Tracy

Project ID: 24-080036-003
Date: 2/8/2024

Data - Pedestrians (Crosswalks)

NS/EW Streets:	Midway Rd E		Midway Rd E		Patterson Pass Rd		Patterson Pass Rd	
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB
APPROACH %'s :	0	0	0	0	0	0	0	0
PEAK HR :	07:00 AM - 08:00 AM							
PEAK HR VOL :	0	0	0	0	0	0	0	0
PEAK HR FACTOR :								
								TOTAL
								0

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB
APPROACH %'s :	0	0	0	0	0	0	0	0
PEAK HR :	04:15 PM - 05:15 PM							
PEAK HR VOL :	0	0	0	0	0	0	0	0
PEAK HR FACTOR :								
								TOTAL
								0

National Data & Surveying Services

Intersection Turning Movement Count

Location: Midway Rd E & Patterson Pass Rd
City: Tracy
Control: 1-Way Stop (SB)

Project ID: 24-080036-003
Date: 2/8/2024

Data - Total PCE

NS/EW Streets:	Midway Rd E				Midway Rd E				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	220	0	0	220
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	204	0	0	205
7:30 AM	0	0	2	0	0	0	0	0	0	3	0	0	0	202	0	0	207
7:45 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	149	0	0	151
8:00 AM	1	0	1	0	0	0	0	0	0	2	0	0	1	101	0	0	106
8:15 AM	1	0	0	0	0	0	0	0	0	2	0	0	0	98	0	0	101
8:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	76	0	0	78
8:45 AM	0	0	2	0	0	0	0	0	0	4	0	0	4	47	0	3	60
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	2	0	6	0	0	0	0	0	0	15	0	0	5	1097	0	3	1128
	25.00%	0.00%	75.00%	0.00%					0.00%	100.00%	0.00%	0.00%	0.45%	99.28%	0.00%	0.27%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	3	0	0	0	0	0	0	5	0	0	0	775	0	0	783
PEAK HR FACTOR :	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.000	0.000	0.881	0.000	0.000	0.890
	0.375								0.417				0.881				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	155	0	0	1	1	0	0	157
4:15 PM	0	0	0	0	0	0	0	0	0	233	0	0	1	3	0	0	237
4:30 PM	0	0	0	0	0	0	0	0	0	211	0	0	0	0	0	0	211
4:45 PM	0	0	0	0	0	0	0	0	0	248	0	0	2	1	0	0	251
5:00 PM	0	0	0	0	0	0	0	0	0	259	0	0	1	0	0	0	260
5:15 PM	0	0	0	0	0	0	0	0	0	213	0	0	0	0	0	0	213
5:30 PM	0	0	0	0	0	0	0	0	0	210	0	0	0	0	0	0	210
5:45 PM	0	0	0	0	0	0	0	0	0	197	0	0	0	0	0	0	197
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	1726	0	0	5	5	0	0	1736
									0.00%	100.00%	0.00%	0.00%	50.00%	50.00%	0.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	951	0	0	4	4	0	0	959
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.918	0.000	0.000	0.500	0.333	0.000	0.000	0.922
									0.918				0.500				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Midway Rd E & Patterson Pass Rd
City: Tracy
Control: 1-Way Stop (SB)

Project ID: 24-080036-003
Date: 2/8/2024

Data - Passenger Vehicles PCE

NS/EW Streets:	Midway Rd E				Midway Rd E				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	218	0	0	218
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	198	0	0	199
7:30 AM	0	0	2	0	0	0	0	0	0	1	0	0	0	198	0	0	201
7:45 AM	0	0	1	0	0	0	0	0	0	1	0	0	0	149	0	0	151
8:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	1	97	0	0	100
8:15 AM	1	0	0	0	0	0	0	0	0	2	0	0	0	90	0	0	93
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	76	0	0	76
8:45 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	45	0	0	49
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	2	0	4	0	0	0	0	0	0	9	0	0	1	1071	0	0	1087
	33.33%	0.00%	66.67%	0.00%					0.00%	100.00%	0.00%	0.00%	0.09%	99.91%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	3	0	0	0	0	0	0	3	0	0	0	763	0	0	769
PEAK HR FACTOR :	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.875	0.000	0.000	0.882
	0.375								0.750				0.875				
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	153	0	0	1	1	0	0	155
4:15 PM	0	0	0	0	0	0	0	0	0	231	0	0	1	3	0	0	235
4:30 PM	0	0	0	0	0	0	0	0	0	211	0	0	0	0	0	0	211
4:45 PM	0	0	0	0	0	0	0	0	0	244	0	0	0	1	0	0	245
5:00 PM	0	0	0	0	0	0	0	0	0	252	0	0	1	0	0	0	253
5:15 PM	0	0	0	0	0	0	0	0	0	213	0	0	0	0	0	0	213
5:30 PM	0	0	0	0	0	0	0	0	0	208	0	0	0	0	0	0	208
5:45 PM	0	0	0	0	0	0	0	0	0	197	0	0	0	0	0	0	197
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	1709	0	0	3	5	0	0	1717
									0.00%	100.00%	0.00%	0.00%	37.50%	62.50%	0.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	938	0	0	2	4	0	0	944
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.931	0.000	0.000	0.500	0.333	0.000	0.000	0.933
									0.931				0.375				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Midway Rd E & Patterson Pass Rd
City: Tracy
Control: 1-Way Stop (SB)

Project ID: 24-080036-003
Date: 2/8/2024

Data - Medium Trucks PCE

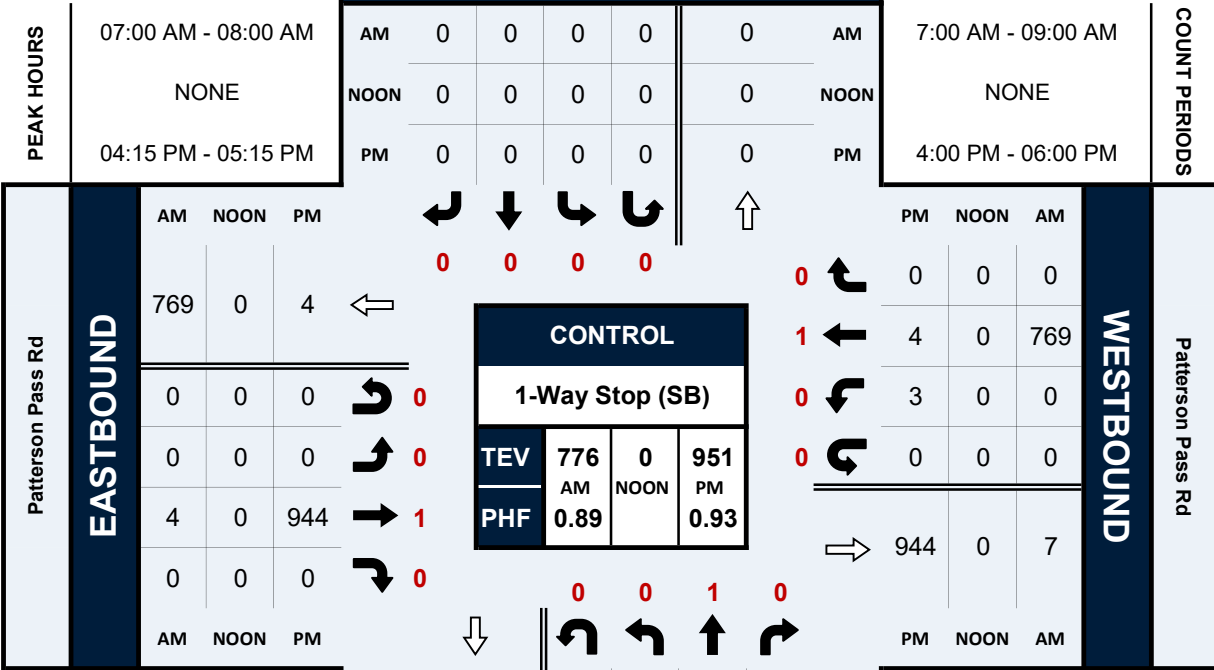
NS/EW Streets:	Midway Rd E				Midway Rd E				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6
7:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	0	6
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	0	6
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8
8:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
8:45 AM	0	0	2	0	0	0	0	0	0	0	0	0	4	2	0	0	8
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	2	0	0	0	0	0	0	6	0	0	4	26	0	0	38
	0.00%	0.00%	100.00%	0.00%					0.00%	100.00%	0.00%	0.00%	13.33%	86.67%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	2	0	0	0	12	0	0	14
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.500	0.000	0.000	0.583
										0.250				0.500			
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	1 NT	0 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
4:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	4	0	0	2	0	0	0	6
5:00 PM	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	0	0	0	0	0	14	0	0	2	0	0	0	16
									0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	0	10	0	0	2	0	0	0	12
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.250	0.000	0.000	0.000	0.500
										0.625				0.250			

Midway Rd E & Patterson Pass Rd

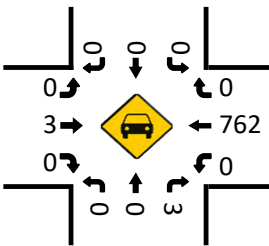
Peak Hour Turning Movement Count

ID: 24-080036-003
City: Tracy

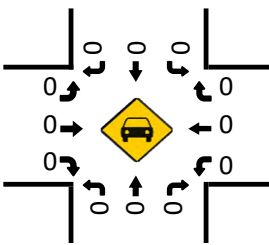
Day: Thursday
Date: 2/8/2024



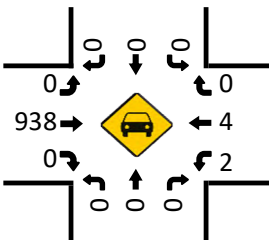
Passenger Vehicles (AM)



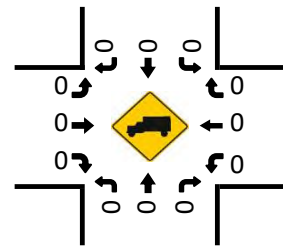
Passenger Vehicles (NOON)



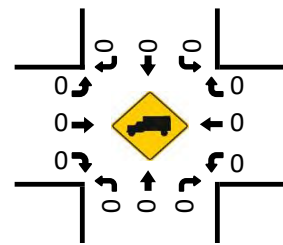
Passenger Vehicles (PM)



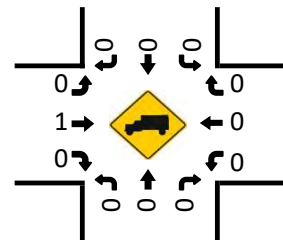
Heavy Trucks (AM)



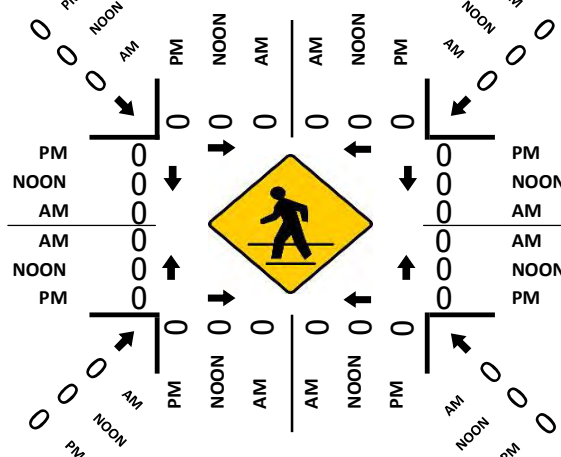
Heavy Trucks (NOON)



Heavy Trucks (PM)



Pedestrians (Crosswalks)



National Data & Surveying Services

Intersection Turning Movement Count

Location: I-580 EB Ramps & Patterson Pass Rd
City: Tracy
Control: Signalized

Project ID: 24-080036-004
Date: 2/8/2024

Data - Total

NS/EW Streets:	I-580 EB Ramps				I-580 EB Ramps				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0.5 SL	0.5 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	12	0	3	0	0	3	6	0	34	228	0	0	286
7:15 AM	0	0	0	0	9	0	2	0	0	2	5	0	32	207	0	0	257
7:30 AM	0	0	0	0	8	0	3	0	0	7	2	0	35	203	0	0	258
7:45 AM	0	0	0	0	6	0	4	0	0	5	5	0	26	142	0	0	188
8:00 AM	0	0	0	0	11	1	5	0	0	5	6	0	21	114	0	0	163
8:15 AM	0	0	0	0	6	0	1	0	0	6	3	0	24	92	0	0	132
8:30 AM	0	0	0	0	19	0	1	0	0	4	3	0	36	84	0	0	147
8:45 AM	0	0	0	0	8	1	3	0	0	7	2	0	39	51	0	0	111
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	79	2	22	0	0	39	32	0	247	1121	0	0	1542
					76.70%	1.94%	21.36%	0.00%	0.00%	54.93%	45.07%	0.00%	18.06%	81.94%	0.00%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM				35	0	12	0	0	17	18	0	127	780	0	0	TOTAL
PEAK HR VOL :	0	0	0	0	0.729	0.000	0.750	0.000	0.000	0.607	0.750	0.000	0.907	0.855	0.000	0.000	989
PEAK HR FACTOR :	0.000	0.000	0.000	0.000		0.783				0.875				0.865			0.865

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0.5 SL	0.5 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	14	0	6	0	0	51	95	0	63	9	0	0	238
4:15 PM	0	0	0	0	24	0	6	0	0	104	130	0	67	8	0	0	339
4:30 PM	0	0	0	0	20	1	10	0	0	108	136	0	65	4	0	0	344
4:45 PM	0	0	0	0	19	0	11	0	0	108	148	0	54	6	0	0	346
5:00 PM	0	0	0	0	16	0	16	0	0	84	167	0	53	1	0	0	337
5:15 PM	0	0	0	0	16	0	14	0	0	105	165	0	50	8	0	0	358
5:30 PM	0	0	0	0	13	0	9	0	0	85	156	0	54	3	0	0	320
5:45 PM	0	0	0	0	19	0	8	0	0	93	121	0	51	1	0	0	293
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	141	1	80	0	0	738	1118	0	457	40	0	0	2575
					63.51%	0.45%	36.04%	0.00%	0.00%	39.76%	60.24%	0.00%	91.95%	8.05%	0.00%	0.00%	
PEAK HR :	04:30 PM - 05:30 PM				71	1	51	0	0	405	616	0	222	19	0	0	TOTAL
PEAK HR VOL :	0	0	0	0	0.888	0.250	0.797	0.000	0.000	0.938	0.922	0.000	0.854	0.594	0.000	0.000	1385
PEAK HR FACTOR :	0.000	0.000	0.000	0.000		0.961				0.945				0.873			0.967

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-580 EB Ramps & Patterson Pass Rd
City: Tracy
Control: Signalized

Project ID: 24-080036-004
Date: 2/8/2024

Data - Passenger Vehicles

NS/EW Streets:	I-580 EB Ramps				I-580 EB Ramps				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0.5 SL	0.5 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	3	0	3	0	0	3	6	0	20	225	0	0	260
7:15 AM	0	0	0	0	3	0	2	0	0	1	5	0	12	204	0	0	227
7:30 AM	0	0	0	0	4	0	2	0	0	4	2	0	20	201	0	0	233
7:45 AM	0	0	0	0	2	0	4	0	0	5	5	0	17	141	0	0	174
8:00 AM	0	0	0	0	2	1	5	0	0	5	5	0	8	112	0	0	138
8:15 AM	0	0	0	0	1	0	1	0	0	4	3	0	14	88	0	0	111
8:30 AM	0	0	0	0	7	0	1	0	0	4	2	0	16	83	0	0	113
8:45 AM	0	0	0	0	3	1	3	0	0	5	2	0	13	48	0	0	75
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	25	2	21	0	0	31	30	0	120	1102	0	0	1331
PEAK HR :	07:00 AM - 08:00 AM				52.08%	4.17%	43.75%	0.00%	0.00%	50.82%	49.18%	0.00%	9.82%	90.18%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	12	0	11	0	0	13	18	0	69	771	0	0	TOTAL
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.750	0.000	0.688	0.000	0.000	0.650	0.750	0.000	0.863	0.857	0.000	0.000	894
						0.958				0.775				0.857			0.860

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0.5 SL	0.5 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	12	0	6	0	0	51	95	0	49	9	0	0	222
4:15 PM	0	0	0	0	17	0	5	0	0	103	130	0	55	8	0	0	318
4:30 PM	0	0	0	0	14	1	9	0	0	108	135	0	53	3	0	0	323
4:45 PM	0	0	0	0	16	0	10	0	0	107	148	0	41	6	0	0	328
5:00 PM	0	0	0	0	11	0	15	0	0	84	167	0	43	1	0	0	321
5:15 PM	0	0	0	0	15	0	14	0	0	104	165	0	45	8	0	0	351
5:30 PM	0	0	0	0	12	0	9	0	0	84	156	0	43	3	0	0	307
5:45 PM	0	0	0	0	16	0	8	0	0	92	121	0	47	1	0	0	285
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	113	1	76	0	0	733	1117	0	376	39	0	0	2455
PEAK HR :	04:30 PM - 05:30 PM				59.47%	0.53%	40.00%	0.00%	0.00%	39.62%	60.38%	0.00%	90.60%	9.40%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	56	1	48	0	0	403	615	0	182	18	0	0	TOTAL
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.875	0.250	0.800	0.000	0.000	0.933	0.921	0.000	0.858	0.563	0.000	0.000	1323
						0.905				0.946				0.893			0.942

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-580 EB Ramps & Patterson Pass Rd
City: Tracy
Control: Signalized

Project ID: 24-080036-004
Date: 2/8/2024

Data - Heavy Trucks

NS/EW Streets:	I-580 EB Ramps				I-580 EB Ramps				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0.5 SL	0.5 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	8	0	0	0	0	0	0	0	13	1	0	0	22
7:15 AM	0	0	0	0	3	0	0	0	0	1	0	0	18	1	0	0	23
7:30 AM	0	0	0	0	4	0	1	0	0	3	0	0	13	0	0	0	21
7:45 AM	0	0	0	0	4	0	0	0	0	0	0	0	8	0	0	0	12
8:00 AM	0	0	0	0	8	0	0	0	0	0	1	0	12	0	0	0	21
8:15 AM	0	0	0	0	5	0	0	0	0	1	0	0	8	2	0	0	16
8:30 AM	0	0	0	0	12	0	0	0	0	0	1	0	17	0	0	0	30
8:45 AM	0	0	0	0	5	0	0	0	0	1	0	0	23	1	0	0	30
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	98.00%	0.00%	2.00%	0.00%	0.00%	75.00%	25.00%	0.00%	95.73%	4.27%	0.00%	0.00%	175
PEAK HR :	07:00 AM - 08:00 AM				19	0	1	0	0	4	0	0	52	2	0	0	78
PEAK HR VOL :	0	0	0	0	0.594	0.000	0.250	0.000	0.000	0.333	0.000	0.000	0.722	0.500	0.000	0.000	0.848
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.625				0.333				0.711				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0.5 SL	0.5 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	13	0	0	0	15
4:15 PM	0	0	0	0	6	0	0	0	0	1	0	0	12	0	0	0	19
4:30 PM	0	0	0	0	6	0	0	0	0	0	0	0	9	0	0	0	15
4:45 PM	0	0	0	0	2	0	0	0	0	0	0	0	11	0	0	0	13
5:00 PM	0	0	0	0	3	0	0	0	0	0	0	0	8	0	0	0	11
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	4	0	0	0	5
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	9	0	0	0	10
5:45 PM	0	0	0	0	3	0	0	0	0	1	0	0	4	0	0	0	8
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	96
PEAK HR :	04:30 PM - 05:30 PM				12	0	0	0	0	0	0	0	32	0	0	0	44
PEAK HR VOL :	0	0	0	0	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.727	0.000	0.000	0.000	0.733
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.500				0.000				0.727				

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-580 EB Ramps & Patterson Pass Rd
City: Tracy

Project ID: 24-080036-004
Date: 2/8/2024

Data - Pedestrians (Crosswalks)

NS/EW Streets:	I-580 EB Ramps		I-580 EB Ramps		Patterson Pass Rd		Patterson Pass Rd	
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB
APPROACH %'s :	0	0	0	0	0	0	0	0
PEAK HR :	07:00 AM - 08:00 AM							
PEAK HR VOL :	0	0	0	0	0	0	0	0
PEAK HR FACTOR :								
								TOTAL
								0

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB
APPROACH %'s :	0	0	0	0	0	0	0	0
PEAK HR :	04:30 PM - 05:30 PM							
PEAK HR VOL :	0	0	0	0	0	0	0	0
PEAK HR FACTOR :								
								TOTAL
								0

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-580 EB Ramps & Patterson Pass Rd
City: Tracy
Control: Signalized

Project ID: 24-080036-004
Date: 2/8/2024

Data - Total PCE

NS/EW Streets:	I-580 EB Ramps				I-580 EB Ramps				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0.5 SL	0.5 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	29	0	3	0	0	3	6	0	61	232	0	0	334
7:15 AM	0	0	0	0	18	0	2	0	0	4	5	0	70	211	0	0	310
7:30 AM	0	0	0	0	16	0	5	0	0	13	2	0	63	204	0	0	303
7:45 AM	0	0	0	0	14	0	4	0	0	5	5	0	43	143	0	0	214
8:00 AM	0	0	0	0	28	1	5	0	0	5	8	0	46	116	0	0	209
8:15 AM	0	0	0	0	16	0	1	0	0	9	3	0	42	98	0	0	169
8:30 AM	0	0	0	0	43	0	1	0	0	4	5	0	73	85	0	0	211
8:45 AM	0	0	0	0	18	1	3	0	0	10	2	0	88	55	0	0	177
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	182	2	24	0	0	53	36	0	486	1144	0	0	1927
PEAK HR :	07:00 AM - 08:00 AM				87.50%	0.96%	11.54%	0.00%	0.00%	59.55%	40.45%	0.00%	29.82%	70.18%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	77	0	14	0	0	25	18	0	237	790	0	0	TOTAL
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.664	0.000	0.700	0.000	0.000	0.481	0.750	0.000	0.846	0.851	0.000	0.000	0.869
								0.711				0.717				0.876	

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0.5 SL	0.5 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	18	0	6	0	0	51	95	0	90	9	0	0	269
4:15 PM	0	0	0	0	37	0	7	0	0	106	130	0	91	8	0	0	379
4:30 PM	0	0	0	0	32	1	11	0	0	108	137	0	86	5	0	0	380
4:45 PM	0	0	0	0	24	0	12	0	0	109	148	0	78	6	0	0	377
5:00 PM	0	0	0	0	24	0	17	0	0	84	167	0	71	1	0	0	364
5:15 PM	0	0	0	0	18	0	14	0	0	106	165	0	59	8	0	0	370
5:30 PM	0	0	0	0	15	0	9	0	0	86	156	0	74	3	0	0	343
5:45 PM	0	0	0	0	25	0	8	0	0	95	121	0	59	1	0	0	309
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	193	1	84	0	0	745	1119	0	608	41	0	0	2791
PEAK HR :	04:30 PM - 05:30 PM				69.42%	0.36%	30.22%	0.00%	0.00%	39.97%	60.03%	0.00%	93.68%	6.32%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	98	1	54	0	0	407	617	0	294	20	0	0	TOTAL
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.766	0.250	0.794	0.000	0.000	0.933	0.924	0.000	0.855	0.625	0.000	0.000	0.981
								0.869				0.945				0.863	

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-580 EB Ramps & Patterson Pass Rd
City: Tracy
Control: Signalized

Project ID: 24-080036-004
Date: 2/8/2024

Data - Passenger Vehicles PCE

NS/EW Streets:	I-580 EB Ramps				I-580 EB Ramps				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0.5 SL	0.5 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	3	0	3	0	0	3	6	0	20	225	0	0	260
7:15 AM	0	0	0	0	3	0	2	0	0	1	5	0	12	204	0	0	227
7:30 AM	0	0	0	0	4	0	2	0	0	4	2	0	20	202	0	0	234
7:45 AM	0	0	0	0	2	0	4	0	0	5	5	0	17	141	0	0	174
8:00 AM	0	0	0	0	2	1	5	0	0	5	5	0	8	112	0	0	138
8:15 AM	0	0	0	0	1	0	1	0	0	4	3	0	14	88	0	0	111
8:30 AM	0	0	0	0	7	0	1	0	0	4	2	0	16	83	0	0	113
8:45 AM	0	0	0	0	3	1	3	0	0	5	2	0	13	48	0	0	75
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	25	2	21	0	0	31	30	0	120	1103	0	0	1332
PEAK HR :	07:00 AM - 08:00 AM				52.08%	4.17%	43.75%	0.00%	0.00%	50.82%	49.18%	0.00%	9.81%	90.19%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	12	0	11	0	0	13	18	0	69	772	0	0	TOTAL
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.750	0.000	0.688	0.000	0.000	0.650	0.750	0.000	0.863	0.858	0.000	0.000	0.861
							0.958				0.775				0.858		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0.5 SL	0.5 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	12	0	6	0	0	51	95	0	49	9	0	0	222
4:15 PM	0	0	0	0	17	0	5	0	0	103	130	0	55	8	0	0	318
4:30 PM	0	0	0	0	14	1	9	0	0	108	135	0	53	3	0	0	323
4:45 PM	0	0	0	0	16	0	10	0	0	107	148	0	41	6	0	0	328
5:00 PM	0	0	0	0	11	0	15	0	0	84	167	0	43	1	0	0	321
5:15 PM	0	0	0	0	15	0	14	0	0	104	165	0	45	8	0	0	351
5:30 PM	0	0	0	0	12	0	9	0	0	84	156	0	43	3	0	0	307
5:45 PM	0	0	0	0	16	0	8	0	0	92	121	0	47	1	0	0	285
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	113	1	76	0	0	733	1117	0	376	39	0	0	2455
PEAK HR :	04:30 PM - 05:30 PM				59.47%	0.53%	40.00%	0.00%	0.00%	39.62%	60.38%	0.00%	90.60%	9.40%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	56	1	48	0	0	403	615	0	182	18	0	0	TOTAL
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.875	0.250	0.800	0.000	0.000	0.933	0.921	0.000	0.858	0.563	0.000	0.000	0.942
							0.905				0.946				0.893		

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-580 EB Ramps & Patterson Pass Rd
City: Tracy
Control: Signalized

Project ID: 24-080036-004
Date: 2/8/2024

Data - Medium Trucks PCE

NS/EW Streets:	I-580 EB Ramps				I-580 EB Ramps				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0.5 SL	0.5 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	2	4	0	0	8
7:15 AM	0	0	0	0	6	0	0	0	0	0	0	0	4	4	0	0	14
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	4	2	0	0	6
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4
8:00 AM	0	0	0	0	2	0	0	0	0	0	0	0	2	4	0	0	8
8:15 AM	0	0	0	0	0	0	0	0	0	2	0	0	4	4	0	0	10
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	6	2	0	0	8
8:45 AM	0	0	0	0	0	0	0	0	0	2	0	0	6	4	0	0	12
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	53.57%	46.43%	0.00%	0.00%	70
PEAK HR :	07:00 AM - 08:00 AM				8	0	0	0	0	0	0	0	12	12	0	0	32
PEAK HR VOL :	0	0	0	0	0.333	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.750	0.000	0.000	0.571
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.333	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.750	0.000	0.000	0.571

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0.5 SL	0.5 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
4:15 PM	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	4
4:30 PM	0	0	0	0	0	0	2	0	0	0	2	0	6	2	0	0	12
4:45 PM	0	0	0	0	2	0	2	0	0	2	0	0	4	0	0	0	10
5:00 PM	0	0	0	0	4	0	2	0	0	0	0	0	4	0	0	0	10
5:15 PM	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	4
5:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	4	0	0	0	6
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	50.00%	0.00%	50.00%	0.00%	0.00%	75.00%	25.00%	0.00%	91.67%	8.33%	0.00%	0.00%	48
PEAK HR :	04:30 PM - 05:30 PM				6	0	6	0	0	4	2	0	16	2	0	0	36
PEAK HR VOL :	0	0	0	0	0.375	0.000	0.750	0.000	0.000	0.500	0.250	0.000	0.667	0.250	0.000	0.000	0.750
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.375	0.000	0.750	0.000	0.000	0.500	0.250	0.000	0.667	0.250	0.000	0.000	0.750

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-580 EB Ramps & Patterson Pass Rd
City: Tracy
Control: Signalized

