Northgate 42 Traffic Impact Analysis and VMT Analysis

F

APPENDIX

Final Revised Traffic Impact Analysis

for the

"Northgate 42, LLC" Project at NEC of W. "I" St & W. Pacheco Blvd

in

Los Banos, CA



Presented to:

City of Los Banos
Public Works Department
411 Madison Ave
Los Banos, CA 95376

Prepared for:

Chandi Group, USA
Black Gold Engineering
42270 Spectrum St
Indio, CA 92203

Prepared by:

MINAGAR & ASSOCIATES, INC.
ITS – Traffic/Civil/Electrical Engineering – Transportation Planning
23282 Mill Creek Drive, East Tower, Suite 120
Laguna Hills, CA 92653
Tel: (949)707-1199 • Web: www.minagarinc.com

May 27, 2025

Table of Contents

1 – Introduction 4
1.1 – Executive Summary 4
1.2 – Purpose of the Traffic Impact Analysis (TIA) and Study Objectives 6
1.3 – Site Location and Study Area 6
1.4 – Development Project Description 9
1.5 – Level of Service (LOS) 12
2 – Area Conditions 13
2.1 – Identify Study Area and Intersections 13
2.2 – Existing Traffic Controls and Intersection Geometrics 14
2.3 – Existing Traffic Volumes 17
2.4 – Existing Delay and Level of Service at Study Intersections/Roadway Links 20
2.4.1 - Queue Analysis for Existing Year Without Project 20
2.5 – Existing Bike Pathways and Pedestrian Facilities 22
2.6 – Existing Transit Service near Project Location 24
2.7 – Existing Truck Route 26
3 – Project Traffic 28
3.1 – Ambient Growth Rate 28
3.2 – Project Trip Generation 28
3.3 – Project Trip Distribution and Assignment 30
4 – Traffic Analysis 34
4.1 – Existing (2024) Year 34
4.1.1 – Delay and LOS for Existing Traffic Conditions with Background Projects 34
4.1.2 – Delay and LOS for Existing Traffic Conditions with Project (& Background Projects) 34
4.1.3 - Queue Analysis for Existing Year with Project 35
4.2 – Opening Year (2025) 37
4.2.1 – Delay and LOS for Opening Year 2025 Opening Year Cumulative without Project 37
4.2.2- Queue Analysis for Opening Year Without Project 38
4.2.3 – Delay and LOS for Opening Year 2025 Opening Year Cumulative with Project 40
4.2.4 - Queue Analysis for Opening Year with Project 40
4.3 – Cumulative Horizon (2042) Year 42
4.3.1 – Delay and LOS for 2042 Cumulative Horizon Year without Project 43
4.3.2 - Queue Analysis for Horizon Year Without Project 43

4.3.2 – Delay and LOS for 2042 Horizon Year Cumulative with Project 44
4.3.3 – Delay and LOS for 2042 Horizon Year Cumulative with Project and Mitigation 45
4.3.4 - Queue Analysis for Horizon Year with Project Without Mitigation 46
5 – Findings and Recommendations 48
5.1 – Traffic Impacts and Level of Service Analysis 48
6 – Conclusion 48

Appendix

Appendix A – Turning Movement Count (TMC) Data

Appendix B – Synchro-11.0 Report

Appendix C – NCHRP 684 Internal Trip Capture Estimation Tool

Appendix D – Traffic Signal Warrant Assessment

1 – Introduction

1.1 – Executive Summary

This study analyzes the forecast traffic impact of the proposed "Northgate 42, LLC" project, located on a currently occupied lot with three (3) businesses including two (2) restaurants and a thrift shop. The occupied lot will be demolished to construct a 24,270 square-foot site on the Northeast corner of West Pacheco Blvd and West "I" St Street in the City of Los Banos within Merced County. The proposed project will consist of the following facilities:

- 5,599 square foot C-Store (Convenience Store) Building with a sixteen (16) Vehicle Fueling Positions (VFP) Gas Station
- 2,593 square foot QSR (Fast-Food Restaurant with Drive-Through Window) Building
- 6,003 square foot Retail Building Sit-In Restaurant
- 3,743 square foot Automated Car Wash

This study uses up to date peak hour factors that were obtained from the field, truck percentages obtained from the Caltrans open database of Merced County, and makes sure to include in detail queue analysis of each intersection. Mitigation measures, including optimized signal cycle lengths and split timing adjustments at West Pacheco Blvd/SR 152 and West "I" St., are proposed to address the identified operational deficiencies.

The study found that the following one (1) intersection will have *unacceptable operational deficiencies with* a LOS of "F" Without the Project for the Existing Year (2024) PM scenario:

- West Pacheco Blvd/SR 152 at West "I" St

The study found that the following very same one (1) intersection will have *unacceptable operational deficiencies with* an LOS of "F" With the Project for the Existing Year (2024) PM scenario. The proposed project will only add 13.7 seconds of delay.

- West Pacheco Blvd/SR 152 at West "I" St

The study also revealed that during the Opening Year of 2025 the very same one (1) intersection will have *unacceptable operational deficiencies* with a LOS of "F" With and Without the Project PM scenario and one (1) new intersection will have an *unacceptable operational deficiency* with an LOS of "E" With Project.

- West Pacheco Blvd/SR 152 at West "I" St
- W Pacheco Blvd at Maryland Ave

The study also revealed that the during the Horizon year of 2042 the very same two (2) intersections will have *unacceptable operational deficiencies* with a LOS of "F" With and Without the Project PM scenario.

- West Pacheco Blvd/SR 152 at West "I" St
- W Pacheco Blvd at Maryland Ave

However, after the following proposed Appropriate Treatments for the With Project scenario, the subject intersection will have acceptable LOS and operate satisfactory for the corresponding target years.

- West Pacheco Blvd/SR 152 at West "I" St: With a simple traffic signal timing optimization, this intersection will operate at acceptable LOS With and Without Project
- The intersection of West Pacheco Blvd/Maryland Ave will have acceptable LOS in the Horizon Year of 2042 With and Without the Project with a new traffic signal

The study also did an in-depth analysis of the turn queue lanes.

The study found that the following one (1) left turn lane will have *no unacceptable operational deficiencies* for the Without the Project for the Existing Year (2024) PM scenario:

- Eastbound left turn lane on West Pacheco Blvd and West "I" Street

The study found that the following very same one (1) left turn lane will have *no unacceptable operational deficiencies* for the With the Project for the Existing Year (2024) PM scenario.

- Eastbound left turn lane on West Pacheco Blvd and West "I" Street

The study also revealed that the during the Opening Year of 2025 there are no turn lanes with impact for the With and Without the Project AM/PM scenarios.

The study also revealed that during the Horizon year of 2042 Without the Project PM scenario, the left turn lane along with the following right turn lane will have *no unacceptable operational deficiencies:*

- Eastbound left turn lane on West Pacheco Blvd and West "I" Street
- Northbound right turn lane on West Pacheco Blvd and West "I" Street

The study also revealed that the following two (2) turn lanes during the Horizon Year 0f 2042 With Project AM/PM scenarios will have *no unacceptable operational deficiencies:*

- Eastbound left turn lane on West Pacheco Blvd and West "I" Street
- Northbound right turn lane on West Pacheco Blvd and West "I" Street

However, after the following proposed Appropriate Treatments for the With Project scenario, the subject intersection will have acceptable LOS and operate satisfactory for the corresponding target years.

- West Pacheco Blvd/SR 152 at West "I" St: With a simple traffic signal timing optimization, this intersection will operate at acceptable LOS With and Without project

It is finally concluded that since the intersection of West Pacheco Blvd/Maryland Ave will have acceptable LOS in the Horizon Year of 2042 With and Without the Project with a new traffic signal, therefore the total cost of signalization per the standards in the State of California shall only be per fair share of the project -based traffic volume percentage for the year 2042, if and when the City or State will build a traffic signal.

1.2 – Purpose of the Traffic Impact Analysis (TIA) and Study Objectives

This Traffic Impact Study (TIS) Report documents a traffic analysis performed by Minagar & Associates, Inc. for the "Northgate 42, LLC" Project in the City of Los Banos, identifying potential traffic impacts and recommending appropriate treatments to reduce any anticipated potential impacts to less-than-significant levels as needed. The traffic analysis is performed in accordance with the policies set in the City of Los Banos General Plan (Adopted in October 2022). The following report focuses on the potential traffic impacts to the surrounding roadway network affected by the project site, and development of appropriate treatments at potentially impacted locations.

Traffic analyses were conducted for the "Existing" (Year 2024), "Existing With Project", "Opening Year With - & Without Project" and "Horizon" (Year 2042) With & Without Project" conditions for four (4) intersections located in the City of Los Banos. For each study location the existing traffic operations were evaluated, opening year with and without project conditions, future traffic operations were forecast and studied reflecting the project's ultimate build-out conditions, and feasible appropriate treatments were developed to offset the potential traffic impacts due to the project and/or other cumulative developments in the area.

The studied scenarios are summarized in the following table:

Table 1: Study Scenarios

Scenario	Time Frames Analyzed
Existing (2024)	AM/PM Weekday Peak Hour
Existing (2024) + Project	AM/PM Weekday Peak Hour
Opening (2025)	AM/PM Weekday Peak Hour
Opening (2025) + Project	AM/PM Weekday Peak Hour
Horizon Year (2042) Cumulative	AM/PM Weekday Peak Hour
Horizon Year (2042) Cumulative + Project	AM/PM Weekday Peak Hour

1.3 – Site Location and Study Area

The most critical intersections within the sphere of influence of the subject project were identified. The study area included the analysis of four (4) key intersections. As shown in **Table 2** below, the study intersections were composed of one (1) nearby signalized intersection, and five (5) unsignalized/stop-controlled intersections.

Table 2: Intersection Locations and Existing Signalization

Intersection No. / Location	Intersection Traffic Control
1 – West Pacheco Boulevard and West "I" Street	Signalized
2 – West "I" Street and Airport Way	Unsignalized
3 – West "I" Street and West "L" Street	Unsignalized
4 – West Pacheco Boulevard and Maryland Avenue	Unsignalized
5 – Driveway 1 on West "I" Street	Unsignalized
6 – Driveway 2 on West Pacheco Blvd	Unsignalized

Exhibit 1 shows the Project location and study intersections.



Exhibit 1: Project Location and Vicinity Map

Project Site Intersection# Traffic Control Type

1.4 – Development Project Description

This study analyzes the forecast traffic impact of the proposed "Northgate 42, LLC" project, located on a currently occupied site on the Northeast corner of West Pacheco Boulevard and West "I" Street in the City of Los Banos within Merced County. The proposed project will consist of the following facilities:

- 5,599 square foot C-Store (Convenience Store) Building with a sixteen (16) Vehicle Fueling Positions (VFP) Gas Station
- 2,593 square foot QSR (Fast-Food Restaurant with Drive-Through Window) Building
- 6,003 square foot Retail Building Sit-In Restaurant
- 3,743 square foot Automated Car Wash

The project site will take access at one (1) right-in-right-out driveway along West Pacheco Boulevard due to the existing center median. The project site will also have one (1) full access driveway along West "I" Street, and the driveway will be designated for right-out access only. The project will also consolidate existing driveways and extend the median along West Pacheco Boulevard.

The Project is to be located in a location with a zoning classification of Regional Commercial, as given by zoning map the City of Los Banos General Plan. See Exhibit 2 for the cropped map. The land is currently occupied with three different businesses including two (2) restaurants and a thrift shop/used auto sales as follows;

- Mr. Tacos at 850 West Pacheco Blvd
- Me-n-Ed's Pizzeria at 846 West Pacheco Blvd
- Raghbir Used Auto Sales/Fernandez Thrift Store at 828 West Pacheco Blvd

The Project is proposed to open in the year 2025 with no phasing for the development process.

Exhibit 3 shows the site plan of the project.

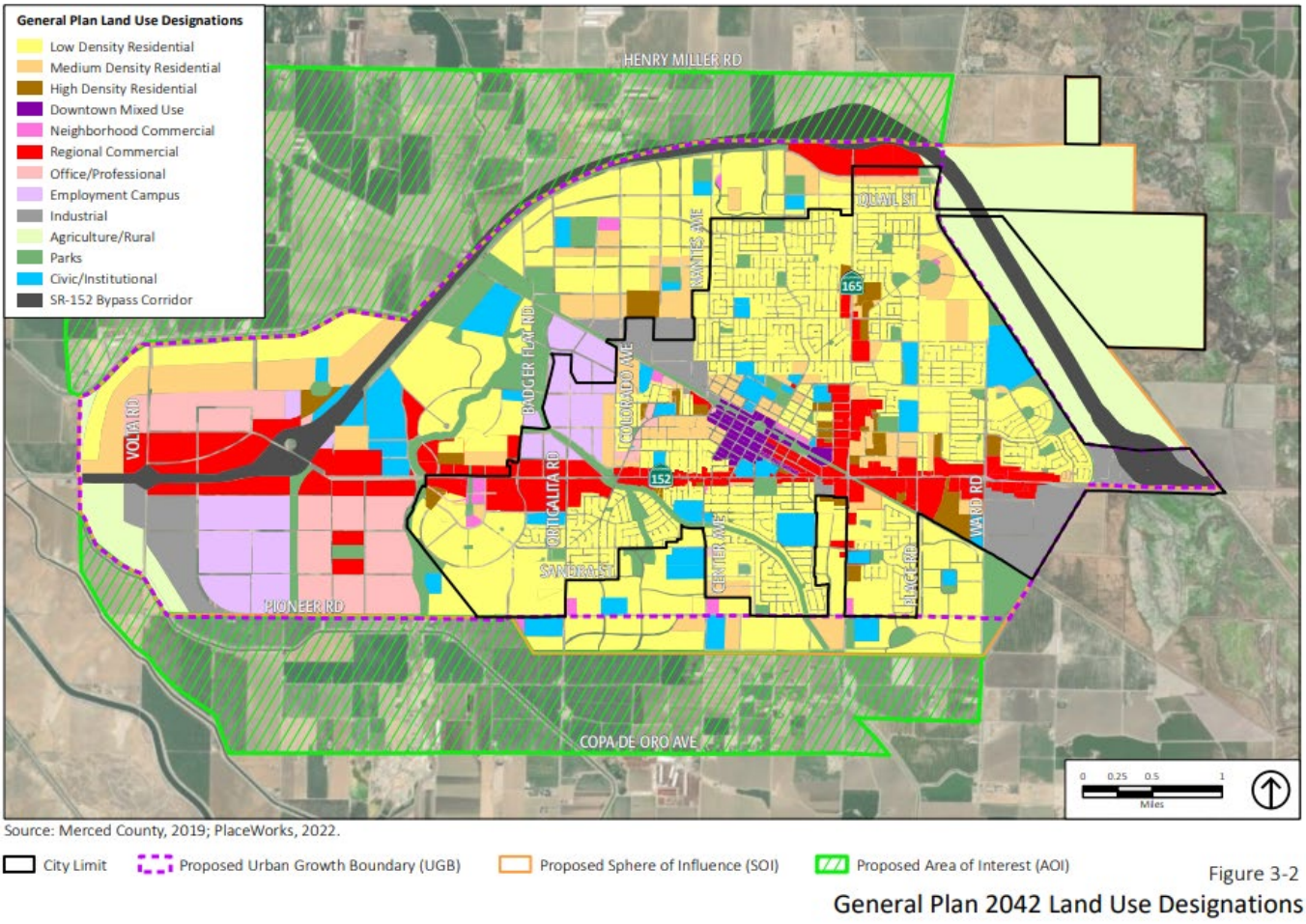


Exhibit 2: City of Los Banos Zoning Map

*The Zoning Map is cropped for visual clarity.

PARKING PROVIDED:
- 88 SPACES
- 3 ADA SPACES (INCLUDING 3 VAN ACCESSIBLE) [CBC 2022, TABLE 11B-208.2]
- 85 ACTUAL PARKING SPACES + 17 EVCS CAPABLE SPACES (20% OF 17 EVCS CAPABLE SPACES = 5 EVS SPACES PER) [CGBC 2022, TABLE 5.106.5.3.1]

PARKING PROVIDED:
- 82 SPACES (TOTAL)
  - 9 ADA SPACES INCLUDED (3 VAN ACCESSIBLE)
  - 9 EVS READY SPACES
  - 15 EVCS SPACES
- 18 FUEL CANOPY SPACES
- 18 VACUUM SPACES

TOTAL SPACES PROVIDED: 118 SPACES

Required Parking

Name	Area	Factor	Min. Parking	Commercial Type
GAS STATION CANOPY	6333 SF			
General Retail				
C-STORE BUILDING	5599 SF	250	23	General Retail
CAR WASH	3743 SF	250	15	General Retail
Restaurants / Cafes				
QSR BUILDING	2593 SF	181	15	Restaurants / Cafes
RETAIL BUILDING	6003 SF	181	34	Restaurants / Cafes
Grand total	24270 SF		87	

Site Legend

IN CAPABLE SPACE FOR FUTURE USE

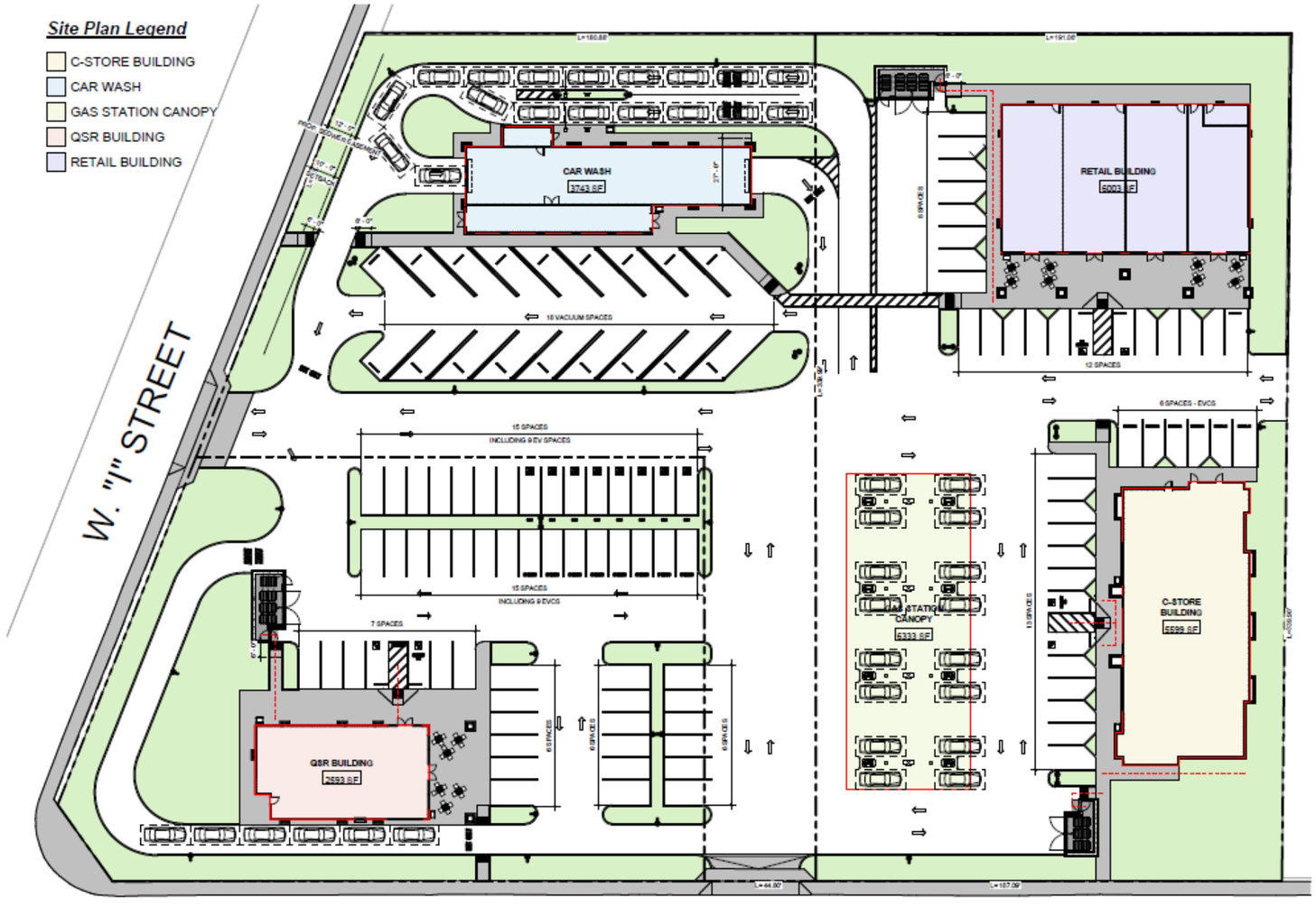
IN CAPABLE SPACE PROVIDED WITH EVSE

Site GLA Area

Name	Number	Area
C-STORE BUILDING	101	5599 SF
CAR WASH	102	3743 SF
QSR BUILDING	103	2593 SF
RETAIL BUILDING	104	6003 SF
		17937 SF
GAS STATION CANOPY	105	6333 SF
NON GLA		6333 SF
Grand total		24270 SF

WSCS DESIGN
2501 E Guasti Rd #201
Ontario Ca, 91761
909-944-9118
www.WSCSDESIGN.com

Site Plan Legend
- C-STORE BUILDING
- CAR WASH
- GAS STATION CANOPY
- QSR BUILDING
- RETAIL BUILDING



1 **Site Plan**
1" = 20'-0"

NORTH

Revision
Number | Description | Date

Design Review for:

Northgate 42, LLC

23-808

12/07/2023

850 W Pacheco Blvd, Los Banos, CA 93635

DR101

Site Plan

Exhibit 3: Project Site Plan

1.5 – Level of Service (LOS)

As required, the Highway Capacity Manual (HCM) 6th Edition operation methodology for Signalized and Un-signalized Intersections was used to determine the operating Levels of Service (LOS) of the study intersections. Synchro Studio (Version 11.0) software package was used to evaluate the study intersections using the HCM methodology. The HCM methodology describes the operation of an intersection using a range of levels of service (LOS) from LOS A (free-flow conditions) to LOS F (severely congested conditions) as shown in **Table 3**. The corresponding delay per vehicle thresholds for signalized and un-signalized intersections are provided in **Table 4.**

Table 3: Level of Service Descriptions

LOS	Description
A	This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
B	This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable, or the cycle length is short. More vehicles stop than with LOS A.
C	This level is typically assigned when progression is favorable or the cycle length is moderate. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.
D	This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.
E	This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.
F	This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Table 4: Level of Service Thresholds

Level of Service	Intersection Control Delay (Seconds/ Vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤10.0	≤10.0
B	>10.0 to ≤20.0	>10.0 to ≤15.0
C	>20.0 to ≤35.0	>15.0 to ≤25.0
D	>35.0 to ≤55.0	>25.0 to ≤35.0
E	>55.0 to ≤80.0	>35.0 to ≤50.0
F	>80.0	>50.0

Source: Highway Capacity Manual (Transportation Research Board, 6th Edition)

From the City of Los Banos' Transportation Master Plan, the City considers an "acceptable" LOS to be LOS D or better. Any intersection that is operating at LOS "E" or "F" will be considered deficient.

2 – Area Conditions

2.1 – Identify Study Area and Intersections

The Project is located in the center of the City of Los Banos. The Project borders the major City corridor of West Pacheco Boulevard. A detailed field review was conducted to determine the existing intersection geometry, traffic control devices, signal phasing and other factors, which may affect intersection capacity. Many of the study intersections do not include striping. Therefore, field observations were made to identify how motorists approach each intersection. The following is a detailed description of roadways in the study area.

West Pacheco Boulevard is a four (4) lane major boulevard with a center median oriented in the east-west direction. Additionally, there is a two-way left turn lane that ends before the project site. West Pacheco Boulevard is also known as State Highway 152 with a pedestrian pathway along the entirety of its length. The posted speed limit is 45 MPH.

West "I" Street is a two (2) lane street with a two-way left turn lane, oriented in the north-south direction. The posted speed limit is 30 MPH on the northbound direction with designated bike lanes. Illegal on-street parking is observed in the area. The posted speed limit is 35 MPH on the southbound direction with designated bike lanes.

Maryland Avenue is a two (2) lane minor arterial oriented in the north-south direction. There is no lane dividers and markings. Additionally, there are on-street parking on both sides with no posted speed limit and designated bike lanes. However, since it is a residential street, the posted speed limit is assumed to be 25 MPH.

Airport Road is a minor street that led to the airport. There are no lane markings on the street except the stop sign marking. There are also no posted speed limit signs.

West "L" Street, similar to Maryland Avenue, West "L" Street is a two (2) lane minor arterial oriented in the east-west direction. There is no lane dividers or markings. Additionally, there are on-street parking on both sides with a posted speed limit.

See **Exhibit 4** for the street segment classification/circulation map.

2.2 – Existing Traffic Controls and Intersection Geometrics

The existing intersection geometry analyzed from the traffic survey is illustrated in **Exhibit 5.**

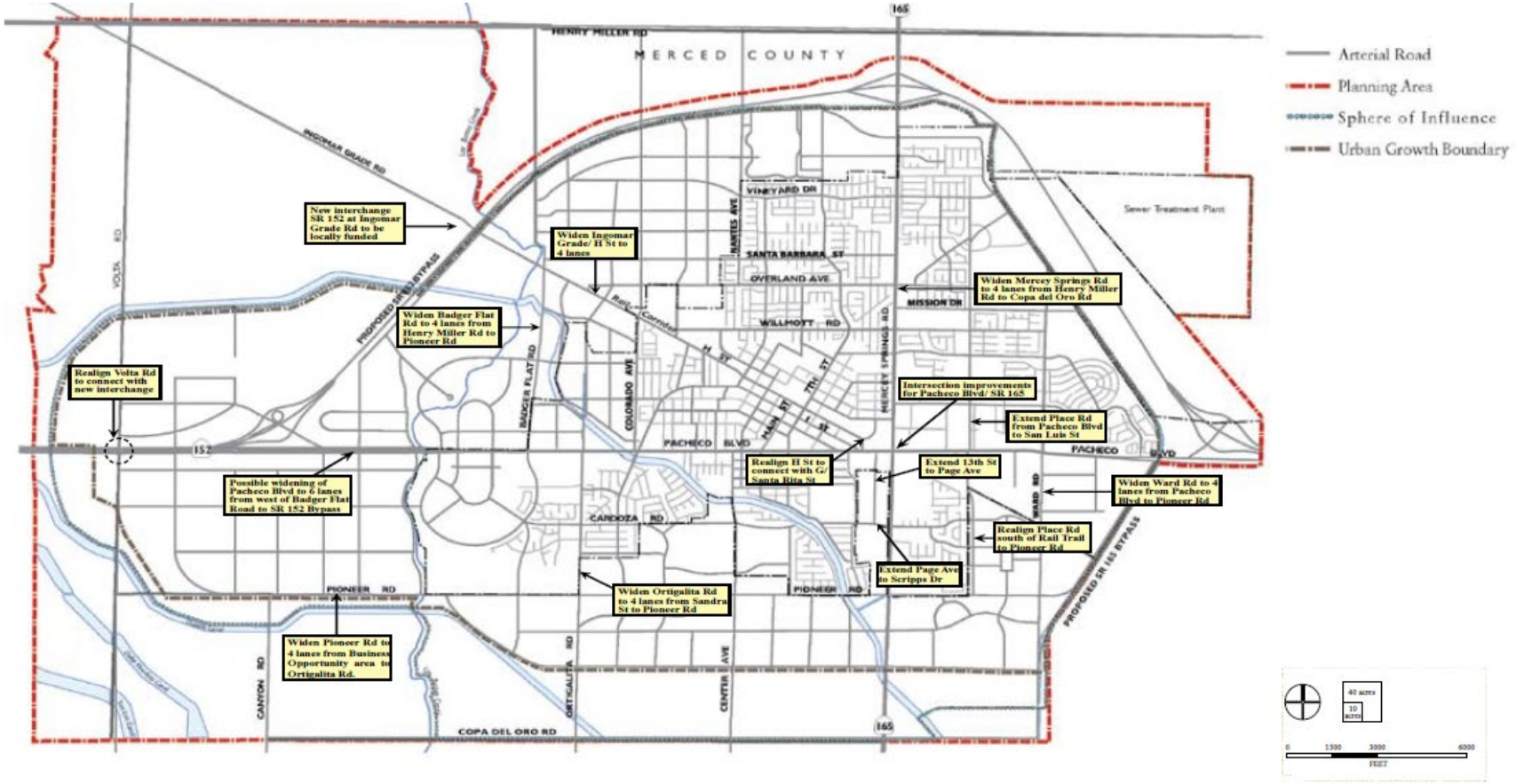


Exhibit 4: Street Segment Classification / Circulation Plan

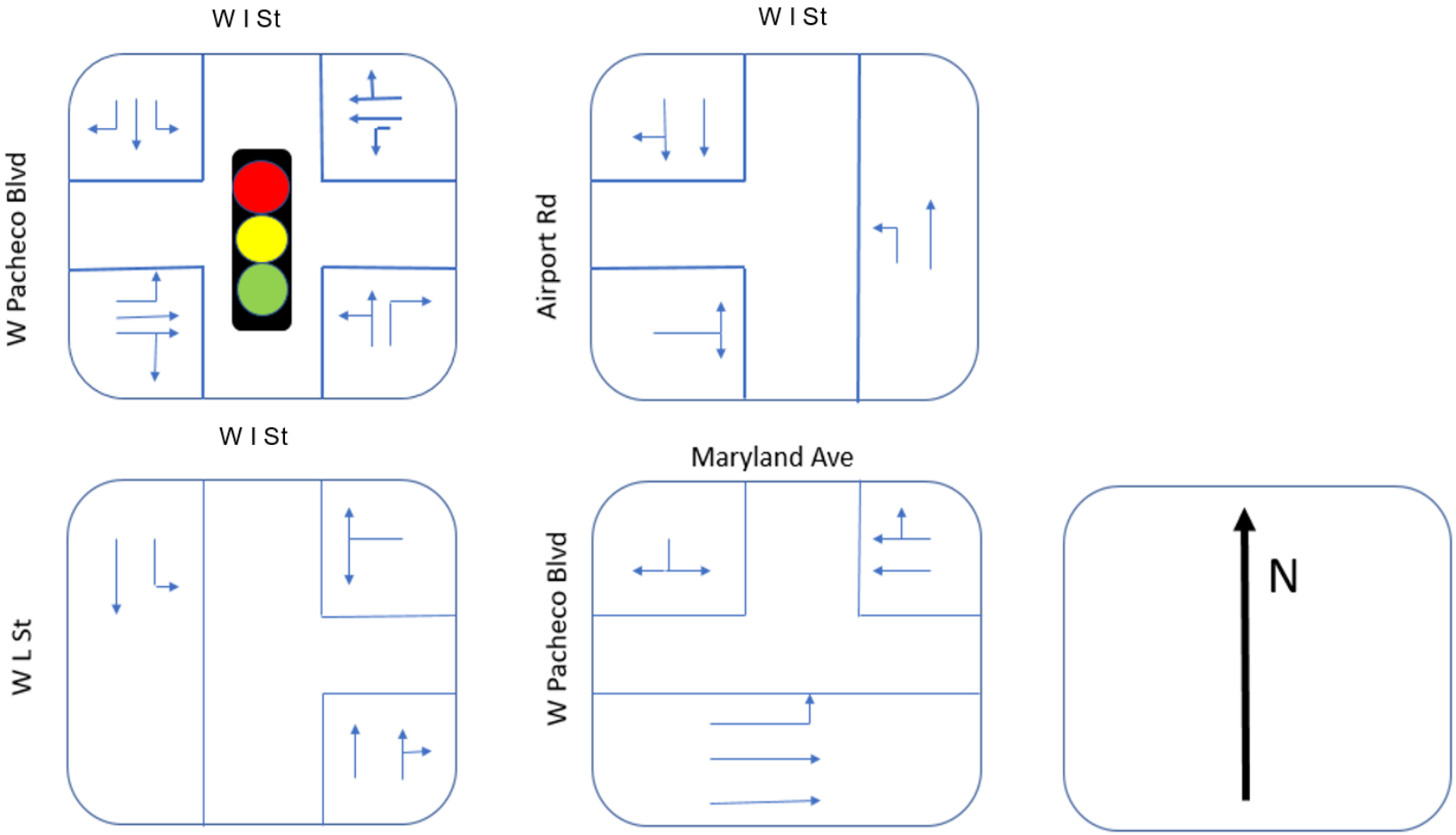


Exhibit 5: Existing Intersection Geometries

2.3 – Existing Traffic Volumes

To determine the existing operations of the study intersections, traffic counts were collected on Tuesday, February 13, 2024 during the AM (7:00 to 9:00 AM) and PM (4:00 to 6:00 PM) peak periods at the following four (4) intersections:

- West Pacheco Blvd/SR 152 at West "I" St
- West "I" St Street/Airport Rd
- West "I" St Street /West "L" St Street
- West Pacheco Blvd/Maryland Ave

The truck volumes used in this analysis were obtained from the Caltrans open database as truck volumes were not included in the traffic count. The truck volumes used were obtained from intersection East Pacheco Blvd and Mercy Springs Rd. as it is the closest intersection to the zone of interest (1.66 mi). According to the Caltrans open data base the traffic counts were last updated April 18,2024 making them acceptable for use in this analysis. Detailed truck volume percentages for each intersection are shown in **Appendix B.**

Exhibit 6 and 7 show the existing AM and PM peak hour intersection volumes, respectively. Detailed traffic count data is contained in **Appendix A**.

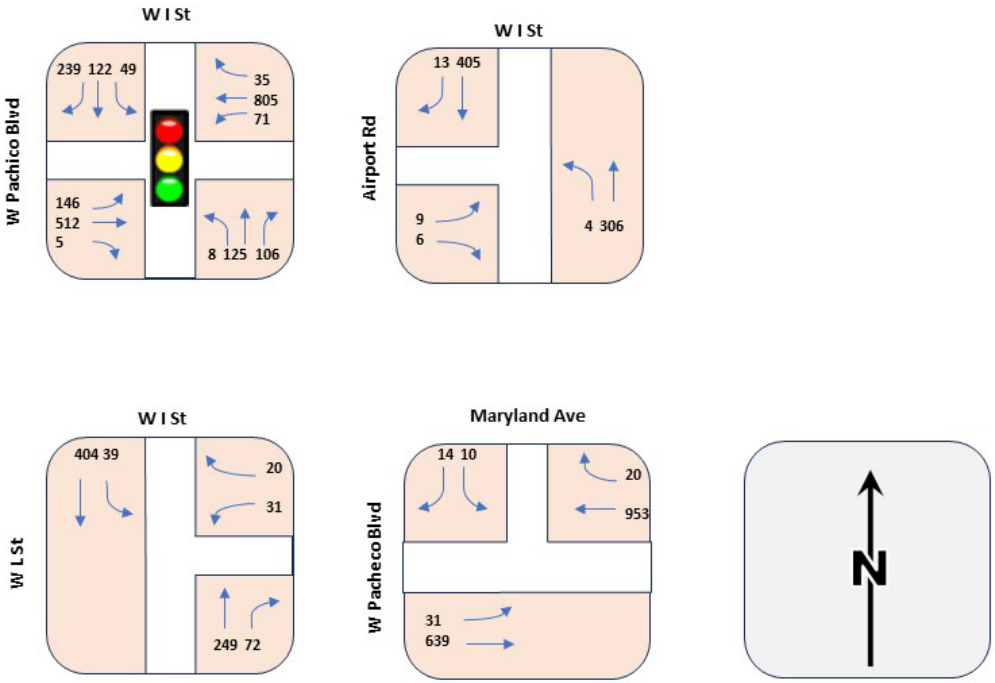


Exhibit 6: Existing AM Peak Hour Traffic Volumes

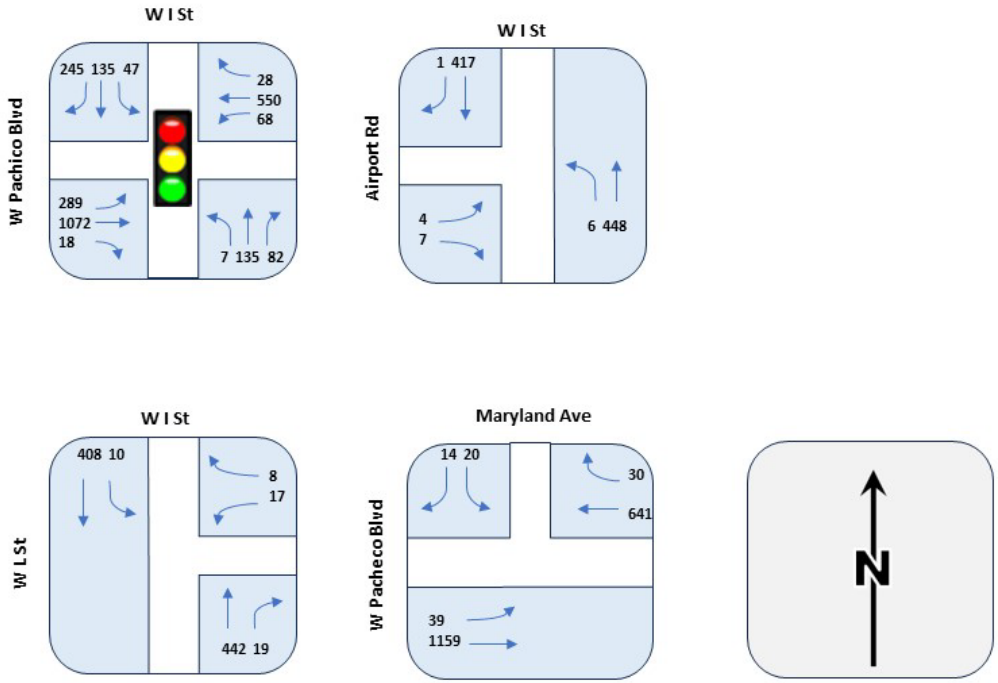


Exhibit 7: Existing PM Peak Hour Traffic Volumes

2.4 – Existing Delay and Level of Service at Study Intersections/Roadway Links

Table 5 summarizes the existing AM and PM peak hour intersection LOS of the study intersections based on the existing peak hour intersection volumes and existing intersection geometry. Detailed HCM calculation sheets are contained in **Appendix B**.