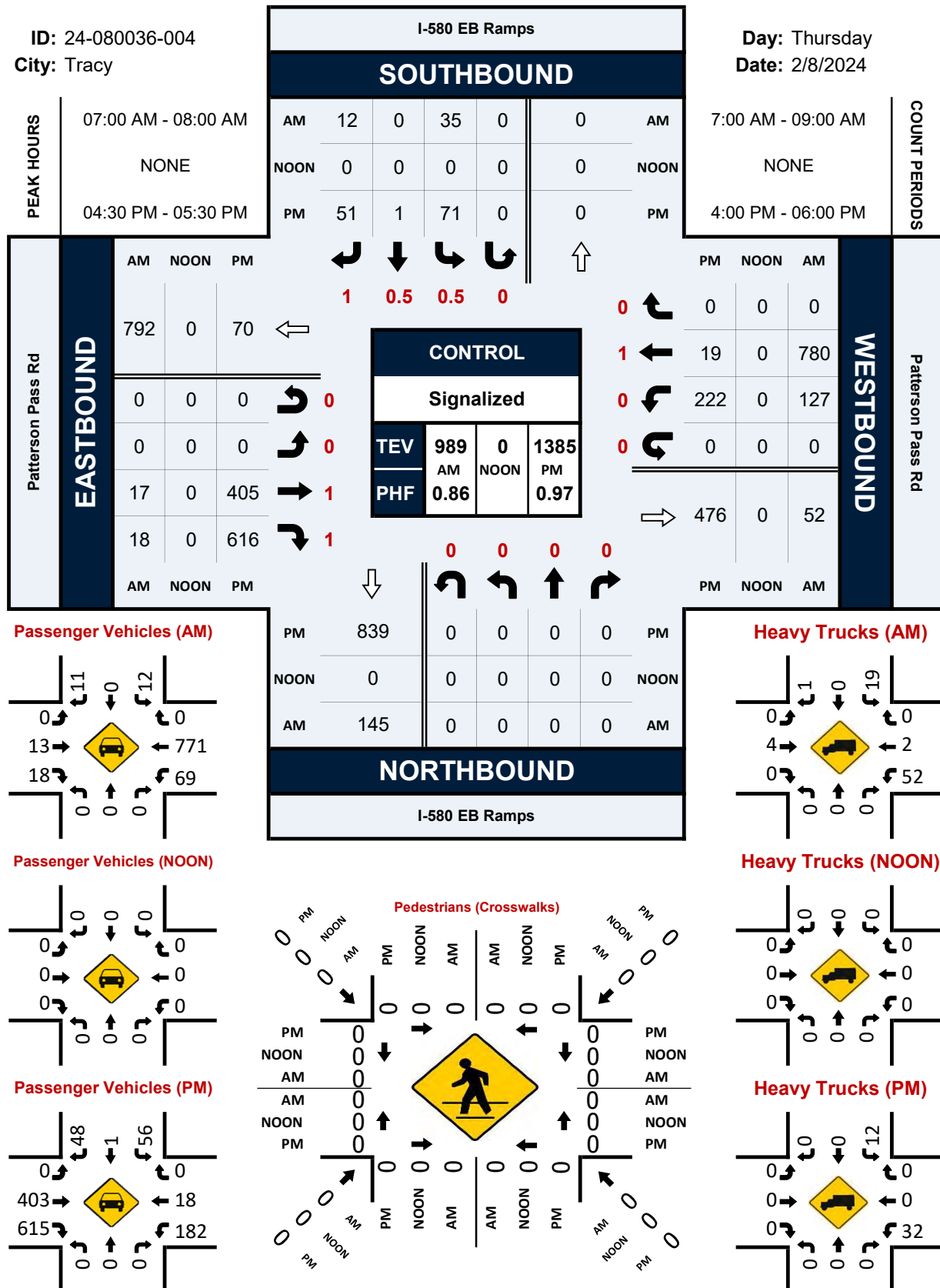
Project ID: 24-080036-004
Date: 2/8/2024

Data - Heavy Trucks PCE

NS/EW Streets:	I-580 EB Ramps				I-580 EB Ramps				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0.5 SL	0.5 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
7:00 AM	0	0	0	0	24	0	0	0	0	0	0	0	39	3	0	0	66
7:15 AM	0	0	0	0	9	0	0	0	0	3	0	0	54	3	0	0	69
7:30 AM	0	0	0	0	12	0	3	0	0	9	0	0	39	0	0	0	63
7:45 AM	0	0	0	0	12	0	0	0	0	0	0	0	24	0	0	0	36
8:00 AM	0	0	0	0	24	0	0	0	0	0	3	0	36	0	0	0	63
8:15 AM	0	0	0	0	15	0	0	0	0	3	0	0	24	6	0	0	48
8:30 AM	0	0	0	0	36	0	0	0	0	0	3	0	51	0	0	0	90
8:45 AM	0	0	0	0	15	0	0	0	0	3	0	0	69	3	0	0	90
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	147	0	3	0	0	18	6	0	336	15	0	0	525
PEAK HR :	07:00 AM - 08:00 AM				98.00%	0.00%	2.00%	0.00%	0.00%	75.00%	25.00%	0.00%	95.73%	4.27%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	57	0	3	0	0	12	0	0	156	6	0	0	TOTAL
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.594	0.000	0.250	0.000	0.000	0.333	0.000	0.000	0.722	0.500	0.000	0.000	234
							0.625				0.333				0.711		0.848

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0 NL	0 NT	0 NR	0 NU	0.5 SL	0.5 ST	1 SR	0 SU	0 EL	1 ET	1 ER	0 EU	0 WL	1 WT	0 WR	0 WU	
4:00 PM	0	0	0	0	6	0	0	0	0	0	0	0	39	0	0	0	45
4:15 PM	0	0	0	0	18	0	0	0	0	3	0	0	36	0	0	0	57
4:30 PM	0	0	0	0	18	0	0	0	0	0	0	0	27	0	0	0	45
4:45 PM	0	0	0	0	6	0	0	0	0	0	0	0	33	0	0	0	39
5:00 PM	0	0	0	0	9	0	0	0	0	0	0	0	24	0	0	0	33
5:15 PM	0	0	0	0	3	0	0	0	0	0	0	0	12	0	0	0	15
5:30 PM	0	0	0	0	3	0	0	0	0	0	0	0	27	0	0	0	30
5:45 PM	0	0	0	0	9	0	0	0	0	3	0	0	12	0	0	0	24
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	0	0	72	0	0	0	0	6	0	0	210	0	0	0	288
PEAK HR :	04:30 PM - 05:30 PM				100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	
PEAK HR VOL :	0	0	0	0	36	0	0	0	0	0	0	0	96	0	0	0	TOTAL
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.727	0.000	0.000	0.000	132
							0.500								0.727		0.733

Day: Thursday
Date: 2/8/2024



National Data & Surveying Services

Intersection Turning Movement Count

Location: I-580 WB Ramps & Patterson Pass Rd
City: Tracy
Control: Signalized

Project ID: 24-080036-005
Date: 2/8/2024

Data - Total

NS/EW Streets:	I-580 WB Ramps				I-580 WB Ramps				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
7:00 AM	110	0	65	0	0	0	0	0	2	14	0	0	0	151	174	0	516
7:15 AM	102	0	70	0	0	0	0	0	2	7	0	0	0	143	221	0	545
7:30 AM	88	0	61	0	0	0	0	0	1	16	0	0	0	151	187	0	504
7:45 AM	62	0	70	0	0	0	0	0	4	6	0	0	0	101	144	0	387
8:00 AM	41	0	62	0	0	0	0	0	1	16	0	0	0	93	127	0	340
8:15 AM	33	0	57	0	0	0	0	0	1	11	0	0	0	85	131	0	318
8:30 AM	31	0	51	0	0	0	0	0	2	21	0	0	0	89	98	0	292
8:45 AM	12	0	53	0	0	0	0	0	3	12	0	0	0	76	74	0	230
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	49.48%	0.00%	50.52%	0.00%	0	0	0	0	13.45%	86.55%	0.00%	0.00%	0.00%	43.47%	56.53%	0.00%	3132
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	362	0	266	0	0	0	0	0	9	43	0	0	0	546	726	0	1952
PEAK HR FACTOR :	0.823	0.000	0.950	0.000	0.000	0.000	0.000	0.000	0.563	0.672	0.000	0.000	0.000	0.904	0.821	0.000	0.895
	0.897								0.765				0.874				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
4:00 PM	7	0	38	0	0	0	0	0	1	62	0	0	0	67	22	0	197
4:15 PM	2	0	33	0	0	0	0	0	4	126	0	0	0	71	22	0	258
4:30 PM	2	0	35	0	0	0	0	0	1	122	0	0	0	69	17	0	246
4:45 PM	0	0	30	0	0	0	0	0	0	130	0	0	0	58	23	0	241
5:00 PM	1	0	45	0	0	0	0	0	1	101	0	0	0	53	11	0	212
5:15 PM	2	2	34	0	0	0	0	0	2	117	0	0	0	56	17	0	230
5:30 PM	1	0	65	0	0	0	0	0	1	99	0	0	0	56	18	0	240
5:45 PM	1	0	50	0	0	0	0	0	2	109	0	0	0	51	22	0	235
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	4.60%	0.57%	94.83%	0.00%	0	0	0	0	1.37%	98.63%	0.00%	0.00%	0.00%	75.99%	24.01%	0.00%	1859
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	5	0	143	0	0	0	0	0	6	479	0	0	0	251	73	0	957
PEAK HR FACTOR :	0.625	0.000	0.794	0.000	0.000	0.000	0.000	0.000	0.375	0.921	0.000	0.000	0.000	0.884	0.793	0.000	0.927
	0.804								0.933				0.871				

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-580 WB Ramps & Patterson Pass Rd
City: Tracy
Control: Signalized

Project ID: 24-080036-005
Date: 2/8/2024

Data - Passenger Vehicles

NS/EW Streets:	I-580 WB Ramps				I-580 WB Ramps				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
7:00 AM	110	0	37	0	0	0	0	0	2	4	0	0	0	135	163	0	451
7:15 AM	102	0	39	0	0	0	0	0	1	1	0	0	0	120	205	0	468
7:30 AM	87	0	44	0	0	0	0	0	1	9	0	0	0	135	173	0	449
7:45 AM	61	0	42	0	0	0	0	0	4	3	0	0	0	92	130	0	332
8:00 AM	41	0	34	0	0	0	0	0	1	6	0	0	0	78	111	0	271
8:15 AM	33	0	37	0	0	0	0	0	1	4	0	0	0	70	120	0	265
8:30 AM	31	0	27	0	0	0	0	0	2	9	0	0	0	67	83	0	219
8:45 AM	11	0	34	0	0	0	0	0	1	7	0	0	0	50	55	0	158
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	476	0	294	0	0	0	0	0	13	43	0	0	0	747	1040	0	2613
	61.82%	0.00%	38.18%	0.00%					23.21%	76.79%	0.00%	0.00%	0.00%	41.80%	58.20%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	360	0	162	0	0	0	0	0	8	17	0	0	0	482	671	0	1700
PEAK HR FACTOR :	0.818	0.000	0.920	0.000	0.000	0.000	0.000	0.000	0.500	0.472	0.000	0.000	0.000	0.893	0.818	0.000	0.908
	0.888								0.625				0.887				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
4:00 PM	7	0	25	0	0	0	0	0	1	60	0	0	0	52	11	0	156
4:15 PM	2	0	21	0	0	0	0	0	4	118	0	0	0	60	12	0	217
4:30 PM	2	0	27	0	0	0	0	0	1	116	0	0	0	56	10	0	212
4:45 PM	0	0	22	0	0	0	0	0	0	126	0	0	0	45	11	0	204
5:00 PM	1	0	28	0	0	0	0	0	1	96	0	0	0	43	5	0	174
5:15 PM	2	2	23	0	0	0	0	0	2	115	0	0	0	51	12	0	207
5:30 PM	1	0	53	0	0	0	0	0	1	97	0	0	0	45	7	0	204
5:45 PM	1	0	40	0	0	0	0	0	2	105	0	0	0	47	11	0	206
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	16	2	239	0	0	0	0	0	12	833	0	0	0	399	79	0	1580
	6.23%	0.78%	93.00%	0.00%					1.42%	98.58%	0.00%	0.00%	0.00%	83.47%	16.53%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	5	0	98	0	0	0	0	0	6	456	0	0	0	204	38	0	807
PEAK HR FACTOR :	0.625	0.000	0.875	0.000	0.000	0.000	0.000	0.000	0.375	0.905	0.000	0.000	0.000	0.850	0.792	0.000	0.930
	0.888								0.917				0.840				

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-580 WB Ramps & Patterson Pass Rd
City: Tracy
Control: Signalized

Project ID: 24-080036-005
Date: 2/8/2024

Data - Medium Trucks

NS/EW Streets:	I-580 WB Ramps				I-580 WB Ramps				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
7:00 AM	0	0	3	0	0	0	0	0	0	1	0	0	0	3	3	0	10
7:15 AM	0	0	4	0	0	0	0	0	0	3	0	0	0	4	4	0	15
7:30 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	3	2	0	10
7:45 AM	1	0	4	0	0	0	0	0	0	0	0	0	0	1	4	0	10
8:00 AM	0	0	2	0	0	0	0	0	0	1	0	0	0	3	2	0	8
8:15 AM	0	0	2	0	0	0	0	0	0	1	0	0	0	4	2	0	9
8:30 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	4	3	0	12
8:45 AM	1	0	2	0	0	0	0	0	1	0	0	0	0	4	2	0	10
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	2	0	27	0	0	0	0	0	1	6	0	0	0	26	22	0	84
	6.90%	0.00%	93.10%	0.00%					14.29%	85.71%	0.00%	0.00%	0.00%	54.17%	45.83%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	1	0	16	0	0	0	0	0	0	4	0	0	0	11	13	0	45
PEAK HR FACTOR :	0.250	0.000	0.800	0.000	0.000	0.000	0.000	0.000	0.000	0.333	0.000	0.000	0.000	0.688	0.813	0.000	0.750
			0.850								0.333				0.750		

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
4:00 PM	0	0	5	0	0	0	0	0	0	0	0	0	0	1	1	0	7
4:15 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	3
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	4	4	0	9
4:45 PM	0	0	1	0	0	0	0	0	0	2	0	0	0	2	1	0	6
5:00 PM	0	0	2	0	0	0	0	0	0	2	0	0	0	2	0	0	6
5:15 PM	0	0	2	0	0	0	0	0	0	1	0	0	0	1	1	0	5
5:30 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	2	1	0	5
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	14	0	0	0	0	0	0	7	0	0	0	12	10	0	43
	0.00%	0.00%	100.00%	0.00%					0.00%	100.00%	0.00%	0.00%	0.00%	54.55%	45.45%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	5	0	0	0	0	0	0	5	0	0	0	8	6	0	24
PEAK HR FACTOR :	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.500	0.375	0.000	0.667
			0.625								0.625				0.438		

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-580 WB Ramps & Patterson Pass Rd
City: Tracy
Control: Signalized

Project ID: 24-080036-005
Date: 2/8/2024

Data - Heavy Trucks

NS/EW Streets:	I-580 WB Ramps				I-580 WB Ramps				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
7:00 AM	0	0	25	0	0	0	0	0	0	9	0	0	0	13	8	0	55
7:15 AM	0	0	27	0	0	0	0	0	1	3	0	0	0	19	12	0	62
7:30 AM	0	0	12	0	0	0	0	0	0	7	0	0	0	13	12	0	44
7:45 AM	0	0	24	0	0	0	0	0	0	3	0	0	0	8	10	0	45
8:00 AM	0	0	26	0	0	0	0	0	0	9	0	0	0	12	14	0	61
8:15 AM	0	0	18	0	0	0	0	0	0	6	0	0	0	11	9	0	44
8:30 AM	0	0	19	0	0	0	0	0	0	12	0	0	0	18	12	0	61
8:45 AM	0	0	17	0	0	0	0	0	1	5	0	0	0	22	17	0	62
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	168	0	0	0	0	0	2	54	0	0	0	116	94	0	434
	0.00%	0.00%	100.00%	0.00%					3.57%	96.43%	0.00%	0.00%	0.00%	55.24%	44.76%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	88	0	0	0	0	0	1	22	0	0	0	53	42	0	206
PEAK HR FACTOR :	0.000	0.000	0.815	0.000	0.000	0.000	0.000	0.000	0.250	0.611	0.000	0.000	0.000	0.697	0.875	0.000	0.831
	0.815								0.639				0.766				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
4:00 PM	0	0	8	0	0	0	0	0	0	2	0	0	0	14	10	0	34
4:15 PM	0	0	11	0	0	0	0	0	0	7	0	0	0	11	9	0	38
4:30 PM	0	0	7	0	0	0	0	0	0	6	0	0	0	9	3	0	25
4:45 PM	0	0	7	0	0	0	0	0	0	2	0	0	0	11	11	0	31
5:00 PM	0	0	15	0	0	0	0	0	0	3	0	0	0	8	6	0	32
5:15 PM	0	0	9	0	0	0	0	0	0	1	0	0	0	4	4	0	18
5:30 PM	0	0	11	0	0	0	0	0	0	1	0	0	0	9	10	0	31
5:45 PM	0	0	9	0	0	0	0	0	0	4	0	0	0	4	10	0	27
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	77	0	0	0	0	0	0	26	0	0	0	70	63	0	236
	0.00%	0.00%	100.00%	0.00%					0.00%	100.00%	0.00%	0.00%	0.00%	52.63%	47.37%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	40	0	0	0	0	0	0	18	0	0	0	39	29	0	126
PEAK HR FACTOR :	0.000	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.000	0.643	0.000	0.000	0.000	0.886	0.659	0.000	0.829
	0.667								0.643				0.773				

Location: I-580 WB Ramps & Patterson Pass Rd
City: Tracy
Control: Signalized

Data - Bikes

[illegible]

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-580 WB Ramps & Patterson Pass Rd
City: Tracy

Project ID: 24-080036-005
Date: 2/8/2024

Data - Pedestrians (Crosswalks)

NS/EW Streets:	I-580 WB Ramps		I-580 WB Ramps		Patterson Pass Rd		Patterson Pass Rd	
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
7:00 AM	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB
APPROACH %'s :	0	0	0	0	0	0	0	0
PEAK HR :	07:00 AM - 08:00 AM							
PEAK HR VOL :	0	0	0	0	0	0	0	0
PEAK HR FACTOR :								
								TOTAL
								0

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG	
	EB	WB	EB	WB	NB	SB	NB	SB
4:00 PM	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0
TOTAL VOLUMES :	EB	WB	EB	WB	NB	SB	NB	SB
APPROACH %'s :	0	0	0	0	0	0	0	0
PEAK HR :	04:15 PM - 05:15 PM							
PEAK HR VOL :	0	0	0	0	0	0	0	0
PEAK HR FACTOR :								
								TOTAL
								0

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-580 WB Ramps & Patterson Pass Rd
City: Tracy
Control: Signalized

Project ID: 24-080036-005
Date: 2/8/2024

Data - Total PCE

NS/EW Streets:	I-580 WB Ramps				I-580 WB Ramps				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
7:00 AM	110	0	118	0	0	0	0	0	2	33	0	0	0	180	193	0	636
7:15 AM	102	0	128	0	0	0	0	0	4	16	0	0	0	185	249	0	684
7:30 AM	88	0	90	0	0	0	0	0	1	30	0	0	0	180	213	0	602
7:45 AM	63	0	122	0	0	0	0	0	4	12	0	0	0	118	168	0	487
8:00 AM	41	0	116	0	0	0	0	0	1	35	0	0	0	120	157	0	470
8:15 AM	33	0	95	0	0	0	0	0	1	24	0	0	0	111	151	0	415
8:30 AM	31	0	94	0	0	0	0	0	2	45	0	0	0	129	125	0	426
8:45 AM	13	0	89	0	0	0	0	0	6	22	0	0	0	124	110	0	364
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	481	0	852	0	0	0	0	0	21	217	0	0	0	1147	1366	0	4084
PEAK HR :	36.08%	0.00%	63.92%	0.00%					8.82%	91.18%	0.00%	0.00%	0.00%	45.64%	54.36%	0.00%	
PEAK HR VOL :	07:00 AM - 08:00 AM				0	0	0	0	11	91	0	0	0	663	823	0	TOTAL
PEAK HR FACTOR :	0.825	0.000	0.895	0.000	0.000	0.000	0.000	0.000	0.688	0.689	0.000	0.000	0.000	0.896	0.826	0.000	2409
			0.892							0.729				0.856			0.880

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
4:00 PM	7	0	59	0	0	0	0	0	1	66	0	0	0	96	43	0	272
4:15 PM	2	0	56	0	0	0	0	0	4	141	0	0	0	93	41	0	337
4:30 PM	2	0	50	0	0	0	0	0	1	134	0	0	0	91	27	0	305
4:45 PM	0	0	45	0	0	0	0	0	0	136	0	0	0	82	46	0	309
5:00 PM	1	0	77	0	0	0	0	0	1	109	0	0	0	71	23	0	282
5:15 PM	2	2	54	0	0	0	0	0	2	120	0	0	0	65	26	0	271
5:30 PM	1	0	88	0	0	0	0	0	1	102	0	0	0	76	39	0	307
5:45 PM	1	0	69	0	0	0	0	0	2	117	0	0	0	59	43	0	291
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	16	2	498	0	0	0	0	0	12	925	0	0	0	633	288	0	2374
PEAK HR :	3.10%	0.39%	96.51%	0.00%					1.28%	98.72%	0.00%	0.00%	0.00%	68.73%	31.27%	0.00%	
PEAK HR VOL :	04:15 PM - 05:15 PM				0	0	0	0	6	520	0	0	0	337	137	0	TOTAL
PEAK HR FACTOR :	0.625	0.000	0.740	0.000	0.000	0.000	0.000	0.000	0.375	0.922	0.000	0.000	0.000	0.906	0.745	0.000	1233
			0.747							0.907				0.884			0.915

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-580 WB Ramps & Patterson Pass Rd
City: Tracy
Control: Signalized

Project ID: 24-080036-005
Date: 2/8/2024

Data - Passenger Vehicles PCE

NS/EW Streets:	I-580 WB Ramps				I-580 WB Ramps				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
7:00 AM	110	0	37	0	0	0	0	0	2	4	0	0	0	135	163	0	451
7:15 AM	102	0	39	0	0	0	0	0	1	1	0	0	0	120	205	0	468
7:30 AM	88	0	44	0	0	0	0	0	1	9	0	0	0	135	173	0	450
7:45 AM	61	0	42	0	0	0	0	0	4	3	0	0	0	92	130	0	332
8:00 AM	41	0	34	0	0	0	0	0	1	6	0	0	0	78	111	0	271
8:15 AM	33	0	37	0	0	0	0	0	1	4	0	0	0	70	120	0	265
8:30 AM	31	0	27	0	0	0	0	0	2	9	0	0	0	67	83	0	219
8:45 AM	11	0	34	0	0	0	0	0	1	7	0	0	0	50	55	0	158
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	477	0	294	0	0	0	0	0	13	43	0	0	0	747	1040	0	2614
	61.87%	0.00%	38.13%	0.00%					23.21%	76.79%	0.00%	0.00%	0.00%	41.80%	58.20%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	361	0	162	0	0	0	0	0	8	17	0	0	0	482	671	0	1701
PEAK HR FACTOR :	0.820	0.000	0.920	0.000	0.000	0.000	0.000	0.000	0.500	0.472	0.000	0.000	0.000	0.893	0.818	0.000	0.909
	0.889								0.625				0.887				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
4:00 PM	7	0	25	0	0	0	0	0	1	60	0	0	0	52	11	0	156
4:15 PM	2	0	21	0	0	0	0	0	4	118	0	0	0	60	12	0	217
4:30 PM	2	0	27	0	0	0	0	0	1	116	0	0	0	56	10	0	212
4:45 PM	0	0	22	0	0	0	0	0	0	126	0	0	0	45	11	0	204
5:00 PM	1	0	28	0	0	0	0	0	1	96	0	0	0	43	5	0	174
5:15 PM	2	2	23	0	0	0	0	0	2	115	0	0	0	51	12	0	207
5:30 PM	1	0	53	0	0	0	0	0	1	97	0	0	0	45	7	0	204
5:45 PM	1	0	40	0	0	0	0	0	2	105	0	0	0	47	11	0	206
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	16	2	239	0	0	0	0	0	12	833	0	0	0	399	79	0	1580
	6.23%	0.78%	93.00%	0.00%					1.42%	98.58%	0.00%	0.00%	0.00%	83.47%	16.53%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	5	0	98	0	0	0	0	0	6	456	0	0	0	204	38	0	807
PEAK HR FACTOR :	0.625	0.000	0.875	0.000	0.000	0.000	0.000	0.000	0.375	0.905	0.000	0.000	0.000	0.850	0.792	0.000	0.930
	0.888								0.917				0.840				

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-580 WB Ramps & Patterson Pass Rd
City: Tracy
Control: Signalized

Project ID: 24-080036-005
Date: 2/8/2024

Data - Medium Trucks PCE

NS/EW Streets:	I-580 WB Ramps				I-580 WB Ramps				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
7:00 AM	0	0	6	0	0	0	0	0	0	2	0	0	0	6	6	0	20
7:15 AM	0	0	8	0	0	0	0	0	0	6	0	0	0	8	8	0	30
7:30 AM	0	0	10	0	0	0	0	0	0	0	0	0	0	6	4	0	20
7:45 AM	2	0	8	0	0	0	0	0	0	0	0	0	0	2	8	0	20
8:00 AM	0	0	4	0	0	0	0	0	0	2	0	0	0	6	4	0	16
8:15 AM	0	0	4	0	0	0	0	0	0	2	0	0	0	8	4	0	18
8:30 AM	0	0	10	0	0	0	0	0	0	0	0	0	0	8	6	0	24
8:45 AM	2	0	4	0	0	0	0	0	2	0	0	0	0	8	4	0	20
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	4	0	54	0	0	0	0	0	2	12	0	0	0	52	44	0	168
	6.90%	0.00%	93.10%	0.00%					14.29%	85.71%	0.00%	0.00%	0.00%	54.17%	45.83%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	2	0	32	0	0	0	0	0	0	8	0	0	0	22	26	0	90
PEAK HR FACTOR :	0.250	0.000	0.800	0.000	0.000	0.000	0.000	0.000	0.000	0.333	0.000	0.000	0.000	0.688	0.813	0.000	0.750
	0.850								0.333				0.750				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
4:00 PM	0	0	10	0	0	0	0	0	0	0	0	0	0	2	2	0	14
4:15 PM	0	0	2	0	0	0	0	0	0	2	0	0	0	0	2	0	6
4:30 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	8	8	0	18
4:45 PM	0	0	2	0	0	0	0	0	0	4	0	0	0	4	2	0	12
5:00 PM	0	0	4	0	0	0	0	0	0	4	0	0	0	4	0	0	12
5:15 PM	0	0	4	0	0	0	0	0	0	2	0	0	0	2	2	0	10
5:30 PM	0	0	2	0	0	0	0	0	0	2	0	0	0	4	2	0	10
5:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	4
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	28	0	0	0	0	0	0	14	0	0	0	24	20	0	86
	0.00%	0.00%	100.00%	0.00%					0.00%	100.00%	0.00%	0.00%	0.00%	54.55%	45.45%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	10	0	0	0	0	0	0	10	0	0	0	16	12	0	48
PEAK HR FACTOR :	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.500	0.375	0.000	0.667
	0.625								0.625				0.438				

National Data & Surveying Services

Intersection Turning Movement Count

Location: I-580 WB Ramps & Patterson Pass Rd
City: Tracy
Control: Signalized

Project ID: 24-080036-005
Date: 2/8/2024

Data - Heavy Trucks PCE

NS/EW Streets:	I-580 WB Ramps				I-580 WB Ramps				Patterson Pass Rd				Patterson Pass Rd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
7:00 AM	0	0	75	0	0	0	0	0	0	27	0	0	0	39	24	0	165
7:15 AM	0	0	81	0	0	0	0	0	3	9	0	0	0	57	36	0	186
7:30 AM	0	0	36	0	0	0	0	0	0	21	0	0	0	39	36	0	132
7:45 AM	0	0	72	0	0	0	0	0	0	9	0	0	0	24	30	0	135
8:00 AM	0	0	78	0	0	0	0	0	0	27	0	0	0	36	42	0	183
8:15 AM	0	0	54	0	0	0	0	0	0	18	0	0	0	33	27	0	132
8:30 AM	0	0	57	0	0	0	0	0	0	36	0	0	0	54	36	0	183
8:45 AM	0	0	51	0	0	0	0	0	3	15	0	0	0	66	51	0	186
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	504	0	0	0	0	0	6	162	0	0	0	348	282	0	1302
	0.00%	0.00%	100.00%	0.00%					3.57%	96.43%	0.00%	0.00%	0.00%	55.24%	44.76%	0.00%	
PEAK HR :	07:00 AM - 08:00 AM																TOTAL
PEAK HR VOL :	0	0	264	0	0	0	0	0	3	66	0	0	0	159	126	0	618
PEAK HR FACTOR :	0.000	0.000	0.815	0.000	0.000	0.000	0.000	0.000	0.250	0.611	0.000	0.000	0.000	0.697	0.875	0.000	0.831
	0.815								0.639				0.766				

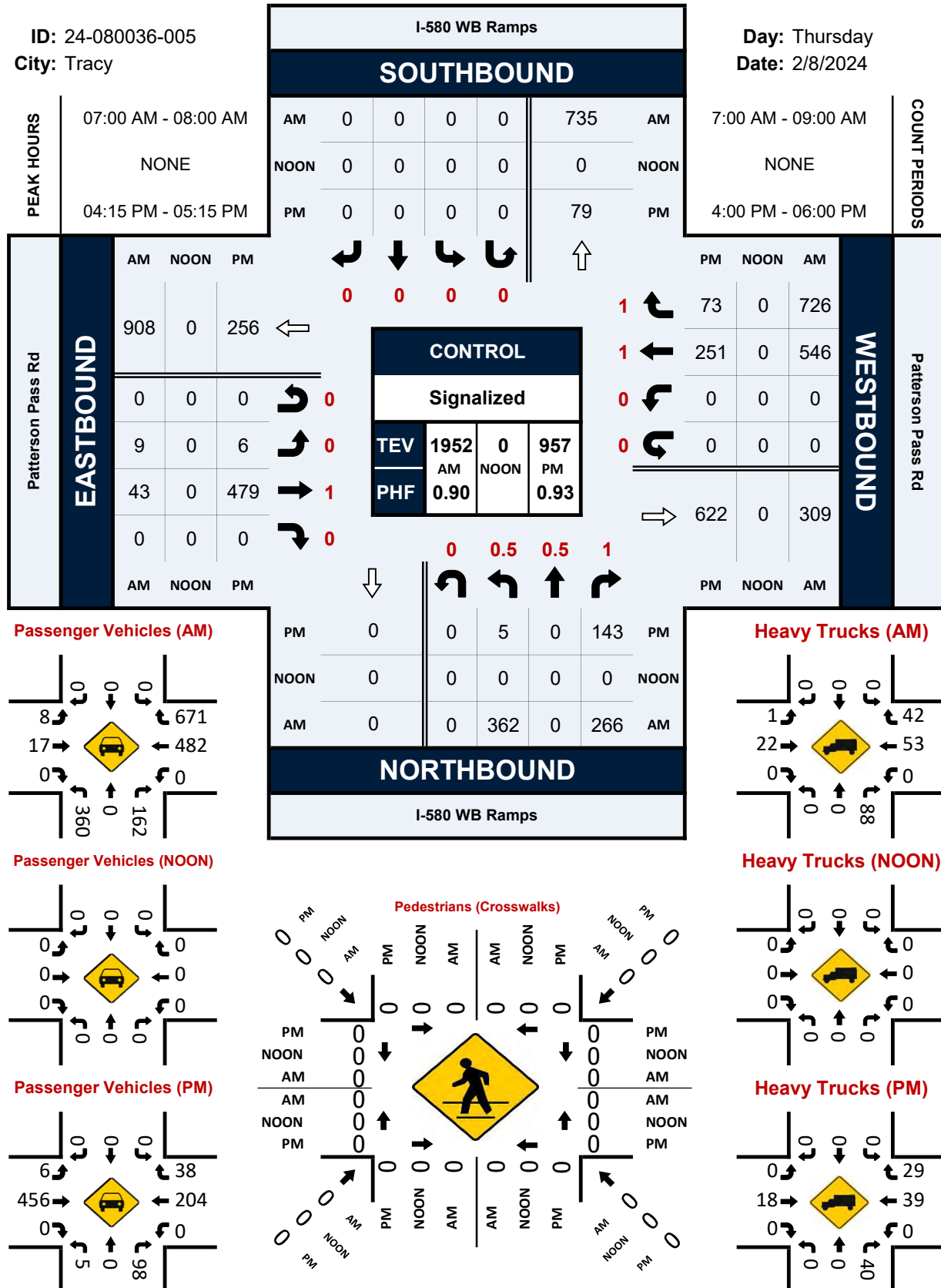
PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
	0.5 NL	0.5 NT	1 NR	0 NU	0 SL	0 ST	0 SR	0 SU	0 EL	1 ET	0 ER	0 EU	0 WL	1 WT	1 WR	0 WU	
4:00 PM	0	0	24	0	0	0	0	0	0	6	0	0	0	42	30	0	102
4:15 PM	0	0	33	0	0	0	0	0	0	21	0	0	0	33	27	0	114
4:30 PM	0	0	21	0	0	0	0	0	0	18	0	0	0	27	9	0	75
4:45 PM	0	0	21	0	0	0	0	0	0	6	0	0	0	33	33	0	93
5:00 PM	0	0	45	0	0	0	0	0	0	9	0	0	0	24	18	0	96
5:15 PM	0	0	27	0	0	0	0	0	0	3	0	0	0	12	12	0	54
5:30 PM	0	0	33	0	0	0	0	0	0	3	0	0	0	27	30	0	93
5:45 PM	0	0	27	0	0	0	0	0	0	12	0	0	0	12	30	0	81
TOTAL VOLUMES :	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
APPROACH %'s :	0	0	231	0	0	0	0	0	0	78	0	0	0	210	189	0	708
	0.00%	0.00%	100.00%	0.00%					0.00%	100.00%	0.00%	0.00%	0.00%	52.63%	47.37%	0.00%	
PEAK HR :	04:15 PM - 05:15 PM																TOTAL
PEAK HR VOL :	0	0	120	0	0	0	0	0	0	54	0	0	0	117	87	0	378
PEAK HR FACTOR :	0.000	0.000	0.667	0.000	0.000	0.000	0.000	0.000	0.000	0.643	0.000	0.000	0.000	0.886	0.659	0.000	0.829
	0.667								0.643				0.773				

I-580 WB Ramps & Patterson Pass Rd

Peak Hour Turning Movement Count

ID: 24-080036-005
City: Tracy

Day: Thursday
Date: 2/8/2024








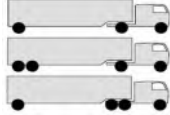
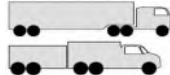





Prepared by National Data & Surveying Services
CLASSIFICATION
Patterson Pass Rd S/O Railroad Overpass

Day: Thursday
Date: 2/15/2024

City: Tracy
Project #: CA24_080037_001

HOURLY BREAKDOWN	Time	NORTHBOUND													Total	SOUTHBOUND													Total	TOTALS													Total
	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	Total			
	0:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	2
	2:00	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	2	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
	3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	1	0	0	0	0	0	0	0	0	0	12	0	11	1	0	0	0	0	0	0	0	0	0	0	12	
	4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	112	29	0	0	0	0	0	0	0	0	0	141	0	112	29	0	0	0	0	0	0	0	0	0	0	141	
	5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	609	162	0	1	0	0	0	0	0	0	0	772	0	609	162	0	1	0	0	0	0	0	0	0	0	772	
	6:00	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	735	202	0	5	0	0	0	0	0	0	0	943	1	735	203	0	5	0	0	0	0	0	0	0	0	944	
	7:00	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	573	145	1	8	0	0	0	0	0	0	0	727	0	575	145	1	8	0	0	0	0	0	0	0	0	729	
	8:00	0	3	0	0	0	0	0	0	0	0	0	0	0	3	0	256	67	0	1	0	0	0	0	0	0	0	324	0	259	67	0	1	0	0	0	0	0	0	0	0	327	
	9:00	1	3	1	0	0	0	0	0	0	0	0	0	0	5	0	59	10	0	0	0	0	0	0	0	0	0	69	1	62	11	0	0	0	0	0	0	0	0	0	0	74	
	10:00	0	3	3	0	0	0	0	0	0	0	0	0	0	6	0	7	2	0	1	0	0	0	0	0	0	10	0	10	5	0	1	0	0	0	0	0	0	0	0	0	16	
	11:00	0	13	4	0	0	0	0	0	0	0	0	0	0	17	2	7	3	0	0	0	0	0	0	0	0	12	2	20	7	0	0	0	0	0	0	0	0	0	0	0	29	
	12:00	0	24	5	0	1	0	0	0	0	0	0	0	0	30	0	8	0	0	0	0	0	0	0	0	0	0	8	0	32	5	0	1	0	0	0	0	0	0	0	0	0	38
	13:00	0	30	16	0	1	0	0	0	0	0	0	0	0	47	1	4	1	0	0	0	0	0	0	0	0	0	6	1	34	17	0	1	0	0	0	0	0	0	0	0	0	53
	14:00	1	182	69	0	5	0	0	0	0	0	0	0	0	257	0	1	0	0	0	0	0	0	0	0	0	0	1	1	183	69	0	5	0	0	0	0	0	0	0	0	0	258
	15:00	2	461	162	0	6	0	0	0	0	0	0	0	0	631	0	1	0	0	0	0	0	0	0	0	0	0	1	2	462	162	0	6	0	0	0	0	0	0	0	0	0	632
	16:00	0	881	245	0	6	0	0	1	0	0	0	0	0	1133	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	881	245	0	6	0	0	1	0	0	0	0	0	1133
	17:00	1	748	182	0	1	0	0	1	0	0	0	0	0	933	0	0	0	0	0	0	0	0	0	0	0	0	0	1	748	182	0	1	0	0	1	0	0	0	0	0	0	933
	18:00	0	482	121	0	2	0	0	2	0	0	0	0	0	607	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	482	121	0	2	0	0	2	0	0	0	0	0	607
	19:00	0	226	45	0	2	0	0	0	0	0	0	0	0	273	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	226	45	0	2	0	0	0	0	0	0	0	0	273
	20:00	1	46	10	0	0	0	0	0	0	0	0	0	0	57	0	2	0	0	0	0	0	0	0	0	0	0	2	1	48	10	0	0	0	0	0	0	0	0	0	0	59	
	21:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5	0	1	0	0	0	0	0	0	0	0	0	0	1	0	5	1	0	0	0	0	0	0	0	0	0	0	6	
	22:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5	0	1	1	0	0	0	0	0	0	0	0	0	2	0	5	2	0	0	0	0	0	0	0	0	0	0	7	
	23:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
	Totals	6	3,116	868	0	24	0	0	4	0	0	0	0	0	4,018	4	2,389	624	1	16	0	0	0	0	0	0	0	3,034	10	5,505	1,492	1	40	0	0	4	0	0	0	0	0	0	7,052
	% of Totals	0%	78%	22%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	79%	21%	0%	1%	0%	0%	0%	0%	0%	0%	0%	100%	0%	78%	21%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	100%	

FHWA	CLASSIFICATION DEFINITIONS						
	 #1 Motorcycles	 #2 Passenger Cars	 #3 2-Axle, 4-Tire Single Unit	 #4 Buses	 #5 2-Axle, 6-Tire Single Units	 #6 3-Axle Single Units	 #7 >=4-Axle Single Units
FHWA	 #8 <=4-Axle Single Trailers	 #9 5-Axle Single Trailers	 #10 >=6-Axle Single Trailers	 #11 <=5-Axle Multi-Trailers	 #12 6-Axle Multi-Trailers	ANY 7 OR MORE AXLE #13 >=7-Axle Multi-Trailers	

STATISTICS	00:00 - 12:00		1	26	10	0	0	0	0	0	0	0	0	0	0	37	3	2371	622	1	16	0	0	0	0	0	0	0	0	3013	4	2397	632	1	16	0	0	0	0	0	0	0	0	0	3050
	%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	78%	21%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	99%	0%	34%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	43%		
	Peak Hour	9:00	11:45	11:45	0:00	11:30	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	11:45	10:15	5:45	5:30	6:45	6:30	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	5:45	10:15	5:45	5:30	6:45	6:30	0:00	0:00	0:00	0:00	0:00	0:00	0:00	5:45		
	Peak Volume	1	20	5	0	1	0	0	0	0	0	0	0	0	0	26	2	737	211	1	9	0	0	0	0	0	0	0	0	952	2	737	211	1	9	0	0	0	0	0	0	0	953		
	12:00 - 24:00		5	3090	858	0	24	0	0	4	0	0	0	0	0	3981	1	18	2	0	0	0	0	0	0	0	0	0	0	21	6	3108	860	0	24	0	0	4	0	0	0	0	0	4002	
	%	0%	77%	21%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	99%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	44%	12%	0%	0%	0%	0%	0%	0%	0%	0%	57%				
	Peak Hour	14:15	16:15	16:30	12:00	15:45	12:00	12:00	17:45	12:00	12:00	12:00	12:00	12:00	12:00	16:15	12:15	12:00	12:45	12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00	12:00	14:15	16:15	16:30	12:00	15:45	12:00	12:00	17:45	12:00	12:00	12:00	12:00	16:15		
	Peak Volume	2	915	248	0	11	0	0	3	0	0	0	0	0	0	1161	1	8	1	0	0	0	0	0	0	0	0	0	0	8	2	915	248	0	11	0	0	3	0	0	0	0	1161		
	07:00 - 09:00		0	5	0	0	0	0	0	0	0	0	0	0	0	5	0	829	212	1	9	0	0	0	0	0	0	0	0	1051	0	824	212	1	9	0	0	0	0	0	0	0	0	1056	
	%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	27%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	35%	0%	12%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%		
Peak Hour	7:00	7:45	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:45	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00	7:00		
Peak Volume	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	573	145	1	8	0	0	0	0	0	0	0	0	727	0	575	145	1	8	0	0	0	0	0	0	0	729			
16:00 - 18:00		1	1629	427	0	0	0	0	2	0	0	0	0	0	2064	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1	1629	427	0	0	0	2	0	0	0	0	0	2063			
%	0%	41%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	51%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	23%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	29%			
Peak Hour	16:15	16:15	16:30	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:15	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:15	16:15	16:30	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:00	16:15		
Peak Volume	1	915	248	0	6	0	0	1	0	0	0	0	0	0	1161	0	0	0	0	0	0	0	0	0	0	0	0	0	1600	1	915	248	0	6	0	0	1	0	0	0	0	1161			

City: Tracy
Project #: CA24_080037_001

[illegible]

Prepared by National Data & Surveying Services

CLASSIFICATION

Patterson Pass Rd S/O Railroad Overpass

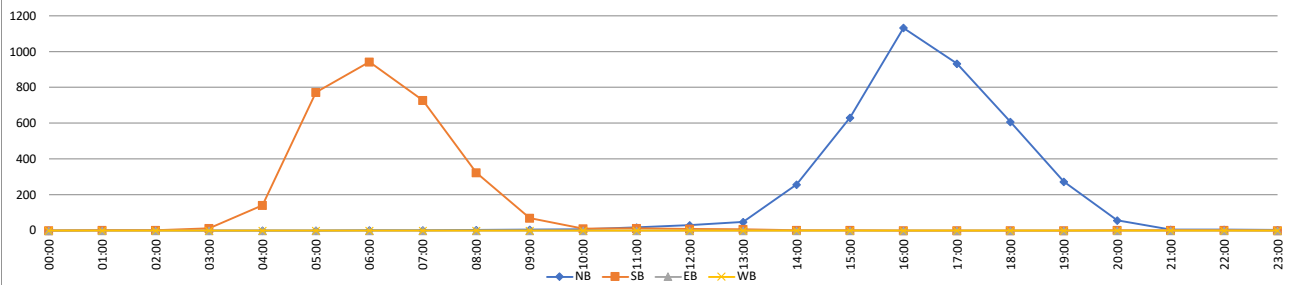
Day: Thursday
Date: 2/15/2024

City: Tracy
Project #: CA24_080037_001













	Time	NORTHBOUND													Total	SOUTHBOUND													Total	TOTALS													Total
		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13	
15-MINUTE BREAKDOWN	12:00	0	8	1	0	0	0	0	0	0	0	0	0	9	0	3	0	0	0	0	0	0	0	0	0	0	3	0	11	1	0	0	0	0	0	0	0	0	0	0	0	12	
	12:15	0	4	1	0	1	0	0	0	0	0	0	0	6	0	2	0	0	0	0	0	0	0	0	0	0	2	0	6	1	0	1	0	0	0	0	0	0	0	0	8		
	12:30	0	5	2	0	0	0	0	0	0	0	0	0	7	0	1	0	0	0	0	0	0	0	0	0	0	1	0	6	2	0	0	0	0	0	0	0	0	0	0	8		
	12:45	0	7	1	0	0	0	0	0	0	0	0	0	8	0	2	0	0	0	0	0	0	0	0	0	0	2	0	9	1	0	0	0	0	0	0	0	0	0	0	10		
	13:00	0	4	3	0	0	0	0	0	0	0	0	0	7	1	2	0	0	0	0	0	0	0	0	0	0	3	1	6	3	0	0	0	0	0	0	0	0	0	0	10		
	13:15	0	8	5	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	1	0	9	5	0	0	0	0	0	0	0	0	0	0	14		
	13:30	0	10	3	0	1	0	0	0	0	0	0	0	14	0	0	1	0	0	0	0	0	0	0	0	0	1	0	10	4	0	1	0	0	0	0	0	0	0	0	15		
	13:45	0	8	5	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	0	0	0	0	0	0	1	0	9	5	0	0	0	0	0	0	0	0	0	0	14		
	14:00	1	29	9	0	1	0	0	0	0	0	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	1	29	9	0	1	0	0	0	0	0	0	0	0	40		
	14:15	0	38	10	0	1	0	0	0	0	0	0	0	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	10	0	1	0	0	0	0	0	0	0	0	49		
	14:30	0	33	8	0	0	0	0	0	0	0	0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	8	0	0	0	0	0	0	0	0	0	0	41		
	14:45	0	82	42	0	3	0	0	0	0	0	0	0	127	0	1	0	0	0	0	0	0	0	0	0	0	1	0	83	42	0	3	0	0	0	0	0	0	0	0	0	128	
	15:00	2	65	32	0	0	0	0	0	0	0	0	0	99	0	0	0	0	0	0	0	0	0	0	0	0	0	2	65	32	0	0	0	0	0	0	0	0	0	0	99		
	15:15	0	108	46	0	1	0	0	0	0	0	0	0	155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	108	46	0	1	0	0	0	0	0	0	0	0	155		
	15:30	0	103	32	0	0	0	0	0	0	0	0	0	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103	32	0	0	0	0	0	0	0	0	0	0	135		
	15:45	0	185	52	0	5	0	0	0	0	0	0	0	242	0	1	0	0	0	0	0	0	0	0	0	0	1	0	186	52	0	5	0	0	0	0	0	0	0	0	243		
	16:00	0	181	50	0	3	0	0	0	0	0	0	0	234	0	0	0	0	0	0	0	0	0	0	0	0	0	0	181	50	0	3	0	0	0	0	0	0	0	0	234		
	16:15	0	205	52	0	1	0	0	1	0	0	0	0	259	0	0	0	0	0	0	0	0	0	0	0	0	0	0	205	52	0	1	0	0	1	0	0	0	0	0	259		
	16:30	0	239	65	0	2	0	0	0	0	0	0	0	306	0	0	0	0	0	0	0	0	0	0	0	0	0	0	239	65	0	2	0	0	0	0	0	0	0	0	306		
	16:45	0	256	78	0	0	0	0	0	0	0	0	0	334	0	0	0	0	0	0	0	0	0	0	0	0	0	0	256	78	0	0	0	0	0	0	0	0	0	0	334		
	17:00	1	215	46	0	0	0	0	0	0	0	0	0	262	0	0	0	0	0	0	0	0	0	0	0	0	0	1	215	46	0	0	0	0	0	0	0	0	0	0	262		
	17:15	0	190	59	0	0	0	0	0	0	0	0	0	249	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190	59	0	0	0	0	0	0	0	0	0	0	249		
	17:30	0	192	40	0	0	0	0	0	0	0	0	0	232	0	0	0	0	0	0	0	0	0	0	0	0	0	0	192	40	0	0	0	0	0	0	0	0	0	0	232		
	17:45	0	151	37	0	1	0	0	1	0	0	0	0	190	0	0	0	0	0	0	0	0	0	0	0	0	0	0	151	37	0	1	0	0	1	0	0	0	0	0	190		
	18:00	0	121	37	0	0	0	0	0	0	0	0	0	158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	121	37	0	0	0	0	0	0	0	0	0	0	158		
	18:15	0	109	26	0	0	0	0	0	0	0	0	0	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	109	26	0	0	0	0	0	0	0	0	0	0	135		
	18:30	0	127	36	0	2	0	0	2	0	0	0	0	167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	127	36	0	2	0	0	2	0	0	0	0	0	167		
	18:45	0	125	22	0	0	0	0	0	0	0	0	0	147	0	0	0	0	0	0	0	0	0	0	0	0	0	0	125	22	0	0	0	0	0	0	0	0	0	0	147		
	19:00	0	68	16	0	0	0	0	0	0	0	0	0	84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68	16	0	0	0	0	0	0	0	0	0	0	84		
	19:15	0	74	11	0	0	0	0	0	0	0	0	0	85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	11	0	0	0	0	0	0	0	0	0	0	85		
	19:30	0	45	12	0	0	0	0	0	0	0	0	0	57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45	12	0	0	0	0	0	0	0	0	0	0	57		
	19:45	0	39	6	0	2	0	0	0	0	0	0	0	47	0	0	0	0	0	0	0	0	0	0	0	0	0	1	39	6	0	2	0	0	0	0	0	0	0	0	47		
	20:00	0	26	5	0	0	0	0	0	0	0	0	0	31	0	1	0	0	0	0	0	0	0	0	0	0	1	0	27	5	0	0	0	0	0	0	0	0	0	0	32		
	20:15	1	9	3	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9	3	0	0	0	0	0	0	0	0	0	0	13		
	20:30	0	3	1	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	4		
	20:45	0	8	1	0	0	0	0	0	0	0	0	0	9	0	1	0	0	0	0	0	0	0	0	0	0	1	0	9	1	0	0	0	0	0	0	0	0	0	0	10		
21:00	0	1	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2			
21:15	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	2			
21:30	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1			
21:45	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1			
22:00	0	3	0	0	0	0	0	0	0	0	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	4			
22:15	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	2			
22:30	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0																										

VOLUME**Patterson Pass Rd S/O Railroad Overpass**Day: Thursday
Date: 2/15/2024City: Tracy
Project #: CA24_080037_001

DAILY TOTALS						NB		SB		EB		WB		Total	DAILY TOTALS					
						4,018		3,034		0		0		7,052						
15-Minutes Interval												Hourly Intervals								
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL			
0:00	0	0			0	12:00	9	3			12	00:00	01:00	0	0		0			
0:15	0	0			0	12:15	6	2			8	01:00	02:00	1	1		2			
0:30	0	0			0	12:30	7	1			8	02:00	03:00	2	2		4			
0:45	0	0			0	12:45	8	2			10	03:00	04:00	0	12		12			
1:00	0	0			0	13:00	7	3			10	04:00	05:00	0	141		141			
1:15	1	0	0		1	13:15	13	1			14	05:00	06:00	0	772		772			
1:30	0	0			0	13:30	14	1			15	06:00	07:00	1	943		944			
1:45	0	1			1	13:45	13	1			14	07:00	08:00	2	727		729			
2:00	0	0			0	14:00	40	0			40	08:00	09:00	3	324		327			
2:15	1	1	1		2	14:15	49	0			49	09:00	10:00	5	69		74			
2:30	0	0			0	14:30	41	0			41	10:00	11:00	6	10		16			
2:45	1	1			2	14:45	127	1			128	11:00	12:00	17	12		29			
3:00	0	1			1	15:00	99	0			99	12:00	13:00	30	8		38			
3:15	0	1			1	15:15	155	0			155	13:00	14:00	47	6		53			
3:30	0	3			3	15:30	135	0			135	14:00	15:00	257	1		258			
3:45	0	7			7	15:45	242	1			243	15:00	16:00	631	1		632			
4:00	0	8			8	16:00	234	0			234	16:00	17:00	1133	0		1133			
4:15	0	17			17	16:15	259	0			259	17:00	18:00	933	0		933			
4:30	0	36			36	16:30	306	0			306	18:00	19:00	607	0		607			
4:45	0	80			80	16:45	334	0			334	19:00	20:00	273	0		273			
5:00	0	115			115	17:00	262	0			262	20:00	21:00	57	2		59			
5:15	0	206			206	17:15	249	0			249	21:00	22:00	5	1		6			
5:30	0	224			224	17:30	232	0			232	22:00	23:00	5	2		7			
5:45	0	227			227	17:45	190	0			190	23:00	00:00	3	0		3			
6:00	0	238			238	18:00	158	0			158	STATISTICS								
6:15	0	255			255	18:15	135	0			135		NB	SB	EB	WB	TOTAL			
6:30	1	232			233	18:30	167	0			167	Peak Period	00:00	to 12:00						
6:45	0	218			218	18:45	147	0			147	Volume	37	3013		3050				
7:00	2	206			208	19:00	84	0			84	Peak Hour	11:00	5:45		5:45				
7:15	0	196			196	19:15	85	0			85	Peak Volume	17	952		953				
7:30	0	179			179	19:30	57	0			57	Peak Hour Factor	0.850	0.933		0.934				
7:45	0	146			146	19:45	47	0			47									
8:00	1	111			112	20:00	31	1			32	Peak Period	12:00	to 00:00						
8:15	0	79			79	20:15	13	0			13	Volume	3981	21		4002				
8:30	2	76			78	20:30	4	0			4	Peak Hour	16:15	12:00		16:15				
8:45	0	58			58	20:45	9	1			10	Peak Volume	1161	8		1161				
9:00	4	37			41	21:00	2	0			2	Peak Hour Factor	0.869	0.667		0.869				
9:15	0	17			17	21:15	1	1			2									
9:30	0	7			7	21:30	1	0			1	Peak Period	07:00	to 09:00						
9:45	1	8			9	21:45	1	0			1	Volume	5	1051		1056				
10:00	3	5			8	22:00	3	1			4	Peak Hour	7:45	7:00		7:00				
10:15	1	2			3	22:15	1	1			2	Peak Volume	3	727		729				
10:30	1	3			4	22:30	1	0			1	Peak Hour Factor	0.375	0.882		0.876				
10:45	1	0			1	22:45	0	0			0									
11:00	5	5			10	23:00	2	0			2	Peak Period	16:00	to 18:00						
11:15	4	3			7	23:15	0	0			0	Volume	2066			2066				
11:30	4	2			6	23:30	1	0			1	Peak Hour	16:15	16:00		16:15				
11:45	4	2			6	23:45	0	0			0	Peak Volume	1161	0		1161				
TOTALS	37	3013	0	0	3050	TOTALS	3981	21	0	0	4002	Peak Hour Factor	0.869					0.869		
SPLIT %	1%	99%	0%	0%	43%	SPLIT %	99%	1%	0%	0%	57%									



City: Tracy
Project #: CA24_080037_002

FHWA	CLASSIFICATION DEFINITIONS						
	<div></div> <div>#1 Motorcycles</div>	<div></div> <div>#2 Passenger Cars</div>	<div></div> <div>#3 2-Axle, 4-Tire Single Unit</div>	<div></div> <div>#4 Buses</div>	<div></div> <div>#5 2-Axle, 6-Tire Single Units</div>	<div></div> <div>#6 3-Axle Single Units</div>	<div></div> <div>#7 >=4-Axle Single Units</div>
	<div></div> <div>#8 <=4-Axle Single Trailers</div>	<div></div> <div>#9 5-Axle Single Trailers</div>	<div></div> <div>#10 >=6-Axle Single Trailers</div>	<div></div> <div>#11 <=5-Axle Multi-Trailers</div>	<div></div> <div>#12 6-Axle Multi-Trailers</div>	<div>ANY 7 OR MORE AXLE</div> <div>#13 >=7-Axle Multi-Trailers</div>	

[illegible]

CLASSIFICATION
Patterson Pass Rd W/O Midway Rd

Day: Thursday
Date: 2/15/2024

City: Tracy
Project #: CA24_080037_002

Time		EASTBOUND													Total	WESTBOUND													Total	TOTALS													Total		
		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13			
15-MINUTE BREAKDOWN	0:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	0:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:15	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	2
	2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2:45	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	2
	3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
	3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
	3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6	
	4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	0	0	0	0	0	6	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6	
	4:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	22	5	0	0	0	0	0	0	0	0	0	27	0	23	5	0	0	0	0	0	0	0	0	0	0	0	0	28	
	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	14	0	0	0	0	0	0	0	0	0	52	0	38	14	0	0	0	0	0	0	0	0	0	0	0	52		
	4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	20	0	0	0	0	0	0	0	0	0	78	0	58	20	0	0	0	0	0	0	0	0	0	0	0	78		
	5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90	37	0	0	0	0	0	0	0	0	0	127	0	90	37	0	0	0	0	0	0	0	0	0	0	0	127		
	5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	160	59	0	0	0	0	0	0	0	0	0	219	0	160	59	0	0	0	0	0	0	0	0	0	0	0	219		
	5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	171	65	0	2	0	0	0	0	0	0	0	238	0	171	65	0	2	0	0	0	0	0	0	0	0	0	238		
	5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	177	67	0	1	0	0	0	0	0	0	0	245	0	177	67	0	1	0	0	0	0	0	0	0	0	0	245		
	6:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	184	62	0	2	0	0	0	0	0	0	248	0	185	62	0	2	0	0	0	0	0	0	0	0	0	249		
	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	186	52	0	0	0	0	0	0	0	0	238	0	186	52	0	0	0	0	0	0	0	0	0	0	238			
	6:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	159	64	0	3	0	0	0	0	0	0	226	0	159	65	0	3	0	0	0	0	0	0	0	0	0	227		
	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	170	51	0	2	0	0	1	0	0	0	225	1	170	51	0	2	0	0	1	0	0	0	0	0	225			
7:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	148	40	0	5	0	0	1	0	0	0	194	0	150	40	0	5	0	0	1	0	0	0	0	0	0	196			
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	153	42	0	2	0	0	2	0	0	0	199	0	153	42	0	2	0	0	2	0	0	0	0	0	199				
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	141	39	0	2	0	0	0	0	0	0	182	0	141	39	0	2	0	0	0	0	0	0	0	0	182				
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	118	18	0	0	0	0	0	0	0	0	136	0	118	18	0	0	0	0	0	0	0	0	0	0	136				
8:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	87	15	0	1	0	0	0	0	0	0	103	0	88	15	0	1	0	0	0	0	0	0	0	0	0	104			
8:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	64	19	0	0	0	0	1	0	0	0	84	0	65	19	0	0	0	0	1	0	0	0	0	0	85				
8:30	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	67	6	0	1	0	0	0	0	0	0	74	0	69	6	0	1	0	0	0	0	0	0	0	0	76				
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	14	0	1	0	0	0	0	0	0	54	0	39	14	0	1	0	0	0	0	0	0	0	0	54				
9:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3	0	28	7	0	0	0	0	0	0	0	0	35	0	30	8	0	0	0	0	0	0	0	0	0	0	38				
9:15	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	14	3	0	0	0	0	0	0	0	0	17	0	15	3	0	0	0	0	0	0	0	0	0	0	18				
9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	0	0	0	7	0	6	1	0	0	0	0	0	0	0	0	0	0	7				
9:45	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	6	2	0	0	0	0	0	0	0	0	8																		