Table 5: LOS and Delay Summary for Existing AM/PM Peak Hour without Project

	AM Peak Hour		PM Peak Hour	
Intersection Name	**Delay (Seconds)**	**Level of Service**	**Delay (Seconds)**	**Level of Service**
1. W "I" St/ W Pacheco Blvd	28.2	C	137.7	F
2. W "I" St/ Airport Rd	14.7	B	14.0	B
3. W "I" St/ W L St	15.9	C	17.3	C
4. W Pacheco Blvd/ Maryland Ave	27.6	D	31.0	D

As shown in **Table 5**, only one intersection currently operates at a deficient level of service in the existing year scenario without the proposed project trips. That is the intersection of West "I" Street and West Pacheco Blvd at the unacceptable LOS of "F."

In the subsequent existing year and horizon year scenarios, this study will compare intersection performance with and without proposed project trips to determine if mitigation improvements should be identified.

2.4.1 - Queue Analysis for Existing Year Without Project

The queue analysis for each scenario was created using SimTraffic (Version 11). The software analyzes the performance of the left turn lanes of each intersection based on storage length and expected traffic volumes and determines the LOS of each intersection.

Detailed queue analysis worksheets are found in **Appendix B.**

Below in **Tables 6-9** the Queue Lane Analysis for the Opening Year Without the Project are summarized.

Table 6: Queueing Summary for 2024 Without Project on West Pacheco and West "I" St

West Pacheco/West "I" St	2024 No Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Northbound Right Turn Lane	69	215	48	215
Southbound Left Turn Lane	76	185	41	185
Southbound Right Turn Lane	72	63	90	63
Eastbound Left Turn Lane	107	180	237	180
Westbound Left Turn Lane	50	287	96	287

Table 7: Queueing Summary for 2024 Without Project on West "I" St and Airport Rd

West "I" St/Airport Rd	2024 No Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	24	135	NA	135
Southbound Left Turn Lane	NA	NA	NA	NA
Eastbound Left Turn Lane	NA	NA	NA	NA
Westbound Left Turn Lane	NA	NA	NA	NA

Table 8: Queueing Summary for 2024 Without Project on West "I" St and West "L" St

West "I" St/ West "L" St	2024 No Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	NA	62	NA	62
Eastbound Left Turn Lane	NA	NA	NA	NA
Westbound Left Turn Lane	NA	NA	NA	NA

Table 9: Queueing Summary for 2024 Without Project on West Pacheco Blvd and Maryland Ave

West Pacheco Blvd/ Maryland Ave	2024 No Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	NA	NA	NA	NA
Eastbound Left Turn Lane	53	95	58	95
Westbound Left Turn Lane	NA	NA	NA	NA

The 95th percentile for queue length is used to approximate a worst-case scenario queue length. As seen in **Table 6** through **9**, one of the queue lengths exceed the length of the turn bay length without the project for the Existing Conditions (2024) AM and PM scenarios. The queue overflow is not long enough to have a significant impact on the intersection. The results of the queue analysis indicate there is no requirement to adjust the turn bay length for the purpose of queueing alleviation.

2.5 – Existing Bike Pathways and Pedestrian Facilities

As the Project site does not have any existing adjacent bicycle facilities as shown in **Exhibit 8**, the proposed project will neither impact the safety of bicyclists nor impede the use of existing bicycle facilities and will have an *insignificant impact on bicycle services*.

However, the City of Los Banos Bicycle Pedestrian Plan, which was approved by the Los Banos Parks and Recreation Commission on January 16, 2018 and the Los Banos Planning Commission on January 24, 2018. The Plan was approved and adopted by the City Council of the City of Los Banos on March 21, 2018, proposes future improvements in the area. Specifically, the Plan identifies a Class I bikeway (a fully separated, off-street bike path) along West "I" Street, extending from Pacheco Boulevard/State Route 152 to 2nd Street, which is in proximity to the project site. While these facilities are not yet constructed, their future presence may enhance multimodal connectivity in the surrounding area.

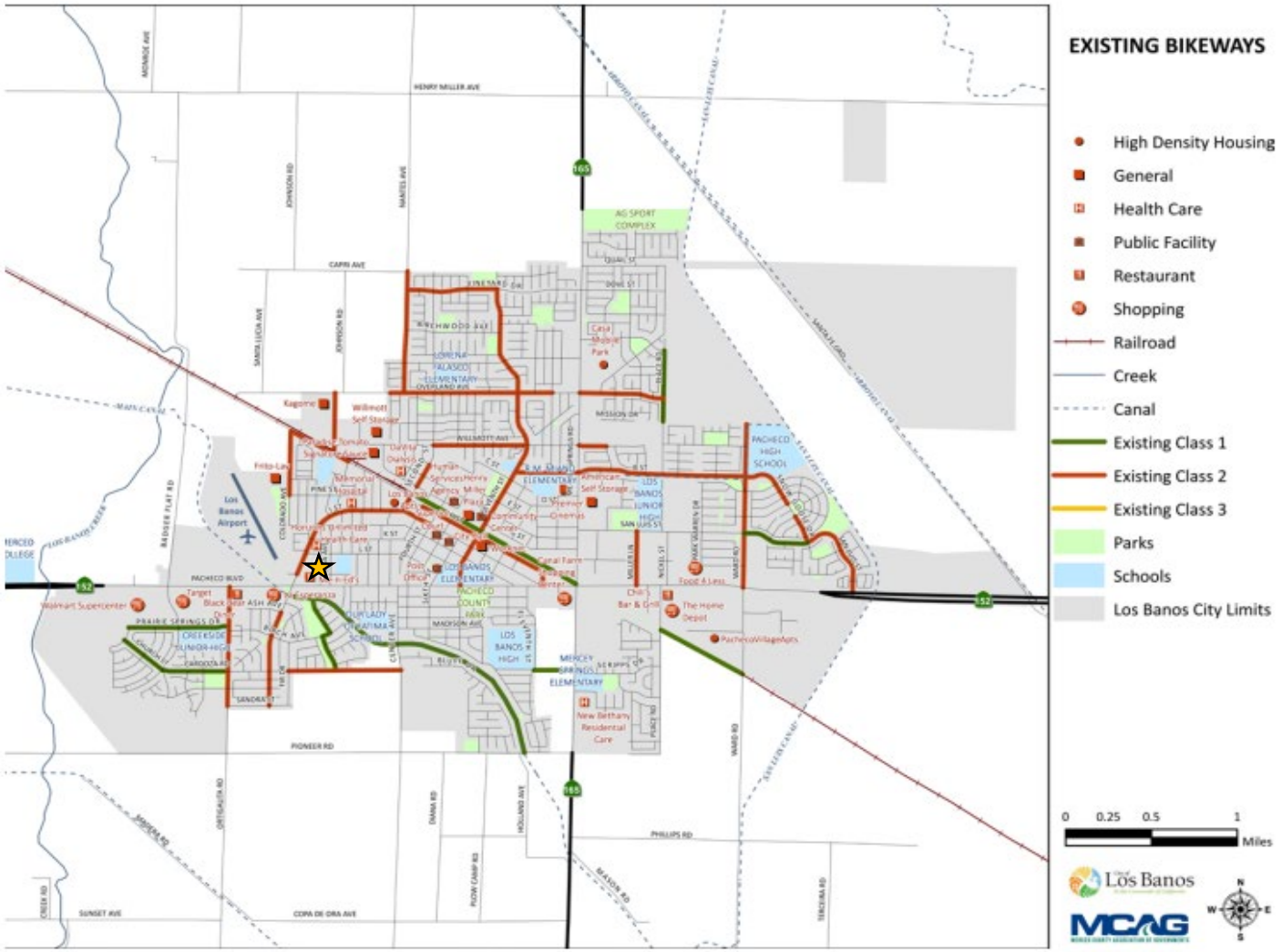


Exhibit 8: Existing Bikeways

2.6 – Existing Transit Service near Project Location

The nearest transit facility to the project site is Route LB, which runs along the project location.

The LB commuter bus routes are scheduled to run from 7 AM to 8 PM during the weekdays and 9 AM to 7 PM for the weekends.

Route LB has nine (9) primary stops which include the following:

- Merced Transpo
- El Nido Market
- Dos Palos Y
- Dollar Tree
- Los Banos Community Center
- Los Banos Fairgrounds
- Across from Memorial Hospital
- San Luis Plaza
- Walmart Los Banos

The full route map of the Tracer Transit Service is shown in **Exhibit 9**.

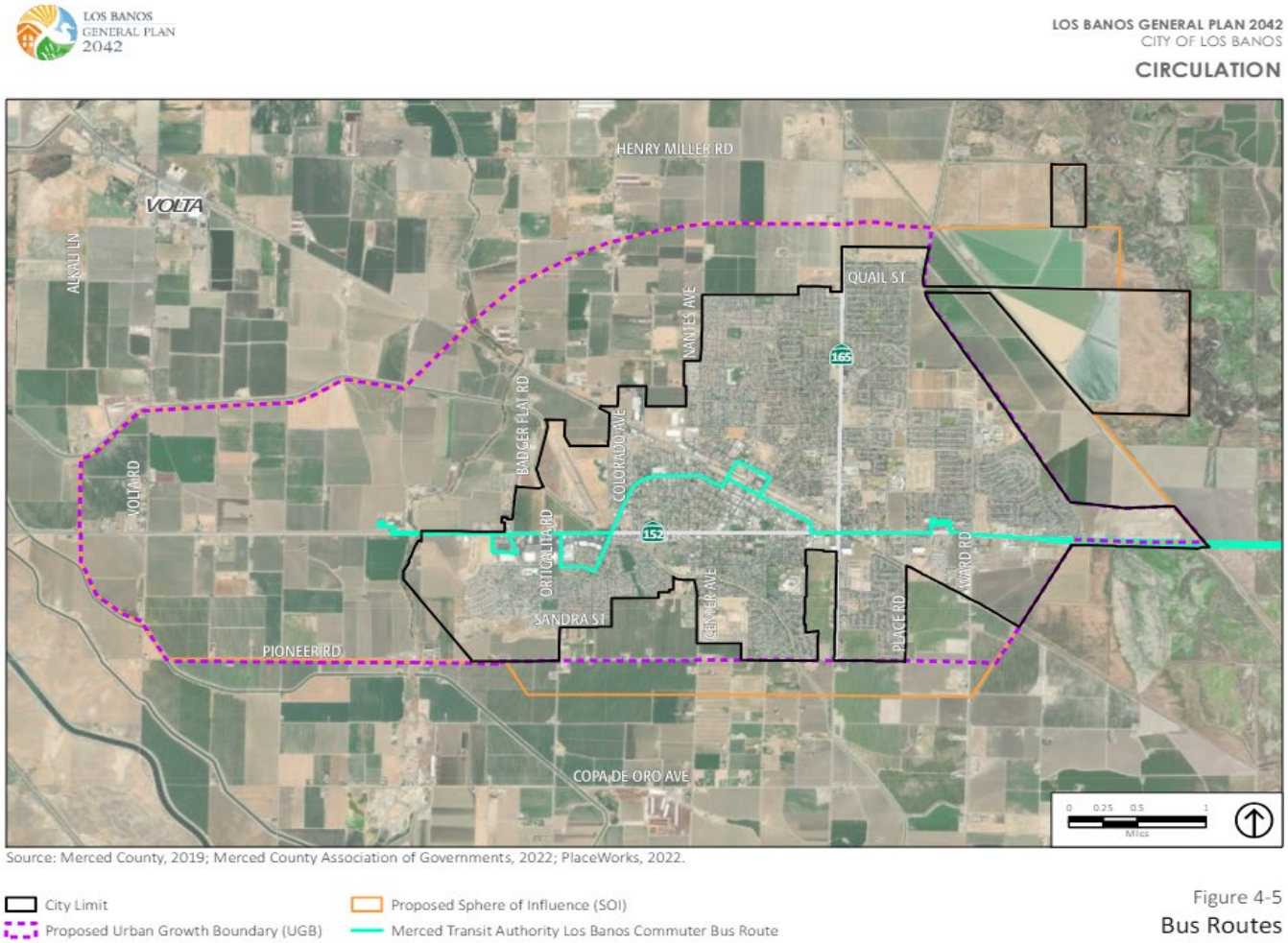


Exhibit 9: Los Banos Bus Routes

2.7 – Existing Truck Route

From the City of Los Banos' Transportation Master Plan, there are three (3) types of truck routes that are as follows:

- Through Truck Routes
- Local Truck Routes
- STAA Truck Routes

These truck routes are marked throughout the City with MUTCD compliant signage for each route type. Through truck routes require truck regulation vehicles over five (5) tons to be California legal. The truck routes are to be used by trucks passing through the City of Los Banos and will not be loading or unloading cargo within the city.

Local truck routes are reserved only for local deliveries, requiring trucks to either load or unload cargo within the City of Los Banos.

STAA (Surface Transportation Assistance Act) routes permit STAA trucks (i.e. largest commercial shipping trucks on the instates) to use Caltrans/City designated routes, which have been designated to accommodate larger trucks.

The truck routes primarily run in the north-south and east-west orientation, connecting local City streets to the Interstate 5 via State Routes 152 & 165. Along the Project site, West Pacheco Blvd is designated as a truck route as shown in **Exhibit 10**.

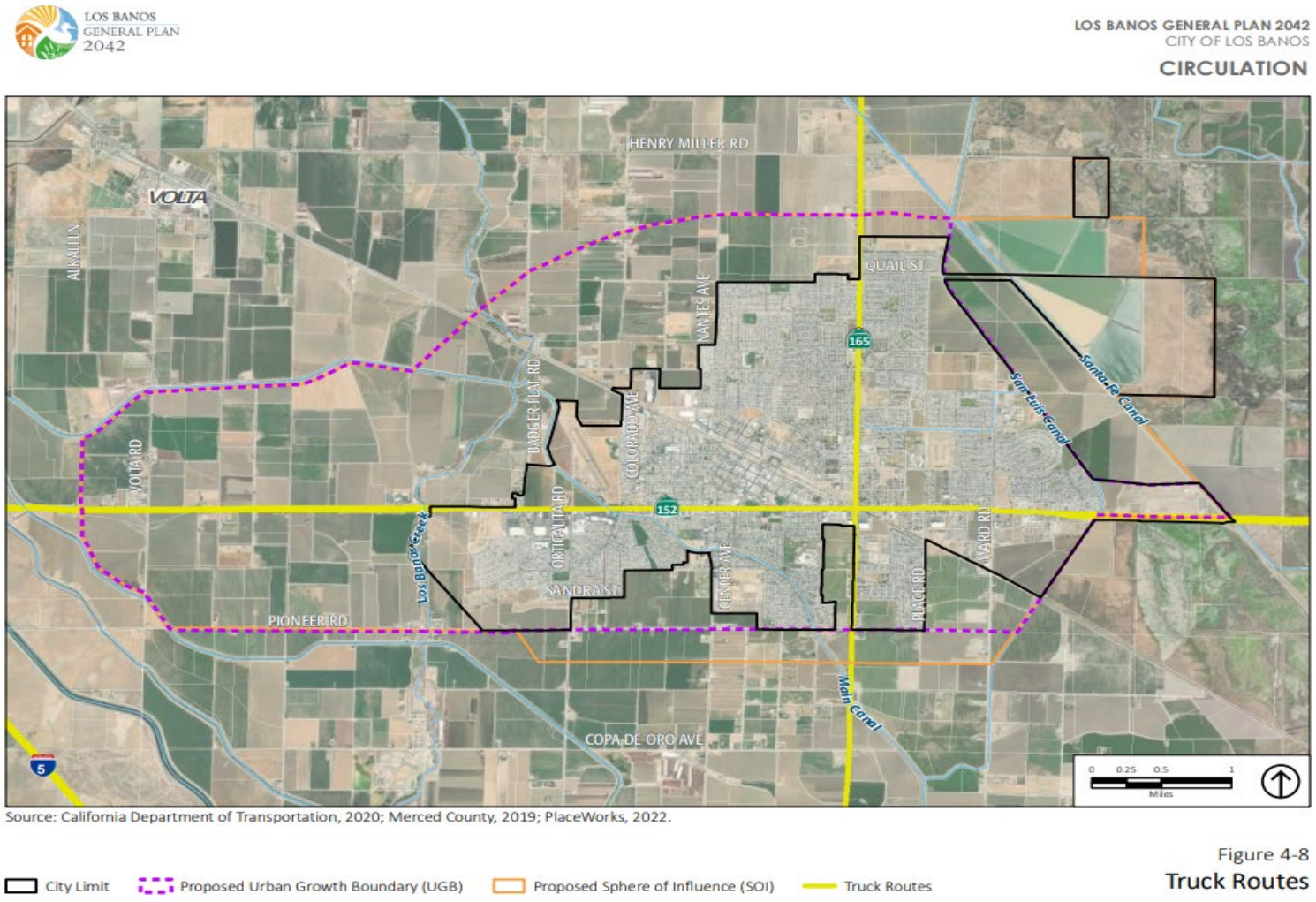


Exhibit 10: Existing Truck Routes

3 – Project Traffic

3.1 – Ambient Growth Rate

An ambient growth rate of 1.3% is to be used for projecting the 2025 Horizon year to the study's Horizon year of 2042 and projecting existing 2025 traffic count data to 2042. The rate will be calculated based on a one-year and seventeen-year period, respectively (i.e. $1.013^{1\ year} = 1.013$ and $1.013^{1\ years} = 1.247$, respectively).

3.2 – Project Trip Generation

To develop the traffic characteristics of the proposed Project, trip-generation statistics were investigated for the development of Project traffic, however the City of Los Banos' Transportation Master Plan does not provide information regarding the trip generation rates for restaurants and retail stores based on square footage. For this study, statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) is used.

- Fast Food Restaurant with Drive-Through Window – ITE Land Use Code 934
- High Turnover (Sit-Down) Restaurant – ITE Land Use Code 932
- Convenience Store/Gas Station – ITE Land Use Code 945
- Car Wash – ITE Land Use Code 948

Internal capture is a percentage reduction that can be applied to the trip generation estimates for individual land uses to account for trips internal to the site. In other words, trips may be made between individual retail uses on-site and can be made either by walking or using internal roadways without using external streets (e.g., restaurant to retail). Internal capture reductions between the proposed land uses have been considered based on the ITE Trip Generation Manual, 11th Edition (2021) & Transportation Planning Handbook, 3rd Edition 2009 & 2017.

Pass-by trips are defined as intermediate stops on the way from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator. These types of trips are many times associated with retail uses. As the Project is proposed to include retail/restaurant use, pass-by reduction percentages have been obtained and applied from the ITE Transportation Planning Handbook 3rd Edition (2017) & ITE Trip Generation Manual, 11th Edition (2021). Detailed NCHRP 684 Internal Trip Capture Estimation worksheets are given in **Appendix C**.

Table 10 presents the trip generation rates for each of the land uses above. As shown on **Table 10,** the proposed development is anticipated to generate a vehicular total of approximately 6,252 trip-ends per day on a typical weekday with 281 vehicles per hour (VPH) during the weekday AM peak hour and 273 VPH during the weekday PM peak hour.

Table 10: Project Trip Generation

Trip Generation									
Project			AM Peak Hour			PM Peak Hour			Daily
No.	Land Use	Quantity[1]	In	Out	Total	In	Out	Total	
1	Fast Food Restaurant with Drive-Thru Window	2.6 TSF[2]	54	51	105	44	41	85	1,225
	Internal Capture		- 22	- 8	- 30	- 13	- 17	- 30	- 159[3]
	Pass by[4] (49% AM, 50% PM/Daily)		- 27	- 25	- 52	- 22	- 21	- 43	- 613
	Subtotal Vehicular Trips		5	18	23	9	3	12	453
2	High-Turnover (Sit-Down) Restaurant	6.0 TSF[2]	33	27	60	37	22	59	673
	Internal Capture		- 14	- 4	- 18	- 11	- 10	- 21	- 38[3]
	Pass By[4,5] (43% AM/PM/Daily)		- 5	- 7	- 14	- 7	- 2	- 7	- 249
	Subtotal Vehicular Trips		14	16	28	19	10	31	386
3	Convenience Store/Gas Station	16 VFP[2]	256	256	512	221	221	442	7,186
	Internal Capture		- 11	- 34	- 45	- 25	- 38	- 63	- 479[3]
	Pass By[4] (62% AM, 56% PM/Daily)		- 159	- 159	- 318	- 124	- 124	- 248	- 1,797
	Subtotal Vehicular Trips		86	63	149	72	59	131	4,910
4	Automated Car Wash	3.7 TSF[2]	21	11	32	26	27	53	578
	Internal Capture		- 1	- 2	-3	- 3	- 5	- 8	-75[3]
	Pass By[6,7]		N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Subtotal Vehicular Trips		20	9	29	23	22	45	503
Total Vehicular Trips without Adjustment			364	345	709	328	311	639	14,870
Total Vehicular Trips with Trip Reduction			**125**	**106**	**229**	**123**	**94**	**219**	**6,252**

1. Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition, 2021

2. TSF = Thousand Square Feet, VFP = Vehicle Fueling Position

3. An average of the total Internal Capture percentages for the AM Peak Hour and the PM Peak Hour were used to calculate the Daily Internal Capture per the NCHRP 684 Internal Trip Capture Estimation Tool.

4. Institute of Transportation Engineers (ITE), Transportation Planning Handbook, 3rd Edition, 2017

5. Since there is no data available for pass-by trips for Land Use 933 (Fast Food Restaurant without Drive-Through Window), the pass-by rate for Land Use 934 (Fast Food Restaurant with Drive-Through Window) was utilized.

6. Due to lack of data, generation rates for the AM peak hour and daily vehicular trips are based off of Land Use 947 (Car Wash and Detail Center), where LU 947 PM Peak Trip Generation rate is 13.60 per wash stall. Automated Car Wash PM Peak hour generates 57 vehicles; therefore, a four thousand square foot automated car wash is approximately equal to four (4) wash stalls for LU 947

7. No Pass-by Data is available as of the ITE 3rd Edition Trip Generation Handbook for Automated Car Wash and related and Land Uses

3.3 – Project Trip Distribution and Assignment

The project trip distribution was developed based on the existing roadway network, surrounding land uses, and existing traffic patterns.

Exhibit 11 illustrates the project's trip distribution.

Utilizing the project trip distribution shown in **Exhibit 11**, the forecast project-generated trips were assigned to the roadway network. **Exhibit 12** and **13** show the AM/PM peak hour project trip assignment for passenger vehicles.

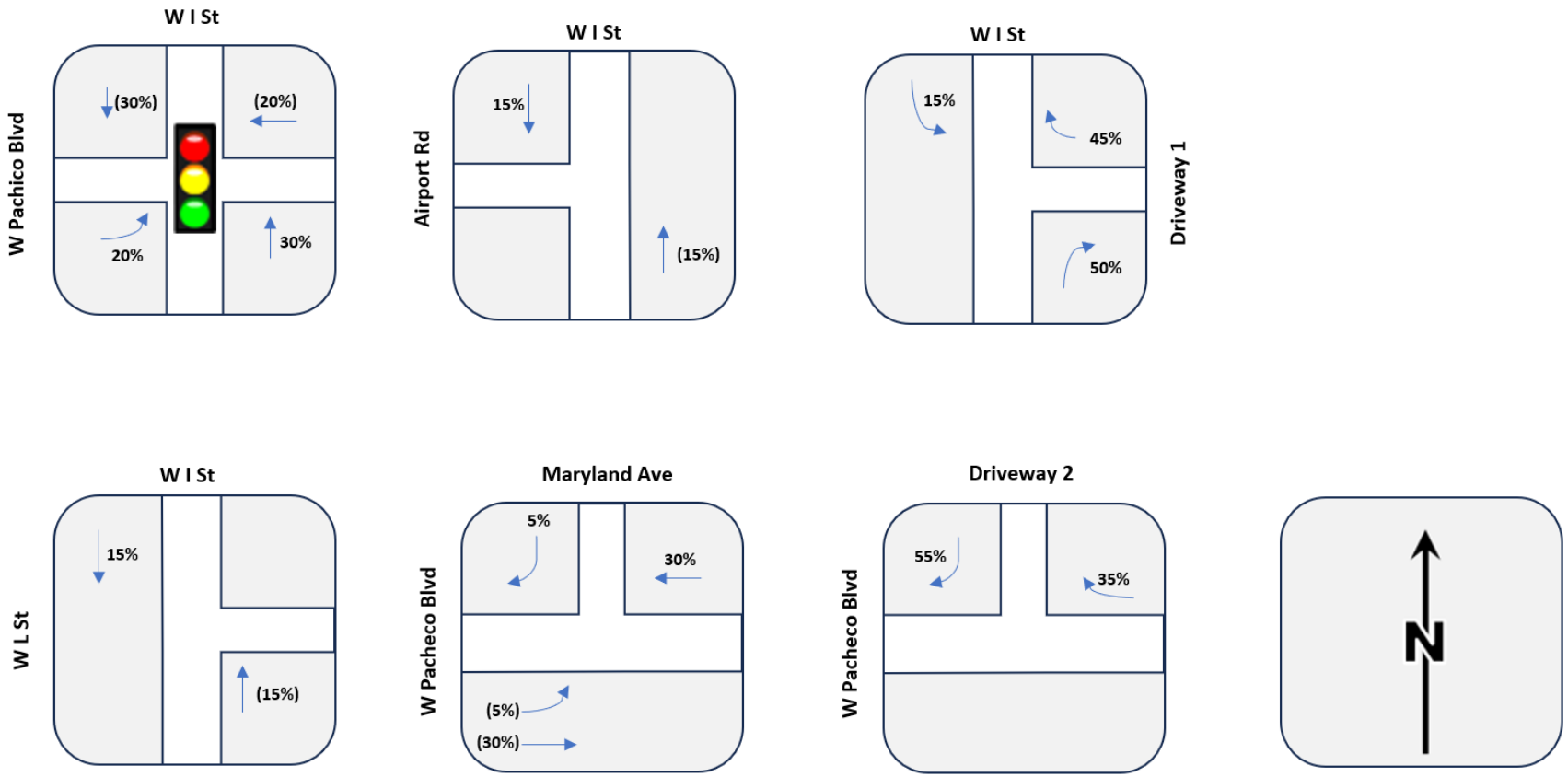


Exhibit 11: Inbound/(Outbound) Project Trip Distribution

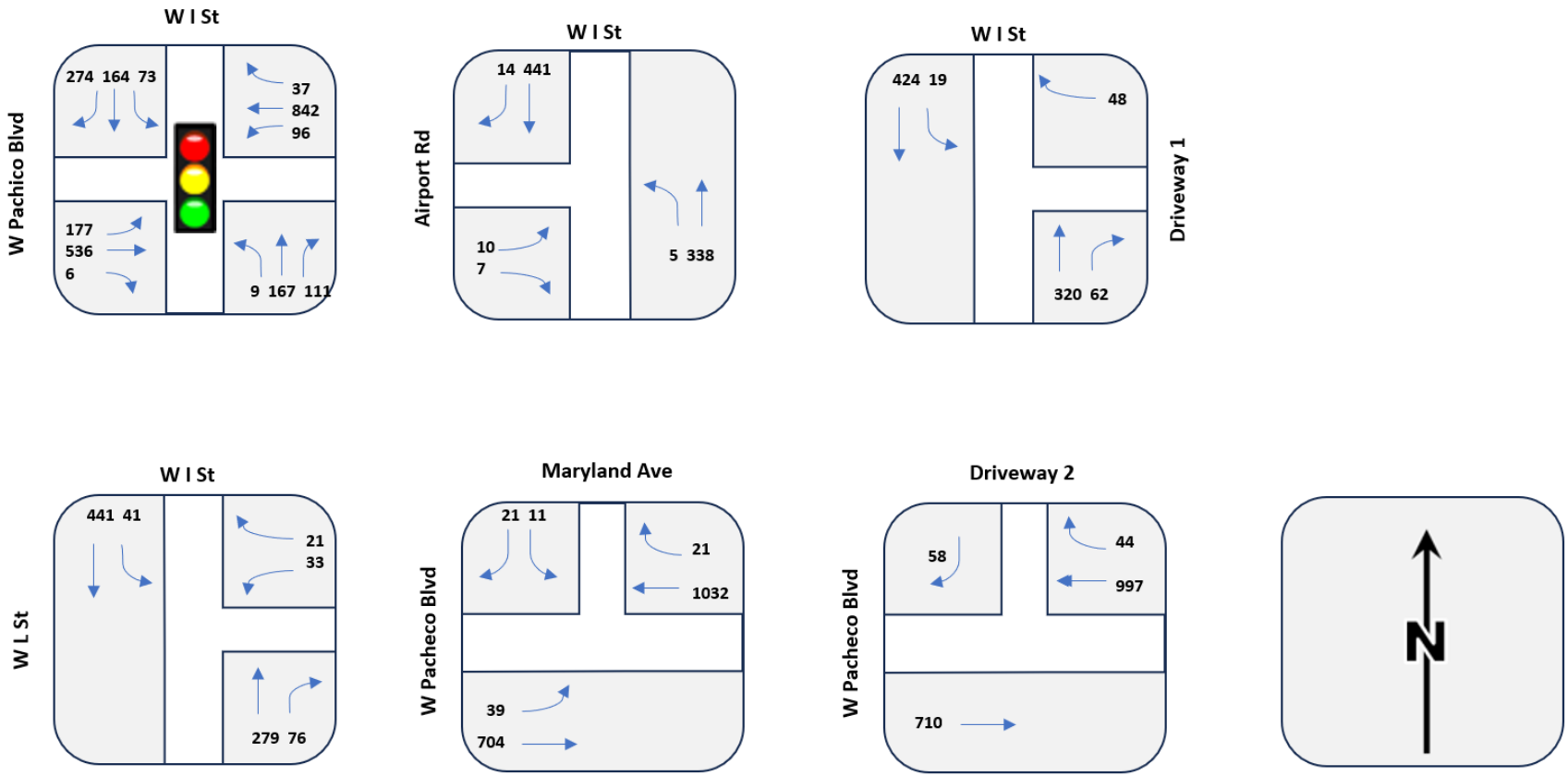


Exhibit 12: Inbound/Outbound Project AM Trip Assignments (in VPH)

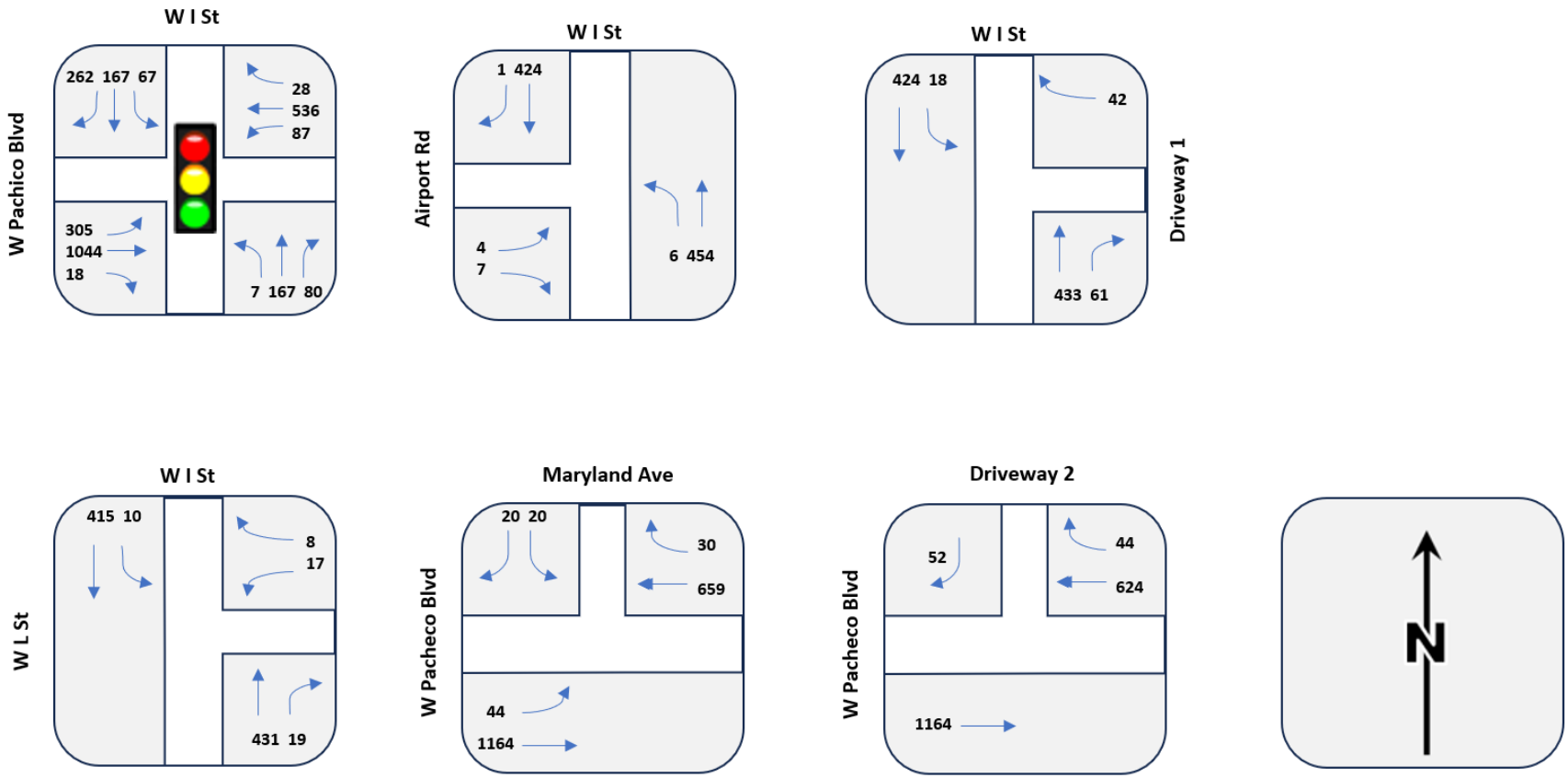


Exhibit 13: Inbound/Outbound Project PM Trip Assignments (in VPH)

4 – Traffic Analysis

4.1 – Existing (2024) Year

4.1.1 – Delay and LOS for Existing Traffic Conditions with Background Projects

The term "background" in this study refers to development which includes pending and/or approved projects that are expected to be completed and occupied, after the date of existing counts but prior to the project's expected opening day (2025) that would contribute traffic within the project study area. According to the "Major Projects & Construction Updates" list from the City of Los Banos, there are no neighboring projects within five (5) miles that would affect the intersection network.

4.1.2 – Delay and LOS for Existing Traffic Conditions with Project (& Background Projects)

The results of the Existing Year (2024) with the Project intersection level of service analysis at the study intersections are summarized in **Table 11**. Detailed HCM calculation worksheets are contained in **Appendix C**.

Table 11: Existing Year with Project - Intersection Level of Service

Intersection Name	AM Peak Hour		PM Peak Hour		Change in Delay b/w Ex. With & Without Project (Sec)	
	Delay (Sec)	LOS	Delay (Sec)	LOS	AM	PM
1. W "I" St/ W Pacheco Blvd	42.9	D	151.4	F	+14.7	+13.7
2. West "I" St/ Airport Rd	15.8	C	14.1	B	+1.1	+0.1
3. W "I" St/ W "L" St	17.3	C	17.5	C	+1.4	+0.2
4. W Pacheco Blvd/ Maryland Ave	30.7	D	29.6	D	+3.1	-1.4
5. Driveway 1 at W "I" St	9.8	A	10.3	B	+9.8	+10.3
6. Driveway 2 at W Pacheco Blvd	13.9	B	11.2	B	+13.9	+11.2

As shown in **Table 11**, only the intersection of West "I" Street at West Pacheco Blvd operates at the deficient level of service "F" with the Project only during the PM Peak Hour.

4.1.3 - Queue Analysis for Existing Year with Project

The queue analysis for the Existing Year with Project is summarized in **Table 12** through **Table 17**.

Table 12: Queueing Summary for 2024 With Project on West Pacheco and West "I" St

West Pacheco Blvd/West "I" St	2024 With Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Northbound Right Turn Lane	71	215	44	215
Southbound Left Turn Lane	42	185	70	185
Southbound Right Turn Lane	56	63	107	63
Eastbound Left Turn Lane	202	180	205	180
Westbound Left Turn Lane	78	287	58	287

Table 13: Queueing Summary for 2024 With Project on West "I" St and Airport Rd

West "I" St/Airport Rd	2024 With Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	135	NA	135
Southbound Left Turn Lane	NA	NA	NA	NA
Eastbound Left Turn Lane	NA	NA	NA	NA
Westbound Left Turn Lane	NA	NA	NA	NA

Table 14: Queueing Summary for 2024 With Project on West "I" St and West "L" St

West "I" St/ West "L" St	2024 With Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	NA	95	24	95
Eastbound Left Turn Lane	NA	NA	NA	NA
Westbound Left Turn Lane	NA	NA	NA	NA

Table 15: Queueing Summary for 2024 With Project on West Pacheco Blvd and Maryland Ave

West Pacheco Blvd and Maryland Ave	2024 With Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	NA	NA	NA	NA
Eastbound Left Turn Lane	24	95	37	95
Westbound Left Turn Lane	NA	NA	NA	NA

Table 16: Queueing Summary for 2024 With Project on West I St and Driveway 1

Driveway 1	2024 With Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	NA	127	NA	127
Eastbound Left Turn Lane	NA	NA	NA	NA
Westbound Left Turn Lane	NA	NA	NA	NA

Table 17: Queueing Summary for 2024 With Project on West Pacheco Blvd and Driveway 2

Driveway 2	2024 With Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	NA	NA	NA	NA
Eastbound Left Turn Lane	NA	NA	NA	NA
Westbound Left Turn Lane	NA	NA	NA	NA

The 95th percentile for queue length is used to approximate a worst-case scenario queue length. As seen in **Tables 12** through **17**, three of the queue lengths (only two turn lanes) exceed the length of the turn bay length with the project for the Existing Conditions (2024) With Project AM and PM scenarios. The queue overflow is not long enough to have a significant impact on the intersection. Specifically, the observed worst queue overflows are relatively minor, with the longest overflow being approximately 44 feet, equivalent of approximately less than two vehicles (per FHWA assumed vehicle length of 25 feet). Since this minor spillback occurs infrequently (only during the worst of peak periods) and would likely be quickly cleared, it is not anticipated to cause substantial delays or block through traffic. Therefore, the queue overflow does not warrant modification to the turn bay length. The results of the queue analysis indicate there is no requirement to adjust the turn bay length for the purpose of queueing alleviation.

4.2 – Opening Year (2025)

4.2.1 – Delay and LOS for Opening Year 2025 Opening Year Cumulative without Project

The results of the Opening Year (2025) without the Project intersection level of service analyses at the study intersections is summarized in **Table 18**. Detailed HCM and Synchro results are contained in **Appendix B**.

Table 18: Opening Year (2025) Without Project - Intersection Level of Service

Intersection Name	AM Peak Hour		PM Peak Hour	
	Delay (Seconds)	Level of Service	Delay (Seconds)	Level of Service
1. W "I" St/ W Pacheco Blvd	28.8	C	143.1	F
2. West "I" St/ Airport Rd	14.8	B	14.1	B
3. W "I" St/ W "L" St	16.1	C	17.5	C
4. W Pacheco Blvd/ Maryland Ave	28.3	D	32.2	D

4.2.2- Queue Analysis for Opening Year Without Project

The queue lane analysis for the opening year without project are summarized below in **Tables 19 – 22**

Table 19: Queueing Summary for 2025 Without Project on West Pacheco and West "I" St

West Pacheco/West "I" St	2025 No Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Northbound Right Turn Lane	58	215	115	215
Southbound Left Turn Lane	60	185	42	185
Southbound Right Turn Lane	91	63	94	63
Eastbound Left Turn Lane	109	180	205	180
Westbound Left Turn Lane	43	287	39	287

Table 20: Queueing Summary for 2025 Without Project on West "I" St and Airport Rd

West "I" St/Airport Rd	2025 No Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	135	NA	135
Southbound Left Turn Lane	NA	NA	NA	NA
Eastbound Left Turn Lane	NA	NA	NA	NA
Westbound Left Turn Lane	NA	NA	NA	NA

Table 21: Queueing Summary for 2025 Without Project on West "I" St and West "L" St

West "I" St/ West "L" St	2025 No Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	36	62	26	62
Eastbound Left Turn Lane	NA	NA	NA	NA
Westbound Left Turn Lane	NA	NA	NA	NA

Table 22: Queueing Summary for 2025 Without Project on West Pacheco Blvd and Maryland Ave

West Pacheco/ Maryland Ave	2025 No Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	NA	NA	NA	NA
Eastbound Left Turn Lane	45	95	37	95
Westbound Left Turn Lane	NA	NA	NA	NA

The 95th percentile for queue length is used to approximate a worst-case scenario queue length. As seen in **Tables 19** through **22**, two of the queue lengths (only one turn lane) exceed the length of the turn bay length without the project for the Opening Year (2025) AM and PM scenarios. Specifically, the observed queue overflows are relatively minor, with the longest overflow being approximately 31 feet, equivalent to about one or two vehicles. Since this minor spillback occurs infrequently (only during the worst of peak periods) and would likely be quickly cleared, it is not anticipated to cause substantial delays or block through traffic. Therefore, the queue overflow does not warrant modification to the turn bay length. The queue overflow is not long enough to have a significant impact on the intersection. The results of the queue analysis indicate there is no requirement to adjust the turn bay length for the purpose of queueing alleviation.

4.2.3 – Delay and LOS for Opening Year 2025 Opening Year Cumulative with Project

The results of the Opening Year (2025) with the Project intersection level of service analyses at the study intersections are summarized in **Table 23**. Detailed HCM and Synchro results are contained in **Appendix B**.

Table 23: Opening Year (2025) With Project - Intersection Level of Service

	AM Peak Hour		PM Peak Hour		Change in Delay b/w Ex. With & Without Project (Sec)	
Intersection Name	**Delay (Sec)**	**LOS**	**Delay (Sec)**	**LOS**	**AM**	**PM**
1. W "I" St/ W Pacheco Blvd	43.9	D	152.0	F	+15.1	+8.9
2. West "I" St/ Airport Rd	15.8	C	14.2	B	+1.0	+0.1
3. W "I" St/ W "L" St	17.6	C	17.8	C	+1.5	+0.3
4. W Pacheco Blvd/ Maryland Ave	36.5	E	30.7	D	+8.2	-1.5
5. Driveway 1 at W "I" St	9.7	A	10.5	B	9.7	10.5
6. Driveway 2 at W Pacheco Blvd	13.4	B	11.6	B	13.4	11.6

4.2.4 - Queue Analysis for Opening Year with Project

The queue analysis for the opening year with project is summarized in **Tables 24-29**

Table 24: Queueing Summary for 2025 With Project on West Pacheco and West "I" St

	2025 With Project			
	AM Peak Hour		PM Peak Hour	
West Pacheco/West "I" St	**95th Queue (ft)**	**Turn Bay Length (ft)**	**95th Queue (ft)**	**Turn Bay Length (ft)**
Northbound Left Turn Lane	NA	NA	NA	NA
Northbound Right Turn Lane	68	215	43	215
Southbound Left Turn Lane	15	185	58	185
Southbound Right Turn Lane	113	63	93	63
Eastbound Left Turn Lane	205	180	129	180
Westbound Left Turn Lane	73	287	97	287

Table 25: Queueing Summary for 2025 With Project on West "I" St and Airport Rd

West "I" St/Airport Rd	2025 With Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	6	135	NA	135
Southbound Left Turn Lane	NA	NA	NA	NA
Eastbound Left Turn Lane	42	NA	NA	NA
Westbound Left Turn Lane	NA	NA	NA	NA

Table 26: Queueing Summary for 2025 With Project on West "I" St and West "L" St

West "I" St/ West "L" St	2025 With Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	0	NA	NA	NA
Eastbound Left Turn Lane	NA	95	26	95
Westbound Left Turn Lane	55	NA	NA	NA

Table 27: Queueing Summary for 2025 With Project on West Pacheco Blvd and Maryland Ave

West Pacheco Blvd/ Maryland Ave	2025 With Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	37	NA	NA	NA
Eastbound Left Turn Lane	53	95	42	95
Westbound Left Turn Lane	NA	NA	NA	NA

Table 28: Queueing Summary for 2025 With Project on West I St and Driveway 1

Driveway 1	2025 With Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	25	127	27	127
Eastbound Left Turn Lane	NA	NA	NA	NA
Westbound Left Turn Lane	44	NA	NA	NA

Table 29: Queueing Summary for 2025 With Project on West Pacheco Blvd and Driveway 2

Driveway 2	2025 With Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	NA	NA	NA	NA
Eastbound Left Turn Lane	NA	NA	NA	NA
Westbound Left Turn Lane	NA	NA	NA	NA

The 95th percentile for queue length is used to approximate a worst-case scenario queue length. As seen in **Tables 24** through **29**, two (2) of the queue lengths (only one turn lane) exceed the length of the turn bay length without the project for the Opening Year (2025) With Project AM and PM scenarios. Specifically, the observed queue overflows are relatively minor, with the longest overflow being approximately 50 feet, equivalent to about two vehicles. Since this minor spillback occurs infrequently (only during the worst of peak periods) and would likely be quickly cleared, it is not anticipated to cause substantial delays or block through traffic. Therefore, the queue overflow does not warrant modification to the turn bay length. The queue overflow is not long enough to have a significant impact on the intersection. The results of the queue analysis indicate there is no requirement to adjust the turn bay length for the purpose of queueing alleviation.

4.3 – Cumulative Horizon (2042) Year

The term "cumulative" in this study refers to development which includes pending and/or approved projects that are expected to be completed and occupied, after the date of existing counts but prior to the project's Horizon Year (2042) that would contribute traffic within the

project study area. To be conservative, the growth factor of 1.3% compounded annually was utilized per the MCAG computer demand forecasting model for the future growth of employment, housing, and population in the City of Los Banos within Merced County to account for the growth within the area. The aforementioned indices are the common practice for the socio-economic growth category.

Analysis of Horizon Year (2042) conditions is based on the County's Traffic Demand Model (TDM). To project the Project's Horizon Year (2042), an annual growth rate of 1.3% was applied to the base year of 2024. This factor was taken from the City of Los Banos' growth projection from the Merced County Association of Governments computer model.

4.3.1 – Delay and LOS for 2042 Cumulative Horizon Year without Project

The results of the Horizon Year (2042) intersection level of service analysis with and without the TMP intersection improvements at the study intersections without the project is summarized in **Table 30.**

Detailed HCM calculation worksheets are contained in **Appendix B**.

Table 30: LOS and Delay Summary for Horizon Year (2042) Without Project AM/PM Peak Hour

	AM Peak Hour		PM Peak Hour	
Intersection Name	**Delay (Seconds)**	**Level of Service**	**Delay (Seconds)**	**Level of Service**
1. W "I" St/ W Pacheco Blvd	55.4	E	265.2	F
2. West "I" St/ Airport Rd	18.2	C	17.0	C
3. W "I" St/ W "L" St	21.9	C	23.9	C
4. W Pacheco Blvd/ Maryland Ave	57.7	F	71.7	F

- As shown in **Table 30**, there is two (2) intersection operating at a deficient level of service for Horizon Year (2042) conditions without the Project: I St at Pacheco Blvd, and W Pacheco Blvd at Maryland Ave.

4.3.2 - Queue Analysis for Horizon Year Without Project

The queue analysis for the horizon year without the project is summarized in **Tables 31-34** below.

Table 31: Queueing Summary for 2042 Without Project on West Pacheco and West "I" St

	2042 No Project			
	AM Peak Hour		PM Peak Hour	
West Pacheco Blvd /West "I" St	**95th Queue (ft)**	**Turn Bay Length (ft)**	**95th Queue (ft)**	**Turn Bay Length (ft)**
Northbound Left Turn Lane	NA	NA	NA	NA
Northbound Right Turn Lane	12	215	48	215
Southbound Left Turn Lane	63	185	91	185
Southbound Right Turn Lane	101	63	103	63
Eastbound Left Turn Lane	142	180	205	180
Westbound Left Turn Lane	44	287	46	287

Table 32: Queueing Summary for 2042 Without Project on West "I" St and Airport Rd

West "I" St/Airport Rd	2042 No Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	24	135	43	135
Southbound Left Turn Lane	NA	NA	NA	NA
Eastbound Left Turn Lane	NA	NA	NA	NA
Westbound Left Turn Lane	NA	NA	NA	NA

Table 33: Queueing Summary for 2042 Without Project on West "I" St and West "L" St

West "I" St/ West "L" St	2042 No Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	54	62	NA	62
Eastbound Left Turn Lane	NA	NA	NA	NA
Westbound Left Turn Lane	NA	NA	NA	NA

Table 34: Queueing Summary for 2042 Without Project on West Pacheco Blvd and Maryland Ave

West Pacheco Blvd/ Maryland Ave	2042 No Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	NA	NA	NA	NA
Eastbound Left Turn Lane	53	95	43	95
Westbound Left Turn Lane	NA	NA	NA	NA

As shown above there are two (2) right turn lanes that are operating at deficient levels. These two lanes are southbound right turn lane at West "I" Street and West Pacheco Blvd at AM & PM.

4.3.2 – Delay and LOS for 2042 Horizon Year Cumulative with Project

The results of the Horizon Year (2042) intersection level of service analysis at the study intersections with and without the TMP improvements and with the project is summarized in **Table 35**. Detailed HCM calculation worksheets are contained in **Appendix B**.

Table 35: LOS and Delay Summary for Horizon (2042) Year AM/PM Peak Hour with Project without the Mitigation (Optimization) Improvements and with Mitigation (Optimized Signal Timing)

Intersection Name	Without Mitigation (Optimization)				With Mitigation (Optimized Signal Timing)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS	Delay (Sec)	LOS
1. W "I" St/ W Pacheco Blvd	70.4	E	273.2	F	31.4	C	35	D
2. W "I" St/ Airport Rd	20.3	C	17.0	C	20.2	C	17.1	C
3. W "I" St/ W "L" St	25.7	D	24.2	C	25.6	D	24.2	C
4. W Pacheco Blvd/ Maryland Ave	86.3	F	62.5	F	28.2	C	39.1	D
5. Driveway 1 at W "I" St	10.2	B	10.8	B	10.2	B	10.8	B
6. Driveway 2 at W Pacheco Blvd	14.5	B	12.2	B	14.5	B	12.2	B

As shown in **Table 35**, there is two (2) intersection operating at a deficient level of service for the Horizon (2042) Year AM and PM Peak Hour with Project without the Mitigation (Optimization) Improvements scenario:

- W "I" St at West Pacheco Blvd
- W Pacheco Blvd at Maryland Ave

4.3.3 – Delay and LOS for 2042 Horizon Year Cumulative with Project and Mitigation

Appropriate Treatments were taken to improve the delay and LOS to within the City's acceptable standards. Due to restrictions in lane geometries, only the cycle lengths and split timings were optimized. Detailed HCM calculation worksheets are contained in **Appendix B**.

However, after the following proposed Appropriate Treatments for the With Project scenario, the intersection will have acceptable LOS and operate satisfactory for their corresponding target years.

- West Pacheco Blvd/SR 152 at West "I" St: With a simple traffic signal timing optimization, this intersection will operate at acceptable LOS With and Without project during the target years of 2024, 2025 & 2042
- West Pacheco Blvd/SR 152 at Maryland Avenue: With an installation of a new traffic signal, under future conditions without mitigation, this intersection is expected to perform at LOS "F" during both the AM peak and PM peak hours, indicating severe congestion and unacceptable delay. The recommended mitigation is the installation of a new traffic signal. Implementation of this measure improves the LOS to "C" in AM Peak and LOS of "D" in PM peak hours, reducing delay times to under 40 seconds. This improvement reflects how infrastructure upgrades, such as new signal installations, can significantly enhance traffic operations and address long-term capacity and safety concerns.
- The corresponding traffic signal warrant assessments and documentations for the both scenarios of With and Without Project for the Horizon Year (2042) are included in the **Appendix D** of this report.

4.3.4 - Queue Analysis for Horizon Year with Project Without Mitigation

The queue analysis for the Horizon Year with Project without Mitigation is summarized below in **Tables 36-41.**

Table 36: Queueing Summary for 2042 With Project without Mitigation on West Pacheco and West "I" St

West Pacheco/West "I" St	2042 With Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Northbound Right Turn Lane	104	215	68	215
Southbound Left Turn Lane	58	185	126	185
Southbound Right Turn Lane	112	63	99	63
Eastbound Left Turn Lane	233	180	205	180
Westbound Left Turn Lane	194	287	111	287

Table 37: Queueing Summary for 2042 With Project on West "I" St and Airport Rd

West "I" St/Airport Rd	2042 With Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	26	135	25	135
Southbound Left Turn Lane	NA	NA	NA	NA
Eastbound Left Turn Lane	NA	NA	NA	NA
Westbound Left Turn Lane	NA	NA	NA	NA

Table 38: Queueing Summary for 2042 With Project on West "I" St and West "L" St

West "I" St/ West "L" St	2042 With Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	41	NA	NA	NA
Eastbound Left Turn Lane	NA	95	NA	95
Westbound Left Turn Lane	NA	NA	NA	NA

Table 39: Queueing Summary for 2042 With Project on West Pacheco Blvd & Maryland Ave

West Pacheco Blvd/ Maryland Ave	2042 With Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	NA	NA	NA	NA
Eastbound Left Turn Lane	52	95	67	95
Westbound Left Turn Lane	NA	NA	NA	NA

Table 40: Queueing Summary for 2024 With Project on West I St and Driveway 1

Driveway 1	2042 With Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	37	127	37	127
Eastbound Left Turn Lane	NA	NA	NA	NA
Westbound Left Turn Lane	NA	NA	NA	NA

Table 41: Queueing Summary for 2042 With Project on West Pacheco Blvd and Driveway 2

Driveway 2	2042 With Project			
	AM Peak Hour		PM Peak Hour	
	95th Queue (ft)	Turn Bay Length (ft)	95th Queue (ft)	Turn Bay Length (ft)
Northbound Left Turn Lane	NA	NA	NA	NA
Southbound Left Turn Lane	NA	NA	NA	NA
Eastbound Left Turn Lane	NA	NA	NA	NA
Westbound Left Turn Lane	NA	NA	NA	NA

As shown above there are three (3) queue lengths on only two (2) turn lanes that are operating at deficient levels. The two lanes are the eastbound lane at West "I" Street and West Pacheco Blvd, and the southbound right turn lane at West "I" Street and West Pacheco Blvd. The queue overflow is not long enough to have a significant impact on the intersection. Specifically, the observed worst queue overflows are relatively minor, with the longest overflow being approximately 53 feet, equivalent of approximately a little more than two vehicles (per FHWA assumed vehicle length of 25 feet). Since this minor spillback occurs infrequently (only during the worst of peak periods) and would likely be quickly cleared, it is not anticipated to cause substantial delays or block through traffic. Therefore, the queue overflow does not warrant

modification to the turn bay length. The results of the queue analysis indicate there is no requirement to adjust the turn bay length for the purpose of queueing alleviation.

However, after the following proposed Appropriate Treatments for the With Project scenario, the intersection will have acceptable LOS and operate satisfactory for their corresponding target years.

- West Pacheco Blvd/SR 152 at West "I" St: With a simple traffic signal timing optimization, this intersection will operate at acceptable LOS With and Without project during the target years of 2024, 2025 & 2042

5 – Findings and Recommendations

5.1 – Traffic Impacts and Level of Service Analysis

From the City of Los Banos' Transportation Master Plan, the City considers an "acceptable" LOS to be LOS D or better. Any intersection that is operating at LOS "E" or "F" will be considered deficient and will require mitigations. The list of intersections with deficient LOS are presented in the following section:

6 – Conclusion

This study analyzes the forecast traffic impact of the proposed "Northgate 42, LLC" project, located on a currently occupied lot with three (3) businesses including two (2) restaurants and a thrift shop. The occupied lot will be demolished to construct a 24,270 square-foot site on the Northeast corner of West Pacheco Blvd and West "I" St Street in the City of Los Banos within Merced County. The proposed project will consist of the following facilities:

- 5,599 square foot C-Store (Convenience Store) Building with a sixteen (16) Vehicle Fueling Positions (VFP) Gas Station
- 2,593 square foot QSR (Fast-Food Restaurant with Drive-Through Window) Building
- 6,003 square foot Retail Building Sit-In Restaurant
- 3,743 square foot Automated Car Wash

Mitigation measures, including optimized signal cycle lengths and split timing adjustments at West Pacheco Blvd/SR 152 and West "I" St., are proposed to address the identified operational deficiencies.

The study found that the following one (1) intersection will have an *unacceptable operational deficiencies with* a LOS of "F" Without the Project for the Existing Year (2024) PM scenario:

- West Pacheco Blvd/SR 152 at West "I" St

The study found that the following very same one (1) intersection will have an *unacceptable operational deficiencies with* a LOS of "F" With the Project for the Existing Year (2024) PM scenario. The proposed project will only add 13.7 seconds of delay.

- West Pacheco Blvd/SR 152 at West "I" St

The study also revealed that the during the Opening Year of 2025 the very same one (1) intersection will have an *unacceptable operational deficiency* With an LOS of "F" With and

Without the Project PM scenario and one new intersection will have an *unacceptable operational deficiency* With an LOS of "E" With Project.

- West Pacheco Blvd/SR 152 at West "I" St
- W Pacheco Blvd at Maryland Ave

The study also revealed that during the Horizon year of 2042 Without the Project, the intersection will operate at the LOS "F":

- West Pacheco Blvd/SR 152 at West "I" St
- W Pacheco Blvd at Maryland Ave

The study also revealed that the intersection during the Horizon Year of 2042 With Project will operate at LOS of "F":

- West Pacheco Blvd/SR 152 at West "I" St
- W Pacheco Blvd at Maryland Ave

However, after the following proposed Appropriate Treatments for the With Project scenario, the subject intersection will have acceptable LOS and operate satisfactory for the corresponding target years.

- West Pacheco Blvd/SR 152 at West "I" St: With a simple traffic signal timing optimization, this intersection will operate at acceptable LOS With and Without project
- West Pacheco Blvd/SR 152 at Maryland Avenue: With an installation of a new traffic signal, under future conditions without mitigation, this intersection is expected to perform at LOS "F" during both the AM peak and PM peak, indicating severe congestion and unacceptable delay. The recommended mitigation is the installation of a new traffic signal. Implementation of this measure improves the LOS to "C" in AM Peak and LOS of "D" in PM peak hours, reducing delay times to under 40 seconds. This improvement reflects how infrastructure upgrades, such as new signal installations, can significantly enhance traffic operations and address long-term capacity and safety concerns.

It is finally concluded that since the intersection of West Pacheco Blvd/Maryland Ave will have acceptable LOS in the Horizon Year of 2042 With and Without the Project with a new traffic signal. Therefore, the total cost of signalization per the standards in the State of California shall only be per fair share of the project-based traffic volume percentages for the year 2042, if and when the City or State will build a traffic signal when the future traffic volumes and the ambient conditions would warrant the signalization. The full documentation of the traffic signal warrant assessments are included in **Appendix D** of this report.

APPENDIX A – Turning Movement Counts (TMC) Data

INTERSECTION TURNING MOVEMENT COUNTS

T012524

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

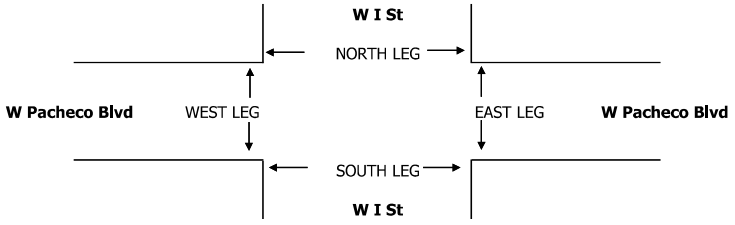
DATE: Tue, Feb 13, 24

LOCATION: Los Banos
NORTH & SOUTH: W I St
EAST & WEST: W Pacheco Blvd
PROJECT #: SC4452
LOCATION #: 1
CONTROL: SIGNAL

NOTES:

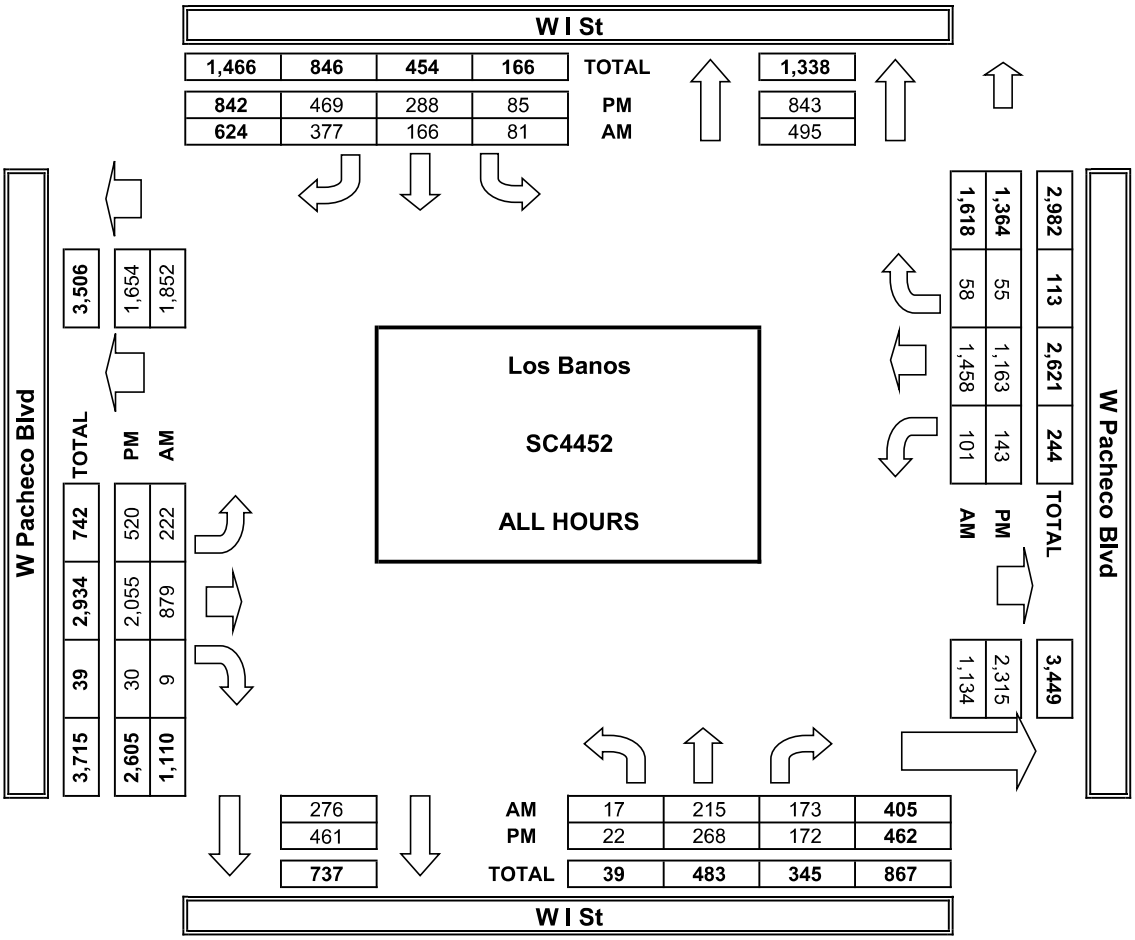
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

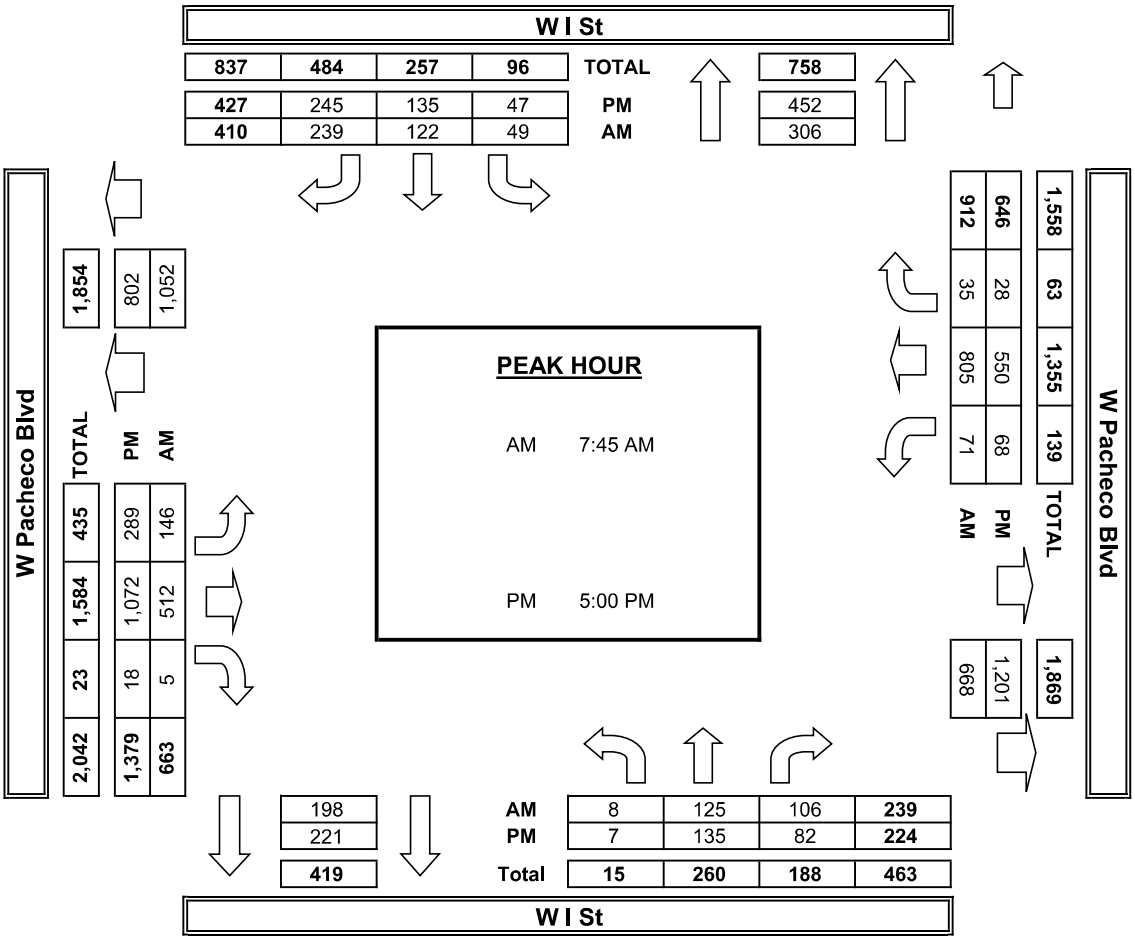
		NORTHBOUND W I St			SOUTHBOUND W I St			EASTBOUND W Pacheco Blvd			WESTBOUND W Pacheco Blvd				U-TURNS				
	LANES:	NL 0.5	NT 0.5	NR 1	SL 1	ST 1	SR 1	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	3	14	6	4	7	30	11	66	0	4	165	5	315	0	0	0	0	0
	7:15 AM	3	19	21	10	12	29	5	73	2	5	150	8	337	0	0	0	0	0
	7:30 AM	2	31	26	6	14	32	28	121	1	10	155	4	430	0	0	0	0	0
	7:45 AM	3	40	30	14	26	56	35	122	1	14	187	6	534	0	0	0	0	0
	8:00 AM	4	38	43	10	36	56	34	137	1	19	201	10	589	0	0	0	0	0
	8:15 AM	1	23	18	17	33	72	31	130	2	20	209	6	562	0	0	0	1	1
	8:30 AM	0	24	15	8	27	55	46	123	1	18	208	13	538	0	0	0	0	0
	8:45 AM	1	26	14	12	11	47	32	107	1	11	183	6	451	0	0	0	0	0
	VOLUMES	17	215	173	81	166	377	222	879	9	101	1,458	58	3,757	0	0	0	1	1
	APPROACH %	4%	53%	43%	13%	27%	60%	20%	79%	1%	6%	90%	4%						
	APP/DEPART	405	/	495	624	/	276	1,110	/	1,134	1,618	/	1,852	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	8	125	106	49	122	239	146	512	5	71	805	35	2,224	0	0	0	1	
	APPROACH %	3%	52%	44%	12%	30%	58%	22%	77%	1%	8%	88%	4%						
	PEAK HR FACTOR		0.703			0.840			0.964			0.954		0.944					
	APP/DEPART	239	/	306	410	/	198	663	/	668	912	/	1,052	0					
PM	4:00 PM	6	36	24	15	41	68	45	256	3	9	181	8	692	0	0	0	1	1
	4:15 PM	3	36	24	8	41	52	77	225	4	26	144	6	646	0	0	0	0	0
	4:30 PM	5	33	23	7	39	45	50	238	2	22	165	5	634	0	0	0	1	1
	4:45 PM	1	28	19	8	32	59	59	264	3	18	123	8	622	0	0	0	1	1
	5:00 PM	3	39	21	12	37	58	79	239	5	28	130	7	658	0	0	0	0	0
	5:15 PM	2	37	17	7	30	83	68	272	6	12	158	5	697	0	0	0	0	0
	5:30 PM	1	32	22	16	40	57	73	271	3	17	108	6	646	0	0	0	0	0
	5:45 PM	1	27	22	12	28	47	69	290	4	11	154	10	675	0	0	0	0	0
	VOLUMES	22	268	172	85	288	469	520	2,055	30	143	1,163	55	5,273	0	0	0	3	3
	APPROACH %	5%	58%	37%	10%	34%	56%	20%	79%	1%	10%	85%	4%						
	APP/DEPART	462	/	843	842	/	461	2,605	/	2,315	1,364	/	1,654	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	7	135	82	47	135	245	289	1,072	18	68	550	28	2,676	0	0	0	0	
	APPROACH %	3%	60%	37%	11%	32%	57%	21%	78%	1%	11%	85%	4%						
	PEAK HR FACTOR		0.889			0.890			0.950			0.923		0.960					
	APP/DEPART	224	/	452	427	/	221	1,379	/	1,201	646	/	802	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T012524

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Feb 13, 24

LOCATION: Los Banos
NORTH & SOUTH: W I St
EAST & WEST: Airport Rd

PROJECT #: SC4452
LOCATION #: 2
CONTROL: STOP E

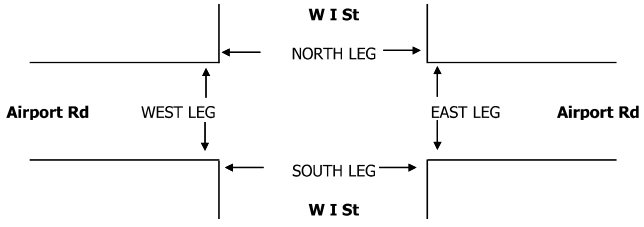
NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

		NORTHBOUND W I St			SOUTHBOUND W I St			EASTBOUND Airport Rd			WESTBOUND Airport Rd			
	LANES:	NL 1	NT 1	NR X	SL X	ST 1	SR 0	EL 0	ET X	ER 0	WL X	WT X	WR X	TOTAL
AM	7:00 AM	2	28	0	0	37	2	0	0	1	0	0	0	70
	7:15 AM	1	31	0	0	45	3	2	0	3	0	0	0	85
	7:30 AM	1	61	0	0	53	3	1	0	1	0	0	0	120
	7:45 AM	1	81	0	0	100	3	1	0	1	0	0	0	187
	8:00 AM	0	83	0	0	97	4	1	0	2	0	0	0	187
	8:15 AM	2	56	0	0	121	5	5	0	2	0	0	0	191
	8:30 AM	1	86	0	0	87	1	2	0	1	0	0	0	178
	8:45 AM	0	65	0	0	74	0	1	0	0	0	0	0	140
	VOLUMES	8	491	0	0	614	21	13	0	11	0	0	0	1,159
	APPROACH %	2%	98%	0%	0%	97%	3%	54%	0%	46%	0%	0%	0%	
	APP/DEPART	499	/	505	636	/	625	24	/	0	0	/	29	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	4	306	0	0	405	13	9	0	6	0	0	0	744
	APPROACH %	1%	99%	0%	0%	97%	3%	60%	0%	40%	0%	0%	0%	
	PEAK HR FACTOR		0.891			0.831			0.536			0.000		0.974
	APP/DEPART	310	/	316	419	/	411	15	/	0	0	/	17	0
PM	4:00 PM	0	110	0	0	124	0	0	0	2	0	0	0	236
	4:15 PM	0	122	0	0	106	1	0	0	0	0	0	0	229
	4:30 PM	0	92	0	0	97	1	0	0	0	0	0	0	190
	4:45 PM	0	100	0	0	94	0	1	0	0	0	0	0	195
	5:00 PM	2	120	0	0	107	1	1	0	1	0	0	0	232
	5:15 PM	2	111	0	0	121	0	1	0	2	0	0	0	237
	5:30 PM	1	110	0	0	104	0	1	0	2	0	0	0	218
	5:45 PM	1	107	0	0	85	0	1	0	2	0	0	0	196
	VOLUMES	6	872	0	0	838	3	5	0	9	0	0	0	1,733
	APPROACH %	1%	99%	0%	0%	100%	0%	36%	0%	64%	0%	0%	0%	
	APP/DEPART	878	/	877	841	/	847	14	/	0	0	/	9	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	6	448	0	0	417	1	4	0	7	0	0	0	883
	APPROACH %	1%	99%	0%	0%	100%	0%	36%	0%	64%	0%	0%	0%	
	PEAK HR FACTOR		0.930			0.864			0.917			0.000		0.931
	APP/DEPART	454	/	452	418	/	424	11	/	0	0	/	7	0