CLASSIFICATION
Patterson Pass Rd W/O Midway Rd

Day: Thursday
Date: 2/15/2024

City: Tracy
Project #: CA24_080037_002

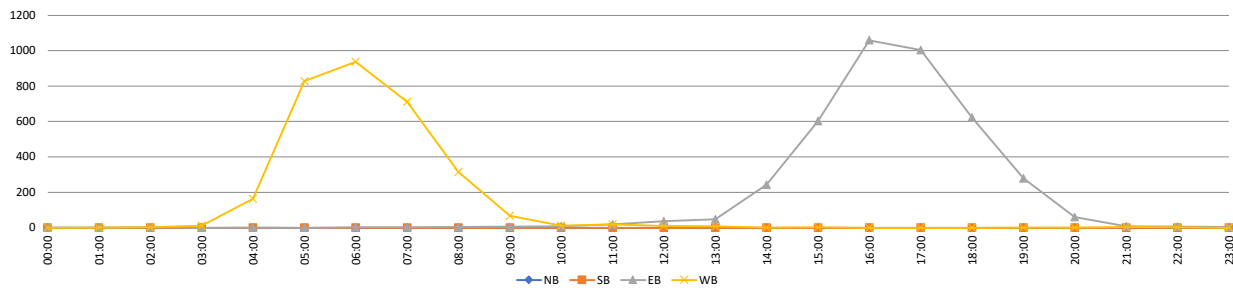
	Time	EASTBOUND													Total	WESTBOUND													Total	TOTALS													Total	
		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13		#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	#13		
15-MINUTE BREAKDOWN	12:00	0	10	5	0	0	0	0	0	0	0	0	0	15	0	3	1	0	0	0	0	0	0	0	0	0	0	4	0	13	6	0	0	0	0	0	0	0	0	0	0	0	19	
	12:15	0	5	1	0	1	0	0	0	0	0	0	0	7	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	7	1	0	1	0	0	0	0	0	0	0	0	9		
	12:30	0	4	2	0	0	0	0	0	0	0	0	0	6	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	6	2	0	0	0	0	0	0	0	0	0	0	8		
	12:45	0	8	1	0	0	0	0	0	0	0	0	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	9	1	0	0	0	0	0	0	0	0	0	0	10		
	13:00	0	3	3	0	0	0	0	0	0	0	0	0	6	1	2	0	0	0	0	0	0	0	0	0	0	0	3	1	5	3	0	0	0	0	0	0	0	0	0	0	9		
	13:15	0	5	4	0	0	0	0	0	0	0	0	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	6	4	0	0	0	0	0	0	0	0	0	0	10		
	13:30	0	11	4	0	0	0	0	0	0	0	0	0	15	0	1	2	0	0	0	0	0	0	0	0	0	0	3	0	12	6	0	0	0	0	0	0	0	0	0	0	18		
	13:45	0	11	5	0	1	0	0	0	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	5	0	1	0	0	0	0	0	0	0	0	17		
	14:00	0	28	8	0	0	0	0	0	0	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	8	0	0	0	0	0	0	0	0	0	0	0	36	
	14:15	1	33	11	0	1	0	0	1	0	0	0	0	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	33	11	0	1	0	0	1	0	0	0	0	0	0	47	
	14:30	0	36	11	0	0	0	0	0	0	0	0	0	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	11	0	0	0	0	0	0	0	0	0	0	0	47
	14:45	0	71	38	0	2	1	0	0	0	0	0	0	112	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	72	38	0	2	1	0	0	0	0	0	0	0	0	113
	15:00	2	65	31	0	1	0	0	0	0	0	0	0	99	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2	65	31	0	2	0	0	0	0	0	0	0	0	100	
	15:15	0	103	44	0	0	0	0	0	0	0	0	0	147	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	103	44	0	0	0	0	0	0	0	0	0	0	0	147
	15:30	0	98	41	0	1	0	0	0	0	0	0	0	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98	41	0	1	0	0	0	0	0	0	0	0	0	140
	15:45	0	165	49	0	2	0	0	0	0	0	0	0	216	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	166	49	0	2	0	0	0	0	0	0	0	0	0	217	
	16:00	0	176	59	0	4	0	0	0	0	0	0	0	239	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	176	59	0	4	0	0	0	0	0	0	0	0	0	239
	16:15	0	190	52	0	2	0	0	0	0	0	0	0	244	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190	52	0	2	0	0	0	0	0	0	0	0	0	244
	16:30	0	243	68	0	3	0	0	0	0	0	0	0	314	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	243	68	0	3	0	0	0	0	0	0	0	0	0	314
	16:45	0	197	63	0	2	0	0	0	0	0	0	0	262	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	197	63	0	2	0	0	0	0	0	0	0	0	0	262
	17:00	0	214	53	0	3	0	0	0	0	0	0	0	270	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	214	53	0	3	0	0	0	0	0	0	0	0	0	270
	17:15	1	197	46	0	1	0	0	0	0	0	0	0	245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	197	46	0	1	0	0	0	0	0	0	0	0	0	245	
	17:30	0	208	54	0	1	0	0	0	0	0	0	0	263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	208	54	0	1	0	0	0	0	0	0	0	0	0	263
	17:45	0	176	48	0	1	0	0	0	0	0	0	0	225	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	176	48	0	1	0	0	0	0	0	0	0	0	0	225
	18:00	0	126	29	0	0	0	0	0	0	0	0	0	155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	126	29	0	0	0	0	0	0	0	0	0	0	0	155
	18:15	0	116	39	0	0	0	0	0	0	0	0	0	155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	116	39	0	0	0	0	0	0	0	0	0	0	0	155
	18:30	0	96	41	1	1	0	0	0	0	0	0	0	139	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96	41	1	1	0	0	0	0	0	0	0	0	0	139
	18:45	1	129	44	0	0	0	0	0	0	0	0	0	174	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	129	44	0	0	0	0	0	0	0	0	0	0	0	174	
	19:00	1	68	23	0	0	0	0	0	0	0	0	0	92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	68	23	0	0	0	0	0	0	0	0	0	0	0	92	
	19:15	0	62	14	0	0	0	0	0	0	0	0	0	76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	62	14	0	0	0	0	0	0	0	0	0	0	0	76
	19:30	0	49	16	0	0	0	0	0	0	0	0	0	65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49	16	0	0	0	0	0	0	0	0	0	0	0	65
	19:45	0	35	9	0	2	0	0	0	0	0	0	0	46	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	35	10	0	2	0	0	0	0	0	0	0	0	0	47
20:00	0	26	9	0	0	0	0	0	0	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	9	0	0	0	0	0	0	0	0	0	0	0	35	
20:15	0	8	5	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	5	0	0	0	0	0	0	0	0	0	0	0	13	
20:30	0	4	1	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5	
20:45	0	5	2	0	0	0	0	0	0	0	0	0	7	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	5	3	0	0	0	0	0	0	0	0	0	0	0	8	
21:00	0	2	1	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3	
21:15	0	3	0	0	0	0	0	0	0	0	0	0	3	0	1	2	0	0	0	0	0	0	0	0	0	0	3	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	6	
21:30	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
21:45	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	
22:00	0	3	1	0	0	0	0	0	0	0	0	0																																

VOLUME**Patterson Pass Rd W/O Midway Rd**

Day: Thursday
Date: 2/15/2024

City: Tracy
Project #: CA24_080037_002

DAILY TOTALS						NB					SB					EB					WB					Total					DAILY TOTALS						
						0					0					4,015					3,092					7,107											
15-Minutes Interval													Hourly Intervals																								
TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL	TIME	NB	SB	EB	WB	TOTAL																				
0:00			0	0	0	12:00			15	4	19	00:00	01:00		1	0	1																				
0:15			1	0	1	12:15			7	2	9	01:00	02:00		1	1	2																				
0:30			0	0	0	12:30			6	2	8	02:00	03:00		2	2	4																				
0:45			0	0	0	12:45			9	1	10	03:00	04:00		0	11	11																				
1:00			0	0	0	13:00			6	3	9	04:00	05:00		1	163	164																				
1:15			1	0	1	13:15			9	1	10	05:00	06:00		0	829	829																				
1:30			0	0	0	13:30			15	3	18	06:00	07:00		2	937	939																				
1:45			0	1	1	13:45			17	0	17	07:00	08:00		2	711	713																				
2:00			0	0	0	14:00			36	0	36	08:00	09:00		4	315	319																				
2:15			1	1	2	14:15			47	0	47	09:00	10:00		6	67	73																				
2:30			0	0	0	14:30			47	0	47	10:00	11:00		8	11	19																				
2:45			1	1	2	14:45			112	1	113	11:00	12:00		18	18	36																				
3:00			0	1	1	15:00			99	1	100	12:00	13:00		37	9	46																				
3:15			0	2	2	15:15			147	0	147	13:00	14:00		47	7	54																				
3:30			0	2	2	15:30			140	0	140	14:00	15:00		242	1	243																				
3:45			0	6	6	15:45			216	1	217	15:00	16:00		602	2	604																				
4:00			0	6	6	16:00			239	0	239	16:00	17:00		1059	0	1059																				
4:15			1	27	28	16:15			244	0	244	17:00	18:00		1003	0	1003																				
4:30			0	52	52	16:30			314	0	314	18:00	19:00		623	0	623																				
4:45			0	78	78	16:45			262	0	262	19:00	20:00		279	1	280																				
5:00			0	127	127	17:00			270	0	270	20:00	21:00		60	1	61																				
5:15			0	219	219	17:15			245	0	245	21:00	22:00		8	4	12																				
5:30			0	238	238	17:30			263	0	263	22:00	23:00		6	2	8																				
5:45			0	245	245	17:45			225	0	225	23:00	00:00		4	0	4																				
6:00			1	248	249	18:00			155	0	155	STATISTICS																									
6:15			0	238	238	18:15			155	0	155																										
6:30			1	226	227	18:30			139	0	139	Peak Period Volume		00:00 to 12:00				3110																			
6:45			0	225	225	18:45			174	0	174																										
7:00			2	194	196	19:00			92	0	92	Peak Period Volume		11:00 to 5:30		5:30		3110																			
7:15			0	199	199	19:15			76	0	76																										
7:30			0	182	182	19:30			65	0	65	Peak Period Volume		18:00 to 00:00				3110																			
7:45			0	136	136	19:45			46	1	47																										
8:00			1	103	104	20:00			35	0	35	Peak Period Volume		12:00 to 09:00				3110																			
8:15			1	84	85	20:15			13	0	13																										
8:30			2	74	76	20:30			5	0	5	Peak Period Volume		3970 to 27		3997		16:30																			
8:45			0	54	54	20:45			7	1	8																										
9:00			3	35	38	21:00			3	0	3	Peak Period Volume		16:30 to 12:00		16:30		1091																			
9:15			1	17	18	21:15			3	3	6																										
9:30			0	7	7	21:30			1	0	1	Peak Period Volume		07:00 to 09:00				1032																			
9:45			2	8	10	21:45			1	1	2																										
10:00			3	4	7	22:00			4	1	5	Peak Period Volume		7:45 to 7:00		7:00		713																			
10:15			3	2	5	22:15			1	1	2																										
10:30			1	4	5	22:30			1	0	1	Peak Period Volume		0.500 to 0.893		0.896		0.896																			
10:45			1	1	2	22:45			0	0	0																										
11:00			6	9	15	23:00			2	0	2	Peak Period Volume		16:00 to 18:00				2062																			
11:15			3	3	6	23:15			1	0	1																										
11:30			4	5	9	23:30			1	0	1	Peak Period Volume		16:30 to 16:00		16:30		1091																			
11:45			5	1	6	23:45			0	0	0																										
TOTALS	0	0	45	3065	3110	TOTALS	0	0	3970	27	3997	Peak Hour Factor						0.869			0.869																
SPLIT %	0%	0%	1%	99%	44%	SPLIT %	0%	0%	99%	1%	56%																										



Appendix B

LOS Worksheets

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	3	0	0	759	0	0	0	0	0	0	12
Future Vol, veh/h	0	3	0	0	759	0	0	0	0	0	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	3	0	0	883	0	0	0	0	0	0	14




Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	883	0	0	3	0	0	886	886	3	886	886	883
Stage 1	-	-	-	-	-	-	3	3	-	883	883	-
Stage 2	-	-	-	-	-	-	883	883	-	3	3	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	775	-	-	1632	-	-	267	286	1086	267	286	348
Stage 1	-	-	-	-	-	-	1024	897	-	343	367	-
Stage 2	-	-	-	-	-	-	343	367	-	1024	897	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	775	-	-	1632	-	-	257	286	1086	267	286	348
Mov Cap-2 Maneuver	-	-	-	-	-	-	257	286	-	267	286	-
Stage 1	-	-	-	-	-	-	1024	897	-	343	367	-
Stage 2	-	-	-	-	-	-	330	367	-	1024	897	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0	0	15.78
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	775	-	-	1632	-	-	348
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.04
HCM Control Delay (s/veh)	0	0	-	-	0	-	-	15.8
HCM Lane LOS	A	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

HCM 7th TWSC
2: Patterson Pass Road & N Midway Road

Existing Conditions
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	2	757	18	3	0
Future Vol, veh/h	1	2	757	18	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	2	860	20	3	0




Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	881	0	875
Stage 1	-	-	870
Stage 2	-	-	5
Critical Hdwy	4.1	-	6.4
Critical Hdwy Stg 1	-	-	5.4
Critical Hdwy Stg 2	-	-	5.4
Follow-up Hdwy	2.2	-	3.5
Pot Cap-1 Maneuver	776	-	322
Stage 1	-	-	413
Stage 2	-	-	1024
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	776	-	322
Mov Cap-2 Maneuver	-	-	322
Stage 1	-	-	413
Stage 2	-	-	1024

Approach	EB	WB	SB
HCM Control Delay, s/v	3.22	0	16.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	600	-	-	-	322
HCM Lane V/C Ratio	0.001	-	-	-	0.011
HCM Control Delay (s/veh)	9.6	0	-	-	16.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 7th TWSC
3: Midway Road & Patterson Pass Road

Existing Conditions
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	775	0	3
Future Vol, veh/h	5	0	0	775	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	0	0	871	0	3

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	6	0	876
Stage 1	-	-	-	-	6
Stage 2	-	-	-	-	871
Critical Hdwy	-	-	4.1	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	-	-	2.2	-	3.5
Pot Cap-1 Maneuver	-	-	1629	-	322
Stage 1	-	-	-	-	1023
Stage 2	-	-	-	-	413
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1629	-	322
Mov Cap-2 Maneuver	-	-	-	-	322
Stage 1	-	-	-	-	1023
Stage 2	-	-	-	-	413


















Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	8.33
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1083	-	-	1629	-
HCM Lane V/C Ratio	0.003	-	-	-	-
HCM Control Delay (s/veh)	8.3	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 7th Signalized Intersection Summary

4: Patterson Pass Road & I-580 EB Ramps

Existing Conditions
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	0	14	0	0	0	0	25	18	237	790	0
Future Volume (veh/h)	77	0	14	0	0	0	0	25	18	237	790	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	89	0	0				0	29	21	272	908	0
Peak Hour Factor	0.87	0.87	0.87				0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	141	0					0	82	70	303	1010	0
Arrive On Green	0.08	0.00	0.00				0.00	0.04	0.04	0.70	0.70	0.00
Sat Flow, veh/h	1810	0	1610				0	1900	1610	433	1445	0
Grp Volume(v), veh/h	89	0	0				0	29	21	1180	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1900	1610	1878	0	0
Q Serve(g_s), s	3.6	0.0	0.0				0.0	1.1	0.9	38.1	0.0	0.0
Cycle Q Clear(g_c), s	3.6	0.0	0.0				0.0	1.1	0.9	38.1	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.23		0.00
Lane Grp Cap(c), veh/h	141	0					0	82	70	1313	0	0
V/C Ratio(X)	0.63	0.00					0.00	0.35	0.30	0.90	0.00	0.00
Avail Cap(c_a), veh/h	435	0					0	457	387	1769	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	33.5	0.0	0.0				0.0	34.8	34.7	9.1	0.0	0.0
Incr Delay (d2), s/veh	4.6	0.0	0.0				0.0	2.6	2.4	5.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0				0.0	0.5	0.4	10.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.1	0.0	0.0				0.0	37.4	37.1	14.4	0.0	0.0
LnGrp LOS	D							D	D	B		
Approach Vol, veh/h		89						50			1180	
Approach Delay, s/veh		38.1						37.3			14.4	
Approach LOS		D						D			B	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				7.7		10.3		56.8				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				18.0		18.0		70.5				
Max Q Clear Time (g_c+l1), s				3.1		5.6		40.1				
Green Ext Time (p_c), s				0.1		0.2		12.2				
Intersection Summary												
HCM 7th Control Delay, s/veh			16.8									
HCM 7th LOS			B									
Notes												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary

5: Patterson Pass Road & I-580 WB Ramps

Existing Conditions
Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↶	↷		↶			↷	↶
Traffic Volume (veh/h)	0	0	0	363	0	458	11	91	0	0	663	823
Future Volume (veh/h)	0	0	0	363	0	458	11	91	0	0	663	823
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				412	0	0	12	103	0	0	753	935
Peak Hour Factor				0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				461	0		16	134	0	0	1014	860
Arrive On Green				0.25	0.00	0.00	0.08	0.08	0.00	0.00	0.53	0.53
Sat Flow, veh/h				1810	0	1610	197	1693	0	0	1900	1610
Grp Volume(v), veh/h				412	0	0	115	0	0	0	753	935
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1890	0	0	0	1900	1610
Q Serve(g_s), s				22.4	0.0	0.0	6.1	0.0	0.0	0.0	31.2	54.5
Cycle Q Clear(g_c), s				22.4	0.0	0.0	6.1	0.0	0.0	0.0	31.2	54.5
Prop In Lane				1.00		1.00	0.10		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				461	0		149	0	0	0	1014	860
V/C Ratio(X)				0.89	0.00		0.77	0.00	0.00	0.00	0.74	1.09
Avail Cap(c_a), veh/h				603	0		333	0	0	0	1014	860
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.7	0.0	0.0	46.1	0.0	0.0	0.0	18.4	23.8
Incr Delay (d2), s/veh				13.0	0.0	0.0	8.1	0.0	0.0	0.0	3.0	57.3
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.0	0.0	0.0	3.1	0.0	0.0	0.0	12.9	31.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				49.6	0.0	0.0	54.2	0.0	0.0	0.0	21.3	81.1
LnGrp LOS				D			D				C	F
Approach Vol, veh/h					412			115			1688	
Approach Delay, s/veh					49.6			54.2			54.5	
Approach LOS					D			D			D	
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		30.5		12.6				59.0				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		34.0		18.0				54.5				
Max Q Clear Time (g_c+I1), s		24.4		8.1				56.5				
Green Ext Time (p_c), s		1.6		0.3				0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh				53.5								
HCM 7th LOS				D								
Notes												
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.												

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	969	0	0	3	0	0	0	0	2	0	0
Future Vol, veh/h	6	969	0	0	3	0	0	0	0	2	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	1053	0	0	3	0	0	0	0	2	0	0




Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	3	0	0	1053	0	0	1070	1070	1053	1070	1070	3
Stage 1	-	-	-	-	-	-	1066	1066	-	3	3	-
Stage 2	-	-	-	-	-	-	3	3	-	1066	1066	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1632	-	-	669	-	-	201	223	277	201	223	1086
Stage 1	-	-	-	-	-	-	271	301	-	1025	897	-
Stage 2	-	-	-	-	-	-	1025	897	-	271	301	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1632	-	-	669	-	-	199	221	277	199	221	1086
Mov Cap-2 Maneuver	-	-	-	-	-	-	199	221	-	199	221	-
Stage 1	-	-	-	-	-	-	269	298	-	1025	897	-
Stage 2	-	-	-	-	-	-	1025	897	-	269	298	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v 0.04		0	0	23.31
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	11	-	-	669	-	-	199
HCM Lane V/C Ratio	-	0.004	-	-	-	-	-	0.011
HCM Control Delay (s/veh)	0	7.2	0	-	0	-	-	23.3
HCM Lane LOS	A	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0

HCM 7th TWSC
2: Patterson Pass Road & N Midway Road

Existing Conditions
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	949	3	1	5	0
Future Vol, veh/h	22	949	3	1	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	24	1043	3	1	5	0




Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	4	0	0 1095 4
Stage 1	-	-	- - 4 -
Stage 2	-	-	- - 1091 -
Critical Hdwy	4.1	-	- - 6.4 6.2
Critical Hdwy Stg 1	-	-	- - 5.4 -
Critical Hdwy Stg 2	-	-	- - 5.4 -
Follow-up Hdwy	2.2	-	- - 3.5 3.3
Pot Cap-1 Maneuver	1630	-	- - 239 1086
Stage 1	-	-	- - 1025 -
Stage 2	-	-	- - 325 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1630	-	- - 230 1086
Mov Cap-2 Maneuver	-	-	- - 230 -
Stage 1	-	-	- - 988 -
Stage 2	-	-	- - 325 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.16	0	21.02
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	41	-	-	-	230
HCM Lane V/C Ratio	0.015	-	-	-	0.024
HCM Control Delay (s/veh)	7.2	0	-	-	21
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 7th TWSC 3: Midway Road & Patterson Pass Road


















Existing Conditions
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	951	0	4	4	0	0
Future Vol, veh/h	951	0	4	4	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1034	0	4	4	0	0
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1034	0	1047	1034
Stage 1	-	-	-	-	1034	-
Stage 2	-	-	-	-	13	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	680	-	255	285
Stage 1	-	-	-	-	346	-
Stage 2	-	-	-	-	1015	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	680	-	253	285
Mov Cap-2 Maneuver	-	-	-	-	253	-
Stage 1	-	-	-	-	346	-
Stage 2	-	-	-	-	1009	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		5.16		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	-	-	-	678	-	
HCM Lane V/C Ratio	-	-	-	0.006	-	
HCM Control Delay (s/veh)	0	-	-	10.3	0	
HCM Lane LOS	A	-	-	B	A	
HCM 95th %tile Q(veh)	-	-	-	0	-	

HCM 7th Signalized Intersection Summary

4: Patterson Pass Road & I-580 EB Ramps

Existing Conditions
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	1	54	0	0	0	0	407	617	294	20	0
Future Volume (veh/h)	98	1	54	0	0	0	0	407	617	294	20	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	100	1	0				0	415	630	300	20	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	164	2					0	879	745	383	26	0
Arrive On Green	0.09	0.09	0.00				0.00	0.46	0.46	0.22	0.22	0.00
Sat Flow, veh/h	1792	18	1610				0	1900	1610	1701	113	0
Grp Volume(v), veh/h	101	0	0				0	415	630	320	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1900	1610	1815	0	0
Q Serve(g_s), s	3.3	0.0	0.0				0.0	9.2	21.1	10.2	0.0	0.0
Cycle Q Clear(g_c), s	3.3	0.0	0.0				0.0	9.2	21.1	10.2	0.0	0.0
Prop In Lane	0.99		1.00				0.00		1.00	0.94		0.00
Lane Grp Cap(c), veh/h	166	0					0	879	745	408	0	0
V/C Ratio(X)	0.61	0.00					0.00	0.47	0.85	0.78	0.00	0.00
Avail Cap(c_a), veh/h	589	0					0	1661	1408	982	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.7	0.0	0.0				0.0	11.3	14.5	22.3	0.0	0.0
Incr Delay (d2), s/veh	3.6	0.0	0.0				0.0	0.4	2.7	3.3	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0				0.0	3.1	6.3	4.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.3	0.0	0.0				0.0	11.7	17.2	25.7	0.0	0.0
LnGrp LOS	C							B	B	C		
Approach Vol, veh/h	101						1045			320		
Approach Delay, s/veh	30.3						15.0			25.7		
Approach LOS	C						B			C		
Timer - Assigned Phs	4			6			8					
Phs Duration (G+Y+Rc), s	32.8			10.1			18.3					
Change Period (Y+Rc), s	4.5			4.5			4.5					
Max Green Setting (Gmax), s	53.5			19.9			33.1					
Max Q Clear Time (g_c+l1), s	23.1			5.3			12.2					
Green Ext Time (p_c), s	5.2			0.3			1.7					
Intersection Summary												
HCM 7th Control Delay, s/veh	18.4											
HCM 7th LOS	B											
Notes												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary

5: Patterson Pass Road & I-580 WB Ramps

Existing Conditions
Timing Plan: PM Peak Hour







Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕	↗		↕			↕	↗
Traffic Volume (veh/h)	0	0	0	5	0	228	6	520	0	0	337	137
Future Volume (veh/h)	0	0	0	5	0	228	6	520	0	0	337	137
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				5	0	0	7	565	0	0	366	149
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				176	0		9	709	0	0	499	423
Arrive On Green				0.10	0.00	0.00	0.38	0.38	0.00	0.00	0.26	0.26
Sat Flow, veh/h				1809	0	1610	23	1876	0	0	1900	1610
Grp Volume(v), veh/h				5	0	0	572	0	0	0	366	149
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1899	0	0	0	1900	1610
Q Serve(g_s), s				0.1	0.0	0.0	13.8	0.0	0.0	0.0	9.1	3.9
Cycle Q Clear(g_c), s				0.1	0.0	0.0	13.8	0.0	0.0	0.0	9.1	3.9
Prop In Lane				1.00		1.00	0.01		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				176	0		718	0	0	0	499	423
V/C Ratio(X)				0.03	0.00		0.80	0.00	0.00	0.00	0.73	0.35
Avail Cap(c_a), veh/h				685	0		1899	0	0	0	1310	1110
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				21.0	0.0	0.0	14.2	0.0	0.0	0.0	17.3	15.4
Incr Delay (d2), s/veh				0.1	0.0	0.0	2.1	0.0	0.0	0.0	2.1	0.5
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.0	0.0	0.0	4.8	0.0	0.0	0.0	3.5	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				21.1	0.0	0.0	16.3	0.0	0.0	0.0	19.5	15.9
LnGrp LOS				C			B				B	B
Approach Vol, veh/h					5			572			515	
Approach Delay, s/veh					21.1			16.3			18.4	
Approach LOS					C			B			B	
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		9.5		24.0				18.0				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		19.5		51.5				35.5				
Max Q Clear Time (g_c+I1), s		2.1		15.8				11.1				
Green Ext Time (p_c), s		0.0		3.7				2.5				

Intersection Summary

HCM 7th Control Delay, s/veh	17.3
HCM 7th LOS	B




Notes

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

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	3	0	0	1090	0	0	0	0	0	0	12
Future Vol, veh/h	0	3	0	0	1090	0	0	0	0	0	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	3	0	0	1267	0	0	0	0	0	0	14
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1267	0	0	3	0	0	1271	1271	3	1271	1271	1267
Stage 1	-	-	-	-	-	-	3	3	-	1267	1267	-
Stage 2	-	-	-	-	-	-	1267	1267	-	3	3	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	555	-	-	1632	-	-	146	169	1086	146	169	208
Stage 1	-	-	-	-	-	-	1024	897	-	209	242	-
Stage 2	-	-	-	-	-	-	209	242	-	1024	897	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	555	-	-	1632	-	-	136	169	1086	146	169	208
Mov Cap-2 Maneuver	-	-	-	-	-	-	136	169	-	146	169	-
Stage 1	-	-	-	-	-	-	1024	897	-	209	242	-
Stage 2	-	-	-	-	-	-	195	242	-	1024	897	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			0			0			23.55		
HCM LOS							A			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	555	-	-	1632	-	-	208				
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.067				
HCM Control Delay (s/veh)	0	0	-	-	0	-	-	23.6				
HCM Lane LOS	A	A	-	-	A	-	-	C				
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.2				




HCM 7th TWSC
2: Patterson Pass Road & N Midway Road

Existing plus Construction PCE - AM
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	2	1088	18	3	0
Future Vol, veh/h	1	2	1088	18	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	2	1236	20	3	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1257	0	-	0	1251	1247
Stage 1	-	-	-	-	1247	-
Stage 2	-	-	-	-	5	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	560	-	-	-	192	214
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	1024	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	560	-	-	-	192	214
Mov Cap-2 Maneuver	-	-	-	-	192	-
Stage 1	-	-	-	-	273	-
Stage 2	-	-	-	-	1024	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	3.81	0		24.1		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	560	-	-	-	192	
HCM Lane V/C Ratio	0.002	-	-	-	0.018	
HCM Control Delay (s/veh)	11.4	0	-	-	24.1	
HCM Lane LOS	B	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

HCM 7th TWSC
3: Midway Road & Patterson Pass Road

Existing plus Construction PCE - AM
Timing Plan: AM Peak Hour


















Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	1106	0	3
Future Vol, veh/h	5	0	0	1106	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	0	0	1243	0	3
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	6	0	1248	6
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	1243	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1629	-	193	1083
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	275	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1629	-	193	1083
Mov Cap-2 Maneuver	-	-	-	-	193	-
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	275	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0		8.33	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1083	-	-	1629	-	
HCM Lane V/C Ratio	0.003	-	-	-	-	
HCM Control Delay (s/veh)	8.3	-	-	0	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0	-	-	0	-	

HCM 7th Signalized Intersection Summary

4: Patterson Pass Road & I-580 EB Ramps

Existing plus Construction PCE - AM

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	0	134	0	0	0	0	25	18	237	1001	0
Future Volume (veh/h)	77	0	134	0	0	0	0	25	18	237	1001	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	89	0	0				0	29	21	272	1151	0
Peak Hour Factor	0.87	0.87	0.87				0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	130	0					0	74	62	269	1137	0
Arrive On Green	0.07	0.00	0.00				0.00	0.04	0.04	0.75	0.75	0.00
Sat Flow, veh/h	1810	0	1610				0	1900	1610	360	1522	0
Grp Volume(v), veh/h	89	0	0				0	29	21	1423	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1900	1610	1882	0	0
Q Serve(g_s), s	4.5	0.0	0.0				0.0	1.4	1.2	70.5	0.0	0.0
Cycle Q Clear(g_c), s	4.5	0.0	0.0				0.0	1.4	1.2	70.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.19		0.00
Lane Grp Cap(c), veh/h	130	0					0	74	62	1405	0	0
V/C Ratio(X)	0.69	0.00					0.00	0.39	0.34	1.01	0.00	0.00
Avail Cap(c_a), veh/h	345	0					0	362	307	1405	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	42.8	0.0	0.0				0.0	44.3	44.2	12.0	0.0	0.0
Incr Delay (d2), s/veh	6.3	0.0	0.0				0.0	3.4	3.1	27.2	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0				0.0	0.7	0.5	27.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.1	0.0	0.0				0.0	47.7	47.3	39.1	0.0	0.0
LnGrp LOS	D							D	D	F		
Approach Vol, veh/h	89						50			1423		
Approach Delay, s/veh	49.1						47.6			39.1		
Approach LOS	D						D			D		
Timer - Assigned Phs	4			6			8					
Phs Duration (G+Y+Rc), s	8.2			11.3			75.0					
Change Period (Y+Rc), s	4.5			4.5			4.5					
Max Green Setting (Gmax), s	18.0			18.0			70.5					
Max Q Clear Time (g_c+I1), s	3.4			6.5			72.5					
Green Ext Time (p_c), s	0.1			0.2			0.0					
Intersection Summary												
HCM 7th Control Delay, s/veh	40.0											
HCM 7th LOS	D											
Notes												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary 5: Patterson Pass Road & I-580 WB Ramps

Existing plus Construction PCE - AM

Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔	↔		↔			↔	↔
Traffic Volume (veh/h)	0	0	0	483	0	458	11	91	0	0	755	823
Future Volume (veh/h)	0	0	0	483	0	458	11	91	0	0	755	823
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				549	0	0	12	103	0	0	858	935
Peak Hour Factor				0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				556	0		15	132	0	0	936	793
Arrive On Green				0.31	0.00	0.00	0.08	0.08	0.00	0.00	0.49	0.49
Sat Flow, veh/h				1810	0	1610	197	1693	0	0	1900	1610
Grp Volume(v), veh/h				549	0	0	115	0	0	0	858	935
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1890	0	0	0	1900	1610
Q Serve(g_s), s				33.4	0.0	0.0	6.6	0.0	0.0	0.0	46.2	54.5
Cycle Q Clear(g_c), s				33.4	0.0	0.0	6.6	0.0	0.0	0.0	46.2	54.5
Prop In Lane				1.00		1.00	0.10		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				556	0		147	0	0	0	936	793
V/C Ratio(X)				0.99	0.00		0.78	0.00	0.00	0.00	0.92	1.18
Avail Cap(c_a), veh/h				556	0		308	0	0	0	936	793
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				38.1	0.0	0.0	50.1	0.0	0.0	0.0	26.0	28.1
Incr Delay (d2), s/veh				34.8	0.0	0.0	8.6	0.0	0.0	0.0	13.5	93.3
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				19.3	0.0	0.0	3.4	0.0	0.0	0.0	22.3	39.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				72.9	0.0	0.0	58.7	0.0	0.0	0.0	39.5	121.4
LnGrp LOS				E			E				D	F
Approach Vol, veh/h					549			115			1793	
Approach Delay, s/veh					72.9			58.7			82.2	
Approach LOS					E			E			F	
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		38.5		13.1				59.0				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		34.0		18.0				54.5				
Max Q Clear Time (g_c+I1), s		35.4		8.6				56.5				
Green Ext Time (p_c), s		0.0		0.3				0.0				

Intersection Summary

HCM 7th Control Delay, s/veh	79.0
HCM 7th LOS	E

Notes

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

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	1300	0	0	3	0	0	0	0	2	0	0
Future Vol, veh/h	6	1300	0	0	3	0	0	0	0	2	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	1413	0	0	3	0	0	0	0	2	0	0




Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	3	0	0	1413	0	0	1429	1429	1413	1429	1429	3
Stage 1	-	-	-	-	-	-	1426	1426	-	3	3	-
Stage 2	-	-	-	-	-	-	3	3	-	1426	1426	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1632	-	-	489	-	-	114	136	171	114	136	1086
Stage 1	-	-	-	-	-	-	170	203	-	1025	897	-
Stage 2	-	-	-	-	-	-	1025	897	-	170	203	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1632	-	-	489	-	-	111	133	171	111	133	1086
Mov Cap-2 Maneuver	-	-	-	-	-	-	111	133	-	111	133	-
Stage 1	-	-	-	-	-	-	167	199	-	1025	897	-
Stage 2	-	-	-	-	-	-	1025	897	-	167	199	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v 0.03		0	0	37.94
HCM LOS			A	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	8	-	-	489	-	-	111
HCM Lane V/C Ratio	-	0.004	-	-	-	-	-	0.02
HCM Control Delay (s/veh)	0	7.2	0	-	0	-	-	37.9
HCM Lane LOS	A	A	A	-	A	-	-	E
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1




HCM 7th TWSC
2: Patterson Pass Road & N Midway Road

Existing plus Construction PCE - PM
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	28	1273	3	1	5	0
Future Vol, veh/h	28	1273	3	1	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	31	1399	3	1	5	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	4	0	-	0	1464	4
Stage 1	-	-	-	-	4	-
Stage 2	-	-	-	-	1460	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1630	-	-	-	143	1086
Stage 1	-	-	-	-	1025	-
Stage 2	-	-	-	-	215	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	131	1086
Mov Cap-2 Maneuver	-	-	-	-	131	-
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	215	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0.16	0		33.75		
HCM LOS	D					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	39	-	-	-	131	
HCM Lane V/C Ratio	0.019	-	-	-	0.042	
HCM Control Delay (s/veh)	7.3	0	-	-	33.7	
HCM Lane LOS	A	A	-	-	D	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	

HCM 7th TWSC
3: Midway Road & Patterson Pass Road

Existing plus Construction PCE - PM
Timing Plan: PM Peak Hour


















Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1275	0	4	4	0	0
Future Vol, veh/h	1275	0	4	4	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1386	0	4	4	0	0
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1386	0	1399	1386
Stage 1	-	-	-	-	1386	-
Stage 2	-	-	-	-	13	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	501	-	157	177
Stage 1	-	-	-	-	234	-
Stage 2	-	-	-	-	1015	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	501	-	155	177
Mov Cap-2 Maneuver	-	-	-	-	155	-
Stage 1	-	-	-	-	234	-
Stage 2	-	-	-	-	1006	-
Approach	EB	WB		NB		
HCM Control Delay, s/v	0	6.13		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	-	-	-	499	-	
HCM Lane V/C Ratio	-	-	-	0.009	-	
HCM Control Delay (s/veh)	0	-	-	12.3	0	
HCM Lane LOS	A	-	-	B	A	
HCM 95th %tile Q(veh)	-	-	-	0	-	

HCM 7th Signalized Intersection Summary

4: Patterson Pass Road & I-580 EB Ramps

Existing plus Construction PCE - PM

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	1	54	0	0	0	0	612	737	294	20	0
Future Volume (veh/h)	98	1	54	0	0	0	0	612	737	294	20	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	100	1	0				0	624	752	300	20	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	150	2					0	1004	851	364	24	0
Arrive On Green	0.08	0.08	0.00				0.00	0.53	0.53	0.21	0.21	0.00
Sat Flow, veh/h	1792	18	1610				0	1900	1610	1701	113	0
Grp Volume(v), veh/h	101	0	0				0	624	752	320	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1900	1610	1815	0	0
Q Serve(g_s), s	4.2	0.0	0.0				0.0	17.9	32.1	13.1	0.0	0.0
Cycle Q Clear(g_c), s	4.2	0.0	0.0				0.0	17.9	32.1	13.1	0.0	0.0
Prop In Lane	0.99		1.00				0.00		1.00	0.94		0.00
Lane Grp Cap(c), veh/h	152	0					0	1004	851	389	0	0
V/C Ratio(X)	0.67	0.00					0.00	0.62	0.88	0.82	0.00	0.00
Avail Cap(c_a), veh/h	463	0					0	1306	1107	772	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	34.6	0.0	0.0				0.0	12.9	16.2	29.2	0.0	0.0
Incr Delay (d2), s/veh	4.9	0.0	0.0				0.0	0.6	7.0	4.4	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0				0.0	6.3	11.0	5.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.5	0.0	0.0				0.0	13.5	23.3	33.6	0.0	0.0
LnGrp LOS	D							B	C	C		
Approach Vol, veh/h	101		1376						320			
Approach Delay, s/veh	39.5		18.8						33.6			
Approach LOS	D		B						C			
Timer - Assigned Phs				4			6			8		
Phs Duration (G+Y+Rc), s				45.6			11.0			21.2		
Change Period (Y+Rc), s				4.5			4.5			4.5		
Max Green Setting (Gmax), s				53.5			19.9			33.1		
Max Q Clear Time (g_c+l1), s				34.1			6.2			15.1		
Green Ext Time (p_c), s				7.0			0.3			1.6		
Intersection Summary												
HCM 7th Control Delay, s/veh				22.6								
HCM 7th LOS				C								
Notes												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary

5: Patterson Pass Road & I-580 WB Ramps

Existing plus Construction PCE - PM

Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	5	0	228	119	612	0	0	337	137
Future Volume (veh/h)	0	0	0	5	0	228	119	612	0	0	337	137
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				5	0	0	129	665	0	0	366	149
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				132	0		148	765	0	0	464	394
Arrive On Green				0.07	0.00	0.00	0.48	0.48	0.00	0.00	0.24	0.24
Sat Flow, veh/h				1809	0	1610	306	1578	0	0	1900	1610
Grp Volume(v), veh/h				5	0	0	794	0	0	0	366	149
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1885	0	0	0	1900	1610
Q Serve(g_s), s				0.2	0.0	0.0	25.6	0.0	0.0	0.0	12.3	5.3
Cycle Q Clear(g_c), s				0.2	0.0	0.0	25.6	0.0	0.0	0.0	12.3	5.3
Prop In Lane				1.00		1.00	0.16		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				132	0		914	0	0	0	464	394
V/C Ratio(X)				0.04	0.00		0.87	0.00	0.00	0.00	0.79	0.38
Avail Cap(c_a), veh/h				516	0		1420	0	0	0	986	836
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				29.5	0.0	0.0	15.7	0.0	0.0	0.0	24.2	21.5
Incr Delay (d2), s/veh				0.1	0.0	0.0	3.8	0.0	0.0	0.0	3.0	0.6
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.1	0.0	0.0	9.5	0.0	0.0	0.0	5.3	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				29.6	0.0	0.0	19.5	0.0	0.0	0.0	27.2	22.1
LnGrp LOS				C			B				C	C
Approach Vol, veh/h					5			794			515	
Approach Delay, s/veh					29.6			19.5			25.7	
Approach LOS					C			B			C	
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		9.5		37.7				21.2				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		19.5		51.5				35.5				
Max Q Clear Time (g_c+I1), s		2.2		27.6				14.3				
Green Ext Time (p_c), s		0.0		5.5				2.4				

Intersection Summary

HCM 7th Control Delay, s/veh	21.9
HCM 7th LOS	C

Notes

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

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	3	0	0	805	0	0	0	0	0	0	13
Future Vol, veh/h	0	3	0	0	805	0	0	0	0	0	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	3	0	0	936	0	0	0	0	0	0	15




Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	936	0	0	3	0	0	940	940	3	940	940	936
Stage 1	-	-	-	-	-	-	3	3	-	936	936	-
Stage 2	-	-	-	-	-	-	936	936	-	3	3	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	740	-	-	1632	-	-	246	266	1086	246	266	324
Stage 1	-	-	-	-	-	-	1024	897	-	321	346	-
Stage 2	-	-	-	-	-	-	321	346	-	1024	897	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	740	-	-	1632	-	-	234	266	1086	246	266	324
Mov Cap-2 Maneuver	-	-	-	-	-	-	234	266	-	246	266	-
Stage 1	-	-	-	-	-	-	1024	897	-	321	346	-
Stage 2	-	-	-	-	-	-	306	346	-	1024	897	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0	0	16.65
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	740	-	-	1632	-	-	324
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.047
HCM Control Delay (s/veh)	0	0	-	-	0	-	-	16.6
HCM Lane LOS	A	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1

HCM 7th TWSC
2: Patterson Pass Road & N Midway Road

Cumulative 2027
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	2	802	19	3	0
Future Vol, veh/h	1	2	802	19	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	2	911	22	3	0




Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	933	0	0 927 922
Stage 1	-	-	- 922 -
Stage 2	-	-	- 5 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	742	-	- 300 330
Stage 1	-	-	- 391 -
Stage 2	-	-	- 1024 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	742	-	- 300 330
Mov Cap-2 Maneuver	-	-	- 300 -
Stage 1	-	-	- 390 -
Stage 2	-	-	- 1024 -

Approach	EB	WB	SB
HCM Control Delay, s/v	3.29	0	17.14
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	600	-	-	-	300
HCM Lane V/C Ratio	0.002	-	-	-	0.011
HCM Control Delay (s/veh)	9.9	0	-	-	17.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0

HCM 7th TWSC 3: Midway Road & Patterson Pass Road


















Cumulative 2027
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	822	0	3
Future Vol, veh/h	5	0	0	822	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	0	0	924	0	3
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	6	0	929	6
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	924	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1629	-	299	1083
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	390	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1629	-	299	1083
Mov Cap-2 Maneuver	-	-	-	-	299	-
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	390	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0		8.33	
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1083	-	-	1629	-	
HCM Lane V/C Ratio	0.003	-	-	-	-	
HCM Control Delay (s/veh)	8.3	-	-	0	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0	-	-	0	-	

HCM 7th Signalized Intersection Summary

4: Patterson Pass Road & I-580 EB Ramps

Cumulative 2027
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	0	15	0	0	0	0	27	19	251	837	0
Future Volume (veh/h)	82	0	15	0	0	0	0	27	19	251	837	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	94	0	0				0	31	22	289	962	0
Peak Hour Factor	0.87	0.87	0.87				0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	140	0					0	80	68	312	1039	0
Arrive On Green	0.08	0.00	0.00				0.00	0.04	0.04	0.72	0.72	0.00
Sat Flow, veh/h	1810	0	1610				0	1900	1610	434	1444	0
Grp Volume(v), veh/h	94	0	0				0	31	22	1251	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1900	1610	1878	0	0
Q Serve(g_s), s	4.2	0.0	0.0				0.0	1.3	1.1	47.0	0.0	0.0
Cycle Q Clear(g_c), s	4.2	0.0	0.0				0.0	1.3	1.1	47.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.23		0.00
Lane Grp Cap(c), veh/h	140	0					0	80	68	1352	0	0
V/C Ratio(X)	0.67	0.00					0.00	0.39	0.32	0.93	0.00	0.00
Avail Cap(c_a), veh/h	388	0					0	407	345	1576	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.7	0.0	0.0				0.0	39.2	39.1	9.9	0.0	0.0
Incr Delay (d2), s/veh	5.5	0.0	0.0				0.0	3.0	2.7	8.9	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0				0.0	0.7	0.5	14.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.2	0.0	0.0				0.0	42.2	41.8	18.7	0.0	0.0
LnGrp LOS	D							D	D	B		
Approach Vol, veh/h	94						53			1251		
Approach Delay, s/veh	43.2						42.0			18.7		
Approach LOS	D						D			B		
Timer - Assigned Phs	4			6			8					
Phs Duration (G+Y+Rc), s	8.0			11.0			65.0					
Change Period (Y+Rc), s	4.5			4.5			4.5					
Max Green Setting (Gmax), s	18.0			18.0			70.5					
Max Q Clear Time (g_c+l1), s	3.3			6.2			49.0					
Green Ext Time (p_c), s	0.1			0.3			11.5					
Intersection Summary												
HCM 7th Control Delay, s/veh	21.3											
HCM 7th LOS	C											
Notes												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary

5: Patterson Pass Road & I-580 WB Ramps

Cumulative 2027
Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	385	0	485	12	96	0	0	703	872
Future Volume (veh/h)	0	0	0	385	0	485	12	96	0	0	703	872
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				438	0	0	14	109	0	0	799	991
Peak Hour Factor				0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				484	0		18	140	0	0	989	838
Arrive On Green				0.27	0.00	0.00	0.08	0.08	0.00	0.00	0.52	0.52
Sat Flow, veh/h				1810	0	1610	215	1674	0	0	1900	1610
Grp Volume(v), veh/h				438	0	0	123	0	0	0	799	991
Grp Sat Flow(s), veh/h/ln				1810	0	1610	1889	0	0	0	1900	1610
Q Serve(g_s), s				24.5	0.0	0.0	6.7	0.0	0.0	0.0	36.4	54.5
Cycle Q Clear(g_c), s				24.5	0.0	0.0	6.7	0.0	0.0	0.0	36.4	54.5
Prop In Lane				1.00		1.00	0.11		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				484	0		158	0	0	0	989	838
V/C Ratio(X)				0.91	0.00		0.78	0.00	0.00	0.00	0.81	1.18
Avail Cap(c_a), veh/h				587	0		325	0	0	0	989	838
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				37.1	0.0	0.0	47.1	0.0	0.0	0.0	20.8	25.1
Incr Delay (d2), s/veh				15.7	0.0	0.0	8.1	0.0	0.0	0.0	5.1	94.3
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				12.4	0.0	0.0	3.4	0.0	0.0	0.0	15.7	40.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				52.8	0.0	0.0	55.1	0.0	0.0	0.0	25.8	119.4
LnGrp LOS				D			E				C	F
Approach Vol, veh/h					438			123			1790	
Approach Delay, s/veh					52.8			55.1			77.7	
Approach LOS					D			E			E	
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		32.5		13.2				59.0				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		34.0		18.0				54.5				
Max Q Clear Time (g_c+I1), s		26.5		8.7				56.5				
Green Ext Time (p_c), s		1.5		0.3				0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh				71.8								
HCM 7th LOS				E								
Notes												
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.												

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	1027	0	0	3	0	0	0	0	2	0	0
Future Vol, veh/h	6	1027	0	0	3	0	0	0	0	2	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	1116	0	0	3	0	0	0	0	2	0	0




Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	3	0	0	1116	0	0	1133	1133	1116	1133	1133	3
Stage 1	-	-	-	-	-	-	1129	1129	-	3	3	-
Stage 2	-	-	-	-	-	-	3	3	-	1129	1129	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1632	-	-	633	-	-	182	205	255	182	205	1086
Stage 1	-	-	-	-	-	-	250	281	-	1025	897	-
Stage 2	-	-	-	-	-	-	1025	897	-	250	281	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1632	-	-	633	-	-	180	203	255	180	203	1086
Mov Cap-2 Maneuver	-	-	-	-	-	-	180	203	-	180	203	-
Stage 1	-	-	-	-	-	-	247	278	-	1025	897	-
Stage 2	-	-	-	-	-	-	1025	897	-	247	278	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.04	0	0	25.26
HCM LOS			A	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	10	-	-	633	-	-	180
HCM Lane V/C Ratio	-	0.004	-	-	-	-	-	0.012
HCM Control Delay (s/veh)	0	7.2	0	-	0	-	-	25.3
HCM Lane LOS	A	A	A	-	A	-	-	D
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0

HCM 7th TWSC
2: Patterson Pass Road & N Midway Road

Cumulative 2027
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	1006	3	1	5	0
Future Vol, veh/h	23	1006	3	1	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	25	1105	3	1	5	0




Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	4	0	0 1160 4
Stage 1	-	-	- - 4 -
Stage 2	-	-	- - 1156 -
Critical Hdwy	4.1	-	- - 6.4 6.2
Critical Hdwy Stg 1	-	-	- - 5.4 -
Critical Hdwy Stg 2	-	-	- - 5.4 -
Follow-up Hdwy	2.2	-	- - 3.5 3.3
Pot Cap-1 Maneuver	1630	-	- - 218 1086
Stage 1	-	-	- - 1025 -
Stage 2	-	-	- - 302 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1630	-	- - 209 1086
Mov Cap-2 Maneuver	-	-	- - 209 -
Stage 1	-	-	- - 983 -
Stage 2	-	-	- - 302 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.16	0	22.65
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	40	-	-	-	209
HCM Lane V/C Ratio	0.016	-	-	-	0.026
HCM Control Delay (s/veh)	7.2	0	-	-	22.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 7th TWSC 3: Midway Road & Patterson Pass Road

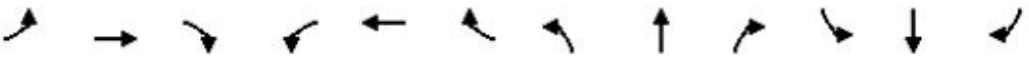
Cumulative 2027
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1008	0	4	4	0	0
Future Vol, veh/h	1008	0	4	4	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1096	0	4	4	0	0
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1096	0	1109	1096
Stage 1	-	-	-	-	1096	-
Stage 2	-	-	-	-	13	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	645	-	234	262
Stage 1	-	-	-	-	323	-
Stage 2	-	-	-	-	1015	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	645	-	233	262
Mov Cap-2 Maneuver	-	-	-	-	233	-
Stage 1	-	-	-	-	323	-
Stage 2	-	-	-	-	1008	-
Approach	EB	WB		NB		
HCM Control Delay, s/v	0	5.31		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	-	-	-	643	-	
HCM Lane V/C Ratio	-	-	-	0.007	-	
HCM Control Delay (s/veh)	0	-	-	10.6	0	
HCM Lane LOS	A	-	-	B	A	
HCM 95th %tile Q(veh)	-	-	-	0	-	

HCM 7th Signalized Intersection Summary

4: Patterson Pass Road & I-580 EB Ramps

Cumulative 2027
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗					↖	↗		↖	
Traffic Volume (veh/h)	104	1	57	0	0	0	0	431	654	312	21	0
Future Volume (veh/h)	104	1	57	0	0	0	0	431	654	312	21	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	106	1	0				0	440	667	318	21	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	164	2					0	910	771	393	26	0
Arrive On Green	0.09	0.09	0.00				0.00	0.48	0.48	0.23	0.23	0.00
Sat Flow, veh/h	1793	17	1610				0	1900	1610	1702	112	0
Grp Volume(v), veh/h	107	0	0				0	440	667	339	0	0
Grp Sat Flow(s), veh/h/ln	1810	0	1610				0	1900	1610	1815	0	0
Q Serve(g_s), s	3.9	0.0	0.0				0.0	10.7	25.1	12.0	0.0	0.0
Cycle Q Clear(g_c), s	3.9	0.0	0.0				0.0	10.7	25.1	12.0	0.0	0.0
Prop In Lane	0.99		1.00				0.00		1.00	0.94		0.00
Lane Grp Cap(c), veh/h	166	0					0	910	771	419	0	0
V/C Ratio(X)	0.65	0.00					0.00	0.48	0.86	0.81	0.00	0.00
Avail Cap(c_a), veh/h	530	0					0	1494	1266	883	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.8	0.0	0.0				0.0	12.0	15.8	24.7	0.0	0.0
Incr Delay (d2), s/veh	4.2	0.0	0.0				0.0	0.4	3.6	3.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0				0.0	3.7	7.9	5.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.0	0.0	0.0				0.0	12.4	19.4	28.5	0.0	0.0
LnGrp LOS	C							B	B	C		
Approach Vol, veh/h		107						1107			339	
Approach Delay, s/veh		34.0						16.6			28.5	
Approach LOS		C						B			C	
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				37.1		10.7		20.2				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				53.5		19.9		33.1				
Max Q Clear Time (g_c+I1), s				27.1		5.9		14.0				
Green Ext Time (p_c), s				5.5		0.3		1.7				
Intersection Summary												
HCM 7th Control Delay, s/veh			20.4									
HCM 7th LOS			C									
Notes												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												





HCM 7th Signalized Intersection Summary

5: Patterson Pass Road & I-580 WB Ramps

Cumulative 2027
Timing Plan: PM Peak Hour






Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	5	0	242	6	551	0	0	357	145
Future Volume (veh/h)	0	0	0	5	0	242	6	551	0	0	357	145
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				5	0	0	7	599	0	0	388	158
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				164	0		9	737	0	0	515	436
Arrive On Green				0.09	0.00	0.00	0.39	0.39	0.00	0.00	0.27	0.27
Sat Flow, veh/h				1809	0	1610	22	1877	0	0	1900	1610
Grp Volume(v), veh/h				5	0	0	606	0	0	0	388	158
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1899	0	0	0	1900	1610
Q Serve(g_s), s				0.1	0.0	0.0	15.7	0.0	0.0	0.0	10.3	4.4
Cycle Q Clear(g_c), s				0.1	0.0	0.0	15.7	0.0	0.0	0.0	10.3	4.4
Prop In Lane				1.00		1.00	0.01		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				164	0		746	0	0	0	515	436
V/C Ratio(X)				0.03	0.00		0.81	0.00	0.00	0.00	0.75	0.36
Avail Cap(c_a), veh/h				641	0		1777	0	0	0	1226	1039
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				22.8	0.0	0.0	14.9	0.0	0.0	0.0	18.4	16.2
Incr Delay (d2), s/veh				0.1	0.0	0.0	2.2	0.0	0.0	0.0	2.3	0.5
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.1	0.0	0.0	5.6	0.0	0.0	0.0	4.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				22.9	0.0	0.0	17.1	0.0	0.0	0.0	20.6	16.7
LnGrp LOS				C			B				C	B
Approach Vol, veh/h					5			606			546	
Approach Delay, s/veh					22.9			17.1			19.5	
Approach LOS					C			B			B	
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		9.5		26.1				19.4				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		19.5		51.5				35.5				
Max Q Clear Time (g_c+I1), s		2.1		17.7				12.3				
Green Ext Time (p_c), s		0.0		4.0				2.6				
Intersection Summary												
HCM 7th Control Delay, s/veh				18.3								
HCM 7th LOS				B								
Notes												
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.												

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	3	0	0	1136	0	0	0	0	0	0	13
Future Vol, veh/h	0	3	0	0	1136	0	0	0	0	0	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	3	0	0	1321	0	0	0	0	0	0	15
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1321	0	0	3	0	0	1324	1324	3	1324	1324	1321
Stage 1	-	-	-	-	-	-	3	3	-	1321	1321	-
Stage 2	-	-	-	-	-	-	1321	1321	-	3	3	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	530	-	-	1632	-	-	134	157	1086	134	157	193
Stage 1	-	-	-	-	-	-	1024	897	-	195	228	-
Stage 2	-	-	-	-	-	-	195	228	-	1024	897	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	530	-	-	1632	-	-	124	157	1086	134	157	193
Mov Cap-2 Maneuver	-	-	-	-	-	-	124	157	-	134	157	-
Stage 1	-	-	-	-	-	-	1024	897	-	195	228	-
Stage 2	-	-	-	-	-	-	180	228	-	1024	897	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0			0			0			25.18		
HCM LOS							A			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	530	-	-	1632	-	-	193				
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.078				
HCM Control Delay (s/veh)	0	0	-	-	0	-	-	25.2				
HCM Lane LOS	A	A	-	-	A	-	-	D				
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.3				




HCM 7th TWSC
2: Patterson Pass Road & N Midway Road

Cumulative 2027 plus Const PCE - AM
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	2	1133	19	3	0
Future Vol, veh/h	1	2	1133	19	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	2	1288	22	3	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	1309	0	-	0	1303	1298
Stage 1	-	-	-	-	1298	-
Stage 2	-	-	-	-	5	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	535	-	-	-	179	199
Stage 1	-	-	-	-	258	-
Stage 2	-	-	-	-	1024	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	535	-	-	-	179	199
Mov Cap-2 Maneuver	-	-	-	-	179	-
Stage 1	-	-	-	-	258	-
Stage 2	-	-	-	-	1024	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	3.91	0		25.55		
HCM LOS				D		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	535	-	-	-	179	
HCM Lane V/C Ratio	0.002	-	-	-	0.019	
HCM Control Delay (s/veh)	11.7	0	-	-	25.6	
HCM Lane LOS	B	A	-	-	D	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

HCM 7th TWSC
3: Midway Road & Patterson Pass Road

Cumulative 2027 plus Const PCE - AM
Timing Plan: AM Peak Hour


















Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	1153	0	3
Future Vol, veh/h	5	0	0	1153	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	0	0	1296	0	3
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	6	0	1301	6
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	1296	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1629	-	179	1083
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	259	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1629	-	179	1083
Mov Cap-2 Maneuver	-	-	-	-	179	-
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	259	-
Approach	EB	WB		NB		
HCM Control Delay, s/v	0	0		8.33		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1083	-	-	1629	-	
HCM Lane V/C Ratio	0.003	-	-	-	-	
HCM Control Delay (s/veh)	8.3	-	-	0	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0	-	-	0	-	

HCM 7th Signalized Intersection Summary

4: Patterson Pass Road & I-580 EB Ramps

Cumulative 2027 plus Const PCE - AM

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	0	135	0	0	0	0	27	19	251	1048	0
Future Volume (veh/h)	82	0	135	0	0	0	0	27	19	251	1048	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	94	0	0				0	31	22	289	1205	0
Peak Hour Factor	0.87	0.87	0.87				0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	135	0					0	75	64	271	1129	0
Arrive On Green	0.07	0.00	0.00				0.00	0.04	0.04	0.74	0.74	0.00
Sat Flow, veh/h	1810	0	1610				0	1900	1610	364	1518	0
Grp Volume(v), veh/h	94	0	0				0	31	22	1494	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1900	1610	1882	0	0
Q Serve(g_s), s	4.8	0.0	0.0				0.0	1.5	1.3	70.5	0.0	0.0
Cycle Q Clear(g_c), s	4.8	0.0	0.0				0.0	1.5	1.3	70.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.19		0.00
Lane Grp Cap(c), veh/h	135	0					0	75	64	1399	0	0
V/C Ratio(X)	0.70	0.00					0.00	0.41	0.34	1.07	0.00	0.00
Avail Cap(c_a), veh/h	344	0					0	361	306	1399	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	42.8	0.0	0.0				0.0	44.4	44.3	12.2	0.0	0.0
Incr Delay (d2), s/veh	6.4	0.0	0.0				0.0	3.6	3.2	44.4	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0				0.0	0.8	0.5	34.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.2	0.0	0.0				0.0	48.0	47.5	56.6	0.0	0.0
LnGrp LOS	D							D	D	F		
Approach Vol, veh/h	94						53			1494		
Approach Delay, s/veh	49.2						47.8			56.6		
Approach LOS	D						D			E		
Timer - Assigned Phs	4			6			8					
Phs Duration (G+Y+Rc), s	8.3			11.6			75.0					
Change Period (Y+Rc), s	4.5			4.5			4.5					
Max Green Setting (Gmax), s	18.0			18.0			70.5					
Max Q Clear Time (g_c+l1), s	3.5			6.8			72.5					
Green Ext Time (p_c), s	0.1			0.2			0.0					
Intersection Summary												
HCM 7th Control Delay, s/veh	55.9											
HCM 7th LOS	E											
Notes												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary 5: Patterson Pass Road & I-580 WB Ramps

Cumulative 2027 plus Const PCE - AM
Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	505	0	485	12	96	0	0	795	872
Future Volume (veh/h)	0	0	0	505	0	485	12	96	0	0	795	872
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				574	0	0	14	109	0	0	903	991
Peak Hour Factor				0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				553	0		18	138	0	0	931	789
Arrive On Green				0.31	0.00	0.00	0.08	0.08	0.00	0.00	0.49	0.49
Sat Flow, veh/h				1810	0	1610	215	1674	0	0	1900	1610
Grp Volume(v), veh/h				574	0	0	123	0	0	0	903	991
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1889	0	0	0	1900	1610
Q Serve(g_s), s				34.0	0.0	0.0	7.1	0.0	0.0	0.0	51.3	54.5
Cycle Q Clear(g_c), s				34.0	0.0	0.0	7.1	0.0	0.0	0.0	51.3	54.5
Prop In Lane				1.00		1.00	0.11		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				553	0		156	0	0	0	931	789
V/C Ratio(X)				1.04	0.00		0.79	0.00	0.00	0.00	0.97	1.26
Avail Cap(c_a), veh/h				553	0		306	0	0	0	931	789
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				38.6	0.0	0.0	50.0	0.0	0.0	0.0	27.5	28.3
Incr Delay (d2), s/veh				48.3	0.0	0.0	8.5	0.0	0.0	0.0	22.3	125.3
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				21.7	0.0	0.0	3.6	0.0	0.0	0.0	26.7	46.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				86.9	0.0	0.0	58.5	0.0	0.0	0.0	49.9	153.7
LnGrp LOS				F			E				D	F
Approach Vol, veh/h					574			123			1894	
Approach Delay, s/veh					86.9			58.5			104.2	
Approach LOS					F			E			F	
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		38.5		13.7				59.0				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		34.0		18.0				54.5				
Max Q Clear Time (g_c+I1), s		36.0		9.1				56.5				
Green Ext Time (p_c), s		0.0		0.3				0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh				98.2								
HCM 7th LOS				F								
Notes												
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.												