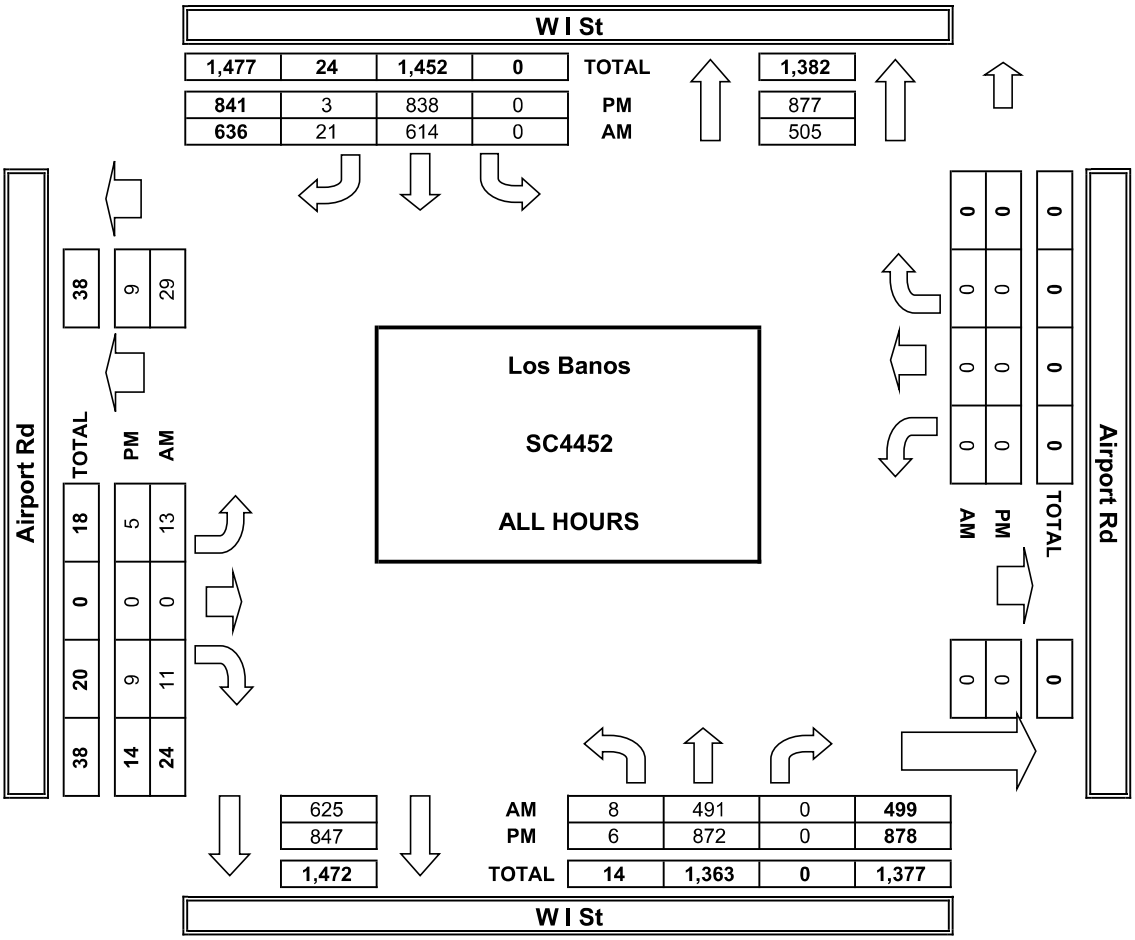
U-TURNS

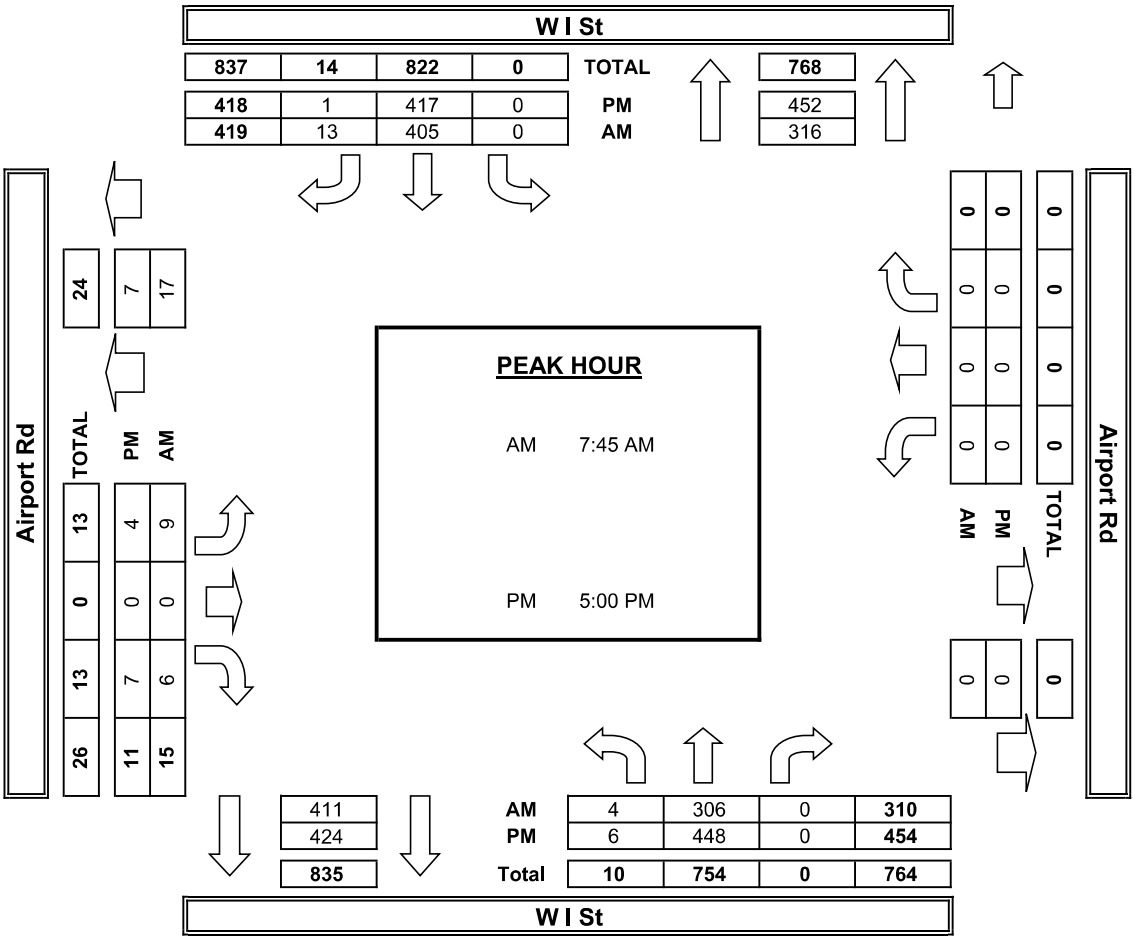
NB	SB	EB	WB	TTL
0	0	0	0	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	1	0	0	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	
0	0	0	0	



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T012524

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Feb 13, 24

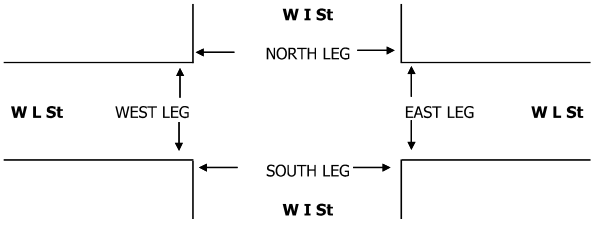
LOCATION: Los Banos
NORTH & SOUTH: W I St
EAST & WEST: W L St

PROJECT #: SC4452
LOCATION #: 3
CONTROL: STOP W

NOTES:

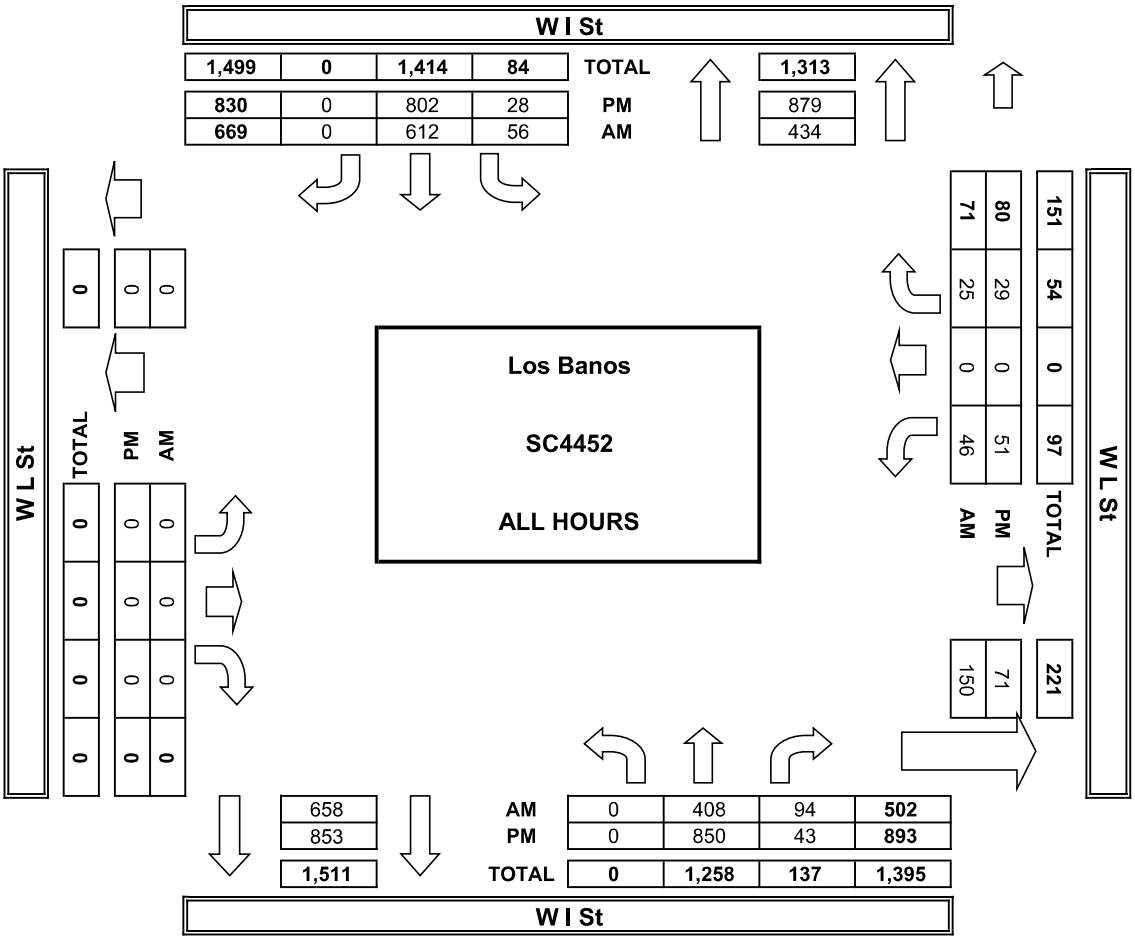
AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

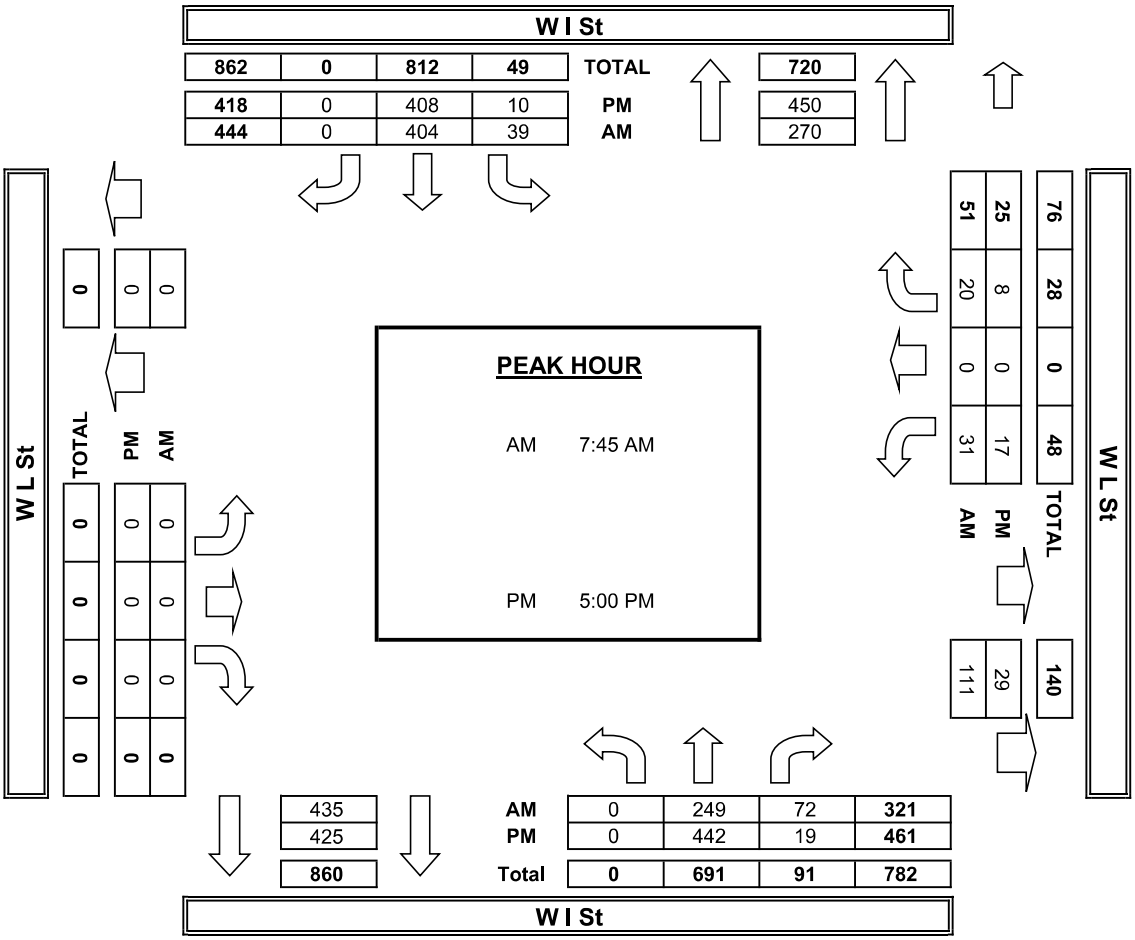
		NORTHBOUND (W I St)			SOUTHBOUND (W I St)			EASTBOUND (W L St)			WESTBOUND (W L St)				U-TURNS				
	LANES:	NL X	NT 1	NR 0	SL 1	ST 1	SR X	EL X	ET X	ER X	WL 0	WT X	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	26	2	0	40	0	0	0	0	1	0	0	69	0	0	0	0	0
	7:15 AM	0	25	3	2	47	0	0	0	0	5	0	1	83	0	0	0	0	0
	7:30 AM	0	53	10	7	58	0	0	0	0	4	0	2	134	0	0	0	0	0
	7:45 AM	0	61	25	13	105	0	0	0	0	2	0	2	208	0	1	0	0	1
	8:00 AM	0	65	21	9	92	0	0	0	0	9	0	8	204	0	0	0	0	0
	8:15 AM	0	50	12	12	115	0	0	0	0	13	0	3	205	0	0	0	0	0
	8:30 AM	0	73	14	5	92	0	0	0	0	7	0	7	198	0	0	0	0	0
	8:45 AM	0	55	7	8	63	0	0	0	0	5	0	2	140	0	0	0	0	0
	VOLUMES	0	408	94	56	612	0	0	0	0	46	0	25	1,242	0	1	0	0	1
	APPROACH %	0%	81%	19%	8%	91%	0%	0%	0%	0%	65%	0%	35%						
	APP/DEPART	502	/	434	669	/	658	0	/	150	71	/	0	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	0	249	72	39	404	0	0	0	0	31	0	20	816	0	1	0	0	
	APPROACH %	0%	78%	22%	9%	91%	0%	0%	0%	0%	61%	0%	39%						
	PEAK HR FACTOR		0.922			0.874			0.000			0.750		0.976					
	APP/DEPART	321	/	270	444	/	435	0	/	111	51	/	0	0					
PM	4:00 PM	0	103	5	6	107	0	0	0	0	16	0	6	243	0	0	0	0	0
	4:15 PM	0	117	9	5	104	0	0	0	0	6	0	7	248	0	0	0	0	0
	4:30 PM	0	94	4	5	93	0	0	0	0	6	0	2	204	0	0	0	0	0
	4:45 PM	0	94	6	2	90	0	0	0	0	6	0	6	204	0	0	0	0	0
	5:00 PM	0	113	6	1	106	0	0	0	0	3	0	2	231	0	0	0	0	0
	5:15 PM	0	115	3	6	118	0	0	0	0	4	0	2	248	0	0	0	0	0
	5:30 PM	0	104	5	1	97	0	0	0	0	8	0	1	216	0	0	0	0	0
	5:45 PM	0	110	5	2	87	0	0	0	0	2	0	3	209	0	0	0	0	0
	VOLUMES	0	850	43	28	802	0	0	0	0	51	0	29	1,803	0	0	0	0	0
	APPROACH %	0%	95%	5%	3%	97%	0%	0%	0%	0%	64%	0%	36%						
	APP/DEPART	893	/	879	830	/	853	0	/	71	80	/	0	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	0	442	19	10	408	0	0	0	0	17	0	8	904	0	0	0	0	
	APPROACH %	0%	96%	4%	2%	98%	0%	0%	0%	0%	68%	0%	32%						
	PEAK HR FACTOR		0.968			0.843			0.000			0.694		0.911					
	APP/DEPART	461	/	450	418	/	425	0	/	29	25	/	0	0					



AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T012524

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Feb 13, 24

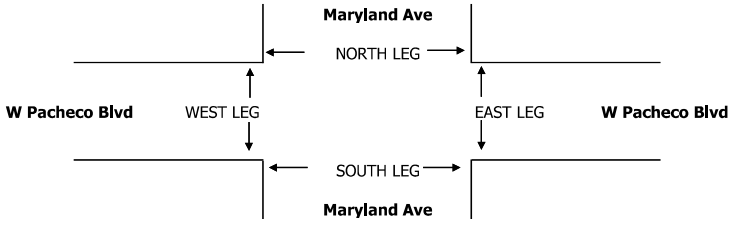
LOCATION: Los Banos
NORTH & SOUTH: Maryland Ave
EAST & WEST: W Pacheco Blvd

PROJECT #: SC4452
LOCATION #: 4
CONTROL: STOP S

NOTES:

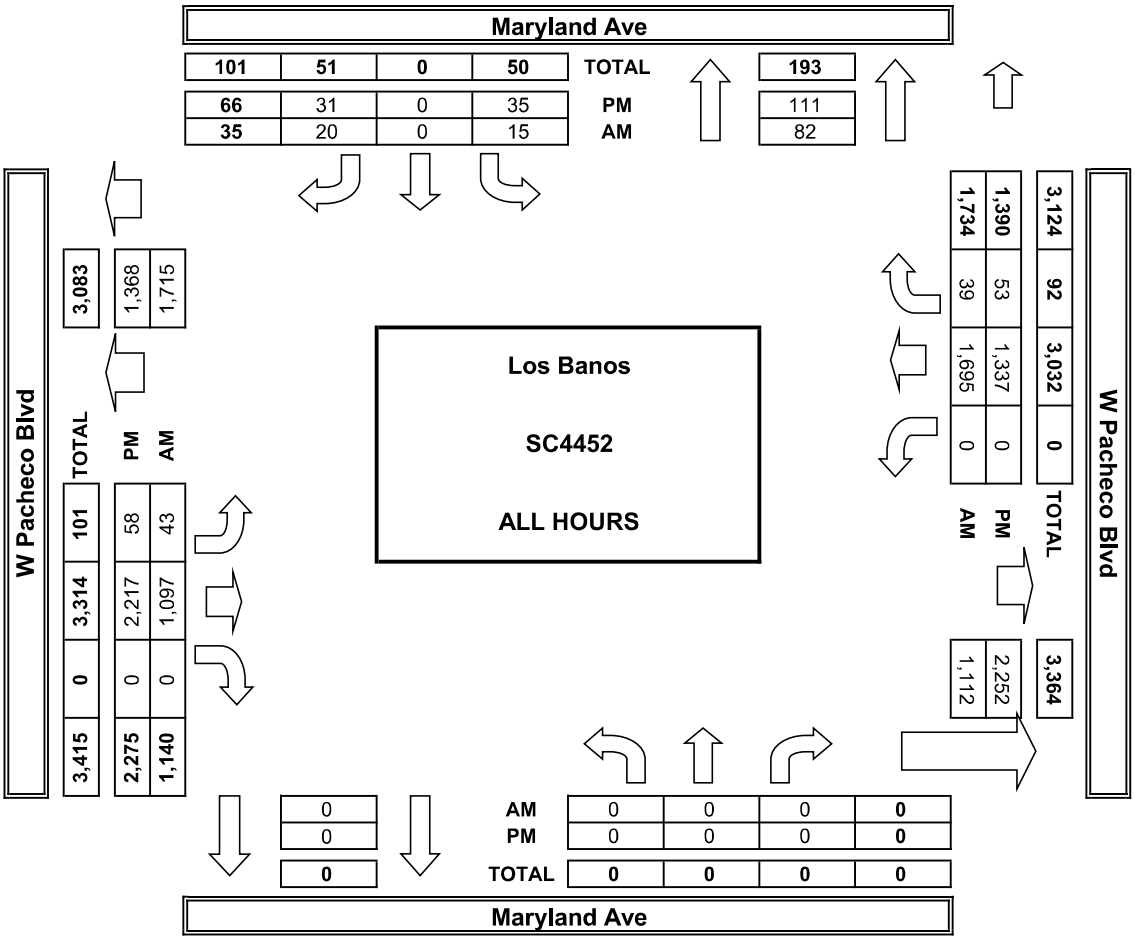
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

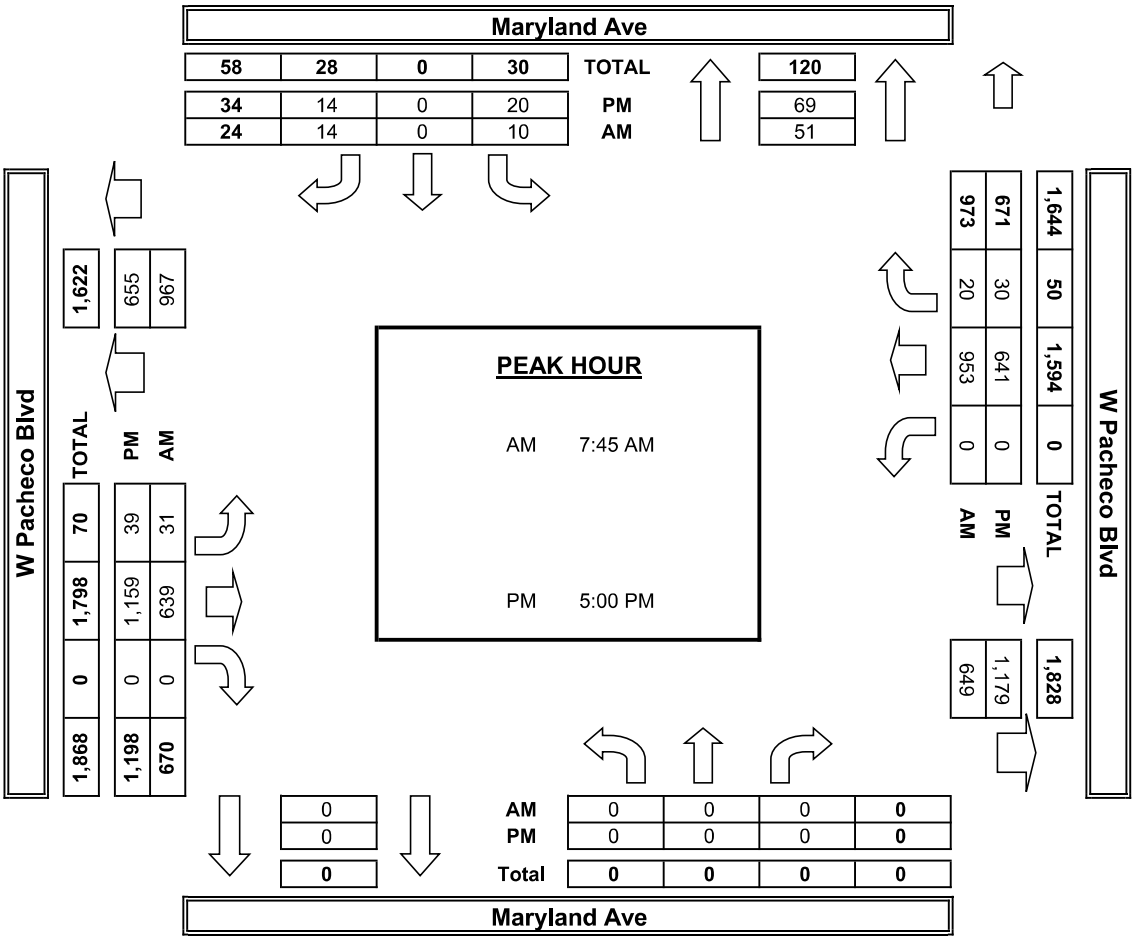
		NORTHBOUND Maryland Ave			SOUTHBOUND Maryland Ave			EASTBOUND W Pacheco Blvd			WESTBOUND W Pacheco Blvd				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 0	ST X	SR 0	EL 0	ET 2	ER X	WL X	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	0	0	0	0	2	2	77	0	0	176	3	260	0	0	0	0	0
	7:15 AM	0	0	0	1	0	1	1	105	0	0	180	5	293	0	0	0	0	0
	7:30 AM	0	0	0	0	0	1	6	142	0	0	173	2	324	0	0	0	0	0
	7:45 AM	0	0	0	3	0	5	5	155	0	0	213	4	385	0	0	0	0	0
	8:00 AM	0	0	0	3	0	2	12	187	0	0	239	3	446	0	0	0	0	0
	8:15 AM	0	0	0	1	0	7	6	164	0	0	261	8	447	0	0	0	0	0
	8:30 AM	0	0	0	3	0	0	8	133	0	0	240	5	389	0	0	0	0	0
	8:45 AM	0	0	0	4	0	2	3	134	0	0	213	9	365	0	0	0	0	0
	VOLUMES	0	0	0	15	0	20	43	1,097	0	0	1,695	39	2,909	0	0	0	0	0
	APPROACH %	0%	0%	0%	43%	0%	57%	4%	96%	0%	0%	98%	2%						
	APP/DEPART	0	/	82	35	/	0	1,140	/	1,112	1,734	/	1,715	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	0	0	0	10	0	14	31	639	0	0	953	20	1,667	0	0	0	0	
	APPROACH %	0%	0%	0%	42%	0%	58%	5%	95%	0%	0%	98%	2%						
	PEAK HR FACTOR		0.000			0.750			0.842			0.904		0.932					
	APP/DEPART	0	/	51	24	/	0	670	/	649	973	/	967	0					
PM	4:00 PM	0	0	0	3	0	6	7	251	0	0	179	8	454	0	0	0	0	0
	4:15 PM	0	0	0	3	0	2	3	256	0	0	198	8	470	0	0	0	0	0
	4:30 PM	0	0	0	6	0	6	5	249	0	0	170	5	441	0	0	0	0	0
	4:45 PM	0	0	0	3	0	3	4	302	0	0	149	2	463	0	0	0	0	0
	5:00 PM	0	0	0	4	0	5	12	254	0	0	171	5	451	0	0	0	0	0
	5:15 PM	0	0	0	5	0	3	5	296	0	0	166	6	481	0	0	0	0	0
	5:30 PM	0	0	0	4	0	2	11	287	0	0	139	9	452	0	0	0	0	0
	5:45 PM	0	0	0	7	0	4	11	322	0	0	165	10	519	0	0	0	0	0
	VOLUMES	0	0	0	35	0	31	58	2,217	0	0	1,337	53	3,731	0	0	0	0	0
	APPROACH %	0%	0%	0%	53%	0%	47%	3%	97%	0%	0%	96%	4%						
	APP/DEPART	0	/	111	66	/	0	2,275	/	2,252	1,390	/	1,368	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	0	0	0	20	0	14	39	1,159	0	0	641	30	1,903	0	0	0	0	
	APPROACH %	0%	0%	0%	59%	0%	41%	3%	97%	0%	0%	96%	4%						
	PEAK HR FACTOR		0.000			0.773			0.899			0.953		0.917					
	APP/DEPART	0	/	69	34	/	0	1,198	/	1,179	671	/	655	0					



AimTD LLC

TURNING MOVEMENT COUNTS





APPENDIX B – Synchro Reports

HCM 6th Signalized Intersection Summary
1: West I Street & West Pacheco Blvd

09/01/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	512	5	71	805	35	6	125	106	49	122	239
Future Volume (veh/h)	146	512	5	71	805	35	6	125	106	49	122	239
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1767	1767	1767	1781	1781	1781	1781	1781	1853
Adj Flow Rate, veh/h	152	533	5	75	847	37	11	179	151	58	145	285
Peak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.70	0.70	0.70	0.84	0.84	0.84
Percent Heavy Veh, %	10	10	10	9	9	9	6	6	6	6	6	6
Cap, veh/h	169	1092	10	170	1059	46	67	556	488	388	576	506
Arrive On Green	0.10	0.32	0.32	0.10	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1668	3379	32	1682	3276	143	32	1719	1510	1000	1781	1570
Grp Volume(v), veh/h	152	262	276	75	434	460	190	0	151	58	145	285
Grp Sat Flow(s),veh/h/ln	1668	1664	1746	1682	1678	1741	1761	0	1510	1000	1781	1570
Q Serve(g_s), s	4.5	6.3	6.3	2.1	11.7	11.7	0.0	0.0	3.7	2.3	3.0	7.4
Cycle Q Clear(g_c), s	4.5	6.3	6.3	2.1	11.7	11.7	4.0	0.0	3.7	6.3	3.0	7.4
Prop In Lane	1.00		0.02	1.00		0.08	0.06		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	536	564	170	542	663	643	0	488	388	576	506
V/C Ratio(X)	0.90	0.49	0.49	0.44	0.80	0.80	0.30	0.00	0.31	0.15	0.25	0.56
Avail Cap(c_a), veh/h	169	536	564	170	542	663	643	0	488	388	576	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.0	13.6	13.6	20.9	15.3	16.3	12.7	0.0	12.6	15.1	12.3	13.6
Incr Delay (d2), s/veh	47.4	3.1	3.0	8.1	11.7	11.4	1.2	0.0	1.6	0.8	1.0	4.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	2.2	2.3	1.1	5.4	5.5	1.6	0.0	1.3	0.5	1.1	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.4	16.6	16.6	29.0	27.0	28.6	13.9	0.0	14.2	15.9	13.4	18.3
LnGrp LOS	E	B	B	C	C	C	B	A	B	B	B	B
Approach Vol, veh/h		690			959			341			488	
Approach Delay, s/veh		28.2			27.0			14.0			16.6	
Approach LOS		C			C			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.0	9.5	20.0		20.0	9.5	20.0				
Change Period (Y+Rc), s		4.0	4.5	4.0		4.0	4.5	4.0				
Max Green Setting (Gmax), s		16.0	5.0	16.0		16.0	5.0	16.0				
Max Q Clear Time (g_c+I1), s		6.0	4.1	8.3		9.4	6.5	13.7				
Green Ext Time (p_c), s		1.1	0.0	1.8		1.2	0.0	1.2				

Intersection Summary	
HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
1: West I Street & West Pacheco Blvd

09/01/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	289	1072	18	68	550	28	7	135	82	47	135	245
Future Volume (veh/h)	289	1072	18	68	550	28	7	135	82	47	135	245
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1767	1767	1767	1781	1781	1781	1781	1781	1853
Adj Flow Rate, veh/h	304	1128	19	74	598	30	8	152	92	53	152	275
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	10	10	10	9	9	9	6	6	6	6	6	6
Cap, veh/h	169	1083	18	170	1051	53	84	560	488	423	576	506
Arrive On Green	0.10	0.32	0.32	0.10	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1668	3349	56	1682	3253	163	25	1733	1510	1082	1781	1570
Grp Volume(v), veh/h	304	560	587	74	308	320	160	0	92	53	152	275
Grp Sat Flow(s),veh/h/ln	1668	1664	1742	1682	1678	1737	1768	0	1510	1082	1781	1570
Q Serve(g_s), s	6.0	16.0	16.0	2.0	7.5	7.6	0.0	0.0	2.2	1.9	3.1	7.1
Cycle Q Clear(g_c), s	6.0	16.0	16.0	2.0	7.5	7.6	3.3	0.0	2.2	5.2	3.1	7.1
Prop In Lane	1.00		0.03	1.00		0.09	0.05		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	536	563	170	542	662	645	0	488	423	576	506
V/C Ratio(X)	1.80	1.04	1.04	0.44	0.57	0.57	0.25	0.00	0.19	0.13	0.26	0.54
Avail Cap(c_a), veh/h	169	536	563	170	542	662	645	0	488	423	576	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.3	16.6	16.6	20.9	13.9	13.9	12.6	0.0	12.1	14.4	12.4	13.7
Incr Delay (d2), s/veh	384.3	50.1	49.3	7.9	4.3	4.2	0.9	0.0	0.9	0.6	1.1	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.7	12.4	12.9	1.1	2.8	2.9	1.3	0.0	0.7	0.5	1.2	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	406.6	66.9	66.1	28.8	18.2	18.0	13.4	0.0	12.9	15.0	13.5	17.9
LnGrp LOS	F	F	F	C	B	B	B	A	B	B	B	B
Approach Vol, veh/h		1451			702			252			480	
Approach Delay, s/veh		137.7			19.2			13.2			16.2	
Approach LOS		F			B			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.0	9.5	20.0		20.0	9.5	20.0				
Change Period (Y+Rc), s		4.0	4.5	4.0		4.0	4.5	4.0				
Max Green Setting (Gmax), s		16.0	5.0	16.0		16.0	5.0	16.0				
Max Q Clear Time (g_c+I1), s		5.3	4.0	18.0		9.1	7.0	9.6				
Green Ext Time (p_c), s		0.8	0.0	0.0		1.2	0.0	1.9				

Intersection Summary	
HCM 6th Ctrl Delay	77.8
HCM 6th LOS	E

HCM Signalized Intersection Capacity Analysis
1: West I Street & West Pacheco Blvd

10/04/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	177	536	5	95	922	37	6	166	111	18	72	153
Future Volume (vph)	177	536	5	95	922	37	6	166	111	18	72	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.0		4.5	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		0.95	1.00
Satd. Flow (prot)	1641	3277		1656	3293			1755	1495		1669	1759
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00		0.55	1.00
Satd. Flow (perm)	1641	3277		1656	3293			1734	1495		985	1759
Peak-hour factor, PHF	0.96	0.96	0.96	0.95	0.95	0.95	0.70	0.70	0.70	0.92	0.84	0.84
Adj. Flow (vph)	184	558	5	100	971	39	11	237	159	20	86	194
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	108	0	0	0
Lane Group Flow (vph)	184	562	0	100	1004	0	0	246	51	0	106	194
Heavy Vehicles (%)	10%	10%	10%	9%	9%	9%	8%	8%	8%	2%	8%	8%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	Perm	NA
Protected Phases	7	4		3	8			2				6
Permitted Phases							2		2	6	6	
Actuated Green, G (s)	5.0	16.0		5.0	16.0			16.0	16.0		16.0	16.0
Effective Green, g (s)	5.0	16.0		5.0	16.0			16.0	16.0		16.0	16.0
Actuated g/C Ratio	0.10	0.32		0.10	0.32			0.32	0.32		0.32	0.32
Clearance Time (s)	4.5	4.0		4.5	4.0			4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	165	1059		167	1064			560	483		318	568
v/s Ratio Prot	c0.11	0.17		0.06	c0.30							0.11
v/s Ratio Perm								c0.14	0.03		0.11	
v/c Ratio	1.12	0.53		0.60	0.94			0.44	0.11		0.33	0.34
Uniform Delay, d1	22.2	13.7		21.3	16.3			13.2	11.7		12.7	12.7
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	104.3	1.9		14.9	17.0			2.5	0.4		2.8	1.6
Delay (s)	126.6	15.6		36.2	33.3			15.6	12.2		15.5	14.4
Level of Service	F	B		D	C			B	B		B	B
Approach Delay (s)		42.9			33.5			14.4				14.1
Approach LOS		D			C			B				B

Intersection Summary			
HCM 2000 Control Delay	29.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	49.5	Sum of lost time (s)	12.5
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	274
Future Volume (vph)	274
Ideal Flow (vphpl)	1900
Lane Width	16
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1695
Flt Permitted	1.00
Satd. Flow (perm)	1695
Peak-hour factor, PHF	0.84
Adj. Flow (vph)	326
RTOR Reduction (vph)	185
Lane Group Flow (vph)	141
Heavy Vehicles (%)	8%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	16.0
Effective Green, g (s)	16.0
Actuated g/C Ratio	0.32
Clearance Time (s)	4.0
Lane Grp Cap (vph)	547
v/s Ratio Prot	
v/s Ratio Perm	0.08
v/c Ratio	0.26
Uniform Delay, d1	12.4
Progression Factor	1.00
Incremental Delay, d2	1.1
Delay (s)	13.5
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1: West I Street & West Pacheco Blvd

10/04/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	305	1044	18	87	614	27	7	166	80	18	66	166
Future Volume (vph)	305	1044	18	87	614	27	7	166	80	18	66	166
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.0		4.5	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		0.95	1.00
Satd. Flow (prot)	1641	3273		1656	3291			1756	1495		1691	1759
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00		0.63	1.00
Satd. Flow (perm)	1641	3273		1656	3291			1736	1495		1126	1759
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.69	0.89	0.89	0.92	0.89	0.89
Adj. Flow (vph)	321	1099	19	95	667	29	8	187	90	20	74	187
RTOR Reduction (vph)	0	3	0	0	6	0	0	0	61	0	0	0
Lane Group Flow (vph)	321	1115	0	95	690	0	0	196	29	0	94	187
Heavy Vehicles (%)	10%	10%	10%	9%	9%	9%	8%	8%	8%	2%	8%	8%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	Perm	NA
Protected Phases	7	4		3	8			2				6
Permitted Phases							2		2	6	6	
Actuated Green, G (s)	5.0	16.0		5.0	16.0			16.0	16.0		16.0	16.0
Effective Green, g (s)	5.0	16.0		5.0	16.0			16.0	16.0		16.0	16.0
Actuated g/C Ratio	0.10	0.32		0.10	0.32			0.32	0.32		0.32	0.32
Clearance Time (s)	4.5	4.0		4.5	4.0			4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	165	1057		167	1063			561	483		363	568
v/s Ratio Prot	c0.20	c0.34		0.06	0.21							0.11
v/s Ratio Perm								c0.11	0.02		0.08	
v/c Ratio	1.95	1.06		0.57	0.65			0.35	0.06		0.26	0.33
Uniform Delay, d1	22.2	16.8		21.2	14.3			12.8	11.6		12.4	12.7
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	446.8	43.4		13.3	3.1			1.7	0.2		1.7	1.5
Delay (s)	469.1	60.2		34.5	17.4			14.5	11.8		14.1	14.2
Level of Service	F	E		C	B			B	B		B	B
Approach Delay (s)		151.4			19.5			13.6				13.4
Approach LOS		F			B			B				B

Intersection Summary			
HCM 2000 Control Delay	79.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	49.5	Sum of lost time (s)	12.5
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	262
Future Volume (vph)	262
Ideal Flow (vphpl)	1900
Lane Width	16
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1695
Flt Permitted	1.00
Satd. Flow (perm)	1695
Peak-hour factor, PHF	0.89
Adj. Flow (vph)	294
RTOR Reduction (vph)	199
Lane Group Flow (vph)	95
Heavy Vehicles (%)	8%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	16.0
Effective Green, g (s)	16.0
Actuated g/C Ratio	0.32
Clearance Time (s)	4.0
Lane Grp Cap (vph)	547
v/s Ratio Prot	
v/s Ratio Perm	0.06
v/c Ratio	0.17
Uniform Delay, d1	12.0
Progression Factor	1.00
Incremental Delay, d2	0.7
Delay (s)	12.7
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1: West I Street & West Pacheco Blvd

10/04/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	216	675	6	115	1143	46	10	201	140	18	86	197
Future Volume (vph)	216	675	6	115	1143	46	10	201	140	18	86	197
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.0		4.5	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		0.95	1.00
Satd. Flow (prot)	1641	3278		1656	3293			1755	1495		1687	1759
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00		0.36	1.00
Satd. Flow (perm)	1641	3278		1656	3293			1726	1495		641	1759
Peak-hour factor, PHF	0.96	0.96	0.96	0.95	0.95	0.95	0.70	0.70	0.70	0.92	0.84	0.84
Adj. Flow (vph)	225	703	6	121	1203	48	14	287	200	20	102	235
RTOR Reduction (vph)	0	1	0	0	4	0	0	0	151	0	0	0
Lane Group Flow (vph)	225	708	0	121	1247	0	0	301	49	0	122	235
Heavy Vehicles (%)	10%	10%	10%	9%	9%	9%	8%	8%	8%	2%	8%	8%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	Perm	NA
Protected Phases	7	4		3	8			2				6
Permitted Phases							2		2	6	6	
Actuated Green, G (s)	12.7	28.2		10.5	26.0			16.8	16.8		16.8	16.8
Effective Green, g (s)	12.7	28.2		10.5	26.0			16.8	16.8		16.8	16.8
Actuated g/C Ratio	0.19	0.41		0.15	0.38			0.25	0.25		0.25	0.25
Clearance Time (s)	4.5	4.0		4.5	4.0			4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	306	1359		255	1259			426	369		158	434
v/s Ratio Prot	c0.14	0.22		0.07	c0.38							0.13
v/s Ratio Perm								0.17	0.03		c0.19	
v/c Ratio	0.74	0.52		0.47	0.99			0.71	0.13		0.77	0.54
Uniform Delay, d1	26.1	14.9		26.2	20.9			23.4	19.9		23.8	22.3
Progression Factor	1.00	1.00		0.69	0.58			1.00	1.00		1.00	1.00
Incremental Delay, d2	14.8	1.4		4.8	20.1			9.5	0.8		29.9	4.8
Delay (s)	40.8	16.3		22.8	32.2			32.8	20.7		53.7	27.0
Level of Service	D	B		C	C			C	C		D	C
Approach Delay (s)		22.2			31.4			28.0				28.5
Approach LOS		C			C			C				C

Intersection Summary			
HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	68.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	340
Future Volume (vph)	340
Ideal Flow (vphpl)	1900
Lane Width	16
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1695
Flt Permitted	1.00
Satd. Flow (perm)	1695
Peak-hour factor, PHF	0.84
Adj. Flow (vph)	405
RTOR Reduction (vph)	305
Lane Group Flow (vph)	100
Heavy Vehicles (%)	8%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	16.8
Effective Green, g (s)	16.8
Actuated g/C Ratio	0.25
Clearance Time (s)	4.0
Lane Grp Cap (vph)	418
v/s Ratio Prot	
v/s Ratio Perm	0.06
v/c Ratio	0.24
Uniform Delay, d1	20.5
Progression Factor	1.00
Incremental Delay, d2	1.3
Delay (s)	21.8
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1: West I Street & West Pacheco Blvd

10/04/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	379	1317	22	104	754	34	9	210	100	18	78	201
Future Volume (vph)	379	1317	22	104	754	34	9	210	100	18	78	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.0		4.5	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		0.95	1.00
Satd. Flow (prot)	1641	3274		1656	3290			1756	1495		1669	1759
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00		0.40	1.00
Satd. Flow (perm)	1641	3274		1656	3290			1733	1495		703	1759
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.69	0.89	0.89	0.92	0.89	0.89
Adj. Flow (vph)	399	1386	23	113	820	37	10	236	112	20	88	226
RTOR Reduction (vph)	0	1	0	0	3	0	0	0	87	0	0	0
Lane Group Flow (vph)	399	1408	0	113	854	0	0	246	25	0	108	226
Heavy Vehicles (%)	10%	10%	10%	9%	9%	9%	8%	8%	8%	2%	8%	8%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	Perm	NA
Protected Phases	7	4		3	8			2				6
Permitted Phases							2		2	6	6	
Actuated Green, G (s)	26.5	44.0		10.5	26.0			19.0	19.0		19.0	19.0
Effective Green, g (s)	26.5	44.0		10.5	26.0			19.0	19.0		19.0	19.0
Actuated g/C Ratio	0.33	0.51		0.12	0.30			0.22	0.22		0.22	0.22
Clearance Time (s)	4.5	4.0		4.5	4.0			4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	543	1675		202	994			382	330		155	388
v/s Ratio Prot	0.24	c0.43		0.07	c0.26							0.13
v/s Ratio Perm								0.14	0.02		c0.15	
v/c Ratio	0.73	0.84		0.56	0.86			0.64	0.07		0.70	0.58
Uniform Delay, d1	25.4	18.0		35.6	28.3			30.4	26.5		30.8	30.0
Progression Factor	1.00	1.00		0.80	0.75			1.00	1.00		1.00	1.00
Incremental Delay, d2	8.8	5.3		10.1	9.0			8.1	0.4		22.9	6.3
Delay (s)	34.0	23.3		38.4	30.1			38.5	27.0		53.7	36.2
Level of Service	C	C		D	C			D	C		D	D
Approach Delay (s)		25.6			31.0			34.9				35.0
Approach LOS		C			C			C				D

Intersection Summary			
HCM 2000 Control Delay	29.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Traffic Volume (vph)	324
Future Volume (vph)	324
Ideal Flow (vphpl)	1900
Lane Width	16
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1695
Flt Permitted	1.00
Satd. Flow (perm)	1695
Peak-hour factor, PHF	0.89
Adj. Flow (vph)	364
RTOR Reduction (vph)	284
Lane Group Flow (vph)	80
Heavy Vehicles (%)	8%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	19.0
Effective Green, g (s)	19.0
Actuated g/C Ratio	0.22
Clearance Time (s)	4.0
Lane Grp Cap (vph)	374
v/s Ratio Prot	
v/s Ratio Perm	0.05
v/c Ratio	0.22
Uniform Delay, d1	27.4
Progression Factor	1.00
Incremental Delay, d2	1.3
Delay (s)	28.7
Level of Service	C
Approach Delay (s)	
Approach LOS	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1: West I Street & West Pacheco Blvd

10/04/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	217	676	7	115	1063	46	11	201	141	86	197	340
Future Volume (vph)	217	676	7	115	1063	46	11	201	141	86	197	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	16
Total Lost time (s)	4.5	4.0		4.5	4.0			4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1641	3277		1656	3291			1755	1495	1671	1759	1595
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.48	1.00	1.00
Satd. Flow (perm)	1641	3277		1656	3291			1723	1495	836	1759	1595
Peak-hour factor, PHF	0.96	0.96	0.96	0.95	0.95	0.95	0.70	0.70	0.70	0.84	0.84	0.84
Adj. Flow (vph)	226	704	7	121	1119	48	16	287	201	102	235	405
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	138	0	0	161
Lane Group Flow (vph)	226	710	0	121	1161	0	0	303	65	102	235	224
Heavy Vehicles (%)	10%	10%	10%	9%	9%	9%	8%	8%	8%	8%	8%	8%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2		2	6		6
Actuated Green, G (s)	5.0	16.0		5.0	16.0			16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	5.0	16.0		5.0	16.0			16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.10	0.32		0.10	0.32			0.32	0.32	0.32	0.32	0.32
Clearance Time (s)	4.5	4.0		4.5	4.0			4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	165	1059		167	1063			556	483	270	568	547
v/s Ratio Prot	c0.14	0.22		0.07	c0.35						0.13	
v/s Ratio Perm								c0.18	0.04	0.12		0.13
v/c Ratio	1.37	0.67		0.72	1.09			0.54	0.13	0.38	0.41	0.41
Uniform Delay, d1	22.2	14.5		21.6	16.8			13.8	11.9	12.9	13.1	13.1
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	200.0	3.4		23.8	56.2			3.8	0.6	4.0	2.2	2.3
Delay (s)	222.2	17.8		45.4	73.0			17.6	12.4	16.9	15.3	15.3
Level of Service	F	B		D	E			B	B	B	B	B
Approach Delay (s)		67.1			70.4			15.5			15.5	
Approach LOS		E			E			B			B	

Intersection Summary			
HCM 2000 Control Delay	49.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	49.5	Sum of lost time (s)	12.5
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
1: West I Street & West Pacheco Blvd

10/04/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	360	1336	22	85	686	35	9	169	103	59	201	325
Future Volume (vph)	360	1336	22	85	686	35	9	169	103	59	201	325
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	16
Total Lost time (s)	4.5	4.0		4.5	4.0			4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1641	3274		1656	3288			1755	1495	1671	1759	1595
Flt Permitted	0.95	1.00		0.95	1.00			0.96	1.00	0.62	1.00	1.00
Satd. Flow (perm)	1641	3274		1656	3288			1730	1495	1099	1759	1595
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.69	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	379	1406	23	92	746	38	10	190	116	66	226	365
RTOR Reduction (vph)	0	2	0	0	7	0	0	0	79	0	0	201
Lane Group Flow (vph)	379	1427	0	92	777	0	0	200	37	66	226	164
Heavy Vehicles (%)	10%	10%	10%	9%	9%	9%	8%	8%	8%	8%	8%	8%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases							2		2	6		6
Actuated Green, G (s)	5.0	16.0		5.0	16.0			16.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	5.0	16.0		5.0	16.0			16.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.10	0.32		0.10	0.32			0.32	0.32	0.32	0.32	0.32
Clearance Time (s)	4.5	4.0		4.5	4.0			4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	165	1058		167	1062			559	483	355	568	547
v/s Ratio Prot	c0.23	c0.44		0.06	0.24						c0.13	
v/s Ratio Perm								0.12	0.03	0.06		0.10
v/c Ratio	2.30	1.35		0.55	0.73			0.36	0.08	0.19	0.40	0.30
Uniform Delay, d1	22.2	16.8		21.2	14.8			12.8	11.6	12.1	13.0	12.6
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	602.4	163.3		12.5	4.4			1.8	0.3	1.2	2.1	1.4
Delay (s)	624.6	180.0		33.6	19.3			14.6	11.9	13.2	15.1	14.0
Level of Service	F	F		C	B			B	B	B	B	B
Approach Delay (s)		273.2			20.8			13.6			14.3	
Approach LOS		F			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	143.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	49.5	Sum of lost time (s)	12.5
Intersection Capacity Utilization	76.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
1: West I Street & West Pacheco Blvd

09/01/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	184	646	6	90	1016	44	10	158	134	62	154	302
Future Volume (veh/h)	184	646	6	90	1016	44	10	158	134	62	154	302
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1767	1767	1767	1781	1781	1781	1781	1781	1853
Adj Flow Rate, veh/h	192	673	6	95	1069	46	14	226	191	74	183	360
Peak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.70	0.70	0.70	0.84	0.84	0.84
Percent Heavy Veh, %	10	10	10	9	9	9	8	8	8	8	8	8
Cap, veh/h	169	1093	10	170	1060	46	86	551	488	347	576	506
Arrive On Green	0.10	0.32	0.32	0.10	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1668	3380	30	1682	3278	141	35	1705	1510	923	1781	1570
Grp Volume(v), veh/h	192	331	348	95	547	568	240	0	191	74	183	360
Grp Sat Flow(s),veh/h/ln	1668	1664	1746	1682	1678	1741	1740	0	1510	923	1781	1570
Q Serve(g_s), s	6.0	8.3	8.3	2.7	16.0	16.0	0.0	0.0	4.9	3.4	3.8	10.0
Cycle Q Clear(g_c), s	6.0	8.3	8.3	2.7	16.0	16.0	5.2	0.0	4.9	8.6	3.8	10.0
Prop In Lane	1.00		0.02	1.00		0.08	0.06		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	536	564	170	542	663	639	0	488	347	576	506
V/C Ratio(X)	1.14	0.62	0.62	0.56	1.01	1.01	0.38	0.00	0.39	0.21	0.32	0.71
Avail Cap(c_a), veh/h	169	536	564	170	542	663	639	0	488	347	576	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.3	14.2	14.2	21.2	16.8	16.8	13.1	0.0	13.0	16.5	12.6	14.7
Incr Delay (d2), s/veh	111.7	5.2	5.0	12.6	40.8	40.2	1.7	0.0	2.4	1.4	1.4	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	3.1	3.3	1.5	11.1	11.4	2.1	0.0	1.7	0.8	1.5	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	134.0	19.4	19.1	33.8	57.5	56.9	14.6	0.0	15.3	17.9	14.1	22.9
LnGrp LOS	F	B	B	C	F	F	B	A	B	B	B	C
Approach Vol, veh/h		871			1210			431			617	
Approach Delay, s/veh		44.5			55.4			15.0			19.7	
Approach LOS		D			E			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.0	9.5	20.0		20.0	9.5	20.0				
Change Period (Y+Rc), s		4.0	4.5	4.0		4.0	4.5	4.0				
Max Green Setting (Gmax), s		16.0	5.0	16.0		16.0	5.0	16.0				
Max Q Clear Time (g_c+I1), s		7.2	4.7	10.3		12.0	7.0	18.0				
Green Ext Time (p_c), s		1.4	0.0	1.9		1.1	0.0	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	39.8
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
1: West I Street & West Pacheco Blvd

09/01/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	365	1356	23	86	694	35	9	1170	103	59	170	309
Future Volume (veh/h)	365	1356	23	86	694	35	9	1170	103	59	170	309
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1767	1767	1767	1781	1781	1781	1781	1781	1853
Adj Flow Rate, veh/h	384	1427	24	93	754	38	10	1315	116	66	191	347
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	10	10	10	9	9	9	6	6	6	6	6	6
Cap, veh/h	169	1083	18	170	1051	53	75	573	488	145	576	506
Arrive On Green	0.10	0.32	0.32	0.10	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1668	3350	56	1682	3252	164	4	1772	1510	356	1781	1570
Grp Volume(v), veh/h	384	706	743	93	389	403	1325	0	116	66	191	347
Grp Sat Flow(s),veh/h/ln	1668	1664	1742	1682	1678	1737	1777	0	1510	356	1781	1570
Q Serve(g_s), s	6.0	16.0	16.0	2.6	10.1	10.1	5.1	0.0	2.8	0.0	4.0	9.6
Cycle Q Clear(g_c), s	6.0	16.0	16.0	2.6	10.1	10.1	16.0	0.0	2.8	16.0	4.0	9.6
Prop In Lane	1.00		0.03	1.00		0.09	0.01		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	536	563	170	542	661	648	0	488	145	576	506
V/C Ratio(X)	2.28	1.32	1.32	0.55	0.72	0.72	2.05	0.00	0.24	0.45	0.33	0.68
Avail Cap(c_a), veh/h	169	536	563	170	542	661	648	0	488	145	576	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.3	16.6	16.6	21.2	14.8	14.8	17.6	0.0	12.3	24.7	12.7	14.6
Incr Delay (d2), s/veh	593.8	166.4	166.7	12.1	7.9	7.7	476.2	0.0	1.1	9.9	1.6	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	29.6	28.1	29.6	1.4	4.1	4.2	92.2	0.0	0.9	1.1	1.6	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	616.1	172.2	172.6	33.3	22.7	22.4	493.8	0.0	13.4	34.6	14.2	21.8
LnGrp LOS	F	F	F	C	C	C	F	A	B	C	B	C
Approach Vol, veh/h		1835			885			1441			804	
Approach Delay, s/veh		265.2			23.7			455.2			20.8	
Approach LOS		F			C			F			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.0	9.5	20.0		20.0	9.5	20.0				
Change Period (Y+Rc), s		4.0	4.5	4.0		4.0	4.5	4.0				
Max Green Setting (Gmax), s		16.0	5.0	16.0		16.0	5.0	16.0				
Max Q Clear Time (g_c+I1), s		18.0	4.6	18.0		18.0	7.0	12.1				
Green Ext Time (p_c), s		0.0	0.0	0.0		0.0	0.0	1.6				

Intersection Summary												
HCM 6th Ctrl Delay			246.8									
HCM 6th LOS			F									

HCM Signalized Intersection Capacity Analysis
1: West I Street & West Pacheco Blvd

10/04/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	179	543	5	96	933	38	6	168	112	18	73	165
Future Volume (vph)	179	543	5	96	933	38	6	168	112	18	73	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.0		4.5	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		0.95	1.00
Satd. Flow (prot)	1641	3278		1656	3292			1755	1495		1669	1759
Flt Permitted	0.95	1.00		0.95	1.00			0.99	1.00		0.55	1.00
Satd. Flow (perm)	1641	3278		1656	3292			1734	1495		977	1759
Peak-hour factor, PHF	0.96	0.96	0.96	0.95	0.95	0.95	0.70	0.70	0.70	0.92	0.84	0.84
Adj. Flow (vph)	186	566	5	101	982	40	11	240	160	20	87	196
RTOR Reduction (vph)	0	1	0	0	6	0	0	0	108	0	0	0
Lane Group Flow (vph)	186	570	0	101	1016	0	0	251	52	0	107	196
Heavy Vehicles (%)	10%	10%	10%	9%	9%	9%	8%	8%	8%	2%	8%	8%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	Perm	NA
Protected Phases	7	4		3	8			2				6
Permitted Phases							2		2	6	6	
Actuated Green, G (s)	5.0	16.0		5.0	16.0			16.0	16.0		16.0	16.0
Effective Green, g (s)	5.0	16.0		5.0	16.0			16.0	16.0		16.0	16.0
Actuated g/C Ratio	0.10	0.32		0.10	0.32			0.32	0.32		0.32	0.32
Clearance Time (s)	4.5	4.0		4.5	4.0			4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	165	1059		167	1064			560	483		315	568
v/s Ratio Prot	c0.11	0.17		0.06	c0.31							0.11
v/s Ratio Perm								c0.14	0.03		0.11	
v/c Ratio	1.13	0.54		0.60	0.95			0.45	0.11		0.34	0.35
Uniform Delay, d1	22.2	13.7		21.3	16.4			13.3	11.7		12.7	12.8
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	108.3	2.0		15.2	18.6			2.6	0.4		2.9	1.7
Delay (s)	130.6	15.7		36.5	35.0			15.8	12.2		15.8	14.4
Level of Service	F	B		D	D			B	B		B	B
Approach Delay (s)		43.9			35.2			14.4				14.2
Approach LOS		D			D			B				B

Intersection Summary			
HCM 2000 Control Delay	30.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	49.5	Sum of lost time (s)	12.5
Intersection Capacity Utilization	69.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	277
Future Volume (vph)	277
Ideal Flow (vphpl)	1900
Lane Width	16
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1695
Flt Permitted	1.00
Satd. Flow (perm)	1695
Peak-hour factor, PHF	0.84
Adj. Flow (vph)	330
RTOR Reduction (vph)	185
Lane Group Flow (vph)	145
Heavy Vehicles (%)	8%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	16.0
Effective Green, g (s)	16.0
Actuated g/C Ratio	0.32
Clearance Time (s)	4.0
Lane Grp Cap (vph)	547
v/s Ratio Prot	
v/s Ratio Perm	0.09
v/c Ratio	0.27
Uniform Delay, d1	12.4
Progression Factor	1.00
Incremental Delay, d2	1.2
Delay (s)	13.6
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
1: West I Street & West Pacheco Blvd

10/04/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	306	1043	18	91	621	27	67	168	265	18	75	168
Future Volume (vph)	306	1043	18	91	621	27	67	168	265	18	75	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	4.5	4.0		4.5	4.0			4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99			1.00	0.85		1.00	1.00
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.95	1.00
Satd. Flow (prot)	1641	3273		1656	3291			1735	1495		1669	1759
Flt Permitted	0.95	1.00		0.95	1.00			0.87	1.00		0.53	1.00
Satd. Flow (perm)	1641	3273		1656	3291			1522	1495		944	1759
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.69	0.89	0.89	0.92	0.89	0.89
Adj. Flow (vph)	322	1098	19	99	675	29	76	189	298	20	84	189
RTOR Reduction (vph)	0	3	0	0	6	0	0	0	181	0	0	0
Lane Group Flow (vph)	322	1114	0	99	698	0	0	284	117	0	104	189
Heavy Vehicles (%)	10%	10%	10%	9%	9%	9%	8%	8%	8%	2%	8%	8%
Turn Type	Prot	NA		Prot	NA		Perm	NA	Perm	Perm	Perm	NA
Protected Phases	7	4		3	8			2				6
Permitted Phases							2		2	6	6	
Actuated Green, G (s)	5.0	16.0		5.0	16.0			16.0	16.0		16.0	16.0
Effective Green, g (s)	5.0	16.0		5.0	16.0			16.0	16.0		16.0	16.0
Actuated g/C Ratio	0.10	0.32		0.10	0.32			0.32	0.32		0.32	0.32
Clearance Time (s)	4.5	4.0		4.5	4.0			4.0	4.0		4.0	4.0
Lane Grp Cap (vph)	165	1057		167	1063			491	483		305	568
v/s Ratio Prot	c0.20	c0.34		0.06	0.21							0.11
v/s Ratio Perm								c0.17	0.08		0.11	
v/c Ratio	1.95	1.05		0.59	0.66			0.54	0.24		0.34	0.33
Uniform Delay, d1	22.2	16.8		21.3	14.4			13.7	12.3		12.7	12.7
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	449.5	43.1		14.5	3.2			4.2	1.2		3.0	1.6
Delay (s)	471.7	59.9		35.8	17.6			17.9	13.5		15.8	14.3
Level of Service	F	E		D	B			B	B		B	B
Approach Delay (s)		152.0			19.8			15.6				14.1
Approach LOS		F			B			B				B

Intersection Summary			
HCM 2000 Control Delay	78.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	49.5	Sum of lost time (s)	12.5
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR
Lane Configurations	
Traffic Volume (vph)	81
Future Volume (vph)	81
Ideal Flow (vphpl)	1900
Lane Width	16
Total Lost time (s)	4.0
Lane Util. Factor	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1695
Flt Permitted	1.00
Satd. Flow (perm)	1695
Peak-hour factor, PHF	0.89
Adj. Flow (vph)	91
RTOR Reduction (vph)	62
Lane Group Flow (vph)	29
Heavy Vehicles (%)	8%
Turn Type	Perm
Protected Phases	
Permitted Phases	6
Actuated Green, G (s)	16.0
Effective Green, g (s)	16.0
Actuated g/C Ratio	0.32
Clearance Time (s)	4.0
Lane Grp Cap (vph)	547
v/s Ratio Prot	
v/s Ratio Perm	0.02
v/c Ratio	0.05
Uniform Delay, d1	11.5
Progression Factor	1.00
Incremental Delay, d2	0.2
Delay (s)	11.7
Level of Service	B
Approach Delay (s)	
Approach LOS	

Intersection Summary

HCM 6th Signalized Intersection Summary
1: West I Street & West Pacheco Blvd

09/01/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	519	5	72	815	36	6	127	107	50	124	242
Future Volume (veh/h)	148	519	5	72	815	36	6	127	107	50	124	242
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1767	1767	1767	1781	1781	1781	1781	1781	1853
Adj Flow Rate, veh/h	154	541	5	76	858	38	11	181	153	60	148	286
Peak Hour Factor	0.96	0.96	0.96	0.95	0.95	0.95	0.70	0.70	0.70	0.84	0.84	0.84
Percent Heavy Veh, %	10	10	10	9	9	9	6	6	6	6	6	6
Cap, veh/h	169	1092	10	170	1058	47	67	556	488	386	576	506
Arrive On Green	0.10	0.32	0.32	0.10	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1668	3379	31	1682	3274	145	32	1719	1510	996	1781	1570
Grp Volume(v), veh/h	154	266	280	76	440	456	192	0	153	60	148	286
Grp Sat Flow(s),veh/h/ln	1668	1664	1746	1682	1678	1741	1761	0	1510	996	1781	1570
Q Serve(g_s), s	4.5	6.4	6.4	2.1	11.9	11.9	0.0	0.0	3.8	2.4	3.0	7.6
Cycle Q Clear(g_c), s	4.5	6.4	6.4	2.1	11.9	11.9	4.0	0.0	3.8	6.5	3.0	7.6
Prop In Lane	1.00		0.02	1.00		0.08	0.06		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	536	564	170	542	663	643	0	488	386	576	506
V/C Ratio(X)	0.91	0.50	0.50	0.45	0.81	0.81	0.30	0.00	0.31	0.16	0.26	0.57
Avail Cap(c_a), veh/h	169	536	564	170	542	663	643	0	488	386	576	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.0	13.6	13.6	20.9	15.4	15.4	12.7	0.0	12.6	15.2	12.4	13.9
Incr Delay (d2), s/veh	49.7	3.2	3.1	8.3	12.4	12.0	1.2	0.0	1.7	0.9	1.1	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	2.3	2.4	1.1	5.6	5.7	1.6	0.0	1.3	0.6	1.2	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.7	16.7	16.6	29.2	27.8	27.4	13.9	0.0	14.3	16.0	13.4	18.4
LnGrp LOS	E	B	B	C	C	C	B	A	B	B	B	B
Approach Vol, veh/h		700			972			345			496	
Approach Delay, s/veh		28.8			27.7			14.1			16.6	
Approach LOS		C			C			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.0	9.5	20.0		20.0	9.5	20.0				
Change Period (Y+Rc), s		4.0	4.5	4.0		4.0	4.5	4.0				
Max Green Setting (Gmax), s		16.0	5.0	16.0		16.0	5.0	16.0				
Max Q Clear Time (g_c+I1), s		6.0	4.1	8.4		9.5	6.5	13.9				
Green Ext Time (p_c), s		1.2	0.0	1.8		1.2	0.0	1.1				

Intersection Summary	
HCM 6th Ctrl Delay	23.9
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
1: West I Street & West Pacheco Blvd

09/02/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	293	1086	18	69	557	29	7	138	83	48	137	246
Future Volume (veh/h)	293	1086	18	69	557	29	7	138	83	48	137	246
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1767	1767	1767	1781	1781	1781	1781	1781	1853
Adj Flow Rate, veh/h	308	1143	19	75	605	32	8	155	93	54	154	279
Peak Hour Factor	0.95	0.95	0.95	0.92	0.92	0.92	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	10	10	10	9	9	9	6	6	6	6	6	6
Cap, veh/h	169	1083	18	170	1048	55	84	560	488	420	576	506
Arrive On Green	0.10	0.32	0.32	0.10	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1668	3350	56	1682	3243	171	24	1734	1510	1078	1781	1570
Grp Volume(v), veh/h	308	568	594	75	313	324	163	0	93	54	154	279
Grp Sat Flow(s),veh/h/ln	1668	1664	1742	1682	1678	1736	1768	0	1510	1078	1781	1570
Q Serve(g_s), s	6.0	16.0	16.0	2.1	7.7	7.7	0.0	0.0	2.2	1.9	3.2	7.2
Cycle Q Clear(g_c), s	6.0	16.0	16.0	2.1	7.7	7.7	3.4	0.0	2.2	5.3	3.2	7.2
Prop In Lane	1.00		0.03	1.00		0.10	0.05		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	536	563	170	542	661	645	0	488	420	576	506
V/C Ratio(X)	1.83	1.06	1.06	0.44	0.58	0.58	0.26	0.00	0.19	0.13	0.27	0.55
Avail Cap(c_a), veh/h	169	536	563	170	542	661	645	0	488	420	576	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.3	16.6	16.6	20.9	13.9	13.9	12.6	0.0	12.1	14.5	12.4	13.6
Incr Delay (d2), s/veh	394.7	54.2	53.4	8.1	4.4	4.3	0.9	0.0	0.9	0.6	1.1	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.2	13.0	13.5	1.1	2.9	2.9	1.3	0.0	0.7	0.5	1.2	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	416.9	71.0	70.2	29.0	18.3	18.2	13.4	0.0	12.9	15.1	13.5	18.0
LnGrp LOS	F	F	F	C	B	B	B	A	B	B	B	B
Approach Vol, veh/h		1470			712			256			487	
Approach Delay, s/veh		143.1			19.4			13.2			16.3	
Approach LOS		F			B			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		20.0	9.5	20.0		20.0	9.5	20.0				
Change Period (Y+Rc), s		4.0	4.5	4.0		4.0	4.5	4.0				
Max Green Setting (Gmax), s		16.0	5.0	16.0		16.0	5.0	16.0				
Max Q Clear Time (g_c+I1), s		5.4	4.1	18.0		9.2	7.0	9.7				
Green Ext Time (p_c), s		0.9	0.0	0.0		1.2	0.0	1.9				

Intersection Summary	
HCM 6th Ctrl Delay	80.5
HCM 6th LOS	F

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	6	4	306	405	13
Future Vol, veh/h	9	6	4	306	405	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	135	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	56	56	89	89	83	83
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	16	11	4	344	488	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	848	496	504	0	-	0
Stage 1	496	-	-	-	-	-
Stage 2	352	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	332	574	1030	-	-	-
Stage 1	612	-	-	-	-	-
Stage 2	712	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	331	574	1030	-	-	-
Mov Cap-2 Maneuver	331	-	-	-	-	-
Stage 1	610	-	-	-	-	-
Stage 2	712	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.7	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1030	-	398	-	-
HCM Lane V/C Ratio	0.004	-	0.067	-	-
HCM Control Delay (s)	8.5	-	14.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	7	6	448	417	1
Future Vol, veh/h	4	7	6	448	417	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	135	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	93	93	86	86
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	4	8	6	482	485	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	980	486	486	0	-	0
Stage 1	486	-	-	-	-	-
Stage 2	494	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	277	581	1046	-	-	-
Stage 1	618	-	-	-	-	-
Stage 2	613	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	275	581	1046	-	-	-
Mov Cap-2 Maneuver	275	-	-	-	-	-
Stage 1	614	-	-	-	-	-
Stage 2	613	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1046	-	414	-	-
HCM Lane V/C Ratio	0.006	-	0.029	-	-
HCM Control Delay (s)	8.5	-	14	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	6	4	338	440	14
Future Vol, veh/h	9	6	4	338	440	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	53	53	89	89	83	83
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	17	11	4	380	530	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	927	539	547	0	-	0
Stage 1	539	-	-	-	-	-
Stage 2	388	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	298	542	993	-	-	-
Stage 1	585	-	-	-	-	-
Stage 2	686	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	297	542	993	-	-	-
Mov Cap-2 Maneuver	297	-	-	-	-	-
Stage 1	583	-	-	-	-	-
Stage 2	686	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.8	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	993	-	363	-	-
HCM Lane V/C Ratio	0.005	-	0.078	-	-
HCM Control Delay (s)	8.6	-	15.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	7	6	454	423	1
Future Vol, veh/h	4	7	6	454	423	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	93	93	86	86
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	4	8	6	488	492	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	993	493	493	0	-	0
Stage 1	493	-	-	-	-	-
Stage 2	500	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	272	576	1040	-	-	-
Stage 1	614	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	270	576	1040	-	-	-
Mov Cap-2 Maneuver	270	-	-	-	-	-
Stage 1	610	-	-	-	-	-
Stage 2	609	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.1	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1040	-	408	-	-
HCM Lane V/C Ratio	0.006	-	0.029	-	-
HCM Control Delay (s)	8.5	-	14.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	8	4	421	552	17
Future Vol, veh/h	12	8	4	421	552	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	53	53	89	89	83	83
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	23	15	4	473	665	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1156	675	685	0	-	0
Stage 1	675	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	217	454	881	-	-	-
Stage 1	506	-	-	-	-	-
Stage 2	622	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	216	454	881	-	-	-
Mov Cap-2 Maneuver	216	-	-	-	-	-
Stage 1	503	-	-	-	-	-
Stage 2	622	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.3	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	881	-	273	-	-
HCM Lane V/C Ratio	0.005	-	0.138	-	-
HCM Control Delay (s)	9.1	-	20.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	9	8	567	529	1
Future Vol, veh/h	5	9	8	567	529	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	93	93	86	86
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	5	10	9	610	615	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1244	616	616	0	-	0
Stage 1	616	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	192	491	935	-	-	-
Stage 1	539	-	-	-	-	-
Stage 2	532	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	190	491	935	-	-	-
Mov Cap-2 Maneuver	190	-	-	-	-	-
Stage 1	534	-	-	-	-	-
Stage 2	532	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	935	-	314	-	-
HCM Lane V/C Ratio	0.009	-	0.048	-	-
HCM Control Delay (s)	8.9	-	17	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	9	5	422	553	17
Future Vol, veh/h	12	9	5	422	553	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	53	53	89	89	83	83
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	23	17	6	474	666	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1162	676	686	0	-	0
Stage 1	676	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	216	453	880	-	-	-
Stage 1	505	-	-	-	-	-
Stage 2	618	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	214	453	880	-	-	-
Mov Cap-2 Maneuver	214	-	-	-	-	-
Stage 1	501	-	-	-	-	-
Stage 2	618	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.2	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	880	-	277	-	-
HCM Lane V/C Ratio	0.006	-	0.143	-	-
HCM Control Delay (s)	9.1	-	20.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	9	8	568	530	1
Future Vol, veh/h	5	9	8	568	530	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	93	93	86	86
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	5	10	9	611	616	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1246	617	617	0	-	0
Stage 1	617	-	-	-	-	-
Stage 2	629	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	192	490	934	-	-	-
Stage 1	538	-	-	-	-	-
Stage 2	531	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	190	490	934	-	-	-
Mov Cap-2 Maneuver	190	-	-	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	531	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.1	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	934	-	313	-	-
HCM Lane V/C Ratio	0.009	-	0.049	-	-
HCM Control Delay (s)	8.9	-	17.1	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	8	5	386	511	16
Future Vol, veh/h	11	8	5	386	511	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	135	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	56	56	89	89	83	83
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	20	14	6	434	616	19

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1072	626	635	0	-	0
Stage 1	626	-	-	-	-	-
Stage 2	446	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	244	484	920	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	645	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	242	484	920	-	-	-
Mov Cap-2 Maneuver	242	-	-	-	-	-
Stage 1	529	-	-	-	-	-
Stage 2	645	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.2	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	920	-	307	-	-
HCM Lane V/C Ratio	0.006	-	0.111	-	-
HCM Control Delay (s)	8.9	-	18.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	9	8	565	526	1
Future Vol, veh/h	5	9	8	565	526	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	135	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	93	93	86	86
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	5	10	9	608	612	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1239	613	613	0	-	0
Stage 1	613	-	-	-	-	-
Stage 2	626	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	194	492	938	-	-	-
Stage 1	541	-	-	-	-	-
Stage 2	533	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	192	492	938	-	-	-
Mov Cap-2 Maneuver	192	-	-	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	533	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	938	-	316	-	-
HCM Lane V/C Ratio	0.009	-	0.048	-	-
HCM Control Delay (s)	8.9	-	17	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	6	4	342	446	14
Future Vol, veh/h	9	6	4	342	446	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	53	53	89	89	83	83
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	17	11	4	384	537	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	929	537	554	0	-	0
Stage 1	537	-	-	-	-	-
Stage 2	392	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	297	544	987	-	-	-
Stage 1	586	-	-	-	-	-
Stage 2	683	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	296	544	987	-	-	-
Mov Cap-2 Maneuver	296	-	-	-	-	-
Stage 1	584	-	-	-	-	-
Stage 2	683	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.8	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	987	-	362	-	-
HCM Lane V/C Ratio	0.005	-	0.078	-	-
HCM Control Delay (s)	8.7	-	15.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	7	6	457	427	1
Future Vol, veh/h	4	7	6	457	427	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	93	93	86	86
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	4	8	6	491	497	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1000	497	498	0	-	0
Stage 1	497	-	-	-	-	-
Stage 2	503	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	270	573	1036	-	-	-
Stage 1	611	-	-	-	-	-
Stage 2	607	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	268	573	1036	-	-	-
Mov Cap-2 Maneuver	268	-	-	-	-	-
Stage 1	607	-	-	-	-	-
Stage 2	607	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.2	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1036	-	405	-	-
HCM Lane V/C Ratio	0.006	-	0.03	-	-
HCM Control Delay (s)	8.5	-	14.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	6	4	310	410	13
Future Vol, veh/h	9	6	4	310	410	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	135	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	56	56	89	89	83	83
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	16	11	4	348	494	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	858	502	510	0	-	0
Stage 1	502	-	-	-	-	-
Stage 2	356	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	327	569	1025	-	-	-
Stage 1	608	-	-	-	-	-
Stage 2	709	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	326	569	1025	-	-	-
Mov Cap-2 Maneuver	326	-	-	-	-	-
Stage 1	606	-	-	-	-	-
Stage 2	709	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.8	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1025	-	393	-	-
HCM Lane V/C Ratio	0.004	-	0.068	-	-
HCM Control Delay (s)	8.5	-	14.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	7	6	453	422	1
Future Vol, veh/h	4	7	6	453	422	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	135	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	93	93	86	86
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	4	8	6	487	491	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	991	492	492	0	-	0
Stage 1	492	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.18	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.272	-	-	-
Pot Cap-1 Maneuver	273	577	1041	-	-	-
Stage 1	615	-	-	-	-	-
Stage 2	610	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	271	577	1041	-	-	-
Mov Cap-2 Maneuver	271	-	-	-	-	-
Stage 1	611	-	-	-	-	-
Stage 2	610	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.1	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1041	-	409	-	-
HCM Lane V/C Ratio	0.006	-	0.029	-	-
HCM Control Delay (s)	8.5	-	14.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	20	249	72	39	404
Future Vol, veh/h	31	20	249	72	39	404
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	62	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	92	92	87	87
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	41	27	271	78	45	464

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	864	175	0	0	349	0
Stage 1	310	-	-	-	-	-
Stage 2	554	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.22	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	309	839	-	-	1171	-
Stage 1	718	-	-	-	-	-
Stage 2	574	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	297	839	-	-	1171	-
Mov Cap-2 Maneuver	297	-	-	-	-	-
Stage 1	718	-	-	-	-	-
Stage 2	552	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.9	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	398	1171	-
HCM Lane V/C Ratio	-	-	0.171	0.038	-
HCM Control Delay (s)	-	-	15.9	8.2	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	8	442	19	10	408
Future Vol, veh/h	17	8	442	19	10	408
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	62	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	69	69	97	97	84	84
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	25	12	456	20	12	486

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	976	238	0	0	476	0
Stage 1	466	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.22	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	263	764	-	-	1048	-
Stage 1	599	-	-	-	-	-
Stage 2	602	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	260	764	-	-	1048	-
Mov Cap-2 Maneuver	260	-	-	-	-	-
Stage 1	599	-	-	-	-	-
Stage 2	595	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.3	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	330	1048	-
HCM Lane V/C Ratio	-	-	0.11	0.011	-
HCM Control Delay (s)	-	-	17.3	8.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	21	278	75	41	440
Future Vol, veh/h	32	21	278	75	41	440
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	92	92	87	87
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	43	28	302	82	47	506