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	1358	0	0	3	0	0	0	0	2	0	0
Future Vol, veh/h	6	1358	0	0	3	0	0	0	0	2	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	1476	0	0	3	0	0	0	0	2	0	0




Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	3	0	0	1476	0	0	1492	1492	1476	1492	1492	3
Stage 1	-	-	-	-	-	-	1489	1489	-	3	3	-
Stage 2	-	-	-	-	-	-	3	3	-	1489	1489	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1632	-	-	462	-	-	103	125	157	103	125	1086
Stage 1	-	-	-	-	-	-	156	189	-	1025	897	-
Stage 2	-	-	-	-	-	-	1025	897	-	156	189	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1632	-	-	462	-	-	100	122	157	100	122	1086
Mov Cap-2 Maneuver	-	-	-	-	-	-	100	122	-	100	122	-
Stage 1	-	-	-	-	-	-	153	185	-	1025	897	-
Stage 2	-	-	-	-	-	-	1025	897	-	153	185	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v 0.03		0	0	41.64
HCM LOS			A	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	8	-	-	462	-	-	100
HCM Lane V/C Ratio	-	0.004	-	-	-	-	-	0.022
HCM Control Delay (s/veh)	0	7.2	0	-	0	-	-	41.6
HCM Lane LOS	A	A	A	-	A	-	-	E
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1




HCM 7th TWSC
2: Patterson Pass Road & N Midway Road

Cumulative 2027 plus Const PCE - PM
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	29	1330	3	1	5	0
Future Vol, veh/h	29	1330	3	1	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	32	1462	3	1	5	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	4	0	-	0	1529	4
Stage 1	-	-	-	-	4	-
Stage 2	-	-	-	-	1525	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1630	-	-	-	130	1086
Stage 1	-	-	-	-	1025	-
Stage 2	-	-	-	-	200	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	117	1086
Mov Cap-2 Maneuver	-	-	-	-	117	-
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	200	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0.15	0		37.33		
HCM LOS	E					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	38	-	-	-	117	
HCM Lane V/C Ratio	0.02	-	-	-	0.047	
HCM Control Delay (s/veh)	7.3	0	-	-	37.3	
HCM Lane LOS	A	A	-	-	E	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	

HCM 7th TWSC
3: Midway Road & Patterson Pass Road

Cumulative 2027 plus Const PCE - PM
Timing Plan: PM Peak Hour


















Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1332	0	4	4	0	0
Future Vol, veh/h	1332	0	4	4	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1448	0	4	4	0	0
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1448	0	1461	1448
Stage 1	-	-	-	-	1448	-
Stage 2	-	-	-	-	13	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	474	-	143	163
Stage 1	-	-	-	-	218	-
Stage 2	-	-	-	-	1015	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	474	-	142	163
Mov Cap-2 Maneuver	-	-	-	-	142	-
Stage 1	-	-	-	-	218	-
Stage 2	-	-	-	-	1006	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		6.33		0	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	-	-	-	473	-	
HCM Lane V/C Ratio	-	-	-	0.009	-	
HCM Control Delay (s/veh)	0	-	-	12.7	0	
HCM Lane LOS	A	-	-	B	A	
HCM 95th %tile Q(veh)	-	-	-	0	-	

HCM 7th Signalized Intersection Summary

4: Patterson Pass Road & I-580 EB Ramps

Cumulative 2027 plus Const PCE - PM

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	1	57	0	0	0	0	636	774	312	21	0
Future Volume (veh/h)	104	1	57	0	0	0	0	636	774	312	21	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	106	1	0				0	649	790	318	21	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	151	1					0	1023	867	376	25	0
Arrive On Green	0.08	0.08	0.00				0.00	0.54	0.54	0.22	0.22	0.00
Sat Flow, veh/h	1793	17	1610				0	1900	1610	1702	112	0
Grp Volume(v), veh/h	107	0	0				0	649	790	339	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1900	1610	1815	0	0
Q Serve(g_s), s	5.0	0.0	0.0				0.0	20.7	38.4	15.5	0.0	0.0
Cycle Q Clear(g_c), s	5.0	0.0	0.0				0.0	20.7	38.4	15.5	0.0	0.0
Prop In Lane	0.99		1.00				0.00		1.00	0.94		0.00
Lane Grp Cap(c), veh/h	153	0					0	1023	867	401	0	0
V/C Ratio(X)	0.70	0.00					0.00	0.63	0.91	0.85	0.00	0.00
Avail Cap(c_a), veh/h	417	0					0	1177	998	696	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	38.5	0.0	0.0				0.0	14.0	18.1	32.2	0.0	0.0
Incr Delay (d2), s/veh	5.7	0.0	0.0				0.0	0.9	11.2	5.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0				0.0	7.6	14.4	6.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.2	0.0	0.0				0.0	14.9	29.3	37.2	0.0	0.0
LnGrp LOS	D						B	C	D			
Approach Vol, veh/h	107						1439			339		
Approach Delay, s/veh	44.2						22.8			37.2		
Approach LOS	D						C			D		
Timer - Assigned Phs	4			6			8					
Phs Duration (G+Y+Rc), s	51.0			11.8			23.6					
Change Period (Y+Rc), s	4.5			4.5			4.5					
Max Green Setting (Gmax), s	53.5			19.9			33.1					
Max Q Clear Time (g_c+I1), s	40.4			7.0			17.5					
Green Ext Time (p_c), s	6.1			0.3			1.6					
Intersection Summary												
HCM 7th Control Delay, s/veh	26.6											
HCM 7th LOS	C											
Notes												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary 5: Patterson Pass Road & I-580 WB Ramps

Cumulative 2027 plus Const PCE - PM
Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	5	0	242	119	643	0	0	357	145
Future Volume (veh/h)	0	0	0	5	0	242	119	643	0	0	357	145
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				5	0	0	129	699	0	0	388	158
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				123	0		146	791	0	0	480	407
Arrive On Green				0.07	0.00	0.00	0.50	0.50	0.00	0.00	0.25	0.25
Sat Flow, veh/h				1809	0	1610	294	1592	0	0	1900	1610
Grp Volume(v), veh/h				5	0	0	828	0	0	0	388	158
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1885	0	0	0	1900	1610
Q Serve(g_s), s				0.2	0.0	0.0	29.1	0.0	0.0	0.0	14.2	6.0
Cycle Q Clear(g_c), s				0.2	0.0	0.0	29.1	0.0	0.0	0.0	14.2	6.0
Prop In Lane				1.00		1.00	0.16		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				123	0		937	0	0	0	480	407
V/C Ratio(X)				0.04	0.00		0.88	0.00	0.00	0.00	0.81	0.39
Avail Cap(c_a), veh/h				478	0		1315	0	0	0	913	774
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				32.2	0.0	0.0	16.7	0.0	0.0	0.0	25.9	22.9
Incr Delay (d2), s/veh				0.1	0.0	0.0	5.6	0.0	0.0	0.0	3.3	0.6
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.1	0.0	0.0	11.4	0.0	0.0	0.0	6.2	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				32.3	0.0	0.0	22.2	0.0	0.0	0.0	29.2	23.5
LnGrp LOS				C			C				C	C
Approach Vol, veh/h					5			828			546	
Approach Delay, s/veh					32.3			22.2			27.5	
Approach LOS					C			C			C	
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		9.5		41.2				23.2				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		19.5		51.5				35.5				
Max Q Clear Time (g_c+I1), s		2.2		31.1				16.2				
Green Ext Time (p_c), s		0.0		5.6				2.5				
Intersection Summary												
HCM 7th Control Delay, s/veh				24.4								
HCM 7th LOS				C								
Notes												
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.												

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	3	0	0	776	0	0	0	0	0	0	12
Future Vol, veh/h	0	3	0	0	776	0	0	0	0	0	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	3	0	0	902	0	0	0	0	0	0	14




Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	902	0	0	3	0	0	906	906	3	906	906	902
Stage 1	-	-	-	-	-	-	3	3	-	902	902	-
Stage 2	-	-	-	-	-	-	902	902	-	3	3	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	762	-	-	1632	-	-	259	278	1086	259	278	339
Stage 1	-	-	-	-	-	-	1024	897	-	335	359	-
Stage 2	-	-	-	-	-	-	335	359	-	1024	897	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	762	-	-	1632	-	-	249	278	1086	259	278	339
Mov Cap-2 Maneuver	-	-	-	-	-	-	249	278	-	259	278	-
Stage 1	-	-	-	-	-	-	1024	897	-	335	359	-
Stage 2	-	-	-	-	-	-	321	359	-	1024	897	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0	0	16.08
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	762	-	-	1632	-	-	339
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.041
HCM Control Delay (s/veh)	0	0	-	-	0	-	-	16.1
HCM Lane LOS	A	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.1




HCM 7th TWSC
2: Patterson Pass Road & N Midway Road

Existing plus Construction PCE - AM (Mitigated)
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	2	774	18	3	0
Future Vol, veh/h	1	2	774	18	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	2	880	20	3	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	900	0	-	0	894	890
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	5	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	763	-	-	-	314	345
Stage 1	-	-	-	-	405	-
Stage 2	-	-	-	-	1024	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	763	-	-	-	314	345
Mov Cap-2 Maneuver	-	-	-	-	314	-
Stage 1	-	-	-	-	404	-
Stage 2	-	-	-	-	1024	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	3.24	0		16.61		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	600	-	-	-	314	
HCM Lane V/C Ratio	0.001	-	-	-	0.011	
HCM Control Delay (s/veh)	9.7	0	-	-	16.6	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	0	

HCM 7th TWSC
3: Midway Road & Patterson Pass Road

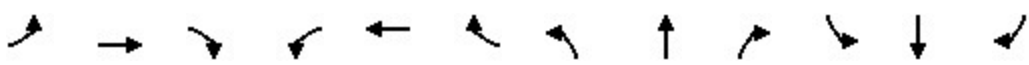
Existing plus Construction PCE - AM (Mitigated)
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	792	0	3
Future Vol, veh/h	5	0	0	792	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	0	0	890	0	3
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	6	0	896	6
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	890	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1629	-	314	1083
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	405	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1629	-	314	1083
Mov Cap-2 Maneuver	-	-	-	-	314	-
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	405	-
Approach	EB		WB		NB	
HCM Control Delay, s/v	0		0		8.33	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1083	-	-	1629	-	
HCM Lane V/C Ratio	0.003	-	-	-	-	
HCM Control Delay (s/veh)	8.3	-	-	0	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0	-	-	0	-	

HCM 7th Signalized Intersection Summary 4: Patterson Pass Road & I-580 EB Ramps

Existing plus Construction PCE - AM (Mitigated)

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗					↑	↗		↖	
Traffic Volume (veh/h)	77	0	20	0	0	0	0	25	18	237	802	0
Future Volume (veh/h)	77	0	20	0	0	0	0	25	18	237	802	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	89	0	0				0	29	21	272	922	0
Peak Hour Factor	0.87	0.87	0.87				0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	140	0					0	81	69	301	1021	0
Arrive On Green	0.08	0.00	0.00				0.00	0.04	0.04	0.70	0.70	0.00
Sat Flow, veh/h	1810	0	1610				0	1900	1610	428	1451	0
Grp Volume(v), veh/h	89	0	0				0	29	21	1194	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1900	1610	1879	0	0
Q Serve(g_s), s	3.6	0.0	0.0				0.0	1.1	1.0	39.5	0.0	0.0
Cycle Q Clear(g_c), s	3.6	0.0	0.0				0.0	1.1	1.0	39.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.23		0.00
Lane Grp Cap(c), veh/h	140	0					0	81	69	1322	0	0
V/C Ratio(X)	0.64	0.00					0.00	0.36	0.30	0.90	0.00	0.00
Avail Cap(c_a), veh/h	426	0					0	447	379	1733	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	34.2	0.0	0.0				0.0	35.6	35.5	9.2	0.0	0.0
Incr Delay (d2), s/veh	4.8	0.0	0.0				0.0	2.6	2.5	5.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0				0.0	0.6	0.4	11.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	39.0	0.0	0.0				0.0	38.2	37.9	15.0	0.0	0.0
LnGrp LOS	D							D	D	B		
Approach Vol, veh/h	89						50			1194		
Approach Delay, s/veh	39.0						38.1			15.0		
Approach LOS	D						D			B		
Timer - Assigned Phs	4			6			8					
Phs Duration (G+Y+Rc), s	7.8			10.4			58.3					
Change Period (Y+Rc), s	4.5			4.5			4.5					
Max Green Setting (Gmax), s	18.0			18.0			70.5					
Max Q Clear Time (g_c+l1), s	3.1			5.6			41.5					
Green Ext Time (p_c), s	0.1			0.2			12.3					

Intersection Summary

HCM 7th Control Delay, s/veh	17.5
HCM 7th LOS	B

Notes

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

HCM 7th Signalized Intersection Summary 5: Patterson Pass Road & I-580 WB Ramps

Existing plus Construction PCE - AM (Mitigated)

Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	369	0	458	11	91	0	0	669	823
Future Volume (veh/h)	0	0	0	369	0	458	11	91	0	0	669	823
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				419	0	0	12	103	0	0	760	935
Peak Hour Factor				0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				468	0		16	134	0	0	1009	855
Arrive On Green				0.26	0.00	0.00	0.08	0.08	0.00	0.00	0.53	0.53
Sat Flow, veh/h				1810	0	1610	197	1693	0	0	1900	1610
Grp Volume(v), veh/h				419	0	0	115	0	0	0	760	935
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1890	0	0	0	1900	1610
Q Serve(g_s), s				22.9	0.0	0.0	6.1	0.0	0.0	0.0	32.1	54.5
Cycle Q Clear(g_c), s				22.9	0.0	0.0	6.1	0.0	0.0	0.0	32.1	54.5
Prop In Lane				1.00		1.00	0.10		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				468	0		149	0	0	0	1009	855
V/C Ratio(X)				0.90	0.00		0.77	0.00	0.00	0.00	0.75	1.09
Avail Cap(c_a), veh/h				600	0		332	0	0	0	1009	855
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.7	0.0	0.0	46.3	0.0	0.0	0.0	18.8	24.1
Incr Delay (d2), s/veh				13.6	0.0	0.0	8.1	0.0	0.0	0.0	3.2	59.4
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.3	0.0	0.0	3.1	0.0	0.0	0.0	13.3	32.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				50.3	0.0	0.0	54.5	0.0	0.0	0.0	22.0	83.5
LnGrp LOS				D			D				C	F
Approach Vol, veh/h					419			115			1695	
Approach Delay, s/veh					50.3			54.5			55.9	
Approach LOS					D			D			E	
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		31.0		12.6				59.0				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		34.0		18.0				54.5				
Max Q Clear Time (g_c+I1), s		24.9		8.1				56.5				
Green Ext Time (p_c), s		1.6		0.3				0.0				

Intersection Summary

HCM 7th Control Delay, s/veh	54.8
HCM 7th LOS	D




Notes

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

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	986	0	0	3	0	0	0	0	2	0	0
Future Vol, veh/h	6	986	0	0	3	0	0	0	0	2	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	1072	0	0	3	0	0	0	0	2	0	0
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	3	0	0	1072	0	0	1088	1088	1072	1088	1088	3
Stage 1	-	-	-	-	-	-	1085	1085	-	3	3	-
Stage 2	-	-	-	-	-	-	3	3	-	1085	1085	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1632	-	-	658	-	-	195	217	271	195	217	1086
Stage 1	-	-	-	-	-	-	265	295	-	1025	897	-
Stage 2	-	-	-	-	-	-	1025	897	-	265	295	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1632	-	-	658	-	-	193	215	271	193	215	1086
Mov Cap-2 Maneuver	-	-	-	-	-	-	193	215	-	193	215	-
Stage 1	-	-	-	-	-	-	262	292	-	1025	897	-
Stage 2	-	-	-	-	-	-	1025	897	-	262	292	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s/v	0.04			0			0			23.86		
HCM LOS							A			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	-	11	-	-	658	-	-	193				
HCM Lane V/C Ratio	-	0.004	-	-	-	-	-	0.011				
HCM Control Delay (s/veh)	0	7.2	0	-	0	-	-	23.9				
HCM Lane LOS	A	A	A	-	A	-	-	C				
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0				




HCM 7th TWSC
2: Patterson Pass Road & N Midway Road

Existing plus Construction PCE - PM (Mitigated)
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	966	3	1	5	0
Future Vol, veh/h	23	966	3	1	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	25	1062	3	1	5	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	4	0	-	0	1116	4
Stage 1	-	-	-	-	4	-
Stage 2	-	-	-	-	1112	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1630	-	-	-	232	1086
Stage 1	-	-	-	-	1025	-
Stage 2	-	-	-	-	317	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1630	-	-	-	223	1086
Mov Cap-2 Maneuver	-	-	-	-	223	-
Stage 1	-	-	-	-	986	-
Stage 2	-	-	-	-	317	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0.17	0		21.55		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	42	-	-	-	223	
HCM Lane V/C Ratio	0.016	-	-	-	0.025	
HCM Control Delay (s/veh)	7.2	0	-	-	21.5	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	0.1	

HCM 7th TWSC
3: Midway Road & Patterson Pass Road


















Existing plus Construction PCE - PM (Mitigated)
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	968	0	4	4	0	0
Future Vol, veh/h	968	0	4	4	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1052	0	4	4	0	0
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1052	0	1065	1052
Stage 1	-	-	-	-	1052	-
Stage 2	-	-	-	-	13	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	669	-	249	278
Stage 1	-	-	-	-	339	-
Stage 2	-	-	-	-	1015	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	669	-	247	278
Mov Cap-2 Maneuver	-	-	-	-	247	-
Stage 1	-	-	-	-	339	-
Stage 2	-	-	-	-	1008	-
Approach	EB	WB		NB		
HCM Control Delay, s/v	0	5.21		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	-	-	-	668	-	
HCM Lane V/C Ratio	-	-	-	0.006	-	
HCM Control Delay (s/veh)	0	-	-	10.4	0	
HCM Lane LOS	A	-	-	B	A	
HCM 95th %tile Q(veh)	-	-	-	0	-	

HCM 7th Signalized Intersection Summary 4: Patterson Pass Road & I-580 EB Ramps

Existing plus Construction PCE - PM (Mitigated)

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	1	54	0	0	0	0	418	623	294	20	0
Future Volume (veh/h)	98	1	54	0	0	0	0	418	623	294	20	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	100	1	0				0	427	636	300	20	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	164	2					0	886	751	382	25	0
Arrive On Green	0.09	0.09	0.00				0.00	0.47	0.47	0.22	0.22	0.00
Sat Flow, veh/h	1792	18	1610				0	1900	1610	1701	113	0
Grp Volume(v), veh/h	101	0	0				0	427	636	320	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1900	1610	1815	0	0
Q Serve(g_s), s	3.3	0.0	0.0				0.0	9.6	21.6	10.3	0.0	0.0
Cycle Q Clear(g_c), s	3.3	0.0	0.0				0.0	9.6	21.6	10.3	0.0	0.0
Prop In Lane	0.99		1.00				0.00		1.00	0.94		0.00
Lane Grp Cap(c), veh/h	165	0					0	886	751	407	0	0
V/C Ratio(X)	0.61	0.00					0.00	0.48	0.85	0.79	0.00	0.00
Avail Cap(c_a), veh/h	582	0					0	1641	1391	970	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.1	0.0	0.0				0.0	11.4	14.6	22.6	0.0	0.0
Incr Delay (d2), s/veh	3.6	0.0	0.0				0.0	0.4	2.8	3.4	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0				0.0	3.2	6.5	4.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.7	0.0	0.0				0.0	11.8	17.3	26.0	0.0	0.0
LnGrp LOS	C							B	B	C		
Approach Vol, veh/h	101						1063			320		
Approach Delay, s/veh	30.7						15.1			26.0		
Approach LOS	C						B			C		
Timer - Assigned Phs	4			6			8					
Phs Duration (G+Y+Rc), s	33.4			10.2			18.4					
Change Period (Y+Rc), s	4.5			4.5			4.5					
Max Green Setting (Gmax), s	53.5			19.9			33.1					
Max Q Clear Time (g_c+l1), s	23.6			5.3			12.3					
Green Ext Time (p_c), s	5.3			0.3			1.7					
Intersection Summary												
HCM 7th Control Delay, s/veh	18.5											
HCM 7th LOS	B											
Notes												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary 5: Patterson Pass Road & I-580 WB Ramps

Existing plus Construction PCE - PM (Mitigated)

Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↶	↷		↶			↷	↶
Traffic Volume (veh/h)	0	0	0	5	0	228	11	526	0	0	337	137
Future Volume (veh/h)	0	0	0	5	0	228	11	526	0	0	337	137
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				5	0	0	12	572	0	0	366	149
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				173	0		15	714	0	0	497	421
Arrive On Green				0.10	0.00	0.00	0.38	0.38	0.00	0.00	0.26	0.26
Sat Flow, veh/h				1809	0	1610	39	1859	0	0	1900	1610
Grp Volume(v), veh/h				5	0	0	584	0	0	0	366	149
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1898	0	0	0	1900	1610
Q Serve(g_s), s				0.1	0.0	0.0	14.3	0.0	0.0	0.0	9.2	3.9
Cycle Q Clear(g_c), s				0.1	0.0	0.0	14.3	0.0	0.0	0.0	9.2	3.9
Prop In Lane				1.00		1.00	0.02		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				173	0		729	0	0	0	497	421
V/C Ratio(X)				0.03	0.00		0.80	0.00	0.00	0.00	0.74	0.35
Avail Cap(c_a), veh/h				676	0		1872	0	0	0	1291	1094
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				21.4	0.0	0.0	14.3	0.0	0.0	0.0	17.6	15.7
Incr Delay (d2), s/veh				0.1	0.0	0.0	2.1	0.0	0.0	0.0	2.2	0.5
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.1	0.0	0.0	5.0	0.0	0.0	0.0	3.5	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				21.5	0.0	0.0	16.4	0.0	0.0	0.0	19.8	16.2
LnGrp LOS				C			B				B	B
Approach Vol, veh/h					5			584			515	
Approach Delay, s/veh					21.5			16.4			18.8	
Approach LOS					C			B			B	
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		9.5		24.6				18.2				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		19.5		51.5				35.5				
Max Q Clear Time (g_c+I1), s		2.1		16.3				11.2				
Green Ext Time (p_c), s		0.0		3.8				2.5				

Intersection Summary

HCM 7th Control Delay, s/veh	17.5
HCM 7th LOS	B

Notes

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

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	3	0	0	822	0	0	0	0	0	0	13
Future Vol, veh/h	0	3	0	0	822	0	0	0	0	0	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	3	0	0	956	0	0	0	0	0	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	956	0	0	3	0	0	959	959	3	959	959	956
Stage 1	-	-	-	-	-	-	3	3	-	956	956	-
Stage 2	-	-	-	-	-	-	956	956	-	3	3	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	727	-	-	1632	-	-	238	259	1086	238	259	316
Stage 1	-	-	-	-	-	-	1024	897	-	313	339	-
Stage 2	-	-	-	-	-	-	313	339	-	1024	897	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	727	-	-	1632	-	-	227	259	1086	238	259	316
Mov Cap-2 Maneuver	-	-	-	-	-	-	227	259	-	238	259	-
Stage 1	-	-	-	-	-	-	1024	897	-	313	339	-
Stage 2	-	-	-	-	-	-	298	339	-	1024	897	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0	0	16.97
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	727	-	-	1632	-	-	316
HCM Lane V/C Ratio	-	-	-	-	-	-	-	0.048
HCM Control Delay (s/veh)	0	0	-	-	0	-	-	17
HCM Lane LOS	A	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0.2

Intersection

Int Delay, s/veh 0.1

Movement EBL EBT WBT WBR SBL SBRLane Configurations 

Traffic Vol, veh/h 1 2 819 19 3 0

Future Vol, veh/h 1 2 819 19 3 0

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - 0 -

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 88 88 88 88 88 88

Heavy Vehicles, % 0 0 0 0 0 0

Mvmt Flow 1 2 931 22 3 0

Major/Minor Major1 Major2 Minor2

Conflicting Flow All 952 0 - 0 946 941

Stage 1 - - - - 941 -

Stage 2 - - - - 5 -

Critical Hdwy 4.1 - - - 6.4 6.2

Critical Hdwy Stg 1 - - - - 5.4 -

Critical Hdwy Stg 2 - - - - 5.4 -

Follow-up Hdwy 2.2 - - - 3.5 3.3

Pot Cap-1 Maneuver 730 - - - 293 322

Stage 1 - - - - 382 -

Stage 2 - - - - 1024 -

Platoon blocked, % - - - -

Mov Cap-1 Maneuver 730 - - - 292 322

Mov Cap-2 Maneuver - - - - 292 -

Stage 1 - - - - 382 -

Stage 2 - - - - 1024 -

Approach EB WB SB

HCM Control Delay, s/v 3.31 0 17.47

HCM LOS C

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h) 600 - - - 292

HCM Lane V/C Ratio 0.002 - - - 0.012




HCM Control Delay (s/veh) 9.9 0 - - 17.5

HCM Lane LOS A A - - C

HCM 95th %tile Q(veh) 0 - - - 0

HCM 7th TWSC
3: Midway Road & Patterson Pass Road


















Cumulative 2027 plus Const PCE - AM (Mitigated)
Timing Plan: AM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	5	0	0	839	0	3
Future Vol, veh/h	5	0	0	839	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	6	0	0	943	0	3
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	6	0	948	6
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	943	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1629	-	292	1083
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	382	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1629	-	292	1083
Mov Cap-2 Maneuver	-	-	-	-	292	-
Stage 1	-	-	-	-	1023	-
Stage 2	-	-	-	-	382	-
Approach	EB	WB		NB		
HCM Control Delay, s/v	0	0		8.33		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1083	-	-	1629	-	
HCM Lane V/C Ratio	0.003	-	-	-	-	
HCM Control Delay (s/veh)	8.3	-	-	0	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0	-	-	0	-	

HCM 7th Signalized Intersection Summary Cumulative 2027 plus Const PCE - AM (Mitigated)