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	943	192	0	0	384	0
Stage 1	343	-	-	-	-	-
Stage 2	600	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.22	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	276	818	-	-	1136	-
Stage 1	691	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	265	818	-	-	1136	-
Mov Cap-2 Maneuver	265	-	-	-	-	-
Stage 1	691	-	-	-	-	-
Stage 2	525	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.3	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	362	1136	-
HCM Lane V/C Ratio	-	-	0.195	0.041	-
HCM Control Delay (s)	-	-	17.3	8.3	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	8	442	19	10	415
Future Vol, veh/h	17	8	442	19	10	415
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	69	69	96	96	84	84
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	25	12	460	20	12	494

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	988	240	0	0	480	0
Stage 1	470	-	-	-	-	-
Stage 2	518	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.22	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	259	762	-	-	1045	-
Stage 1	596	-	-	-	-	-
Stage 2	597	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	256	762	-	-	1045	-
Mov Cap-2 Maneuver	256	-	-	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	590	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.5	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	325	1045	-
HCM Lane V/C Ratio	-	-	0.111	0.011	-
HCM Control Delay (s)	-	-	17.5	8.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	26	346	95	51	551
Future Vol, veh/h	41	26	346	95	51	551
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	92	92	87	87
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	55	35	376	103	59	633

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1179	240	0	0	479	0
Stage 1	428	-	-	-	-	-
Stage 2	751	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.22	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	197	762	-	-	1046	-
Stage 1	626	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	186	762	-	-	1046	-
Mov Cap-2 Maneuver	186	-	-	-	-	-
Stage 1	626	-	-	-	-	-
Stage 2	439	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.6	0	0.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	263	1046	-
HCM Lane V/C Ratio	-	-	0.34	0.056	-
HCM Control Delay (s)	-	-	25.6	8.6	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	1.4	0.2	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	10	561	24	13	519
Future Vol, veh/h	21	10	561	24	13	519
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	69	69	96	96	84	84
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	30	14	584	25	15	618

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1245	305	0	0	609	0
Stage 1	597	-	-	-	-	-
Stage 2	648	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.22	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	179	692	-	-	933	-
Stage 1	514	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	176	692	-	-	933	-
Mov Cap-2 Maneuver	176	-	-	-	-	-
Stage 1	514	-	-	-	-	-
Stage 2	512	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.2	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	232	933	-
HCM Lane V/C Ratio	-	-	0.194	0.017	-
HCM Control Delay (s)	-	-	24.2	8.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	27	347	96	52	552
Future Vol, veh/h	41	27	347	96	52	552
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	92	92	87	87
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	55	36	377	104	60	634

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1183	241	0	0	481	0
Stage 1	429	-	-	-	-	-
Stage 2	754	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.22	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	195	761	-	-	1044	-
Stage 1	625	-	-	-	-	-
Stage 2	464	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	184	761	-	-	1044	-
Mov Cap-2 Maneuver	184	-	-	-	-	-
Stage 1	625	-	-	-	-	-
Stage 2	438	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25.7	0	0.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	263	1044	-
HCM Lane V/C Ratio	-	-	0.345	0.057	-
HCM Control Delay (s)	-	-	25.7	8.7	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	1.5	0.2	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	10	561	21	13	519
Future Vol, veh/h	21	10	561	21	13	519
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	69	69	96	96	84	84
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	30	14	584	22	15	618

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1243	303	0	0	606	0
Stage 1	595	-	-	-	-	-
Stage 2	648	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.22	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	179	694	-	-	936	-
Stage 1	515	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	176	694	-	-	936	-
Mov Cap-2 Maneuver	176	-	-	-	-	-
Stage 1	515	-	-	-	-	-
Stage 2	512	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.2	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	232	936	-
HCM Lane V/C Ratio	-	-	0.194	0.017	-
HCM Control Delay (s)	-	-	24.2	8.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	39	25	314	91	49	510
Future Vol, veh/h	39	25	314	91	49	510
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	95	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	92	92	87	87
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	52	33	341	99	56	586

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1089	220	0	0	440	0
Stage 1	391	-	-	-	-	-
Stage 2	698	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.22	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	224	785	-	-	1082	-
Stage 1	653	-	-	-	-	-
Stage 2	493	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	212	785	-	-	1082	-
Mov Cap-2 Maneuver	212	-	-	-	-	-
Stage 1	653	-	-	-	-	-
Stage 2	467	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.9	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	297	1082	-
HCM Lane V/C Ratio	-	-	0.287	0.052	-
HCM Control Delay (s)	-	-	21.9	8.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.2	0.2	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	10	558	24	13	515
Future Vol, veh/h	21	10	558	24	13	515
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	95	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	69	69	97	97	84	84
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	30	14	575	25	15	613

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1231	300	0	0	600	0
Stage 1	588	-	-	-	-	-
Stage 2	643	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.22	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	182	697	-	-	941	-
Stage 1	519	-	-	-	-	-
Stage 2	522	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	179	697	-	-	941	-
Mov Cap-2 Maneuver	179	-	-	-	-	-
Stage 1	519	-	-	-	-	-
Stage 2	514	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.9	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	235	941	-
HCM Lane V/C Ratio	-	-	0.191	0.016	-
HCM Control Delay (s)	-	-	23.9	8.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	21	281	76	42	445
Future Vol, veh/h	32	21	281	76	42	445
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	92	92	87	87
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	43	28	305	83	48	511

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	954	194	0	0	388	0
Stage 1	347	-	-	-	-	-
Stage 2	607	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.22	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	271	815	-	-	1132	-
Stage 1	688	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	260	815	-	-	1132	-
Mov Cap-2 Maneuver	260	-	-	-	-	-
Stage 1	688	-	-	-	-	-
Stage 2	520	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.6	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	356	1132	-
HCM Lane V/C Ratio	-	-	0.199	0.043	-
HCM Control Delay (s)	-	-	17.6	8.3	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	8	454	19	10	420
Future Vol, veh/h	17	8	454	19	10	420
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	69	69	96	96	84	84
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	25	12	473	20	12	500

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1007	247	0	0	493	0
Stage 1	483	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.22	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	252	754	-	-	1033	-
Stage 1	587	-	-	-	-	-
Stage 2	593	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	249	754	-	-	1033	-
Mov Cap-2 Maneuver	249	-	-	-	-	-
Stage 1	587	-	-	-	-	-
Stage 2	586	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.8	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	317	1033	-
HCM Lane V/C Ratio	-	-	0.114	0.012	-
HCM Control Delay (s)	-	-	17.8	8.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	20	252	73	40	409
Future Vol, veh/h	31	20	252	73	40	409
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	92	92	87	87
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	41	27	274	79	46	470

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	876	177	0	0	353	0
Stage 1	314	-	-	-	-	-
Stage 2	562	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.22	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	303	836	-	-	1167	-
Stage 1	714	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	291	836	-	-	1167	-
Mov Cap-2 Maneuver	291	-	-	-	-	-
Stage 1	714	-	-	-	-	-
Stage 2	548	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.1	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	391	1167	-
HCM Lane V/C Ratio	-	-	0.174	0.039	-
HCM Control Delay (s)	-	-	16.1	8.2	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	8	448	19	10	413
Future Vol, veh/h	17	8	448	19	10	413
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	150	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	69	69	97	97	84	84
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	25	12	462	20	12	492

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	988	241	0	0	482	0
Stage 1	472	-	-	-	-	-
Stage 2	516	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.22	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	259	761	-	-	1043	-
Stage 1	595	-	-	-	-	-
Stage 2	598	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	256	761	-	-	1043	-
Mov Cap-2 Maneuver	256	-	-	-	-	-
Stage 1	595	-	-	-	-	-
Stage 2	591	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.5	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	325	1043	-
HCM Lane V/C Ratio	-	-	0.111	0.011	-
HCM Control Delay (s)	-	-	17.5	8.5	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	639	953	20	10	14
Future Vol, veh/h	31	639	953	20	10	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	95	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	90	90	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	761	1059	22	13	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1081	0	-	0	1525	541
Stage 1	-	-	-	-	1070	-
Stage 2	-	-	-	-	455	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	641	-	-	-	109	485
Stage 1	-	-	-	-	291	-
Stage 2	-	-	-	-	606	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	641	-	-	-	103	485
Mov Cap-2 Maneuver	-	-	-	-	103	-
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	606	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	27.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	641	-	-	-	191
HCM Lane V/C Ratio	0.058	-	-	-	0.168
HCM Control Delay (s)	11	-	-	-	27.6
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	39	1159	641	30	20	14
Future Vol, veh/h	39	1159	641	30	20	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	95	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	95	95	77	77
Heavy Vehicles, %	10	10	9	9	2	2
Mvmt Flow	43	1288	675	32	26	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	707	0	-	0	1421	354
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	730	-
Critical Hdwy	4.3	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.3	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	836	-	-	-	127	642
Stage 1	-	-	-	-	459	-
Stage 2	-	-	-	-	438	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	836	-	-	-	121	642
Mov Cap-2 Maneuver	-	-	-	-	121	-
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	438	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	31
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	836	-	-	-	182
HCM Lane V/C Ratio	0.052	-	-	-	0.243
HCM Control Delay (s)	9.5	-	-	-	31
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	0.9

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	39	704	1032	21	10	21
Future Vol, veh/h	39	704	1032	21	10	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	440	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	90	90	75	75
Heavy Vehicles, %	10	10	9	9	2	2
Mvmt Flow	46	838	1147	23	13	28

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1170	0	-	0	1670	585
Stage 1	-	-	-	-	1159	-
Stage 2	-	-	-	-	511	-
Critical Hdwy	4.3	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.3	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	549	-	-	-	87	454
Stage 1	-	-	-	-	261	-
Stage 2	-	-	-	-	567	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	549	-	-	-	80	454
Mov Cap-2 Maneuver	-	-	-	-	80	-
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	567	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	30.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	549	-	-	-	181
HCM Lane V/C Ratio	0.085	-	-	-	0.228
HCM Control Delay (s)	12.2	-	-	-	30.7
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.3	-	-	-	0.8

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	44	1163	659	30	20	19
Future Vol, veh/h	44	1163	659	30	20	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	440	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	10	9	9	2	2
Mvmt Flow	48	1264	716	33	22	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	749	0	-	0	1461	375
Stage 1	-	-	-	-	733	-
Stage 2	-	-	-	-	728	-
Critical Hdwy	4.3	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.3	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	805	-	-	-	120	623
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	439	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	805	-	-	-	113	623
Mov Cap-2 Maneuver	-	-	-	-	113	-
Stage 1	-	-	-	-	410	-
Stage 2	-	-	-	-	439	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	29.6
HCM LOS			D

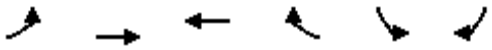
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	805	-	-	-	188
HCM Lane V/C Ratio	0.059	-	-	-	0.225
HCM Control Delay (s)	9.8	-	-	-	29.6
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	0.8



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	47	910	1292	26	14	25
Future Volume (vph)	47	910	1292	26	14	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5		4.5	
Lane Util. Factor	1.00	0.95	0.95		1.00	
Frt	1.00	1.00	1.00		0.91	
Flt Protected	0.95	1.00	1.00		0.98	
Satd. Flow (prot)	1641	3282	3302		1673	
Flt Permitted	0.95	1.00	1.00		0.98	
Satd. Flow (perm)	1641	3282	3302		1673	
Peak-hour factor, PHF	0.84	0.84	0.90	0.90	0.75	0.75
Adj. Flow (vph)	56	1083	1436	29	19	33
RTOR Reduction (vph)	0	0	2	0	29	0
Lane Group Flow (vph)	56	1083	1463	0	23	0
Heavy Vehicles (%)	10%	10%	9%	9%	2%	2%
Turn Type	Prot	NA	NA		Prot	
Protected Phases	7	4	8		1	
Permitted Phases						
Actuated Green, G (s)	7.1	51.1	39.5		7.9	
Effective Green, g (s)	7.1	51.1	39.5		7.9	
Actuated g/C Ratio	0.10	0.75	0.58		0.12	
Clearance Time (s)	4.5	4.5	4.5		4.5	
Lane Grp Cap (vph)	171	2466	1918		194	
v/s Ratio Prot	0.03	c0.33	c0.44		c0.01	
v/s Ratio Perm						
v/c Ratio	0.33	0.44	0.76		0.12	
Uniform Delay, d1	28.2	3.1	10.7		26.9	
Progression Factor	0.77	0.35	1.00		1.00	
Incremental Delay, d2	4.8	0.5	2.9		1.2	
Delay (s)	26.7	1.6	13.7		28.2	
Level of Service	C	A	B		C	
Approach Delay (s)		2.9	13.7		28.2	
Approach LOS		A	B		C	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	68.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	54	1459	823	37	24	25
Future Volume (veh/h)	54	1459	823	37	24	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1752	1752	1767	1767	1870	1870
Adj Flow Rate, veh/h	59	1586	895	40	26	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	9	9	2	2
Cap, veh/h	184	2612	2036	91	89	93
Arrive On Green	0.15	1.00	0.62	0.62	0.11	0.11
Sat Flow, veh/h	1668	3416	3361	146	808	839
Grp Volume(v), veh/h	59	1586	459	476	54	0
Grp Sat Flow(s),veh/h/ln	1668	1664	1678	1740	1679	0
Q Serve(g_s), s	2.7	0.0	12.2	12.2	2.5	0.0
Cycle Q Clear(g_c), s	2.7	0.0	12.2	12.2	2.5	0.0
Prop In Lane	1.00			0.08	0.48	0.50
Lane Grp Cap(c), veh/h	184	2612	1044	1083	185	0
V/C Ratio(X)	0.32	0.61	0.44	0.44	0.29	0.00
Avail Cap(c_a), veh/h	184	2612	1044	1083	185	0
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.8	0.0	8.5	8.5	35.2	0.0
Incr Delay (d2), s/veh	4.5	1.1	1.3	1.3	3.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.4	4.3	4.4	1.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.3	1.1	9.8	9.8	39.1	0.0
LnGrp LOS	D	A	A	A	D	A
Approach Vol, veh/h		1645	935		54	
Approach Delay, s/veh		2.4	9.8		39.1	
Approach LOS		A	A		D	

Timer - Assigned Phs	4	6	7	8
Phs Duration (G+Y+Rc), s	72.0	14.0	14.0	58.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	67.5	9.5	9.5	53.5
Max Q Clear Time (g_c+I1), s	2.0	4.5	4.7	14.2
Green Ext Time (p_c), s	21.8	0.0	0.0	7.4

Intersection Summary	
HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	48	879	1293	27	14	26
Future Vol, veh/h	48	879	1293	27	14	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	440	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	90	90	75	75
Heavy Vehicles, %	10	10	9	9	2	2
Mvmt Flow	57	1046	1437	30	19	35

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1467	0	-	0	2089	734
Stage 1	-	-	-	-	1452	-
Stage 2	-	-	-	-	637	-
Critical Hdwy	4.3	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.3	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	418	-	-	-	45	363
Stage 1	-	-	-	-	182	-
Stage 2	-	-	-	-	489	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	418	-	-	-	39	363
Mov Cap-2 Maneuver	-	-	-	-	39	-
Stage 1	-	-	-	-	157	-
Stage 2	-	-	-	-	489	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	86.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	418	-	-	-	93
HCM Lane V/C Ratio	0.137	-	-	-	0.573
HCM Control Delay (s)	15	-	-	-	86.3
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.5	-	-	-	2.6

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	54	1459	823	37	24	25
Future Vol, veh/h	54	1459	823	37	24	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	440	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	10	9	9	2	2
Mvmt Flow	59	1586	895	40	26	27

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	935	0	-	0	1826	468
Stage 1	-	-	-	-	915	-
Stage 2	-	-	-	-	911	-
Critical Hdwy	4.3	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.3	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	681	-	-	-	68	542
Stage 1	-	-	-	-	351	-
Stage 2	-	-	-	-	352	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	681	-	-	-	62	542
Mov Cap-2 Maneuver	-	-	-	-	62	-
Stage 1	-	-	-	-	320	-
Stage 2	-	-	-	-	352	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	62.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	681	-	-	-	113
HCM Lane V/C Ratio	0.086	-	-	-	0.471
HCM Control Delay (s)	10.8	-	-	-	62.5
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.3	-	-	-	2.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	39	806	1202	25	13	18
Future Vol, veh/h	39	806	1202	25	13	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	95	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	90	90	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	960	1336	28	17	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1364	0	-	0	1922	682
Stage 1	-	-	-	-	1350	-
Stage 2	-	-	-	-	572	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	500	-	-	-	59	392
Stage 1	-	-	-	-	206	-
Stage 2	-	-	-	-	528	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	500	-	-	-	54	392
Mov Cap-2 Maneuver	-	-	-	-	54	-
Stage 1	-	-	-	-	187	-
Stage 2	-	-	-	-	528	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	57.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	500	-	-	-	108
HCM Lane V/C Ratio	0.093	-	-	-	0.383
HCM Control Delay (s)	12.9	-	-	-	57.7
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.3	-	-	-	1.6

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	49	1462	809	38	25	18
Future Vol, veh/h	49	1462	809	38	25	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	95	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	95	95	77	77
Heavy Vehicles, %	10	10	9	9	2	2
Mvmt Flow	54	1624	852	40	32	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	892	0	-	0	1792	446
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	920	-
Critical Hdwy	4.3	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.3	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	708	-	-	-	72	560
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	349	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	708	-	-	-	67	560
Mov Cap-2 Maneuver	-	-	-	-	67	-
Stage 1	-	-	-	-	341	-
Stage 2	-	-	-	-	349	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	71.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	708	-	-	-	106
HCM Lane V/C Ratio	0.077	-	-	-	0.527
HCM Control Delay (s)	10.5	-	-	-	71.7
HCM Lane LOS	B	-	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	2.4

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	39	900	1045	21	10	21
Future Vol, veh/h	39	900	1045	21	10	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	440	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	90	90	75	75
Heavy Vehicles, %	10	10	9	9	2	2
Mvmt Flow	46	1071	1161	23	13	28

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1184	0	-	0	1801	592
Stage 1	-	-	-	-	1173	-
Stage 2	-	-	-	-	628	-
Critical Hdwy	4.3	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.3	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	542	-	-	-	71	449
Stage 1	-	-	-	-	256	-
Stage 2	-	-	-	-	494	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	542	-	-	-	65	449
Mov Cap-2 Maneuver	-	-	-	-	65	-
Stage 1	-	-	-	-	234	-
Stage 2	-	-	-	-	494	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	36.5
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	542	-	-	-	155
HCM Lane V/C Ratio	0.086	-	-	-	0.267
HCM Control Delay (s)	12.3	-	-	-	36.5
HCM Lane LOS	B	-	-	-	E
HCM 95th %tile Q(veh)	0.3	-	-	-	1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	1178	668	30	20	19
Future Vol, veh/h	45	1178	668	30	20	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	440	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	10	10	9	9	2	2
Mvmt Flow	49	1280	726	33	22	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	759	0	-	0	1481	380
Stage 1	-	-	-	-	743	-
Stage 2	-	-	-	-	738	-
Critical Hdwy	4.3	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.3	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	798	-	-	-	116	618
Stage 1	-	-	-	-	431	-
Stage 2	-	-	-	-	434	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	798	-	-	-	109	618
Mov Cap-2 Maneuver	-	-	-	-	109	-
Stage 1	-	-	-	-	405	-
Stage 2	-	-	-	-	434	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	30.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	798	-	-	-	182
HCM Lane V/C Ratio	0.061	-	-	-	0.233
HCM Control Delay (s)	9.8	-	-	-	30.7
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	0.9

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	647	965	20	10	14
Future Vol, veh/h	31	647	965	20	10	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	62	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	90	90	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	770	1072	22	13	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1094	0	-	0	1542	547
Stage 1	-	-	-	-	1083	-
Stage 2	-	-	-	-	459	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	634	-	-	-	106	481
Stage 1	-	-	-	-	286	-
Stage 2	-	-	-	-	603	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	634	-	-	-	100	481
Mov Cap-2 Maneuver	-	-	-	-	100	-
Stage 1	-	-	-	-	269	-
Stage 2	-	-	-	-	603	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	28.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	634	-	-	-	186
HCM Lane V/C Ratio	0.058	-	-	-	0.172
HCM Control Delay (s)	11	-	-	-	28.3
HCM Lane LOS	B	-	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	1174	649	30	20	14
Future Vol, veh/h	40	1174	649	30	20	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	62	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	95	95	77	77
Heavy Vehicles, %	10	10	9	9	2	2
Mvmt Flow	44	1304	683	32	26	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	715	0	-	0	1439	358
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	740	-
Critical Hdwy	4.3	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.3	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	830	-	-	-	124	638
Stage 1	-	-	-	-	454	-
Stage 2	-	-	-	-	433	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	830	-	-	-	117	638
Mov Cap-2 Maneuver	-	-	-	-	117	-
Stage 1	-	-	-	-	430	-
Stage 2	-	-	-	-	433	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	32.2
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	830	-	-	-	176
HCM Lane V/C Ratio	0.054	-	-	-	0.251
HCM Control Delay (s)	9.6	-	-	-	32.2
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	0.9

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	48	320	62	19	424
Future Vol, veh/h	0	48	320	62	19	424
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	0	52	348	67	21	461

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	208	0	0	415	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	-	-	4.22	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	0	799	-	-	1106	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	799	-	-	1106	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	799	1106	-
HCM Lane V/C Ratio	-	-	0.065	0.019	-
HCM Control Delay (s)	-	-	9.8	8.3	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	42	433	61	18	424
Future Vol, veh/h	0	42	433	61	18	424
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	0	46	471	66	20	461

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	269	0	0	537	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	-	-	4.22	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	0	730	-	-	994	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	730	-	-	994	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	730	994	-
HCM Lane V/C Ratio	-	-	0.063	0.02	-
HCM Control Delay (s)	-	-	10.3	8.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	48	404	62	19	535
Future Vol, veh/h	0	48	404	62	19	535
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	0	52	439	67	21	582

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	253	0	0	506	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	-	-	4.22	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	0	747	-	-	1021	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	747	-	-	1021	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	747	1021	-
HCM Lane V/C Ratio	-	-	0.07	0.02	-
HCM Control Delay (s)	-	-	10.2	8.6	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	42	550	61	18	512
Future Vol, veh/h	0	42	550	61	18	512
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	0	46	598	66	20	557

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	332	0	0	664	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	-	-	4.22	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	0	665	-	-	889	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	665	-	-	889	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	665	889	-
HCM Lane V/C Ratio	-	-	0.069	0.022	-
HCM Control Delay (s)	-	-	10.8	9.1	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	48	404	62	19	553
Future Vol, veh/h	0	48	404	62	19	553
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	0	52	439	67	21	601

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	253	0	0	506	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	-	-	4.22	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	0	747	-	-	1021	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	747	-	-	1021	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	747	1021	-
HCM Lane V/C Ratio	-	-	0.07	0.02	-
HCM Control Delay (s)	-	-	10.2	8.6	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	42	550	61	18	512
Future Vol, veh/h	0	42	550	61	18	512
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	0	46	598	66	20	557

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	332	0	0	664	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	-	-	4.22	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	0	665	-	-	889	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	665	-	-	889	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	665	889	-
HCM Lane V/C Ratio	-	-	0.069	0.022	-
HCM Control Delay (s)	-	-	10.8	9.1	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	48	302	62	19	400
Future Vol, veh/h	0	48	302	62	19	400
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	0	52	328	67	21	435

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	198	0	0	395	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	-	-	4.22	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	0	811	-	-	1125	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	811	-	-	1125	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	811	1125	-
HCM Lane V/C Ratio	-	-	0.064	0.018	-
HCM Control Delay (s)	-	-	9.7	8.3	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	42	474	61	18	459
Future Vol, veh/h	0	42	474	61	18	459
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	8	8	8	8
Mvmt Flow	0	46	515	66	20	499

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	291	0	0	581	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.93	-	-	4.22	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.319	-	-	2.276	-
Pot Cap-1 Maneuver	0	706	-	-	956	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	706	-	-	956	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	706	956	-
HCM Lane V/C Ratio	-	-	0.065	0.02	-
HCM Control Delay (s)	-	-	10.5	8.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	710	997	44	0	58
Future Vol, veh/h	0	710	997	44	0	58
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, %	10	10	9	9	2	2
Mvmt Flow	0	772	1084	48	0	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	566
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	467
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	467
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	467
HCM Lane V/C Ratio	-	-	-	0.135
HCM Control Delay (s)	-	-	-	13.9
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1164	624	44	0	52
Future Vol, veh/h	0	1164	624	44	0	52
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, %	10	10	9	9	2	2
Mvmt Flow	0	1265	678	48	0	57

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	363
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	634
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	634
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	634
HCM Lane V/C Ratio	-	-	-	0.089
HCM Control Delay (s)	-	-	-	11.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	7188	1063	44	0	58
Future Vol, veh/h	0	7188	1063	44	0	58
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, %	10	10	9	9	2	2
Mvmt Flow	0	7813	1155	48	0	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	602
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	443
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	443
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	443
HCM Lane V/C Ratio	-	-	-	0.142
HCM Control Delay (s)	-	-	-	14.5
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1464	788	44	0	52
Future Vol, veh/h	0	1464	788	44	0	52
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, %	10	10	9	9	2	2
Mvmt Flow	0	1591	857	48	0	57

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	453
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	554
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	554
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	554
HCM Lane V/C Ratio	-	-	-	0.102
HCM Control Delay (s)	-	-	-	12.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	718	1063	44	0	58
Future Vol, veh/h	0	718	1063	44	0	58
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, %	10	10	9	9	2	2
Mvmt Flow	0	780	1155	48	0	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	602
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	443
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	443
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	443
HCM Lane V/C Ratio	-	-	-	0.142
HCM Control Delay (s)	-	-	-	14.5
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↱			↱
Traffic Vol, veh/h	0	1464	788	44	0	52
Future Vol, veh/h	0	1464	788	44	0	52
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, %	10	10	9	9	2	2
Mvmt Flow	0	1591	857	48	0	57

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	453
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	554
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	554
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	554
HCM Lane V/C Ratio	-	-	-	0.102
HCM Control Delay (s)	-	-	-	12.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	669	940	44	0	58
Future Vol, veh/h	0	669	940	44	0	58
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, %	10	10	9	9	2	2
Mvmt Flow	0	727	1022	48	0	63

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	535
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	490
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	490
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	490
HCM Lane V/C Ratio	-	-	-	0.129
HCM Control Delay (s)	-	-	-	13.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1272	679	44	0	52
Future Vol, veh/h	0	1272	679	44	0	52
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, %	2	2	2	2	2	2
Mvmt Flow	0	1383	738	48	0	57

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	393
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	606
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	606
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	606
HCM Lane V/C Ratio	-	-	-	0.093
HCM Control Delay (s)	-	-	-	11.6
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.3

Intersection: 1: West I Street & West Pacheco Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	T	R
Maximum Queue (ft)	106	132	92	43	264	206	57	75	79	75	70
Average Queue (ft)	75	93	58	34	160	130	40	24	32	53	37
95th Queue (ft)	107	133	105	50	264	212	65	69	76	89	72
Link Distance (ft)		405	405		759	759	331			296	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	180			287				215	185		63
Storage Blk Time (%)										3	1
Queuing Penalty (veh)										7	2

Intersection: 2: West I Street & Airport Rd

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	27	28
Average Queue (ft)	10	6
95th Queue (ft)	31	24
Link Distance (ft)	232	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		135
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: West I Street & West L Street

Movement	WB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	10
95th Queue (ft)	31
Link Distance (ft)	319
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: West Pacheco Blvd & Maryland Ave

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	54	31
Average Queue (ft)	17	12
95th Queue (ft)	53	37
Link Distance (ft)		230
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	95	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: West I Street & West Pacheco Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	T	R
Maximum Queue (ft)	205	439	422	82	155	129	61	50	43	108	75
Average Queue (ft)	166	179	186	40	102	62	36	34	22	50	42
95th Queue (ft)	237	409	393	96	164	124	65	48	41	104	90
Link Distance (ft)		405	405		759	759	331			296	
Upstream Blk Time (%)		9	5								
Queuing Penalty (veh)		0	0								
Storage Bay Dist (ft)	180			287				215	185		63
Storage Blk Time (%)	5	10								0	3
Queuing Penalty (veh)	28	30								1	6

Intersection: 2: West I Street & Airport Rd

Movement	EB
Directions Served	LR
Maximum Queue (ft)	24
Average Queue (ft)	5
95th Queue (ft)	21
Link Distance (ft)	232
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: West I Street & West L Street

Movement	WB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	21
95th Queue (ft)	38
Link Distance (ft)	319
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: West Pacheco Blvd & Maryland Ave

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	55	53
Average Queue (ft)	29	24
95th Queue (ft)	58	59
Link Distance (ft)		230
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	95	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 287

Intersection: 1: West I Street & West Pacheco Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	T	R
Maximum Queue (ft)	194	240	136	75	173	181	41	66	36	52	60
Average Queue (ft)	132	138	77	38	140	134	30	35	19	42	20
95th Queue (ft)	202	267	137	78	171	179	47	71	42	59	56
Link Distance (ft)		404	404		286	286	229			136	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	180			287				215	185		63
Storage Blk Time (%)	4	1								1	0
Queuing Penalty (veh)	11	1								2	1

Intersection: 2: West I Street & Airport Rd

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	27	28
Average Queue (ft)	16	6
95th Queue (ft)	37	25
Link Distance (ft)	233	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: West I Street & West L Street

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	64	30
Average Queue (ft)	29	6
95th Queue (ft)	63	26
Link Distance (ft)	322	96
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: West Pacheco Blvd & Maryland Ave

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	53	51
Average Queue (ft)	11	22
95th Queue (ft)	45	54
Link Distance (ft)		230
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	440	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: West I Street & Driveway 1

Movement	WB
Directions Served	R
Maximum Queue (ft)	29
Average Queue (ft)	17
95th Queue (ft)	40
Link Distance (ft)	112
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: West Pacheco Blvd & Driveway 2

Movement	SB
Directions Served	R
Maximum Queue (ft)	52
Average Queue (ft)	31
95th Queue (ft)	50
Link Distance (ft)	94
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: West I Street & West Pacheco Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	T	R
Maximum Queue (ft)	205	438	419	56	133	150	106	50	70	98	88
Average Queue (ft)	204	423	326	31	104	82	41	12	39	62	62
95th Queue (ft)	205	436	462	58	132	147	96	44	70	111	107
Link Distance (ft)		404	404		286	286	229			136	
Upstream Blk Time (%)		57	4								
Queuing Penalty (veh)		0	0								
Storage Bay Dist (ft)	180			287				215	185		63
Storage Blk Time (%)	66	30								5	4
Queuing Penalty (veh)	342	91								16	9

Intersection: 2: West I Street & Airport Rd

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 3: West I Street & West L Street

Movement	WB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	16
95th Queue (ft)	37
Link Distance (ft)	322
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: West Pacheco Blvd & Maryland Ave

Movement	SB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	25
95th Queue (ft)	45
Link Distance (ft)	230
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 5: West I Street & Driveway 1

Movement	WB
Directions Served	R
Maximum Queue (ft)	29
Average Queue (ft)	29
95th Queue (ft)	30
Link Distance (ft)	112
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: West Pacheco Blvd & Driveway 2

Movement	SB
Directions Served	R
Maximum Queue (ft)	104
Average Queue (ft)	53
95th Queue (ft)	98
Link Distance (ft)	94
Upstream Blk Time (%)	1
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 410

Intersection: 1: West I Street & West Pacheco Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	T	R
Maximum Queue (ft)	205	419	345	217	301	307	98	88	56	162	88
Average Queue (ft)	187	252	175	65	296	288	66	54	27	69	70
95th Queue (ft)	233	489	382	194	304	333	100	104	58	163	112
Link Distance (ft)		404	404		286	286	229			136	
Upstream Blk Time (%)		9			31	18				1	
Queuing Penalty (veh)		0			169	95				9	
Storage Bay Dist (ft)	180			287				215	185		63
Storage Blk Time (%)	53	1			31					3	9
Queuing Penalty (veh)	178	2			36					13	25

Intersection: 2: West I Street & Airport Rd

Movement	EB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	15
95th Queue (ft)	35
Link Distance (ft)	233
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: West I Street & West L Street

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	27	31
Average Queue (ft)	16	18
95th Queue (ft)	37	43
Link Distance (ft)	319	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		62
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: West Pacheco Blvd & Maryland Ave

Movement	EB	EB	EB	WB	WB	SB
Directions Served	L	T	T	T	TR	LR
Maximum Queue (ft)	68	89	30	315	208	70
Average Queue (ft)	39	51	15	229	146	38
95th Queue (ft)	76	87	36	317	235	78
Link Distance (ft)		398	398	303	303	230
Upstream Blk Time (%)				1		
Queuing Penalty (veh)				0		
Storage Bay Dist (ft)	95					
Storage Blk Time (%)		1				
Queuing Penalty (veh)		0				

Intersection: 5: West I Street & Driveway 1

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	123	31
Average Queue (ft)	83	12
95th Queue (ft)	139	37
Link Distance (ft)	112	
Upstream Blk Time (%)	5	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		127
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: West Pacheco Blvd & Driveway 2

Movement	SB
Directions Served	R
Maximum Queue (ft)	29
Average Queue (ft)	12
95th Queue (ft)	35
Link Distance (ft)	94
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 48

Intersection: 1: West I Street & West Pacheco Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	T	R
Maximum Queue (ft)	205	456	438	98	229	217	116	71	135	144	87
Average Queue (ft)	204	445	401	74	155	154	66	32	51	64	60
95th Queue (ft)	205	470	472	111	231	227	109	68	126	138	99
Link Distance (ft)		404	404		286	286	229			136	
Upstream Blk Time (%)		86	14						0	0	
Queuing Penalty (veh)		0	0						0	1	
Storage Bay Dist (ft)	180			287				215	185		63
Storage Blk Time (%)	83	18							0	4	5
Queuing Penalty (veh)	557	66							0	17	13

Intersection: 2: West I Street & Airport Rd

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (ft)	26	31	69
Average Queue (ft)	10	6	14
95th Queue (ft)	29	27	59
Link Distance (ft)	233		654
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		135	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: West I Street & West L Street

Movement	WB
Directions Served	LR
Maximum Queue (ft)	50
Average Queue (ft)	23
95th Queue (ft)	51
Link Distance (ft)	319
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: West Pacheco Blvd & Maryland Ave

Movement	EB	EB	EB	WB	WB	SB
Directions Served	L	T	T	T	TR	LR
Maximum Queue (ft)	88	93	96	156	162	89
Average Queue (ft)	46	44	68	114	72	46
95th Queue (ft)	92	96	95	174	164	95
Link Distance (ft)		398	398	303	303	230
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	95					
Storage Blk Time (%)	3	1				
Queuing Penalty (veh)	18	1				

Intersection: 5: West I Street & Driveway 1

Movement	WB	NB	SB	SB
Directions Served	LR	TR	L	T
Maximum Queue (ft)	107	46	31	97
Average Queue (ft)	71	17	6	33
95th Queue (ft)	105	53	26	101
Link Distance (ft)	112	135		97
Upstream Blk Time (%)	0			3
Queuing Penalty (veh)	0			16
Storage Bay Dist (ft)			127	
Storage Blk Time (%)				3
Queuing Penalty (veh)				1

Intersection: 6: West Pacheco Blvd & Driveway 2

Movement	SB
Directions Served	R
Maximum Queue (ft)	29
Average Queue (ft)	22
95th Queue (ft)	41
Link Distance (ft)	94
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 252

Intersection: 1: West I Street & West Pacheco Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	T	R
Maximum Queue (ft)	129	260	180	163	304	306	153	50	58	140	106
Average Queue (ft)	94	180	150	96	297	289	86	25	40	86	56
95th Queue (ft)	153	258	187	186	306	315	148	51	66	145	119
Link Distance (ft)		404	404		289	289	229			141	
Upstream Blk Time (%)					15	6				0	
Queuing Penalty (veh)					83	33				2	
Storage Bay Dist (ft)	580			285				150	190		150
Storage Blk Time (%)					17		2			0	
Queuing Penalty (veh)					19		2			1	

Intersection: 2: West I Street & Airport Rd

Movement	EB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	15
95th Queue (ft)	35
Link Distance (ft)	233
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: West I Street & West L Street

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	64	30
Average Queue (ft)	34	18
95th Queue (ft)	70	42
Link Distance (ft)	322	96
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: West Pacheco Blvd & Maryland Ave

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	31	31
Average Queue (ft)	19	28
95th Queue (ft)	44	37
Link Distance (ft)		230
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	440	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: West I Street & Driveway 1

Movement	WB
Directions Served	R
Maximum Queue (ft)	27
Average Queue (ft)	5
95th Queue (ft)	23
Link Distance (ft)	112
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: West Pacheco Blvd & Driveway 2

Movement	WB	WB	SB
Directions Served	T	TR	R
Maximum Queue (ft)	163	130	54
Average Queue (ft)	87	58	22
95th Queue (ft)	172	142	56
Link Distance (ft)	398	398	94
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 140

Intersection: 1: West I Street & West Pacheco Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	T	R
Maximum Queue (ft)	438	456	419	102	150	170	77	50	58	115	119
Average Queue (ft)	400	406	371	58	103	108	31	15	27	43	69
95th Queue (ft)	483	491	447	103	156	164	71	44	62	108	114
Link Distance (ft)		404	404		289	289	229			141	
Upstream Blk Time (%)	65	60	2								
Queuing Penalty (veh)	0	0	0								
Storage Bay Dist (ft)	580			285				150	190		150
Storage Blk Time (%)	65	60									
Queuing Penalty (veh)	435	215									

Intersection: 2: West I Street & Airport Rd

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	26	50
Average Queue (ft)	5	16
95th Queue (ft)	22	50
Link Distance (ft)	233	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: West I Street & West L Street

Movement	WB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	16
95th Queue (ft)	37
Link Distance (ft)	322
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: West Pacheco Blvd & Maryland Ave

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	50	74
Average Queue (ft)	22	48
95th Queue (ft)	54	75
Link Distance (ft)		230
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	440	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: West I Street & Driveway 1

Movement	WB
Directions Served	R
Maximum Queue (ft)	29
Average Queue (ft)	17
95th Queue (ft)	41
Link Distance (ft)	112
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: West Pacheco Blvd & Driveway 2

Movement	SB
Directions Served	R
Maximum Queue (ft)	29
Average Queue (ft)	12
95th Queue (ft)	35
Link Distance (ft)	94
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 650

Intersection: 1: West I Street & West Pacheco Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	T	R
Maximum Queue (ft)	202	356	151	113	266	237	56	29	43	119	134
Average Queue (ft)	153	223	106	54	236	210	31	13	28	52	65
95th Queue (ft)	244	364	151	109	273	256	57	34	55	111	141
Link Distance (ft)		404	404		759	759	229			296	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	180			287				63	185		215
Storage Blk Time (%)	33						1				
Queuing Penalty (veh)	106						1				

Intersection: 2: West I Street & Airport Rd

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	27	28
Average Queue (ft)	10	6
95th Queue (ft)	31	24
Link Distance (ft)	232	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		135
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: West I Street & West L Street

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	44	50
Average Queue (ft)	25	22
95th Queue (ft)	48	54
Link Distance (ft)	319	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		95
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: West Pacheco Blvd & Maryland Ave

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	54	31
Average Queue (ft)	17	25
95th Queue (ft)	53	45
Link Distance (ft)		230
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	95	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 106

Intersection: 1: West I Street & West Pacheco Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	T	R
Maximum Queue (ft)	204	438	438	104	210	162	263	88	107	55	73
Average Queue (ft)	204	427	377	60	151	118	260	37	73	31	53
95th Queue (ft)	205	442	518	106	218	161	272	106	109	57	93
Link Distance (ft)		404	404		759	759	229			296	
Upstream Blk Time (%)		97	7				74				
Queuing Penalty (veh)		0	0				0				
Storage Bay Dist (ft)	180			287				63	185		215
Storage Blk Time (%)	98	5					67	0			
Queuing Penalty (veh)	663	17					69	2			

Intersection: 2: West I Street & Airport Rd

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	27	50
Average Queue (ft)	10	10
95th Queue (ft)	31	43
Link Distance (ft)	232	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		135
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: West I Street & West L Street

Movement	WB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	21
95th Queue (ft)	39
Link Distance (ft)	319
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: West Pacheco Blvd & Maryland Ave

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	31	79
Average Queue (ft)	18	28
95th Queue (ft)	43	75
Link Distance (ft)		230
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	95	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 751

Intersection: 1: West I Street & West Pacheco Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	T	R
Maximum Queue (ft)	105	145	156	41	232	233	78	66	64	80	83
Average Queue (ft)	66	108	67	21	148	165	29	20	25	51	52
95th Queue (ft)	109	180	142	43	253	249	74	58	60	90	91
Link Distance (ft)		404	404		759	759	229			296	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	180			287				215	185		63
Storage Blk Time (%)										4	2
Queuing Penalty (veh)										11	3

Intersection: 2: West I Street & Airport Rd

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 3: West I Street & West L Street

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	27	30
Average Queue (ft)	21	12
95th Queue (ft)	39	36
Link Distance (ft)	319	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: West Pacheco Blvd & Maryland Ave

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	31	31
Average Queue (ft)	25	24
95th Queue (ft)	45	44
Link Distance (ft)		230
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	62	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 2

Intersection: 1: West I Street & West Pacheco Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	T	R
Maximum Queue (ft)	205	448	426	41	146	97	77	129	42	139	88
Average Queue (ft)	204	433	380	12	113	83	50	34	17	74	59
95th Queue (ft)	205	454	474	39	153	101	87	115	42	156	94
Link Distance (ft)		404	404		759	759	229			296	
Upstream Blk Time (%)		71	13								
Queuing Penalty (veh)		0	0								
Storage Bay Dist (ft)	180			287				215	185		63
Storage Blk Time (%)	88	9								9	5
Queuing Penalty (veh)	480	27								27	9

Intersection: 2: West I Street & Airport Rd

Movement	EB
Directions Served	LR
Maximum Queue (ft)	24
Average Queue (ft)	5
95th Queue (ft)	20
Link Distance (ft)	232
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: West I Street & West L Street

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	48	30
Average Queue (ft)	20	6
95th Queue (ft)	50	26
Link Distance (ft)	319	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: West Pacheco Blvd & Maryland Ave

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	30	31
Average Queue (ft)	12	18
95th Queue (ft)	37	43
Link Distance (ft)		230
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	62	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 547

Intersection: 1: West I Street & West Pacheco Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	T	R
Maximum Queue (ft)	205	443	419	78	109	130	78	71	12	91	88
Average Queue (ft)	204	438	302	34	78	82	43	30	5	57	72
95th Queue (ft)	205	453	455	73	106	122	80	68	15	104	113
Link Distance (ft)		404	404		286	286	229			136	
Upstream Blk Time (%)		95	1								
Queuing Penalty (veh)		0	0								
Storage Bay Dist (ft)	180			287				215	185		63
Storage Blk Time (%)	99	2								7	6
Queuing Penalty (veh)	522	5								24	15

Intersection: 2: West I Street & Airport Rd

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (ft)	30	31
Average Queue (ft)	12	6
95th Queue (ft)	36	27
Link Distance (ft)	236	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		150
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: West I Street & West L Street

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	52	53
Average Queue (ft)	30	23
95th Queue (ft)	60	56
Link Distance (ft)	322	96
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: West Pacheco Blvd & Maryland Ave

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	31	31
Average Queue (ft)	18	18
95th Queue (ft)	43	43
Link Distance (ft)		230
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	440	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: West I Street & Driveway 1

Movement	WB
Directions Served	R
Maximum Queue (ft)	29
Average Queue (ft)	17
95th Queue (ft)	41
Link Distance (ft)	112
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: West Pacheco Blvd & Driveway 2

Movement	SB
Directions Served	R
Maximum Queue (ft)	104
Average Queue (ft)	49
95th Queue (ft)	97
Link Distance (ft)	94
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: West I Street & West Pacheco Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	TR	LT	R	L	T	R
Maximum Queue (ft)	130	178	170	101	174	209	87	48	56	50	82
Average Queue (ft)	101	95	66	44	146	130	69	14	26	27	45
95th Queue (ft)	129	178	153	97	182	220	100	43	58	59	93
Link Distance (ft)		404	404		286	286	229			136	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	180			287				215	185		63
Storage Blk Time (%)		1								0	2
Queuing Penalty (veh)		1								1	4

Intersection: 2: West I Street & Airport Rd

Movement	EB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	11
95th Queue (ft)	33
Link Distance (ft)	236
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: West I Street & West L Street

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	27	30
Average Queue (ft)	21	6
95th Queue (ft)	38	26
Link Distance (ft)	322	96
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: West Pacheco Blvd & Maryland Ave

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	73	31
Average Queue (ft)	33	12
95th Queue (ft)	71	35
Link Distance (ft)		230
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	440	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 5: West I Street & Driveway 1

Movement	WB
Directions Served	R
Maximum Queue (ft)	30
Average Queue (ft)	11
95th Queue (ft)	34
Link Distance (ft)	112
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: West Pacheco Blvd & Driveway 2

Movement	SB
Directions Served	R
Maximum Queue (ft)	54
Average Queue (ft)	28
95th Queue (ft)	56
Link Distance (ft)	94
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 371

Appendix C – NCHRP 684 Internal Trip Capture Estimation Tool

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Northgate 42, LLC	**Organization:**	Minagar & Associates, Inc.
Project Location:	W Pacheco Blvd and W "I" Street	**Performed By:**	Mindy Hui
Scenario Description:		**Date:**	8/30/2024
Analysis Year:		**Checked By:**	Fred Minagar
Analysis Period:	**AM Street Peak Hour**	**Date:**	8/30/2024

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	960,948		16VFP, 3.7 TSF	544	277	267
Restaurant	934, 932		2.6 TSF, 6.0 TSF	165	87	78
Cinema/Entertainment				0		
Residential				0		
Hotel				0		
All Other Land Uses[2]				0		
				709	364	345

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		35	0	0	0
Restaurant	0	11		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	709	364	345
Internal Capture Percentage	13%	13%	13%
External Vehicle-Trips[5]	617	318	299
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	4%	13%
Restaurant	40%	14%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Northgate 42, LLC
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	277	277	1.00	267	267
Restaurant	1.00	87	87	1.00	78	78
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	0	0	1.00	0	0
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	77		35	0	37	0
Restaurant	24	11		0	3	2
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		89	20	0	0	0
Retail	0		44	0	0	0
Restaurant	0	22		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	47	17	0		0
Hotel	0	11	5	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	11	266	277	266	0	0
Restaurant	35	52	87	52	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	35	232	267	232	0	0
Restaurant	11	67	78	67	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Northgate 42, LLC	**Organization:**	Minagar & Associates, Inc.
Project Location:	W Pacheco Blvd and W "I" Street	**Performed By:**	Mindy Hui
Scenario Description:		**Date:**	8/30/2024
Analysis Year:		**Checked By:**	Fred Minagar
Analysis Period:	**PM Street Peak Hour**	**Date:**	8/30/2024

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	960,948		16VFP, 3.7 TSF	495	247	248
Restaurant	934, 932		2.6 TSF, 6.0 TSF	204	141	63
Cinema/Entertainment				0		
Residential				0		
Hotel				0		
All Other Land Uses[2]				0		
				699	388	311

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		41	0	0	0
Restaurant	0	26		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	699	388	311
Internal Capture Percentage	19%	17%	22%
External Vehicle-Trips[5]	565	321	244
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	11%	17%
Restaurant	29%	41%
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Northgate 42, LLC
Analysis Period:	PM Street Peak Hour

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	247	247	1.00	248	248
Restaurant	1.00	141	141	1.00	63	63
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	0	0	1.00	0	0
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	5		72	10	64	12
Restaurant	2	26		5	11	4
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		20	3	0	0	0
Retail	0		41	0	0	0
Restaurant	0	124		0	0	0
Cinema/Entertainment	0	10	4		0	0
Residential	0	25	20	0		0
Hotel	0	5	7	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	26	221	247	221	0	0
Restaurant	41	100	141	100	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	41	207	248	207	0	0
Restaurant	26	37	63	37	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Table 7.1a Adjusted Internal Trip Capture Rates for Trip Origins within a Multi-Use Development			
Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
From OFFICE	To Office	0.0%	0.0%
	To Retail	28.0%	20.0%
	To Restaurant	63.0%	4.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	1.0%	2.0%
	To Hotel	0.0%	0.0%
From RETAIL	To Office	29.0%	2.0%
	To Retail	0.0%	0.0%
	To Restaurant	13.0%	29.0%
	To Cinema/Entertainment	0.0%	4.0%
	To Residential	14.0%	26.0%
	To Hotel	0.0%	5.0%
From RESTAURANT	To Office	31.0%	3.0%
	To Retail	14.0%	41.0%
	To Restaurant	0.0%	0.0%
	To Cinema/Entertainment	0.0%	8.0%
	To Residential	4.0%	18.0%
	To Hotel	3.0%	7.0%
From CINEMA/ENTERTAINMENT	To Office	0.0%	2.0%
	To Retail	0.0%	21.0%
	To Restaurant	0.0%	31.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	8.0%
	To Hotel	0.0%	2.0%
From RESIDENTIAL	To Office	2.0%	4.0%
	To Retail	1.0%	42.0%
	To Restaurant	20.0%	21.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	0.0%
	To Hotel	0.0%	3.0%
From HOTEL	To Office	75.0%	0.0%
	To Retail	14.0%	16.0%
	To Restaurant	9.0%	68.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	2.0%
	To Hotel	0.0%	0.0%

Table 7.2a Adjusted Internal Trip Capture Rates for Trip Destinations within a Multi-Use Development			
Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
To OFFICE	From Office	0.0%	0.0%
	From Retail	4.0%	31.0%
	From Restaurant	14.0%	30.0%
	From Cinema/Entertainment	0.0%	6.0%
	From Residential	3.0%	57.0%
	From Hotel	3.0%	0.0%
To RETAIL	From Office	32.0%	8.0%
	From Retail	0.0%	0.0%
	From Restaurant	8.0%	50.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	17.0%	10.0%
	From Hotel	4.0%	2.0%
To RESTAURANT	From Office	23.0%	2.0%
	From Retail	50.0%	29.0%
	From Restaurant	0.0%	0.0%
	From Cinema/Entertainment	0.0%	3.0%
	From Residential	20.0%	14.0%
	From Hotel	6.0%	5.0%
To CINEMA/ENTERTAINMENT	From Office	0.0%	1.0%
	From Retail	0.0%	26.0%
	From Restaurant	0.0%	32.0%
	From Cinema/Entertainment	0.0%	0.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To RESIDENTIAL	From Office	0.0%	4.0%
	From Retail	2.0%	46.0%
	From Restaurant	5.0%	16.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To HOTEL	From Office	0.0%	0.0%
	From Retail	0.0%	17.0%
	From Restaurant	4.0%	71.0%
	From Cinema/Entertainment	0.0%	1.0%
	From Residential	0.0%	12.0%
	From Hotel	0.0%	0.0%

Appendix D – Traffic Signal Warrant Assessment

Traffic Signal Installation Warrant Assessment

Location: West Pacheco Blvd & Maryland Ave | **Agency:** City of Los Banos, CA

Analysis Condition: Horizon Year 2042 WO Project

DIST: **10**
CO: **Merced** Calculated by: **GL** Date: **5/27/2025**
RTE/PM: **N/A** Checked by: **FM** Date: **5/27/2025**

Intersection: **W Pacheco Blvd (EB/WB) at Maryland Ave (NB/SB)**
Major Street: **Maryland Avenue** Posted/Critical Approach Speed: **35 MPH**
Minor Street: **W Pacheco Blvd** Posted/Critical Approach Speed: **35 MPH**

Approach lanes (Maryland Avenue): **1** Approach Lanes (W Pacheco Blvd): **2**

Type (Rural/Urban)*: **Urban**
Critical speed of major street traffic > 64 Km/Hr (40 MPH): **No**
In built up area of isolated community of < 10,000 population: **No**

** Rural: either one satisfied*
Urban: neither two satisfied

Warrant 1 Eight-Hour Vehicular Volume

Condition A: Minimum Vehicle Volume

100% Satisfied: Yes (8/8)
80% Satisfied: Yes (8/8)

Requirement:
- Each of any eight 60-minute periods of an average day satisfying the requirement

Basic Min. Hourly Volume Requirement (80% shown in brackets)			1st Hr.	2nd Hr.	3rd Hr.	4th Hr.	5th Hr.	6th Hr.	7th Hr.	8th Hr.
Type	**Urban**	**Urban**	7:00 - 8:00am	8:00 - 9:00am	11:00am - 12:00pm	12:00 - 1:00pm	1:00 - 2:00pm	2:00 - 3:00pm	4:00 - 5:00pm	5:00 - 6:00pm
Approach Lanes	**1**	**≥ 2**								
Both Approaches Major Street	**500**	600	**1,433**	2,048	1,434	1,331	1,434	1,536	**2,266**	**2,357**
	(400)	(480)	**(1,146)**	(1,638)	(1,147)	(1,065)	(1,147)	(1,229)	**(1,813)**	**(1,886)**
Highest Approach Minor Street	**150**	200	**16**	**28**	**20**	**18**	**20**	**21**	**40**	**43**
	(120)	(160)	**(13)**	**(22)**	**(16)**	**(15)**	**(16)**	**(17)**	**(32)**	**(34)**

Condition B: Interruption of Continuous Traffic

100% Satisfied: Yes (8/8)
80% Satisfied: Yes (8/8)

Requirement:
- Each of any eight 60-minute periods of an average day satisfying the requirement

Min. Requirement (80% in brackets)			1st Hr.	2nd Hr.	3rd Hr.	4th Hr.	5th Hr.	6th Hr.	7th Hr.	8th Hr.
Type	**Urban**	**Urban**	7:00 - 8:00am	8:00 - 9:00am	11:00am - 12:00pm	12:00 - 1:00pm	1:00 - 2:00pm	2:00 - 3:00pm	4:00 - 5:00pm	5:00 - 6:00pm
Approach Lanes	**1**	**≥ 2**								
Both Approaches Major Street	**750**	900	1,433	2,048	1,434	1,331	1,434	1,536	2,266	2,357
	(600)	(720)	(1,146)	(1,638)	(1,147)	(1,065)	(1,147)	(1,229)	(1,813)	(1,886)
Highest Approach Minor Street	**75**	100	**31**	**49**	**20**	**18**	**20**	**21**	**48**	**52**
	(60)	(80)	**(13)**	**(22)**	**(16)**	**(15)**	**(16)**	**(17)**	**(32)**	**(34)**

Combination of Conditions A & B

Satisfied: No

Requirements:
- Conditions A and B satisfied to 80% or better: Yes (16/16)

AND:
- An adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. No N/A

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal, nor does it necessarily justify the installation of a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Traffic Signal Installation Warrant Assessment

Location: West Pacheco Blvd & Maryland Ave

Agency: City of Los Banos, CA

Analysis Condition: Horizon Year 2042 WO Project

Warrant 2 Four-Hour Vehicular Volume

Satisfied: No

Requirements:

- All plotted points of traffic for each of any four 60-minute periods fall above the curve on Figure 4C-1 (U) or 4C-2 (R)

	1st Hr.	2nd Hr.	7th Hr.	8th Hr.
Any four (4) 60-minutes periods	7:00am - 8:00am	8:00am-9:00	4:00 - 5:00pm	5:00 - 6:00pm
Both Approaches Major Street	1,433	2,048	2,266	2,357
Highest Approach Minor Street	31	49	48	52

Warrant 3 Peak Hour

Satisfied: No

Part A: Delay

Requirements:

For the same consecutive four 15-minute (1 hour) period on an average day, 4:45-5:45 PM

- Total delay on one stop-controlled minor street approach ≥ 4 vehicle-hours for a one-lane approach, or ≥ 5 vehicle-hours for a two-lane approach, AND — No — N/A
- Volume on the same minor street approach **≥ 100 VPH for one moving lane of traffic** or ≥ 150 VPH for two moving lanes; AND — No — 386
- Total entering volume serviced during the hour ≥ 800 VPH for 4+ approach intersections, or **≥ 650 VPH for intersections with three (3) approaches** — No — 1,325

Part B: Volume

Requirement:

OR, for any four (4) consecutive 15-minute periods (1 hour) on an average day, No

- The plotted point of traffic for any one 60-min. period fall above the curve on Figure 4C-3 (U) or 4C-4 (R)

	Critical Hour
Any one (1) 60-minute period	4:45-5:45PM
Both Approaches Major Street	2,291
Highest Approach Minor Street	52

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal, nor does it necessarily justify the installation of a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Traffic Signal Installation Warrant Assessment

Location: West Pacheco Blvd & Maryland Ave

Agency: City of Los Banos, CA

Analysis Condition: Horizon Year 2042 WO Project

Warrant 4 Pedestrian Volume

100% Satisfied: No

70% Satisfied: No

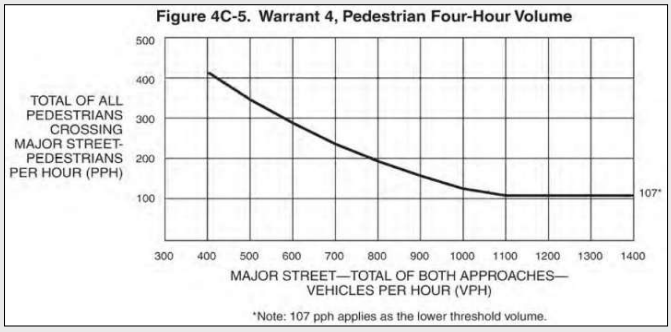
Requirements:

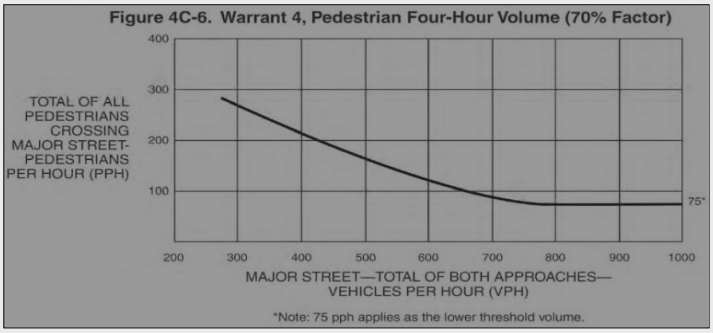
On an average day, for the pedestrian volume crossing the major street at an intersection or midblock location,

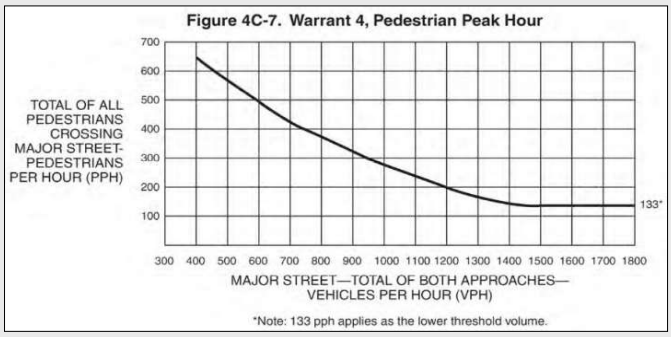
- PART A - All of the plotted points fall above Figure 4C-5 for each of any 4 hours (Use Figure 4C-6 for 70% criteria), or — No / N/A
- PART B - All of the plotted points fall above Figure 4C-7 for any hour (Use Figure 4C-8 for 70% criteria) — No / N/A

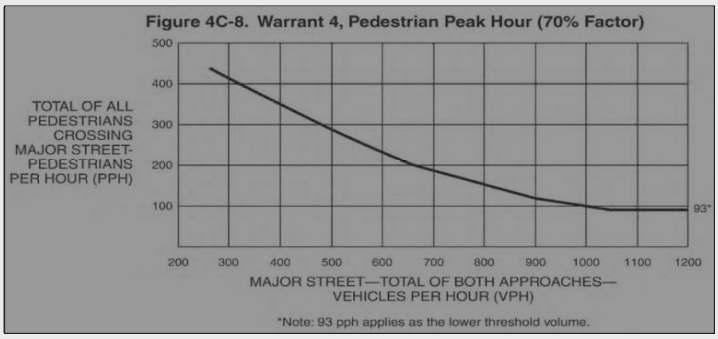
85th percentile or posted speed: 40 (or) Rural Population? No → 70% criteria applicable? Yes

(> 35 MPH?) Yes









- The nearest traffic signal along the major street is greater than 295 feet (90m); AND — Yes
- New signal will not restrict the progressive movement of traffic — No / N/A

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal, nor does it necessarily justify the installation of a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Traffic Signal Installation Warrant Assessment

Location: West Pacheco Blvd & Maryland Ave | **Agency:** City of Los Banos, CA

Analysis Condition: Horizon Year 2042 WO Project

Warrant 5 School Crossing

N/A | Applicable? No | Satisfied: No

Requirements (PART A):

- Less than 60 Gaps/Hour available during the period when children use the school crossing; AND — No — N/A
- Number of children crossing in the highest hour > 20 per hour — No — N/A

Size of Adequate Gap, G	Crossing Distance, *W*				*ft*
	Pedestrian Crossing Speed, *S*				*ft/sec*
	Predominant # of Rows (Group Size), *N*				*rows*
	Time Headway between Rows, *H*				*secs*
	Pedestrian Startup Time, *R*				*secs*
	Min. Safe Gap Size in Traffic Req'd, *G*				*secs*
Number of Gaps of Adequate Length, N_g	Time Period:	-	-	-	
	Measurement Period, *t*				*sec(s)*
	Major Street Vehicle Volume, *Q*				*veh/hr*
	School Peds Crossing Volume				*school peds/hr*
	Average Vehicle Length, *L*				*ft*
	Mean Vehicle Speed, *v*				*mph*
	Gap Size, *g* (for min. headway prob				*secs*
	Number of Gaps of Adequate Size, N_g	#DIV/0!	#DIV/0!	#DIV/0!	available gaps per
	< 0 gaps?	n/a	n/a	n/a	0 minutes; AND

Requirements (PART B):

- The nearest traffic signal along the major street is greater than 300 feet (90m) away; or — Yes
- The proposed signal will not restrict the progressive movement of traffic — No — N/A

Flashing Yellow Beacon at School Crossings

N/A | Satisfied: No



Requirements:

- The uncontrolled school crossing is on the "Suggested Route to School"; AND — No
- Each of any 2 hours satisfying the vehicle and school ped volume requirements below; AND — No

	Minimum Requirements		1st Hr.	2nd Hr.
	Period	Urban	-	-
Vehicle Volume	Each of any 2 hrs	200	-	-
School Age Pedestrians Crossing Street	Each of any 2 hrs	40	-	-

- ≥ 40 school peds use the crossing during each of any two non-overlapping hours of a normal school day. — No — N/A

- Critical Approach Speed exceeds 35 MPH (55 km/hr), or — No — N/A
  The approach visibility is less than the stopping sight distance, AND — No — N/A — Either Met? No
- The crossing is ≥600 feet (180m) from the nearest alternate controlled/protected crossing — No

Bicycle Signal Warrant

N/A (B < 50) | Satisfied: No



Requirements (Volume):

- B * V ≥ 50,000 and B ≥ 50; AND — 0 and 0 → No

B		V		B * V	0

Where B = *number of bicycles at the peak hour entering the intersection,* and
V = *number of vehicles at the same peak hour entering the intersection*

Requirements (Collision and Geometric):

- Two or more bicycle/vehicle collisions susceptible to correction by a bicycle signal have occurred over a 12-month period and responsible public works official determines that a bicycle signal will reduce the number of collisions; OR — No — N/A
- (a) Where a separate bicycle/multi-use path intersects a roadway, or
  (b) At other locations to facilitate a bicycle movement that is not permitted for a motor vehicle. — No — N/A

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal, nor does it necessarily justify the installation of a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Traffic Signal Installation Warrant Assessment

Location: West Pacheco Blvd & Maryland Ave | **Agency:** City of Los Banos, CA

Analysis Condition: Horizon Year 2042 WO Project

Warrant 6 Coordinated Signal System

Satisfied: No N/A

Requirements:

One or both of the following criteria to be met by the findings of an engineering study:

- On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning. — No N/A
- OR, on a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation. — No N/A

Warrant 7 Crash Experience

Satisfied: No N/A

Requirements:

- One or more of the following four (4) conditions are at least 80% satisfied; — Yes
  - Warrant 1, Eight-Hour Volumes - *Condition A* (Minimum Vehicular Volume); or — *Yes*
  - Warrant 1, Eight-Hour Volumes - *Condition B* (Interruption of Continuous Traffic); or — *Yes*
  - Warrant 4, *Part A* , 80% of ped traffic crossing major street for each of any 4 hours; or — *No*
  - Warrant 4, *Part B* , 80% of ped traffic crossing major street for each of any 4 hours; AND — *No*
- Signal will not seriously disrupt progressive traffic flow; AND — Yes
- Adequate trial of less restrictive remedies has failed to reduce accident frequency; AND — No N/A
- ≥ 5 reported relevant crashes susceptible to correction by traffic signal within a 12-month period — No N/A

Warrant 8 Roadway Network

Satisfied: No N/A

Requirements:

One or both of the following criteria to be met by the findings of an engineering study for the common intersection of two or more major routes:

- At least 1,000 VPH entering the intersection during the peak hour and typical weekday, under existing or immediately projected conditions, and has 5-year projected traffic volumes meeting Warrants 1,2, and 3 during the average weekday; OR — No N/A
- At least 1,000 VPH entering the intersection during the peak hour and typical weekday, under existing or immediately projected conditions, for each of any 5 hours on a Saturday or Sunday — No N/A

Min. Volume Requirements	Entering Volumes, all approaches		Met?	
1,000 Veh/Hr	Peak vehicles per hour during typical weekday:		-	
	Intersection has 5-year projected traffic volumes that meet one or more of Warrants 1, 2, and 3 during an average weekday		No	N/A
	OR, Vehicles per hour during any 5 hours of a Saturday or Sunday:	-	No	N/A

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal, nor does it necessarily justify the installation of a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Traffic Signal Installation Warrant Assessment

Location: West Pacheco Blvd & Maryland Ave

Agency: City of Los Banos, CA

Analysis Condition: Horizon Year 2042 WO Project

Warrant 9 Intersection Near a Grade Crossing

Satisfied: No N/A

Requirements:

Where none of the conditions described in the other eight traffic signal warrants are met, and both of the following criteria are met:

- A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is ≤ 140 feet of the stop line or yield line on the approach; AND — No N/A
- The plotted point of traffic for the highest traffic volume hour in which rail traffic uses the crossing falls above the applicable curve in Figure 4C-9 (1 approach lane) or 4C-10 (2 approach lanes). — No N/A

D (ft.) - Adj1 - Adj2 - Adj3 -

Where: D = *Clear Storage Distance on minor-street approach crossing the track*

Adj1 = *Adjustment factor for Daily Frequency of Rail Traffic (Table 4C-2)*

Adj2 = *Adjustment factor for Percentage of High-Occupancy (20+ passenger) Buses (Table 4C-3)*

Adj3 = *Adjustment factor for Percentage of Tractor-Trailer Trucks (Table 4C-4)*

Summary:

Total Number of Warrants Satisfied: 1

✓	**Warrant 1** - Eight-Hour Vehicular Volume
	Warrant 2 - Four-Hour Vehicular Volume
	Warrant 3 - Peak Hour
	Warrant 4 - Pedestrian Volume
	Warrant 5 - School Crossing
	Warrant 6 - Coordinated Signal System
	Warrant 7 - Crash Experience
	Warrant 8 - Roadway Network
	Flashing Yellow Beacon at School Xing
	Bicycle Signal Warrant
	Warrant 9 - Intersection Near a Grade Xing

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal, nor does it necessarily justify the installation of a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Traffic Signal Installation Warrant Assessment

Location: West Pacheco Blvd & Maryland Ave | **Agency:** City of Los Banos, CA

Analysis Condition: Horizon Year 2042 Wt Project

DIST: **10**
CO: **Merced**
RTE/PM: **N/A**
Calculated by: **GL** Date: **5/27/2025**
Checked by: **FM** Date: **5/27/2025**

Intersection: **W Pacheco Blvd (EB/WB) at Maryland Ave (NB/SB)**
Major Street: **Maryland Avenue** Posted/Critical Approach Speed: **35 MPH**
Minor Street: **W Pacheco Blvd** Posted/Critical Approach Speed: **35 MPH**

Approach lanes (Maryland Avenue): **1** Approach Lanes (W Pacheco Blvd): **2**

Type (Rural/Urban)*: **Urban**
Critical speed of major street traffic > 64 Km/Hr (40 MPH): **No**
In built up area of isolated community of < 10,000 population: **No**

** Rural: either one satisfied*
Urban: neither two satisfied

Warrant 1 Eight-Hour Vehicular Volume

Condition A: Minimum Vehicle Volume

100% Satisfied: Yes (8/8)
80% Satisfied: Yes (8/8)

Requirement:
- Each of any eight 60-minute periods of an average day satisfying the requirement

Basic Min. Hourly Volume Requirement (80% shown in brackets)			1st Hr.	2nd Hr.	3rd Hr.	4th Hr.	5th Hr.	6th Hr.	7th Hr.	8th Hr.
Type	**Urban**	**Urban**	7:00 - 8:00am	8:00 - 9:00am	11:00am - 12:00pm	12:00 - 1:00pm	1:00 - 2:00pm	2:00 - 3:00pm	4:00 - 5:00pm	5:00 - 6:00pm
Approach Lanes	**1**	**≥ 2**								
Both Approaches Major Street	**500**	600	**1,433**	2,092	1,464	1,360	1,464	**1,569**	**2,266**	**2,401**
	(400)	(480)	**(1,146)**	(1,674)	(1,172)	(1,088)	(1,172)	**(1,255)**	**(1,813)**	**(1,921)**
Highest Approach Minor Street	**150**	200	**16**	**28**	**20**	**18**	**20**	**21**	**40**	**43**
	(120)	(160)	**(13)**	**(22)**	**(16)**	**(15)**	**(16)**	**(17)**	**(32)**	**(34)**

Condition B: Interruption of Continuous Traffic

100% Satisfied: Yes (8/8)
80% Satisfied: Yes (8/8)

Requirement:
- Each of any eight 60-minute periods of an average day satisfying the requirement

Min. Requirement (80% in brackets)			1st Hr.	2nd Hr.	3rd Hr.	4th Hr.	5th Hr.	6th Hr.	7th Hr.	8th Hr.
Type	**Urban**	**Urban**	7:00 - 8:00am	8:00 - 9:00am	11:00am - 12:00pm	12:00 - 1:00pm	1:00 - 2:00pm	2:00 - 3:00pm	4:00 - 5:00pm	5:00 - 6:00pm
Approach Lanes	**1**	**≥ 2**								
Both Approaches Major Street	**750**	900	1,433	2,092	1,464	1,360	1,464	1,569	2,266	2,401
	(600)	(720)	(1,146)	(1,674)	(1,172)	(1,088)	(1,172)	(1,255)	(1,813)	(1,921)
Highest Approach Minor Street	**75**	100	**31**	**49**	**20**	**18**	**20**	**21**	**48**	**52**
	(60)	(80)	**(13)**	**(22)**	**(16)**	**(15)**	**(16)**	**(17)**	**(32)**	**(34)**

Combination of Conditions A & B

Satisfied: No

Requirements:
- Conditions A and B satisfied to 80% or better: Yes (16/16)

AND:
- An adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. No N/A

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal, nor does it necessarily justify the installation of a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Traffic Signal Installation Warrant Assessment

Location: West Pacheco Blvd & Maryland Ave

Agency: City of Los Banos, CA

Analysis Condition: Horizon Year 2042 Wt Project

Warrant 2 Four-Hour Vehicular Volume

Satisfied: No

Requirements:

- All plotted points of traffic for each of any four 60-minute periods fall above the curve on Figure 4C-1 (U) or 4C-2 (R)

	1st Hr.	2nd Hr.	7th Hr.	8th Hr.
Any four (4) 60-minutes periods	7:00am - 8:00am	8:00am-9:00	4:00 - 5:00pm	5:00 - 6:00pm
Both Approaches Major Street	1,433	2,092	2,266	2,401
Highest Approach Minor Street	31	49	48	52

Warrant 3 Peak Hour

Satisfied: No

Part A: Delay

Requirements:

For the same consecutive four 15-minute (1 hour) period on an average day, 4:45-5:45 PM

- Total delay on one stop-controlled minor street approach ≥ 4 vehicle-hours for a one-lane approach, or ≥ 5 vehicle-hours for a two-lane approach, AND — No — N/A
- Volume on the same minor street approach **≥ 100 VPH for one moving lane of traffic** or ≥ 150 VPH for two moving lanes; AND — No — 386
- Total entering volume serviced during the hour ≥ 800 VPH for 4+ approach intersections, or **≥ 650 VPH for intersections with three (3) approaches** — No — 1,325

Part B: Volume

Requirement:

OR, for any four (4) consecutive 15-minute periods (1 hour) on an average day, No

- The plotted point of traffic for any one 60-min. period fall above the curve on Figure 4C-3 (U) or 4C-4 (R)

	Critical Hour
Any one (1) 60-minute period	4:45-5:45PM
Both Approaches Major Street	2,335
Highest Approach Minor Street	52

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal, nor does it necessarily justify the installation of a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Traffic Signal Installation Warrant Assessment

Location: West Pacheco Blvd & Maryland Ave

Agency: City of Los Banos, CA

Analysis Condition: Horizon Year 2042 Wt Project

Warrant 4 Pedestrian Volume

100% Satisfied: No

70% Satisfied: No

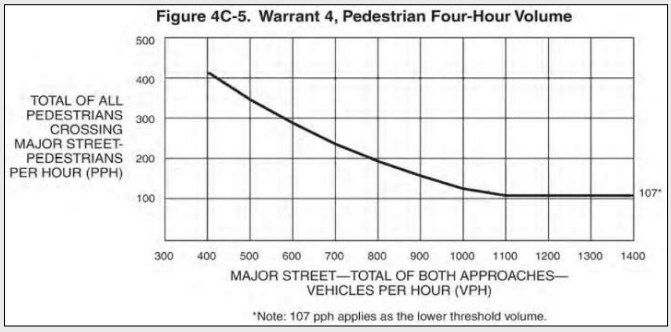
Requirements:

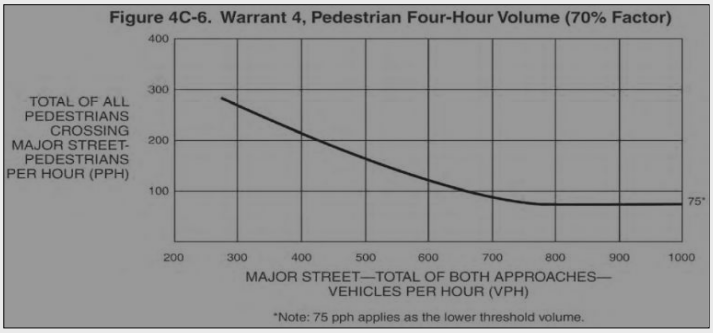
On an average day, for the pedestrian volume crossing the major street at an intersection or midblock location,

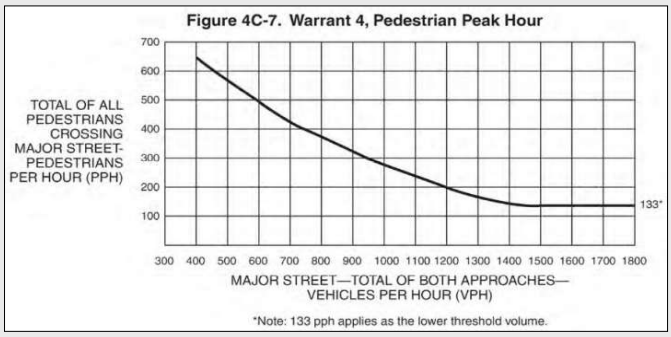
- PART A - All of the plotted points fall above Figure 4C-5 for each of any 4 hours (Use Figure 4C-6 for 70% criteria), or — No / N/A
- PART B - All of the plotted points fall above Figure 4C-7 for any hour (Use Figure 4C-8 for 70% criteria) — No / N/A

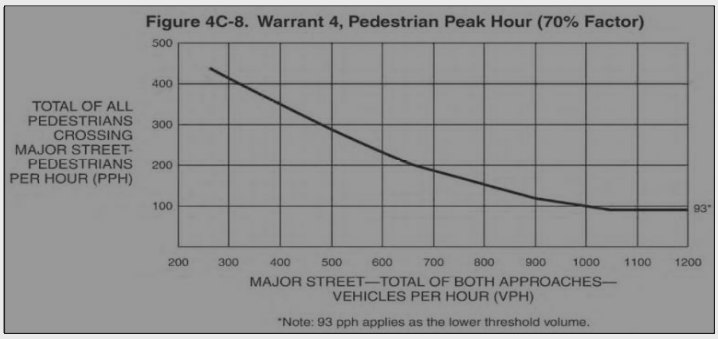
85th percentile or posted speed: 40 (or) Rural Population? No → 70% criteria applicable? Yes