4: Patterson Pass Road & I-580 EB Ramps

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	0	21	0	0	0	0	27	19	251	849	0
Future Volume (veh/h)	82	0	21	0	0	0	0	27	19	251	849	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	94	0	0				0	31	22	289	976	0
Peak Hour Factor	0.87	0.87	0.87				0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	139	0					0	80	67	310	1048	0
Arrive On Green	0.08	0.00	0.00				0.00	0.04	0.04	0.72	0.72	0.00
Sat Flow, veh/h	1810	0	1610				0	1900	1610	429	1449	0
Grp Volume(v), veh/h	94	0	0				0	31	22	1265	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1900	1610	1879	0	0
Q Serve(g_s), s	4.3	0.0	0.0				0.0	1.4	1.1	48.8	0.0	0.0
Cycle Q Clear(g_c), s	4.3	0.0	0.0				0.0	1.4	1.1	48.8	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	0.23		0.00
Lane Grp Cap(c), veh/h	139	0					0	80	67	1359	0	0
V/C Ratio(X)	0.68	0.00					0.00	0.39	0.33	0.93	0.00	0.00
Avail Cap(c_a), veh/h	381	0					0	400	339	1548	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	38.4	0.0	0.0				0.0	39.9	39.8	10.0	0.0	0.0
Incr Delay (d2), s/veh	5.6	0.0	0.0				0.0	3.1	2.8	9.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0				0.0	0.7	0.5	15.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.0	0.0	0.0				0.0	43.0	42.6	19.7	0.0	0.0
LnGrp LOS	D							D	D	B		
Approach Vol, veh/h	94						53			1265		
Approach Delay, s/veh	44.0						42.8			19.7		
Approach LOS	D						D			B		
Timer - Assigned Phs	4			6			8					
Phs Duration (G+Y+Rc), s	8.1			11.1			66.4					
Change Period (Y+Rc), s	4.5			4.5			4.5					
Max Green Setting (Gmax), s	18.0			18.0			70.5					
Max Q Clear Time (g_c+l1), s	3.4			6.3			50.8					
Green Ext Time (p_c), s	0.1			0.3			11.1					
Intersection Summary												
HCM 7th Control Delay, s/veh	22.2											
HCM 7th LOS	C											
Notes												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary Cumulative 2027 plus Const PCE - AM (Mitigated)

5: Patterson Pass Road & I-580 WB Ramps

Timing Plan: AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	391	0	485	12	96	0	0	709	872
Future Volume (veh/h)	0	0	0	391	0	485	12	96	0	0	709	872
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				444	0	0	14	109	0	0	806	991
Peak Hour Factor				0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				489	0		18	140	0	0	985	834
Arrive On Green				0.27	0.00	0.00	0.08	0.08	0.00	0.00	0.52	0.52
Sat Flow, veh/h				1810	0	1610	215	1674	0	0	1900	1610
Grp Volume(v), veh/h				444	0	0	123	0	0	0	806	991
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1889	0	0	0	1900	1610
Q Serve(g_s), s				25.0	0.0	0.0	6.7	0.0	0.0	0.0	37.3	54.5
Cycle Q Clear(g_c), s				25.0	0.0	0.0	6.7	0.0	0.0	0.0	37.3	54.5
Prop In Lane				1.00		1.00	0.11		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				489	0		158	0	0	0	985	834
V/C Ratio(X)				0.91	0.00		0.78	0.00	0.00	0.00	0.82	1.19
Avail Cap(c_a), veh/h				585	0		323	0	0	0	985	834
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				37.1	0.0	0.0	47.3	0.0	0.0	0.0	21.2	25.3
Incr Delay (d2), s/veh				16.3	0.0	0.0	8.1	0.0	0.0	0.0	5.5	96.4
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				12.7	0.0	0.0	3.4	0.0	0.0	0.0	16.2	40.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				53.4	0.0	0.0	55.4	0.0	0.0	0.0	26.7	121.8
LnGrp LOS				D			E				C	F
Approach Vol, veh/h					444			123			1797	
Approach Delay, s/veh					53.4			55.4			79.1	
Approach LOS					D			E			E	
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		32.9		13.3				59.0				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		34.0		18.0				54.5				
Max Q Clear Time (g_c+I1), s		27.0		8.7				56.5				
Green Ext Time (p_c), s		1.4		0.3				0.0				

Intersection Summary

HCM 7th Control Delay, s/veh 73.1

HCM 7th LOS E

Notes

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

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	1044	0	0	3	0	0	0	0	2	0	0
Future Vol, veh/h	6	1044	0	0	3	0	0	0	0	2	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	1135	0	0	3	0	0	0	0	2	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	3	0	0	1135	0	0	1151	1151	1135	1151	1151	3
Stage 1	-	-	-	-	-	-	1148	1148	-	3	3	-
Stage 2	-	-	-	-	-	-	3	3	-	1148	1148	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1632	-	-	623	-	-	177	200	249	177	200	1086
Stage 1	-	-	-	-	-	-	244	276	-	1025	897	-
Stage 2	-	-	-	-	-	-	1025	897	-	244	276	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1632	-	-	623	-	-	175	197	249	175	197	1086
Mov Cap-2 Maneuver	-	-	-	-	-	-	175	197	-	175	197	-
Stage 1	-	-	-	-	-	-	241	273	-	1025	897	-
Stage 2	-	-	-	-	-	-	1025	897	-	241	273	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v 0.04		0	0	25.87
HCM LOS			A	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	10	-	-	623	-	-	175
HCM Lane V/C Ratio	-	0.004	-	-	-	-	-	0.012
HCM Control Delay (s/veh)	0	7.2	0	-	0	-	-	25.9
HCM Lane LOS	A	A	A	-	A	-	-	D
HCM 95th %tile Q(veh)	-	0	-	-	0	-	-	0

Intersection

Int Delay, s/veh 0.3

Movement EBL EBT WBT WBR SBL SBRLane Configurations 

Traffic Vol, veh/h 24 1023 3 1 5 0

Future Vol, veh/h 24 1023 3 1 5 0

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - 0 -

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 91 91 91 91 91 91

Heavy Vehicles, % 0 0 0 0 0 0

Mvmt Flow 26 1124 3 1 5 0

Major/Minor Major1 Major2 Minor2

Conflicting Flow All 4 0 - 0 1181 4

Stage 1 - - - - 4 -

Stage 2 - - - - 1177 -

Critical Hdwy 4.1 - - - 6.4 6.2

Critical Hdwy Stg 1 - - - - 5.4 -

Critical Hdwy Stg 2 - - - - 5.4 -

Follow-up Hdwy 2.2 - - - 3.5 3.3

Pot Cap-1 Maneuver 1630 - - - 212 1086

Stage 1 - - - - 1025 -

Stage 2 - - - - 296 -

Platoon blocked, % - - - -

Mov Cap-1 Maneuver 1630 - - - 203 1086

Mov Cap-2 Maneuver - - - - 203 -

Stage 1 - - - - 980 -

Stage 2 - - - - 296 -

Approach EB WB SB

HCM Control Delay, s/v 0.17 0 23.24

HCM LOS C

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h) 41 - - - 203

HCM Lane V/C Ratio 0.016 - - - 0.027




HCM Control Delay (s/veh) 7.2 0 - - 23.2

HCM Lane LOS A A - - C

HCM 95th %tile Q(veh) 0 - - - 0.1

HCM 7th TWSC
3: Midway Road & Patterson Pass Road


















Cumulative 2027 plus Const PCE - PM (Mitigated)
Timing Plan: PM Peak Hour

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1025	0	4	4	0	0
Future Vol, veh/h	1025	0	4	4	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1114	0	4	4	0	0
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1114	0	1127	1114
Stage 1	-	-	-	-	1114	-
Stage 2	-	-	-	-	13	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	634	-	228	256
Stage 1	-	-	-	-	317	-
Stage 2	-	-	-	-	1015	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	634	-	227	256
Mov Cap-2 Maneuver	-	-	-	-	227	-
Stage 1	-	-	-	-	317	-
Stage 2	-	-	-	-	1008	-
Approach	EB	WB		NB		
HCM Control Delay, s/v	0	5.36		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	-	-	-	633	-	
HCM Lane V/C Ratio	-	-	-	0.007	-	
HCM Control Delay (s/veh)	0	-	-	10.7	0	
HCM Lane LOS	A	-	-	B	A	
HCM 95th %tile Q(veh)	-	-	-	0	-	

HCM 7th Signalized Intersection Summary Cumulative 2027 plus Const PCE - PM (Mitigated)

4: Patterson Pass Road & I-580 EB Ramps

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	1	57	0	0	0	0	442	660	312	21	0
Future Volume (veh/h)	104	1	57	0	0	0	0	442	660	312	21	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900				0	1900	1900	1900	1900	0
Adj Flow Rate, veh/h	106	1	0				0	451	673	318	21	0
Peak Hour Factor	0.98	0.98	0.98				0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0				0	0	0	0	0	0
Cap, veh/h	163	2					0	916	777	392	26	0
Arrive On Green	0.09	0.09	0.00				0.00	0.48	0.48	0.23	0.23	0.00
Sat Flow, veh/h	1793	17	1610				0	1900	1610	1702	112	0
Grp Volume(v), veh/h	107	0	0				0	451	673	339	0	0
Grp Sat Flow(s),veh/h/ln	1810	0	1610				0	1900	1610	1815	0	0
Q Serve(g_s), s	3.9	0.0	0.0				0.0	11.1	25.6	12.2	0.0	0.0
Cycle Q Clear(g_c), s	3.9	0.0	0.0				0.0	11.1	25.6	12.2	0.0	0.0
Prop In Lane	0.99		1.00				0.00		1.00	0.94		0.00
Lane Grp Cap(c), veh/h	165	0					0	916	777	418	0	0
V/C Ratio(X)	0.65	0.00					0.00	0.49	0.87	0.81	0.00	0.00
Avail Cap(c_a), veh/h	523	0					0	1476	1251	872	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00				0.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.2	0.0	0.0				0.0	12.1	15.9	25.1	0.0	0.0
Incr Delay (d2), s/veh	4.2	0.0	0.0				0.0	0.4	3.9	3.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0				0.0	3.9	8.2	5.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.5	0.0	0.0				0.0	12.5	19.8	28.9	0.0	0.0
LnGrp LOS	C							B	B	C		
Approach Vol, veh/h	107						1124			339		
Approach Delay, s/veh	34.5						16.8			28.9		
Approach LOS	C						B			C		
Timer - Assigned Phs	4			6			8					
Phs Duration (G+Y+Rc), s	37.7			10.8			20.4					
Change Period (Y+Rc), s	4.5			4.5			4.5					
Max Green Setting (Gmax), s	53.5			19.9			33.1					
Max Q Clear Time (g_c+l1), s	27.6			5.9			14.2					
Green Ext Time (p_c), s	5.6			0.3			1.7					
Intersection Summary												
HCM 7th Control Delay, s/veh	20.6											
HCM 7th LOS	C											
Notes												
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 7th Signalized Intersection Summary Cumulative 2027 plus Const PCE - PM (Mitigated)

5: Patterson Pass Road & I-580 WB Ramps

Timing Plan: PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	5	0	242	11	557	0	0	357	145
Future Volume (veh/h)	0	0	0	5	0	242	11	557	0	0	357	145
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1900	1900	1900	1900	1900	0	0	1900	1900
Adj Flow Rate, veh/h				5	0	0	12	605	0	0	388	158
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				0	0	0	0	0	0	0	0	0
Cap, veh/h				162	0		15	741	0	0	513	435
Arrive On Green				0.09	0.00	0.00	0.40	0.40	0.00	0.00	0.27	0.27
Sat Flow, veh/h				1809	0	1610	37	1861	0	0	1900	1610
Grp Volume(v), veh/h				5	0	0	617	0	0	0	388	158
Grp Sat Flow(s),veh/h/ln				1810	0	1610	1898	0	0	0	1900	1610
Q Serve(g_s), s				0.1	0.0	0.0	16.2	0.0	0.0	0.0	10.4	4.4
Cycle Q Clear(g_c), s				0.1	0.0	0.0	16.2	0.0	0.0	0.0	10.4	4.4
Prop In Lane				1.00		1.00	0.02		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				162	0		756	0	0	0	513	435
V/C Ratio(X)				0.03	0.00		0.82	0.00	0.00	0.00	0.76	0.36
Avail Cap(c_a), veh/h				633	0		1753	0	0	0	1209	1025
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				23.2	0.0	0.0	15.0	0.0	0.0	0.0	18.7	16.5
Incr Delay (d2), s/veh				0.1	0.0	0.0	2.2	0.0	0.0	0.0	2.3	0.5
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.1	0.0	0.0	5.7	0.0	0.0	0.0	4.1	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				23.3	0.0	0.0	17.2	0.0	0.0	0.0	21.0	17.0
LnGrp LOS				C			B				C	B
Approach Vol, veh/h					5			617			546	
Approach Delay, s/veh					23.3			17.2			19.8	
Approach LOS					C			B			B	
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		9.5		26.7				19.6				
Change Period (Y+Rc), s		4.5		4.5				4.5				
Max Green Setting (Gmax), s		19.5		51.5				35.5				
Max Q Clear Time (g_c+I1), s		2.1		18.2				12.4				
Green Ext Time (p_c), s		0.0		4.1				2.6				
Intersection Summary												
HCM 7th Control Delay, s/veh				18.4								
HCM 7th LOS				B								
Notes												
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.												

Appendix C

SimTraffic Queuing Worksheet

Queuing and Blocking Report

Existing Conditions

AM Peak Hour

Intersection: 4: Patterson Pass Road & I-580 EB Ramps

Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	T	R	LT
Maximum Queue (ft)	116	67	61	34	354
Average Queue (ft)	47	8	18	12	152
95th Queue (ft)	92	41	47	34	303
Link Distance (ft)	1002		2825		374
Upstream Blk Time (%)					0
Queuing Penalty (veh)					2
Storage Bay Dist (ft)		50		65	
Storage Blk Time (%)	14	0	1	0	
Queuing Penalty (veh)	2	0	0	0	

Intersection: 5: Patterson Pass Road & I-580 WB Ramps

Movement	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	T	R
Maximum Queue (ft)	703	175	160	507	484
Average Queue (ft)	344	121	70	249	190
95th Queue (ft)	706	253	132	497	460
Link Distance (ft)	832		374	613	613
Upstream Blk Time (%)	4			3	3
Queuing Penalty (veh)	0			0	0
Storage Bay Dist (ft)		150			
Storage Blk Time (%)	26	0			
Queuing Penalty (veh)	120	1			

Zone Summary

Zone wide Queuing Penalty: 124

Queuing and Blocking Report

Existing Conditions

PM Peak Hour

Intersection: 4: Patterson Pass Road & I-580 EB Ramps

Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	T	R	LT
Maximum Queue (ft)	163	75	741	90	326
Average Queue (ft)	75	23	344	87	164
95th Queue (ft)	145	73	639	105	288
Link Distance (ft)	1002		2825		374
Upstream Blk Time (%)					0
Queuing Penalty (veh)					0
Storage Bay Dist (ft)		50		65	
Storage Blk Time (%)	28	0	20	24	
Queuing Penalty (veh)	15	0	121	98	

Intersection: 5: Patterson Pass Road & I-580 WB Ramps

Movement	WB	NB	SB	SB
Directions Served	LT	LT	T	R
Maximum Queue (ft)	29	298	223	49
Average Queue (ft)	3	147	114	25
95th Queue (ft)	18	254	190	43
Link Distance (ft)	832	374	613	613
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 234

Queuing and Blocking Report
Existing plus Construction PCE - AM

AM Peak Hour

Intersection: 4: Patterson Pass Road & I-580 EB Ramps

Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	T	R	LT
Maximum Queue (ft)	210	75	56	30	389
Average Queue (ft)	78	41	16	11	242
95th Queue (ft)	161	88	43	31	415
Link Distance (ft)	1002		2825		374
Upstream Blk Time (%)					1
Queuing Penalty (veh)					13
Storage Bay Dist (ft)		50		65	
Storage Blk Time (%)	17	0	0		
Queuing Penalty (veh)	23	0	0		

Intersection: 5: Patterson Pass Road & I-580 WB Ramps

Movement	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	T	R
Maximum Queue (ft)	847	175	149	628	629
Average Queue (ft)	839	158	64	538	501
95th Queue (ft)	913	243	125	793	848
Link Distance (ft)	832		374	613	613
Upstream Blk Time (%)	63			31	33
Queuing Penalty (veh)	0			0	0
Storage Bay Dist (ft)		150			
Storage Blk Time (%)	55	0			
Queuing Penalty (veh)	251	2			

Zone Summary

Zone wide Queuing Penalty: 289

Queuing and Blocking Report
Existing plus Construction PCE - PM

PM Peak Hour

Intersection: 4: Patterson Pass Road & I-580 EB Ramps

Movement	EB	EB	NB	NB	B10	B8	SB
Directions Served	LT	R	T	R	T	T	LT
Maximum Queue (ft)	172	75	2898	90	769	1798	364
Average Queue (ft)	78	24	2559	86	435	596	189
95th Queue (ft)	142	75	3598	109	1019	1981	310
Link Distance (ft)	1002		2825		697	4698	374
Upstream Blk Time (%)			52		39		0
Queuing Penalty (veh)			641		483		1
Storage Bay Dist (ft)		50		65			
Storage Blk Time (%)	33	0	28	25			
Queuing Penalty (veh)	18	0	208	152			

Intersection: 5: Patterson Pass Road & I-580 WB Ramps

Movement	WB	NB	SB	SB
Directions Served	LT	LT	T	R
Maximum Queue (ft)	30	353	270	77
Average Queue (ft)	4	185	133	25
95th Queue (ft)	21	322	231	45
Link Distance (ft)	832	374	613	613
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 1503

Queuing and Blocking Report

Cumulative 2027

AM Peak Hour

Intersection: 4: Patterson Pass Road & I-580 EB Ramps

Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	T	R	LT
Maximum Queue (ft)	123	64	57	42	371
Average Queue (ft)	49	8	18	11	181
95th Queue (ft)	95	40	47	34	331
Link Distance (ft)	1002		2825		374
Upstream Blk Time (%)					0
Queuing Penalty (veh)					3
Storage Bay Dist (ft)		50		65	
Storage Blk Time (%)	15	0	0		
Queuing Penalty (veh)	2	0	0		

Intersection: 5: Patterson Pass Road & I-580 WB Ramps

Movement	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	T	R
Maximum Queue (ft)	847	175	168	625	621
Average Queue (ft)	465	138	64	310	270
95th Queue (ft)	899	254	125	594	607
Link Distance (ft)	832		374	613	613
Upstream Blk Time (%)	10			6	6
Queuing Penalty (veh)	0			0	0
Storage Bay Dist (ft)		150			
Storage Blk Time (%)	34	0			
Queuing Penalty (veh)	165	1			

Zone Summary

Zone wide Queuing Penalty: 171

Queuing and Blocking Report

Cumulative 2027

PM Peak Hour

Intersection: 4: Patterson Pass Road & I-580 EB Ramps

Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	T	R	LT
Maximum Queue (ft)	171	75	1162	90	322
Average Queue (ft)	78	26	586	87	170
95th Queue (ft)	147	78	1200	104	295
Link Distance (ft)	1002		2825		374
Upstream Blk Time (%)					0
Queuing Penalty (veh)					0
Storage Bay Dist (ft)		50		65	
Storage Blk Time (%)	32	0	21	27	
Queuing Penalty (veh)	18	0	137	118	

Intersection: 5: Patterson Pass Road & I-580 WB Ramps

Movement	WB	NB	SB	SB
Directions Served	LT	LT	T	R
Maximum Queue (ft)	30	332	255	57
Average Queue (ft)	4	158	121	25
95th Queue (ft)	20	276	205	45
Link Distance (ft)	832	374	613	613
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 274

Queuing and Blocking Report
Cumulative 2027 plus Const PCE - AM

AM Peak Hour

Intersection: 4: Patterson Pass Road & I-580 EB Ramps

Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	T	R	LT
Maximum Queue (ft)	208	75	64	38	390
Average Queue (ft)	84	41	18	12	227
95th Queue (ft)	167	89	47	34	407
Link Distance (ft)	1002		2825		374
Upstream Blk Time (%)					1
Queuing Penalty (veh)					14
Storage Bay Dist (ft)		50		65	
Storage Blk Time (%)	23	0	0	0	
Queuing Penalty (veh)	31	0	0	0	

Intersection: 5: Patterson Pass Road & I-580 WB Ramps

Movement	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	T	R
Maximum Queue (ft)	847	175	170	629	629
Average Queue (ft)	847	161	72	624	622
95th Queue (ft)	847	237	136	668	699
Link Distance (ft)	832		374	613	613
Upstream Blk Time (%)	65			44	46
Queuing Penalty (veh)	0			0	0
Storage Bay Dist (ft)		150			
Storage Blk Time (%)	55	0			
Queuing Penalty (veh)	268	2			

Zone Summary

Zone wide Queuing Penalty: 316

Queuing and Blocking Report
Cumulative 2027 plus Const PCE - PM

PM Peak Hour

Intersection: 4: Patterson Pass Road & I-580 EB Ramps

Movement	EB	EB	NB	NB	B10	B8	SB
Directions Served	LT	R	T	R	T	T	LT
Maximum Queue (ft)	180	75	2898	90	769	4263	339
Average Queue (ft)	83	25	2716	86	610	2009	196
95th Queue (ft)	146	75	3446	110	1113	4756	321
Link Distance (ft)	1002		2825		697	4698	374
Upstream Blk Time (%)			63		64		0
Queuing Penalty (veh)			826		830		0
Storage Bay Dist (ft)		50		65			
Storage Blk Time (%)	34	0	29	25			
Queuing Penalty (veh)	20	0	227	161			

Intersection: 5: Patterson Pass Road & I-580 WB Ramps

Movement	WB	NB	SB	SB
Directions Served	LT	LT	T	R
Maximum Queue (ft)	34	360	266	53
Average Queue (ft)	5	177	138	25
95th Queue (ft)	23	297	229	45
Link Distance (ft)	832	374	613	613
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		2		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 2064

Queuing and Blocking Report
Existing plus Construction PCE - AM (Mitigated)

AM Peak Hour

Intersection: 4: Patterson Pass Road & I-580 EB Ramps

Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	T	R	LT
Maximum Queue (ft)	125	60	59	45	348
Average Queue (ft)	48	10	15	11	173
95th Queue (ft)	95	47	42	32	317
Link Distance (ft)	1002		2825		374
Upstream Blk Time (%)					0
Queuing Penalty (veh)					1
Storage Bay Dist (ft)		50		65	
Storage Blk Time (%)	15	0	0	0	
Queuing Penalty (veh)	3	0	0	0	

Intersection: 5: Patterson Pass Road & I-580 WB Ramps

Movement	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	T	R
Maximum Queue (ft)	814	175	148	509	434
Average Queue (ft)	370	125	60	229	154
95th Queue (ft)	773	254	120	404	318
Link Distance (ft)	832		374	613	613
Upstream Blk Time (%)	4			0	0
Queuing Penalty (veh)	0			0	0
Storage Bay Dist (ft)		150			
Storage Blk Time (%)	26	0			
Queuing Penalty (veh)	123	1			

Zone Summary

Zone wide Queuing Penalty: 127

Queuing and Blocking Report
Existing plus Construction PCE - PM (Mitigated)

PM Peak Hour

Intersection: 4: Patterson Pass Road & I-580 EB Ramps

Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	T	R	LT
Maximum Queue (ft)	145	71	828	90	310
Average Queue (ft)	70	22	369	88	171
95th Queue (ft)	125	71	722	99	284
Link Distance (ft)	1002		2825		374
Upstream Blk Time (%)					0
Queuing Penalty (veh)					1
Storage Bay Dist (ft)		50		65	
Storage Blk Time (%)	30	0	20	23	
Queuing Penalty (veh)	16	0	122	98	

Intersection: 5: Patterson Pass Road & I-580 WB Ramps

Movement	WB	NB	SB	SB
Directions Served	LT	LT	T	R
Maximum Queue (ft)	34	322	225	52
Average Queue (ft)	4	152	115	26
95th Queue (ft)	20	270	190	45
Link Distance (ft)	832	374	613	613
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 238

Queuing and Blocking Report Cumulative 2027 plus Const PCE - AM (Mitigated)

AM Peak Hour

Intersection: 4: Patterson Pass Road & I-580 EB Ramps

Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	T	R	LT
Maximum Queue (ft)	119	63	65	45	380
Average Queue (ft)	48	13	18	10	176
95th Queue (ft)	95	51	48	34	347
Link Distance (ft)	1002		2825		374
Upstream Blk Time (%)					0
Queuing Penalty (veh)					4
Storage Bay Dist (ft)		50		65	
Storage Blk Time (%)	14	0	0	0	
Queuing Penalty (veh)	3	0	0	0	

Intersection: 5: Patterson Pass Road & I-580 WB Ramps

Movement	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	T	R
Maximum Queue (ft)	847	175	170	588	562
Average Queue (ft)	605	148	68	419	383
95th Queue (ft)	1075	252	130	737	758
Link Distance (ft)	832		374	613	613
Upstream Blk Time (%)	27			17	15
Queuing Penalty (veh)	0			0	0
Storage Bay Dist (ft)		150			
Storage Blk Time (%)	40	0			
Queuing Penalty (veh)	195	1			

Zone Summary

Zone wide Queuing Penalty: 204

Queuing and Blocking Report
Cumulative 2027 plus Const PCE - PM (Mitigated)

PM Peak Hour

Intersection: 4: Patterson Pass Road & I-580 EB Ramps

Movement	EB	EB	NB	NB	SB
Directions Served	LT	R	T	R	LT
Maximum Queue (ft)	176	75	1340	90	310
Average Queue (ft)	77	25	723	89	176
95th Queue (ft)	143	75	1534	98	296
Link Distance (ft)	1002		2825		374
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		50		65	
Storage Blk Time (%)	30	0	23	28	
Queuing Penalty (veh)	17	0	150	124	

Intersection: 5: Patterson Pass Road & I-580 WB Ramps

Movement	WB	NB	SB	SB
Directions Served	LT	LT	T	R
Maximum Queue (ft)	30	318	230	57
Average Queue (ft)	3	165	118	26
95th Queue (ft)	18	282	195	46
Link Distance (ft)	832	374	613	613
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Zone Summary

Zone wide Queuing Penalty: 291

Appendix D

Construction Traffic Management Plan

Construction Traffic Management Plan

Potentia-Viridi BESS Project

Alameda County, California

DECEMBER 2024

Prepared for:

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ACE	Altamont Commuter Express
ADT	Average Daily Traffic
BESS	Battery Energy Storage System
CEC	California Energy Commission
CEQA	California Environmental Quality Act
County	Alameda County
Gen-tie	Generation Tie
I-580	Interstate 580
I-80	Interstate 80
LAVTA	Livermore Amador Valley Transit Authority
Linear Facility Route	Gen-tie line alignments, access roads, and collector line routes
LOS	Level of Service
LVK	Livermore Municipal Airport
MM	Mitigation Measure
MPH	Miles Per Hour
MUTCD	Manual on Uniform Traffic Control Devices
MW	Megawatt
OPR	Governor's Office of Planning and Research
O&M	Operation & Maintenance
OWSC	One-way stop control
PCE	Passenger Car Equivalence
Project	Potentia Viridi Solar Project
PV	Photovoltaic
SB	Senate Bill
SCADA	Supervisory Control and Data Acquisition
SF	Square feet
TCY	Tracy Municipal Airport
VMT	Vehicle Miles Traveled
WATCH	Work Area Traffic Control Handbook Manual

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1 Introduction

Levy Alameda, LLC (Applicant), a wholly owned subsidiary of Obra Maestra Renewables, LLC, proposes to construct, operate, and eventually repower or decommission the 400 megawatt (MW) Potentia-Viridi Battery Energy Storage System (Project) on approximately 70 acres in eastern Alameda County. The primary components of the Project include an up to 1,600 megawatt-hour (MWh) battery energy storage system (BESS) facility, an operations and maintenance (O&M) building, a project substation, a 500 kilovolt (kV) overhead intertie transmission (gen-tie) line, and interconnection facilities within the Pacific Gas and Electric (PG&E) owned and operated Tesla Substation. Construction would occur over an approximately 18-month period with initial mobilization and site preparation anticipated to begin no later than Q1 2026 and testing and commissioning anticipated to conclude no later than Q2 2028. This Traffic Management Plan (TMP) has been prepared to describe how the Project and its contractors plan to reduce traffic impacts during the peak phase of Project construction. The TMP was developed based on the findings of the Potentia Viridi Battery Energy Storage System Transportation Impact Study (Dudek, December 2024).

The Plan includes the following components: 1) Plan objectives, applicable regulations and permits; 2) Project summary; 3) Transportation Setting; 4) Plan elements; and, 5) Implementation and monitoring of Plan. This approved TMP will be used for future development of the detailed Traffic Control Plans (TCPs) for the project.

1.1 Plan Objectives

Effective management of Project traffic and safety of operators is paramount to the delivery of successful day-to-day activities on site. Primary objectives of this plan include:

- Maximizing operator and vehicle safety.
- Minimizing wherever possible conflicts between Project vehicles and the general public as a result of construction traffic and activities.
- Minimizing disruption, delays and congestion to local road users.
- Complying with federal, state, and local requirements.

1.2 Applicable Regulations

This plan conforms to the regulatory ordinances outlined by Caltrans, the California Energy Commission (CEC), and Alameda County. Ordinances to be adhered to include the following:

- Caltrans's Manual on Uniform Traffic Control Devices (MUTCD)
- Caltrans's Work Area Traffic Control Handbook (WATCH) Manual

1.3 Permits

The Contractor shall obtain transportation permits and encroachment permits from Alameda County and Caltrans required for transporting oversized truck and trailer along respective delivery routes.

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2 Project Description

The proposed Project would include the construction, operations and maintenance, and decommissioning of a BESS facility, including a Project substation, O&M building, and an overhead gen-tie line. The Project would interconnect into the Tesla Substation, located approximately 570 feet east of the Project's eastern boundary. Improvements to the PG&E Tesla Substation would be required as part of the Project.

The project site is located within unincorporated eastern Alameda County southwest of Interstate 580 (I-580) and I-205. The project site boundaries are illustrated Figure 1, Project Location and Study Area and the Project site plan is shown as Figure 2.

During operation, the Project would be maintained by 18 full-time dedicated operations staff. The staff would be based in a small O&M building located within the O&M area, depicted in Figure 2. The O&M building would include basic offices, meeting rooms, washroom facilities and climate-controlled storage for equipment and materials. The O&M building would be powered from the Project, and would have self-contained washroom facilities with water and sewage tanks. The O&M building would have a small parking area for worker vehicles and storage space for spare parts and storage containers. The facilities would be remotely operated and monitored year-round and be available to receive or deliver energy 24 hours a day and 365 days a year. During the operational life of the Project, technicians would routinely inspect the Project facilities and conduct necessary maintenance to ensure safe operational readiness. If an issue arises, the system can be remotely shut down.

2.1 Project Access

As shown in Figure 2, there would be two access roads to the Project site; via an existing private driveway to the north of the site from Patterson Pass Road and a new private driveway at the southeast of the site, from Patterson Pass Road. The existing northern project access roads will be used throughout the construction and operations periods of the Project. Due to the width and curvature of Patterson Pass Road south of the existing driveway, the new private driveway at the southeast of the site will be used for emergency operations only. A project substation access road would be constructed outside of the perimeter fence, connecting the northeast and southwest driveways, to facilitate substation access by third parties during operations. Traffic ingress and egress will be planned in consultation with Alameda County and are discussed in more detail in Section 5, Traffic Management Plan. All internal roadways and private driveways would be constructed to meet access requirements for operations and maintenance activities and be in accordance with Alameda County Fire Department Standards.

The surrounding roadways do not have pedestrian or bicycle facilities, and have enough pavement width to accommodate large trucks. The project site access roads would be located such that slow trucks exiting the site would be visible to oncoming traffic and would allow for traffic to slow down and be aware of trucks. In situations where there may be a large amount of slow-moving truck traffic entering or exiting the project site at one time, the contractor will strive to schedule this activity during off-peak times and utilize flaggers to warn of slow-moving trucks ahead. Construction workers would park on-site and would not be staged or transported from any offsite location. Additionally, the project site would be readily accessible by emergency vehicles along Patterson Pass Road. These items are described in more detail in Section 5, Traffic Management Plan.

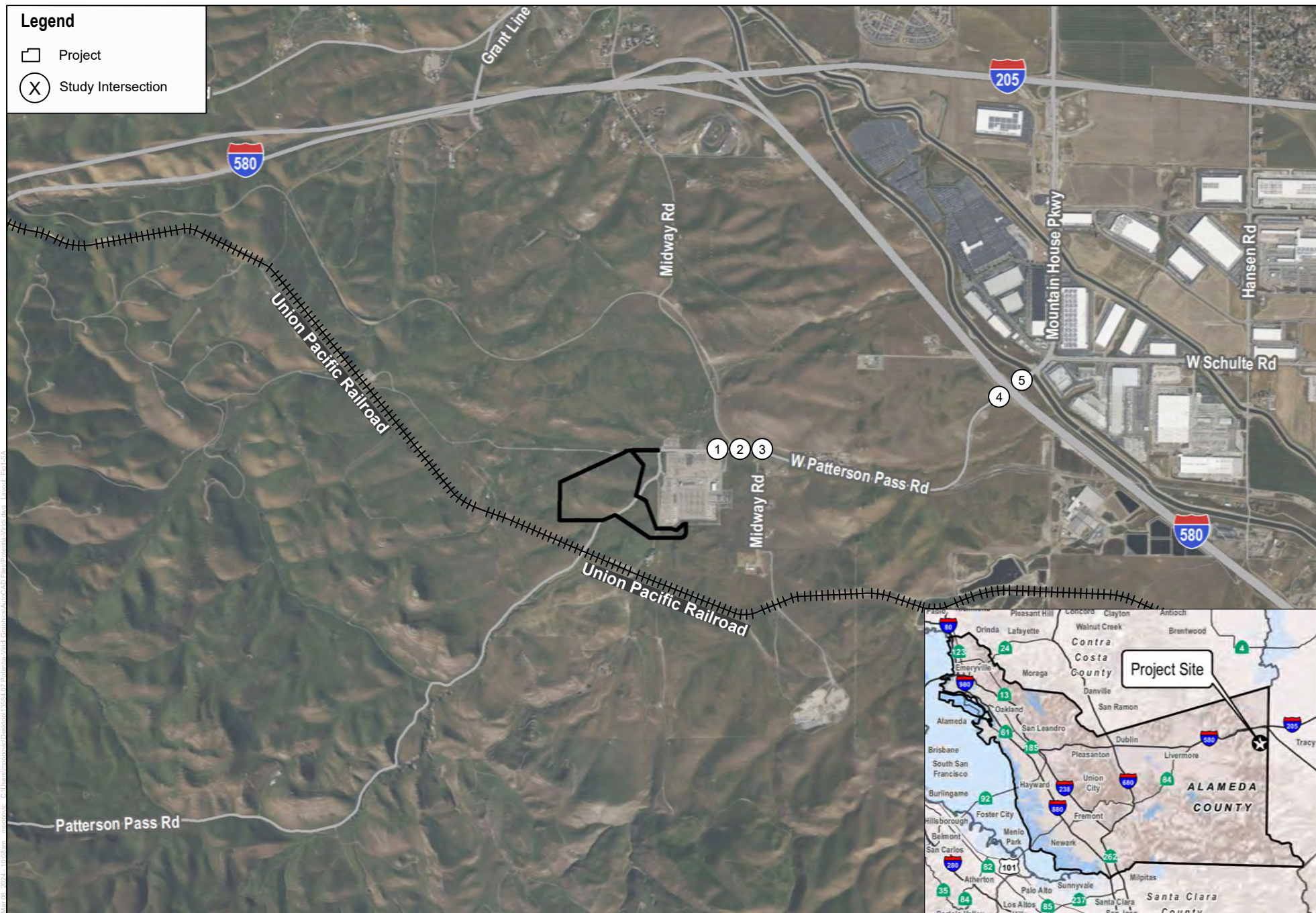
2.2 Project Construction Trip Generation

Construction would occur over an approximately 18-month period from approximately December 2026 to April 2028. The peak construction period of the Project when the highest volumes of construction-related traffic would be generated is planned to occur over a three-month period, when multiple phases of Project construction would occur concurrently. Trip generation estimates for the peak construction phase are based on the number of workers and trucks that would be required for the proposed construction activities, including the number of workers and the amount of truck traffic that would be generated to and from the site daily and during the AM and PM peak commuting hours. The project trip generation estimates are based on the following activities:

1. Site Preparation – 8 Weeks (February 2027 – March 2027)
2. Grading – 22 weeks (March 2027 – August 2027)
3. BESS Foundations – 16 weeks (March 2027 – June 2027)
4. Battery/Container Installation – 20 weeks (June 2027 – October 2027)
5. PV Substation Installation – 32 weeks (August 2027 – March 2028)
6. PG&E Substation Upgrades – 32 weeks (November 2027 – March 2028)
7. Gen-tie foundation and Pole installation – 8 weeks (March 2027 – April 2027)
8. Gen-tie stringing and pulling – 2 weeks (April 2027 – May 2027)
9. Testing and commissioning – 26 weeks (November 2027 – April 2028)
10. Decommissioning – 6 months (year 2053)

During the peak construction phase, there would be approximately 254 construction workers, 53 daily vendor trucks, and 151 haul trucks. Generally, construction work schedules are expected to be at least 8 hours per day Monday through Friday, excluding federal holidays. Typically, the workday would consist of one shift beginning as early as 6:00 a.m. and ending as late as 7:00 p.m. The work schedule may be modified throughout the year to account for the changing weather conditions.

During the peak period of construction, the Project would generate approximately 916 daily trips, 305 AM peak hour trips, and 305 PM peak hour trips. This conservatively assumes that all construction workers arrive inbound to the site during the AM peak period (7:00 a.m. to 9:00 a.m.) and all workers depart the site during the PM peak period (4:00 p.m. to 6:00 p.m.). By applying a passenger car equivalent (PCE) factor to the haul trucks, the project would generate approximately 1,626 daily PCE trips, 394 AM peak hour PCE trips, and 394 PM peak hour PCE trips during the peak construction phase. For all other phases of construction, the amount of vehicular traffic is estimated to be less than the peak period. All construction-related traffic would be temporary and short term and would be removed from the study area roadway network upon completion of construction of the Project.



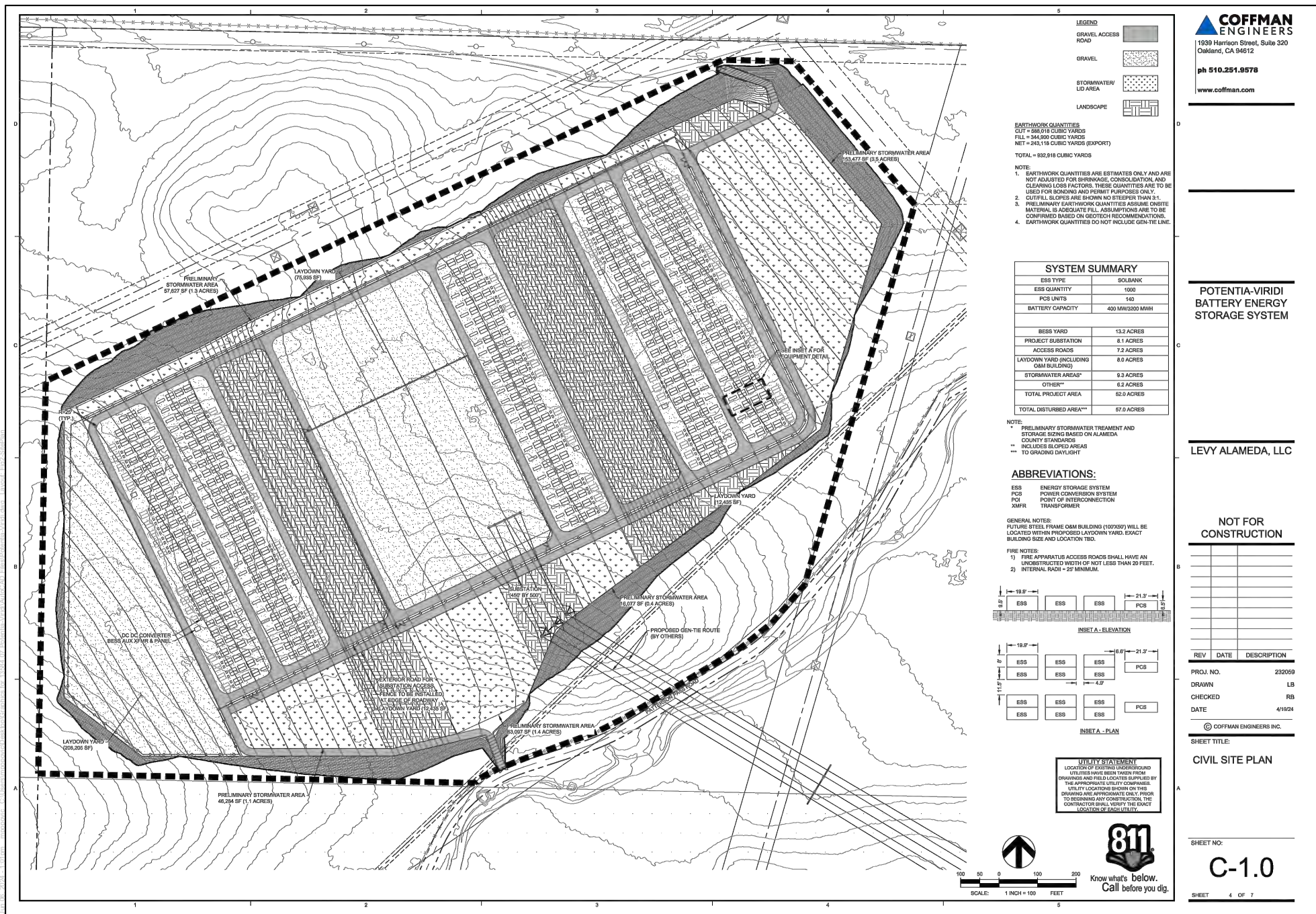
SOURCE: Bing Maps (accessed 2024); Open Streets Map 2019

FIGURE 1

Project Location and Study Area

Potentia-Viridi BESS Project

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SOURCE: Coffman Engineers, 2024

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3 Existing Transportation Setting

This section provides a summary of the existing street network, including the major roadways serving the site, the existing transit and rail service, and bicycle and pedestrian facilities in the study area.

Roadway Network

Regional access to the site would be provided from I-580 to Patterson Pass Road – County Road 2063 to the east of the project. Characteristics of the primary roadways within the study area are described below.

- **Interstate 580 (I-580)** is an east-west, divided, six to eight-lane freeway that provides regional access to the project site. I-580 is an auxiliary highway of I-80 that begins in San Francisco and extends east to Teaneck, New Jersey, and serves as a critical connection for many other regional roadways, freeways, and highways. Caltrans classifies I-580 as a designated truck route, except for a portion of the route through Oakland. The nearest interchange to the site is provided at I-580 and Patterson Pass Road, approximately 1.5 miles east of the site. The posted speed limit is 65 miles per hour (MPH).
- **Patterson Pass Road – County Road 2063** is a two-lane, undivided, east-west roadway that provides local access to the project site via the interchange with I-580 east of the project site, and will be the main roadway to access the project. Patterson Pass Road connects the project site to the City of Livermore in the west at its intersection with Vasco Way. Heavy one-directional traffic flows were observed due to its use as a commuter corridor, with less than one (1) percent of non-commute direction traffic occurring during either peak hour. South of the project site's northern driveway, Patterson Pass Road does not meet County roadway standards, and includes narrow lanes, no centerline striping, and lack of shoulders and/or paved shoulders. There are no pedestrian or bicycle facilities present. The posted speed limit ranges between 40 and 55 MPH in the vicinity of the project site, with 20 MPH posted warning signs at the sharp curve along Patterson Pass Road approaching the northern project driveway.
- **Midway Road** is a two-lane, north-south, undivided roadway which provides local connection to the project site via its intersection with Patterson Road. There are no pedestrian or bicycle facilities present. The posted speed limit is 40 MPH.

Local Intersections

Construction traffic would travel through the following intersections near the project site. The intersections are identified on Figure 1, Project Location and Study Area.

1. Midway Road/Patterson Pass Road (West) (one-way stop control [OWSC] on Midway Road)
2. N. Midway Road/Patterson Pass Road (Yield on N. Midway Road)
3. Midway Road/Patterson Pass Road (East) (OWSC) on Midway Road)
4. I-580 Eastbound Ramps/Patterson Pass Road (Signal)
5. I-580 Westbound Ramps/Patterson Pass Road (Signal)

Public Transit

Eastern Alameda County is served by bus services provided by Livermore Amador Valley Transit Authority (LAVTA), which provides regional and local services throughout Eastern Alameda County and Western San Joaquin County. Regionally, the project is served by passenger rail services offered by the Altamont Commuter Express (ACE). However, the closest bus stop to the project site is located at the Vasco Road Transit Center, approximately 10 miles west of the project site. The closest ACE station to the project site is the Tracy ACE Station, located approximately nine miles east of the project site. Therefore, no impacts to public transit are anticipated.

Union Pacific Railroad

An east-west Union Pacific rail line is located approximately 900 feet south of the project site, crossing over Patterson Pass Road. However, a railroad bridge carries the rail line over Patterson Pass Road, thus allowing rail traffic to flow without conflicting with vehicular traffic. There are no at-grade rail crossings near the site. Therefore, no impacts to rail facilities are anticipated.

Pedestrian and Bicycle Facilities

The project site is surrounded by undeveloped rural land with no pedestrian or bicycle infrastructure provided. There would be no impacts to pedestrian and bicycle infrastructure.

4 Construction Traffic Management Plan

Table 1 describes implementation of this plan throughout construction. The guidelines outlined in **Table 1** will reduce construction-related impacts; meet regulatory ordinances set forth by federal, state, and local agencies, and establish notifications for emergency personnel.

The Plan also includes the following components:

- Construction vehicle and truck routes and points of access for workers and trucks (see **Figure 3**). These routes and access points will be designed to not block emergency vehicles and equipment.
- Off-street parking areas for construction-related vehicles (see **Figure 4**).
- Advance warning signage and flaggers (see **Figure 5**).

Table 1. Construction Traffic Management Plan

No.	Measure	Implementation
1	Identify truck routes and permits to address the transport and delivery of heavy and oversized loads requiring permits from Department of Transportation (Caltrans) or other state and federal agencies.	Construction vehicles accessing the site will use routes indicated in Figure 3 whenever possible. Vehicles carrying hazardous materials, oversize vehicles and heavy haul vehicles will utilize only the haul routes indicated on Figure 3 . No haul routes require rail crossings. Use of residential and local roadways will be minimized. Transportation/ hauling permits will be obtained for oversize or heavy loads as required by Caltrans. In the event that a high volume of construction equipment and/or oversize or heavy load trucks need to access the project site, temporary road closure permits for Patterson Pass Road will be obtained from the County, and coordination with Caltrans will occur to post the road closure on nearby changeable message signs (CMS) along I-580.
2	Parking for workforce and construction vehicles.	<p>The applicant and contractors shall ensure adequate parking for construction personnel. While working on the project site, parking shall be provided within a properly designated lay down area to the extent possible. Figure 4 presents the on-site parking and laydown area.</p> <p>The industry standard is to assume 350 square feet (SF) per vehicle. This amount accounts for access, drive aisles, and parking stalls. At a rate of 350 square feet per vehicle for a maximum of 254 construction worker vehicles during peak construction, 88,900 square feet, or approximately 2 acres, would be required. During less traffic-intensive construction months, a smaller parking area would be provided at a continued rate of 350 SF per vehicle, as appropriate.</p> <p>The project shall maintain the appropriate amount of parking acreage for worker vehicles during each phase of construction within the approved project boundary and workers shall not park on public roadways. The staging and laydown of equipment, materials, and supplies shall be located in an area separate from worker vehicles to avoid potential traffic hazards.</p>
3	Placement of signage, lighting, and traffic control device at the project construction site and laydown areas.	All construction activities requiring the use of temporary traffic control signage, temporary lane closures or flagmen will take place during daylight hours.

Table 1. Construction Traffic Management Plan

No.	Measure	Implementation
4	Use of warning signage to meet County and Caltrans (if applicable) requirements for driver awareness of construction activity in the vicinity.	To warn drivers of slower-moving construction-related vehicles and trucks entering and crossing the roads, signage will be placed along Midway Road and Patterson Pass Road. Figure 5 indicates locations where the use of temporary traffic control signage may occur. Placement of temporary traffic control devices would be in accordance with all applicable regulations and guidance.
5	Use of flaggers at key locations to alert motorists to slow moving trucks.	<p>Flaggers may be used for temporary traffic control, as needed, to assist construction vehicles entering and exiting the site and to control off-site circulation along Midway Road and Patterson Pass Road. Traffic control under a flag person will be based on the requirements in the CA MUTCD and/or the WATCH. Figure 5 indicates locations where the use of flaggers may be needed.</p> <p>Driveway Access</p> <p>Access to the site would be via an existing private driveway to the north of the site from Patterson Pass Road. A new private driveway to the southeast of the site from Patterson Pass Road will also be provided for emergency vehicle access only. Full access would be provided at the north driveway as this is currently a dirt road with no existing through traffic. However, flaggers may be required to assist construction traffic where the dirt road meets Patterson Pass Road, especially during periods of high construction traffic. Additionally, truck access to the site should be restricted outside of AM and PM peak periods due to the heavy use of Patterson Pass Road as a commute corridor during peak hours.</p> <p>The driveway at the southeast portion of the site will be utilized as emergency vehicle access only due to the substandard condition of Patterson Pass Road south of the northern project driveway and limited sight distance as the driveway is located near a horizontal curve along Patterson Pass Road. In the event that construction equipment must utilize the southern driveway, flaggers should always be used when construction traffic is entering or exiting the site, and/or the Project will obtain temporary road closure permits with the County, and coordination with Caltrans will occur to post the road closure on nearby changeable message signs (CMS) along I-580, depending on the volume, length of time, and type of construction equipment needing to utilize the southern driveway.</p> <p>Gen-Tie Line Construction</p> <p>Within the project area, most of the Gen-Tie Line construction occurs outside roadways. However, the use of flaggers for traffic control will be required for short durations during construction of the Gen-Tie Line for certain activities, such as stringing wire across Patterson Pass Road. Stringing wires may require the temporary closure of Patterson Pass Road to string and then secure the Gen-Tie Line.</p>
6	Stagger work shifts to reduce peak periods of congestion, implement employee sponsored carpool/vanpool	The anticipated peak time for vehicular traffic would occur during the site grading, construction of the BESS foundations, and the battery/container installation when the number of construction workers would be greatest. As shown in the Draft EIS, based on the assumption that all 254 workers arrive/depart the site within the morning and evening peak periods in

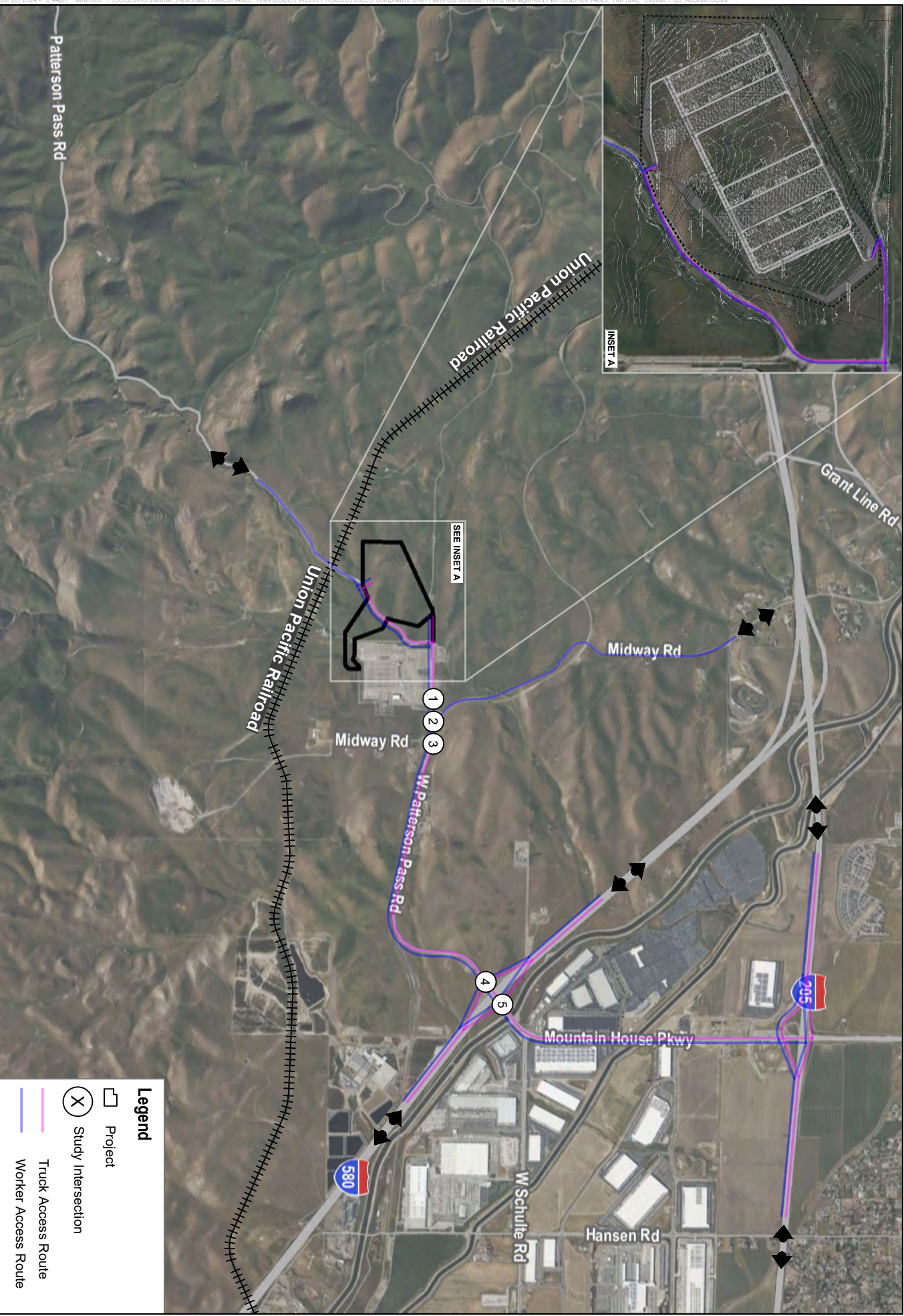
Table 1. Construction Traffic Management Plan

No.	Measure	Implementation
	services, and/or restrict worker arrivals and departures during peak hours during the peak construction phase.	<p>individual vehicles, the Midway Road and Patterson Pass Road intersection (#1) would degrade to LOS E during the PM peak hour, the North Midway Road and Patterson Pass Road intersection (#2) would degrade to LOS E during the PM peak hour, and the I-580 westbound ramps at Patterson Pass Road (#5) would degrade to LOS F during the AM peak hour.</p> <p>Per County noise regulations, construction activities shall be limited to the hours of 7:00 AM to 7:00 PM Monday through Friday. As such, it is expected that the majority of construction workers would arrive at the site outside of standard AM and PM peak periods (e.g., prior to 7:00 AM and after 6:00 PM).</p> <p>Current traffic conditions along Patterson Pass Road and at the I-580/International Parkway/Patterson Pass Road interchange indicate operational deficiencies (e.g., heavy queuing and intersection delays). Extensive improvements are planned under the I-580/International Parkway/Patterson Pass Interchange project, which modifies the existing compact diamond (Tyler L-1) interchange into a Diverging Diamond Interchange (DDI). The current schedule identifies the interchange project completion date of August 2026. As the proposed Project is expected to start construction in 2027, the new DDI interchange would be in place prior to construction, and existing operational conditions would be significantly improved. The February 2021 Interchange Improvements at I-580 at International Parkway/Patterson Pass Road Initial Study with Mitigated Negative Declaration (IS/MND) identifies LOS A's and B's at the I-580 ramps with construction of the interchange project under a Year 2023 analysis scenario, and LOS B's and C's under a Horizon Year 2043 analysis scenario. As such, it is expected that construction traffic from the proposed Potentia Viridi BESS project would be accommodated by the new DDI configuration, and no additional mitigation is recommended.</p> <p>If construction of the Potentia Viridi BESS project begins prior to or during construction of the interchange project, the following measures will occur:</p> <ul style="list-style-type: none"> ▪ Staggered work start/end times such that no more than 23 vehicular trips arrive during the AM peak hour and 23 vehicular trips leave during the PM peak hour. This represents approximately 10% of total daily workforce trips during the peak construction period.¹ ▪ When the total daily workforce exceeds 115 people (or 230 daily trips), the Project will require contractors to establish a carpool/vanpool program to maintain or reduce peak period vehicle traffic to at or under 23 trips per hour. A Transportation Manager shall be designated to coordinate carpooling to the site. ▪ The work schedule will also be modified throughout the construction period to account for changing weather conditions (e.g. starting the workday earlier in summer months to avoid work during the hottest part of the day for health and safety reasons).

¹ Assuming a 2.21 vehicle occupancy per U.S. Census data on annual average vehicle occupancy in the County of Alameda: U.S. Census Bureau, U.S. Department of Commerce. "Commuting Characteristics by Sex." *American Community Survey, ACS 1-Year Estimates Subject Tables, Table S0801*, 2023, <https://data.census.gov/table/ACSST1Y2023.S0801?q=Commuting&g=050XX0-0US06001>. Accessed on October 22, 2024.

Table 1. Construction Traffic Management Plan

No.	Measure	Implementation
7	Limit time for heavy truck deliveries.	Phase 2 (Grading) is anticipated to have the greatest number of heavy haul trucks, with a maximum of 302 daily heavy haul trips. Heavy equipment and building material deliveries shall be scheduled to occur during off-peak hours to minimize impacts on peak traffic hours.
8	Provide for advance notification of residents and emergency service providers to bring awareness to the Project activities and measures to minimize impacts.	<p>Timely publicity can significantly improve traffic behavior on a construction project. Motorists who are forewarned of construction conditions may be more tolerant of delay and inconvenience and are likely to be more alert and responsive to work zone traffic control.</p> <p>Advance notification to affected residents and emergency service providers will be provided by the applicant or contractor at least two weeks prior to peak construction activities. A list of affected parties to be notified shall be provided by the County and shall consist of residents along Patterson Pass Road, as well as, all affected emergency service providers. The notification shall include the locations, days, times, durations, and a project contact. Notifications may also be provided through local newspapers and/or online sources. Notices shall be mailed, and signs posted along Patterson Pass Road. Notices will indicate that such activities shall be limited to between the hours of 7:00 AM to 7:00 PM Monday through Friday, unless otherwise approved by the County.</p>
9	Emergency vehicle access to the project site.	Emergency service provider contacts will be identified prior to the start of construction. In the case of an emergency during project construction, emergency vehicles will be given priority over construction and general-purpose traffic. The contractor shall assist emergency vehicle access through the construction area as necessary.
10	Preparation of Traffic Control Plan	The contractor shall prepare detailed TCPs illustrating specific locations for flaggers, signage and other advanced warning measures, prior to commencing construction. The TCP shall be approved by the County of Alameda before construction begins. TCPs will be based on the requirements in the CA MUTCD and/or the WATCH.



SOURCE: Bing Maps (accessed 2024); Open Streets Map 2019

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SOURCE: Bing Maps (accessed 2024); Open Streets Map 2019; Coffman Engineers 2024

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FIGURE 5

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5 TMP Implementation and Monitoring

The purpose of this TMP is to maximize operator and vehicle safety; minimize conflicts between Project vehicles and the general public; minimize disruption, delays and congestion to local road users; comply with federal, state, and local requirements; and keep all public and private parties informed, including emergency response providers. Implementation and subsequent monitoring during construction will ensure that the proposed transportation measures identified in Table 1 are effective and achieve their purposes.

The project contractor shall assign a designated Field Construction Manager who will be responsible for implementation of the TMP, and to identify any adjustments to the plan as necessary to ensure the measures are successful.

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