(> 35 MPH?) Yes









- The nearest traffic signal along the major street is greater than 295 feet (90m); AND — Yes
- New signal will not restrict the progressive movement of traffic — No / N/A

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal, nor does it necessarily justify the installation of a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Traffic Signal Installation Warrant Assessment

Location: West Pacheco Blvd & Maryland Ave | **Agency:** City of Los Banos, CA

Analysis Condition: Horizon Year 2042 Wt Project

Warrant 5 School Crossing

N/A | Applicable? No | Satisfied: No

Requirements (PART A):

- Less than 60 Gaps/Hour available during the period when children use the school crossing; AND — No — N/A
- Number of children crossing in the highest hour > 20 per hour — No — N/A

Size of Adequate Gap, G	Crossing Distance, *W*				*ft*
	Pedestrian Crossing Speed, *S*				*ft/sec*
	Predominant # of Rows (Group Size), *N*				*rows*
	Time Headway between Rows, *H*				*secs*
	Pedestrian Startup Time, *R*				*secs*
	Min. Safe Gap Size in Traffic Req'd, *G*				*secs*
Number of Gaps of Adequate Length, N_g	Time Period:	-	-	-	
	Measurement Period, *t*				*sec(s)*
	Major Street Vehicle Volume, *Q*				*veh/hr*
	School Peds Crossing Volume				*school peds/hr*
	Average Vehicle Length, *L*				*ft*
	Mean Vehicle Speed, *v*				*mph*
	Gap Size, *g* (for min. headway prob				*secs*
	Number of Gaps of Adequate Size, N_g	#DIV/0!	#DIV/0!	#DIV/0!	available gaps per
	< 0 gaps?	n/a	n/a	n/a	0 minutes; AND

Requirements (PART B):

- The nearest traffic signal along the major street is greater than 300 feet (90m) away; or — Yes
- The proposed signal will not restrict the progressive movement of traffic — No — N/A

Flashing Yellow Beacon at School Crossings

N/A | Satisfied: No



Requirements:

- The uncontrolled school crossing is on the "Suggested Route to School"; AND — No
- Each of any 2 hours satisfying the vehicle and school ped volume requirements below; AND — No

	Minimum Requirements		1st Hr.	2nd Hr.
	Period	Urban	-	-
Vehicle Volume	Each of any 2 hrs	200	-	-
School Age Pedestrians Crossing Street	Each of any 2 hrs	40	-	-

- ≥ 40 school peds use the crossing during each of any two non-overlapping hours of a normal school day. — No — N/A

- Critical Approach Speed exceeds 35 MPH (55 km/hr), or — No — N/A
  The approach visibility is less than the stopping sight distance, AND — No — N/A — Either Met? No
- The crossing is ≥600 feet (180m) from the nearest alternate controlled/protected crossing — No

Bicycle Signal Warrant

N/A (B < 50) | Satisfied: No



Requirements (Volume):

- B * V ≥ 50,000 and B ≥ 50; AND — 0 and 0 → No

B		V		B * V	0

Where B = *number of bicycles at the peak hour entering the intersection,* and
V = *number of vehicles at the same peak hour entering the intersection*

Requirements (Collision and Geometric):

- Two or more bicycle/vehicle collisions susceptible to correction by a bicycle signal have occurred over a 12-month period and responsible public works official determines that a bicycle signal will reduce the number of collisions; OR — No — N/A
- (a) Where a separate bicycle/multi-use path intersects a roadway, or
  (b) At other locations to facilitate a bicycle movement that is not permitted for a motor vehicle. — No — N/A

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal, nor does it necessarily justify the installation of a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Traffic Signal Installation Warrant Assessment

Location: West Pacheco Blvd & Maryland Ave | **Agency:** City of Los Banos, CA

Analysis Condition: Horizon Year 2042 Wt Project

Warrant 6 Coordinated Signal System

Satisfied: No N/A

Requirements:

One or both of the following criteria to be met by the findings of an engineering study:

- On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning. — No N/A
- OR, on a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation. — No N/A

Warrant 7 Crash Experience

Satisfied: No N/A

Requirements:

- One or more of the following four (4) conditions are at least 80% satisfied; — Yes
  - Warrant 1, Eight-Hour Volumes - *Condition A* (Minimum Vehicular Volume); or — *Yes*
  - Warrant 1, Eight-Hour Volumes - *Condition B* (Interruption of Continuous Traffic); or — *Yes*
  - Warrant 4, *Part A* , 80% of ped traffic crossing major street for each of any 4 hours; or — *No*
  - Warrant 4, *Part B* , 80% of ped traffic crossing major street for each of any 4 hours; AND — *No*
- Signal will not seriously disrupt progressive traffic flow; AND — Yes
- Adequate trial of less restrictive remedies has failed to reduce accident frequency; AND — No N/A
- ≥ 5 reported relevant crashes susceptible to correction by traffic signal within a 12-month period — No N/A

Warrant 8 Roadway Network

Satisfied: No N/A

Requirements:

One or both of the following criteria to be met by the findings of an engineering study for the common intersection of two or more major routes:

- At least 1,000 VPH entering the intersection during the peak hour and typical weekday, under existing or immediately projected conditions, and has 5-year projected traffic volumes meeting Warrants 1,2, and 3 during the average weekday; OR — No N/A
- At least 1,000 VPH entering the intersection during the peak hour and typical weekday, under existing or immediately projected conditions, for each of any 5 hours on a Saturday or Sunday — No N/A

Min. Volume Requirements	Entering Volumes, all approaches		Met?	
1,000 Veh/Hr	Peak vehicles per hour during typical weekday:		-	
	Intersection has 5-year projected traffic volumes that meet one or more of Warrants 1, 2, and 3 during an average weekday		No	N/A
	OR, Vehicles per hour during any 5 hours of a Saturday or Sunday:	-	No	N/A

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal, nor does it necessarily justify the installation of a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Traffic Signal Installation Warrant Assessment

Location: West Pacheco Blvd & Maryland Ave

Agency: City of Los Banos, CA

Analysis Condition: Horizon Year 2042 Wt Project

Warrant 9 Intersection Near a Grade Crossing

Satisfied: No N/A

Requirements:

Where none of the conditions described in the other eight traffic signal warrants are met, and both of the following criteria are met:

- A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is ≤ 140 feet of the stop line or yield line on the approach; AND — No N/A
- The plotted point of traffic for the highest traffic volume hour in which rail traffic uses the crossing falls above the applicable curve in Figure 4C-9 (1 approach lane) or 4C-10 (2 approach lanes). — No N/A

D (ft.) - Adj1 - Adj2 - Adj3 -

Where: D = *Clear Storage Distance on minor-street approach crossing the track*

Adj1 = *Adjustment factor for Daily Frequency of Rail Traffic (Table 4C-2)*

Adj2 = *Adjustment factor for Percentage of High-Occupancy (20+ passenger) Buses (Table 4C-3)*

Adj3 = *Adjustment factor for Percentage of Tractor-Trailer Trucks (Table 4C-4)*

Summary:

Total Number of Warrants Satisfied: 1

✓	**Warrant 1** - Eight-Hour Vehicular Volume
	Warrant 2 - Four-Hour Vehicular Volume
	Warrant 3 - Peak Hour
	Warrant 4 - Pedestrian Volume
	Warrant 5 - School Crossing
	Warrant 6 - Coordinated Signal System
	Warrant 7 - Crash Experience
	Warrant 8 - Roadway Network
	Flashing Yellow Beacon at School Xing
	Bicycle Signal Warrant
	Warrant 9 - Intersection Near a Grade Xing

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal, nor does it necessarily justify the installation of a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

MINAGAR & ASSOCIATES, INC.

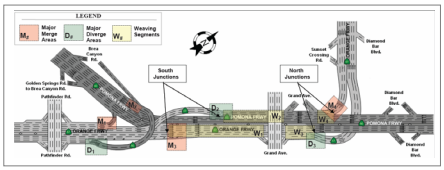
ITS - Traffic/Civil/Electrical Engineering - Transportation Planning - Homeland Security - CEM

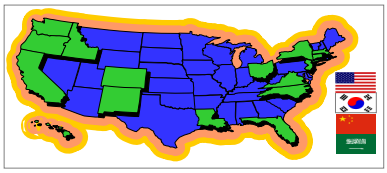
2019	Winner of the Orange County Engineering Council's Outstanding Service Award
2016	Winner of the ASCE's Outstanding Civil Engineer in the Private Sector Award in the State of California
2016	Winner of the ASCE Los Angeles Section's Outstanding Civil Engineer in the Private Sector Award
2016	Winner of the ASCE Orange County Chapter's Outstanding Civil Engineer in the Private Sector Award
2016	Certificate of Recognition for Dedication to Support the ELTP Program by Los Angeles County MTA/Metro
2016	Winner of the Orange County Engineering Council's Outstanding Engineering Service Award
2015	Orange County Business Journal's 2015 Excellence in Entrepreneurship Award Nominee
2014	Orange County Business Journal's 2014 Excellence in Entrepreneurship Award Nominee
2012	Winner of Cal-EPA/California Air Resources Board's Cool California Climate Leader
2011	Award of Excellence in Service by Los Angeles County MTA/Metro in the County of Los Angeles
2011	Award of Excellence in Service by Los Angeles County MTA/Metro in the County of Los Angeles
2010	Award of Excellence in Service by Los Angeles County MTA/Metro in the County of Los Angeles
2009	Winner of the ASCE's Outstanding Private Sector Civil Engineering Project in Metropolitan Los Angeles
2009	Winner of the Caltrans' 2009 Excellence in Transportation Award in the State of California
2007	Winner of the ASCE's Outstanding Public/Private Sector Civil Engineering Project in Metropolitan Los Angeles
2005	Winner of the APWA's Best Traffic Congestion Mitigation Project of the Year in Southern California
2004	Top Nominee of Transportation Foundation's Highway Management Program in the State of California
2003	Winner of the PTI's Best Transportation Technology Solutions Award in the United States
2002	Winner of the ITS-CA's Best Return on Investment Project Award in the State of California
2000	Award of Excellence in Service by Los Angeles County MTA/Metro in the County of Los Angeles



Celebrating 32 Years of Planning & Engineering Excellence

- **Traffic Engineering**
- **Transportation Planning**
- **ITS (Intelligent Transportation Systems)**
- **Civil/Electrical Engineering**
- **Homeland Security**
- **Construction Engineering Management**





MINAGAR & ASSOCIATES, INC.

23282 Mill Creek Drive, East Tower, Suite 120
Laguna Hills, CA 92653

Tel: (949)707-1199
Web: **www.minagarinc.com**

32 Years of Engineering & Planning Excellence



Revised VMT (Vehicle Miles Traveled) Assessment

for

Northgate 42 LLC Project at NEC of W. "I" St & W. Pacheco Blvd

in City of Los Banos, CA

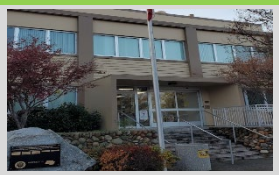


PREPARED FOR:



CITY OF LOS BANOS
Public Works Department
411 Madison Ave
Los Banos, CA 95376

PRESENTED TO:



CALTRANS
District 10 - Stockton
1976 E Charter Way
Stockton, CA 95205

PREPARED BY:



MINAGAR & ASSOCIATES, INC.
ITS – Traffic/Civil/Electrical Engineering – Transportation Planning – Homeland Security – CEM
23282 Mill Creek Drive, East Tower, Suite 120
Laguna Hills, CA 92653
Tel: (949) 707-1199

April 28, 2025

TABLE OF CONTENTS

1.0 – Introduction 3
1.1 – Study Area 3
2.0 – Project Description 5
2.1 – Site Location 5
2.2 – Existing Project Site 5
2.3 – Proposed Project Description 5
3.0 – Existing Street System 8
3.1 – Regional Highway System 8
3.2 – Local Transit Routes 8
3.3 – Local Roadway Systems 8
4.0 – Vehicle Miles Traveled (VMT) Analysis 10
4.1 – Introduction 10
4.2 – Screening Criteria 10
4.2.1 Low Trip Generator 10
4.2.2 Transit Proximity 12
4.2.3 Affordable Housing 12
4.2.4 Institutional/Government and Public Service Uses 12
4.2.5 Project Located in a Low VMT Area 12
4.2.6 Local Serving Retail 12
4.3 – Summary of Project VMT Impact 13
4.4 – Summary of Cumulative VMT Impact 13
5.0 – Conclusion 14

1.0 – Introduction

This Vehicle Miles Traveled (VMT) Analysis has been conducted to identify and evaluate potential traffic impact of the proposed "Northgate 42, LLC" project, located in a currently occupied lot with three (3) businesses including two (2) restaurants and a thrift shop. The occupied lot will be demolished to construct a 24,270 square-foot site on the Northeast corner of West Pacheco Blvd and West "I" St Street in the City of Los Banos within Merced County.

This analysis abides to the *City of Los Banos* (the "City") *Transportation Impact Analysis Guidelines*[1] *(*TIA & VMT*).* Complying with the California Environmental Quality Act (CEQA), the City identifies VMT as the primary metric for evaluating a project's transportation impacts. Thus, this analysis assesses the Project's VMT transportation impact.

1.1 – Study Area

The analysis criteria were determined based on the *City of Los Banos (the "City") Transportation Impact Analysis Guidelines*[1] (TIA & VMT), the 8Project's proposed location and description, and the qualities of the surrounding vicinity and transportation systems.

The general location of the Project and its surrounding street system are depicted in ***Figure 1.***

[1] *Transportation Impact Analysis Guidelines,* City of Los Banos, May 8, 2024.



Figure 1: Project Location and Vicinity Map

Project Site | Intersection# | Traffic Control Type

2.0 – Project Description

2.1 – Site Location

The proposed Project Site is located on a currently occupied site on the Northeast corner of West Pacheco Boulevard and West "I" Street in the City of Los Banos within Merced County.

2.2 – Existing Project Site

The land is currently occupied with three different businesses including two (2) restaurants and a thrift shop/used auto sales as follows;

- Mr. Tacos at 850 West Pacheco Blvd
- Me-n-Ed's Pizzeria at 846 West Pacheco Blvd
- Raghbir Used Auto Sales/Fernandez Thrift Store at 828 West Pacheco Blvd

2.3 – Proposed Project Description

The proposed project will consist of the following facilities:

- 5,599 square foot C-Store (Convenience Store) Building with a sixteen (16) Vehicle Fueling Positions (VFP) Gas Station
- 2,593 square foot QSR (Fast-Food Restaurant with Drive-Through Window) Building
- 6,003 square foot Retail Building Sit-In Restaurant
- 3,743 square foot Automated Car Wash

The project site will take access at one (1) right-in-right-out driveway along West Pacheco Boulevard due to the existing center median. The project site will also have one (1) full access driveway along West "I" Street.

The Project is to be in a location with a zoning classification of Regional Commercial, as given by zoning map the City of Los Banos General Plan. See **Figure 2** for the cropped map.

The Project is proposed to open in the year 2025 with no phasing for the development process.

Figure 3 shows the site plan of the project.

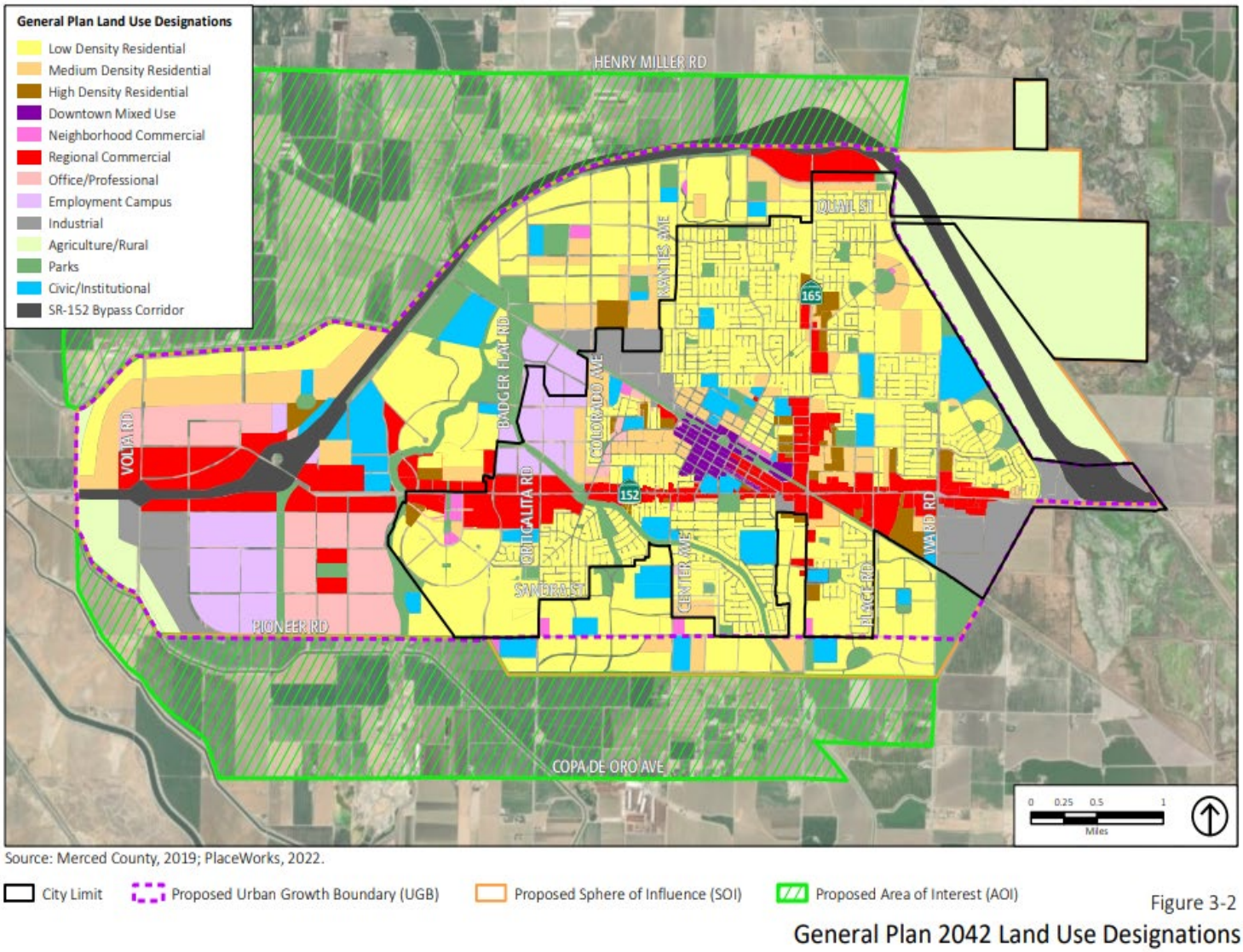


Figure 2: City of Los Banos Zoning Map

*The Zoning Map is cropped for visual clarity

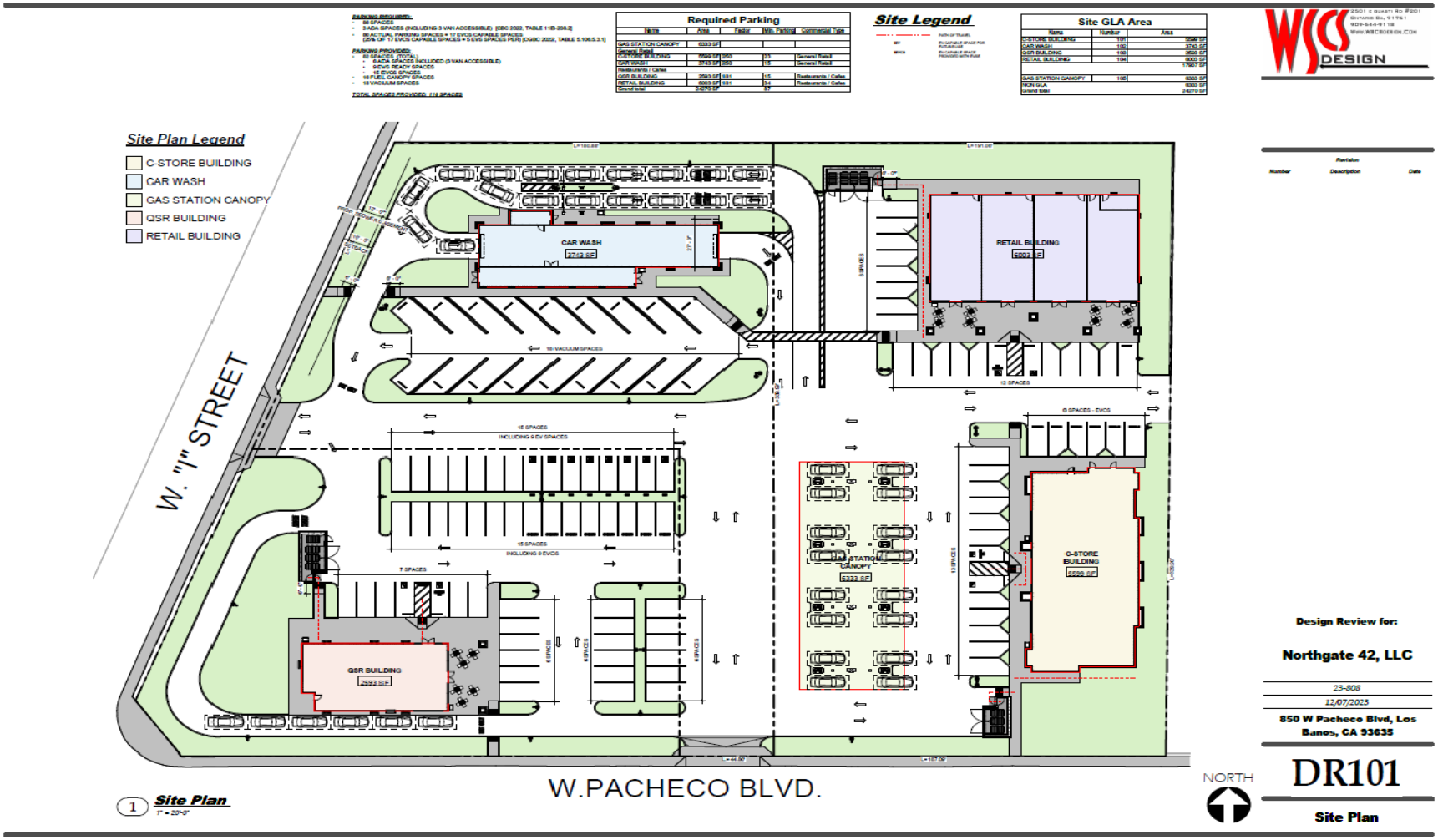


Figure 3: Project Site Plan

3.0 – Existing Street System

3.1 – Regional Highway System

Regional access to the Project Site is provided by the SR-152 also known as West Pacheco Boulevard.

SR-152 (West Pacheco Boulevard) Highway is an east-west highway extending from SR-1 in Watsonville, Santa Cruz to SR-99 southeast of Merced County. In the Project vicinity, two mixed-flow lanes are provided in each direction on the SR-152 Highway.

3.2 – Local Transit Routes

The nearest transit service to the project site is Route LB, which runs along the project location.

The LB commuter bus routes are scheduled to run from 7 AM to 8 PM during the weekdays and 9 AM to 7 PM for the weekends.

The Project Site is located approximately 600 feet northeast of the nearest bus stop (San Luis Plaza). This stop allows access to the Los Banos Commuter route operated by the Merced Transit Authority (MTA).

The full route map of the Merced Transit Service is shown in **Figure 4**.

3.3 – Local Roadway Systems

Immediate access to the Project Site will be provided by West "I" Street and Maryland Avenue. **West "I" Street** is a two (2) lane street with a two-way left turn lane, oriented in the north-south direction. The posted speed limit is 30 MPH on the northbound direction with designated bike lanes. Illegal on-street parking is observed in the area. The posted speed limit is 35 MPH on the southbound direction with designated bike lanes. **Maryland Avenue** is a two (2) lane minor arterial oriented in the north-south direction. There is no lane dividers and markings. Additionally, there are on-street parking on both sides with no posted speed limit and designated bike lanes. However, since it is a residential street, the posted speed limit is assumed to be 25 MPH.

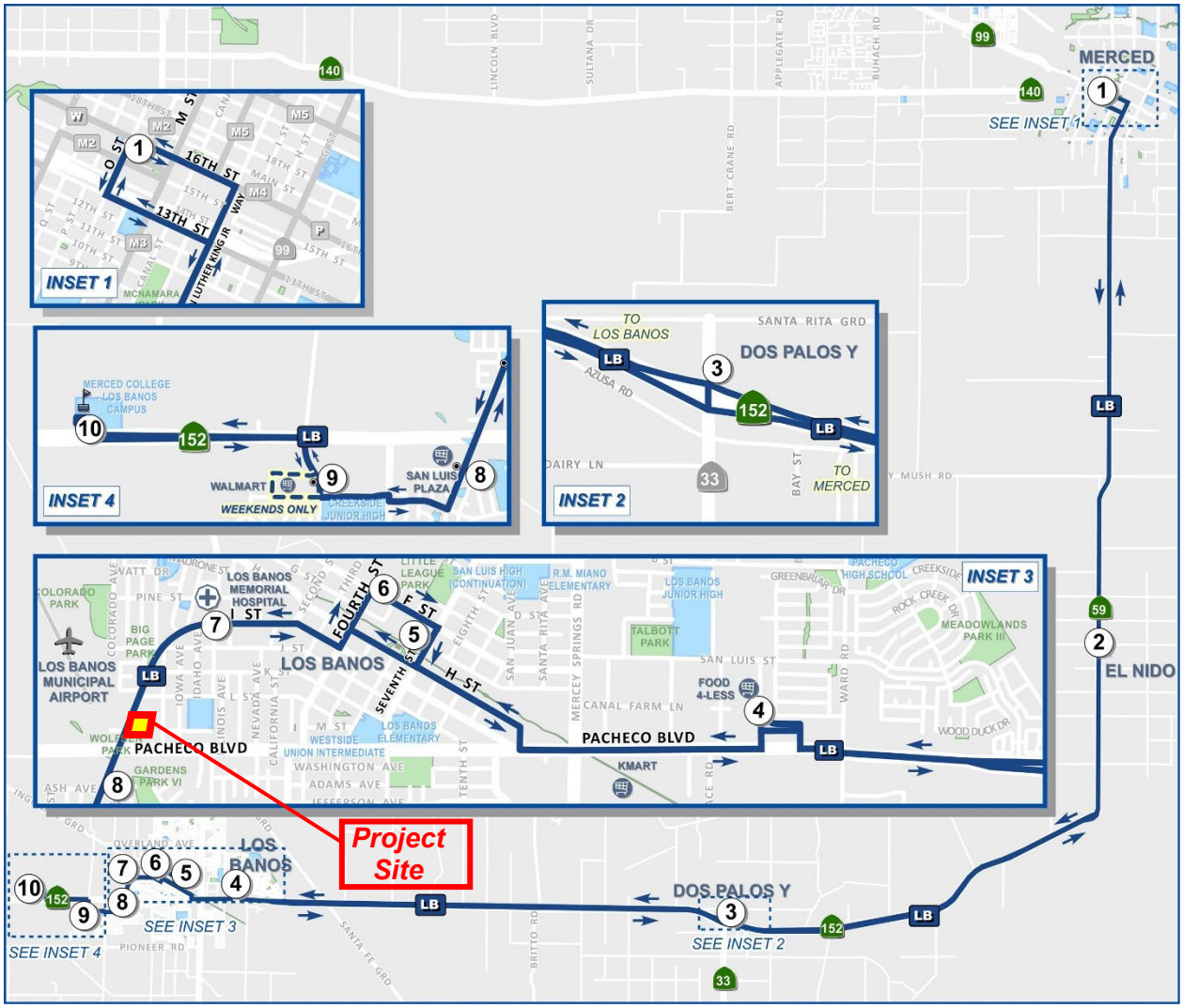


Figure 4: Merced Transit Authority (MTA) Los Banos Commuter Bus Route Map

4.0 – Vehicle Miles Traveled (VMT) Analysis

4.1 – Introduction

VMT is defined as a measurement of miles traveled by vehicles in a certain region for a specified time period. VMT measures the use and efficiency of the transportation network within that region and is calculated from individual vehicle trips generated and their associated trip lengths. VMT accounts for two-way (round-trip) travel and is often estimated for a typical weekday for the purpose of measuring transportation impacts.

After the signing of Senate Bill 743 (SB 743) in September 2013, the process of analyzing transportation impact under the California Environmental Quality Act was significantly revised. SB 743 became a law effective July 1, 2020. SB 743 identifies VMT as the most appropriate CEQA transportation metric; subsequently, this analysis focuses primarily on VMT methodology.

4.2 – Screening Criteria

As previously noted, the City of Los Banos (the "City") Transportation Impact Analysis Guidelines (TIA & VMT) identifies VMT as the primary metric for determining transportation impacts of development projects. This includes VMT screening criteria, guidelines, and thresholds for analyzing transportation impacts under CEQA.

The guidelines state that a project needs to satisfy only one of the below criteria to be exempt from further VMT analysis.

4.2.1 Low Trip Generator

If a Project is found to generate fewer than 110 daily vehicular trips, it can be assumed that there is an insignificant transportation impact and the project is exempt from further analysis. ***Table 4.1*** depicts the forecast of vehicle traffic to be generated by the proposed Project during weekday AM and PM peak hours.

Table 4.1: Project Trip Generation Summary[2]

Trip Generation									
Project			AM Peak Hour			PM Peak Hour			Daily
No.	Land Use	Quantity[1]	In	Out	Total	In	Out	Total	
1	Fast Food Restaurant with Drive-Thru Window	2.6 TSF[2]	54	51	105	44	41	85	1,225
	Internal Capture		- 22	- 8	- 30	- 13	- 17	- 30	- 159[3]
	Pass by[4] (49% AM, 50% PM/Daily)		- 27	- 25	- 52	- 22	- 21	- 43	- 613
	Subtotal Vehicular Trips		5	18	23	9	3	12	453
2	High-Turnover (Sit-Down) Restaurant	6.0 TSF[2]	33	27	60	37	22	59	673
	Internal Capture		- 14	- 4	- 18	- 11	- 10	- 21	- 38[3]
	Pass By[4,5] (43% AM/PM/Daily)		- 5	- 7	- 14	- 7	- 2	- 7	- 249
	Subtotal Vehicular Trips		14	16	28	19	10	31	386
3	Convenience Store/Gas Station	16 VFP[2]	256	256	512	221	221	442	7,186
	Internal Capture		- 11	- 34	- 45	- 25	- 38	- 63	- 479[3]
	Pass By[4] (62% AM, 56% PM/Daily)		- 159	- 159	- 318	- 124	- 124	- 248	- 1,797
	Subtotal Vehicular Trips		86	63	149	72	59	131	4,910
4	Automated Car Wash	3.7 TSF[2]	21[6]	11[6]	32[6]	2[6]	27[6]	53[6]	578
	Internal Capture		- 1	- 2	-3	- 3	- 5	- 8	-75[3]
	Pass By[6,7]		N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Subtotal Vehicular Trips		20	9	29	23	22	45	503
Total Vehicular Trips without Adjustment			364	345	709	328	311	639	14,870
Total Vehicular Trips with Trip Reduction			**125**	**106**	**229**	**123**	**94**	**219**	**6,252**

1. Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition, 2021

2. TSF = Thousand Square Feet, VFP = Vehicle Fueling Position

3. An average of the total Internal Capture percentages for the AM Peak Hour and the PM Peak Hour were used to calculate the Daily Internal Capture per the NCHRP 684 Internal Trip Capture Estimation Tool.

4. Institute of Transportation Engineers (ITE), Transportation Planning Handbook, 3rd Edition, 2017

5. Since there is no data available for pass-by trips for Land Use 933 (Fast Food Restaurant without Drive-Through Window), the pass-by rate for Land Use 934 (Fast Food Restaurant with Drive-Through Window) was utilized.

6. Due to lack of data, generation rates for the AM peak hour and daily vehicular trips are based off of Land Use 947 (Car Wash and Detail Center), where LU 947 PM Peak Trip Generation rate is 13.60 per wash stall. Automated Car Wash PM Peak hour generates 57 vehicles; therefore, a four thousand square foot automated car wash is approximately equal to four (4) wash stalls for LU 947

7. No Pass-by Data is available as of the ITE 3rd Edition Trip Generation Handbook for Automated Car Wash and related and Land Uses

[2] Source: Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition,* 2021.

*Thus, as the Project will generate 6,252 Daily Vehicular Trips, it **IS NOT exempt** using the Project Size Screening Criteria.*

4.2.2 Transit Proximity

A Project can be exempt from further VMT analysis if the Project has a close proximity (within ½ mile) to a High-Quality Transit Corridor. Per California Public Resources Code – PRC Division 13 – Environmental Quality Chapter 2.5 - Section 21064.3, this is defined as "a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during morning and afternoon peak commute periods.

*Thus, as the Project is NOT located by a High-Quality Transit Corridor, it **IS NOT exempt** using the Transit Proximity Criteria.*

4.2.3 Affordable Housing

For residential land use, if 100% of the units, excluding manager's units, are set aside for lower income households or are considered "affordable housing," further VMT screening is not required.

*Thus, the Project **IS NOT exempt** using the Affordable Housing Screening Criteria.*

4.2.4 Institutional/Government and Public Service Uses

Facilities that support community health, safety, and welfare may also be screened from subsequent CEQA VMT analysis.

*Thus, the Project **IS NOT exempt** from further VMT analysis using the Institutional/Government and Public Service Use Criteria.*

4.2.5 Project Located in a Low VMT Area

Projects can be screened to be exempt from further VMT analysis if the project is in a low VMT area.

*Thus, the Project **IS NOT exempt** from further VMT analysis using the Low VMT Area Screening Criteria.*

4.2.6 Local Serving Retail

Projects that include local-serving retail with a combined area of less than 50,000 square feet (sf) are presumed to produce less than significant VMT impact.

*Thus, the Project **IS exempt** from further VMT analysis using the Local-Serving Retail Criteria.*

4.3 – Summary of Project VMT Impact

Because the Project is incorporating local-serving retail below the 50,000 square feet threshold, it can be concluded that the Project will have a less than significant Project VMT impact under existing/baseline conditions.

4.4 – Summary of Cumulative VMT Impact

Because the Project Site involves local-serving retail and will have a less than significant VMT impact under existing/baseline conditions, the Project can be assumed to have a less than significant cumulative VMT impact.

5.0 – Conclusion

This report evaluates the potential VMT impact of the proposed 24,270 square-foot site located at the northeast corner of West Pacheco Blvd and "I" St Street in the City of Los Banos within Merced County, CA.

After considering the VMT methodology and criteria, guidelines, and thresholds of the City of Los Banos for the Project's VMT analysis, the Project is deemed to include local-serving retail with a combined area of less than 50,000 square feet and does not require further mitigation. There will not be a significant Project or cumulative VMT impact under existing and future conditions, and overall, the proposed Project will have a less than significant VMT impact.

MINAGAR & ASSOCIATES, INC.

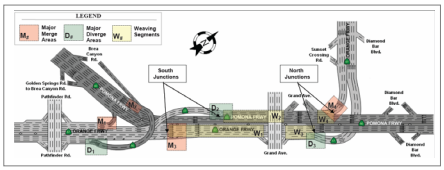
ITS - Traffic/Civil/Electrical Engineering - Transportation Planning - Homeland Security - CEM

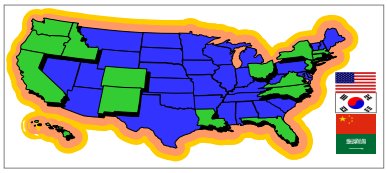
2019	Winner of the Orange County Engineering Council's Outstanding Service Award
2016	Winner of the ASCE's Outstanding Civil Engineer in the Private Sector Award in the State of California
2016	Winner of the ASCE Los Angeles Section's Outstanding Civil Engineer in the Private Sector Award
2016	Winner of the ASCE Orange County Chapter's Outstanding Civil Engineer in the Private Sector Award
2016	Certificate of Recognition for Dedication to Support the ELTP Program by Los Angeles County MTA/Metro
2016	Winner of the Orange County Engineering Council's Outstanding Engineering Service Award
2015	Orange County Business Journal's 2015 Excellence in Entrepreneurship Award Nominee
2014	Orange County Business Journal's 2014 Excellence in Entrepreneurship Award Nominee
2012	Winner of Cal-EPA/California Air Resources Board's Cool California Climate Leader
2011	Award of Excellence in Service by Los Angeles County MTA/Metro in the County of Los Angeles
2011	Award of Excellence in Service by Los Angeles County MTA/Metro in the County of Los Angeles
2010	Award of Excellence in Service by Los Angeles County MTA/Metro in the County of Los Angeles
2009	Winner of the ASCE's Outstanding Private Sector Civil Engineering Project in Metropolitan Los Angeles
2009	Winner of the Caltrans' 2009 Excellence in Transportation Award in the State of California
2007	Winner of the ASCE's Outstanding Public/Private Sector Civil Engineering Project in Metropolitan Los Angeles
2005	Winner of the APWA's Best Traffic Congestion Mitigation Project of the Year in Southern California
2004	Top Nominee of Transportation Foundation's Highway Management Program in the State of California
2003	Winner of the PTI's Best Transportation Technology Solutions Award in the United States
2002	Winner of the ITS-CA's Best Return on Investment Project Award in the State of California
2000	Award of Excellence in Service by Los Angeles County MTA/Metro in the County of Los Angeles



Celebrating 32 Years of Planning & Engineering Excellence

- **Traffic Engineering**
- **Transportation Planning**
- **ITS (Intelligent Transportation Systems)**
- **Civil/Electrical Engineering**
- **Homeland Security**
- **Construction Engineering Management**





MINAGAR & ASSOCIATES, INC.

23282 Mill Creek Drive, East Tower, Suite 120
Laguna Hills, CA 92653

Tel: (949)707-1199
Web: **www.minagarinc.com**

32 Years of Engineering & Planning Excellence

