ATTACHMENT 7

Traffic Study

601 POTRERO GRANDE DRIVE RESIDENTIAL PROJECT TRAFFIC STUDY

City of Monterey Park, CA

Prepared for

THE OLSON COMPANY

3010 OLD RANCH PARKWAY, SUITE 100

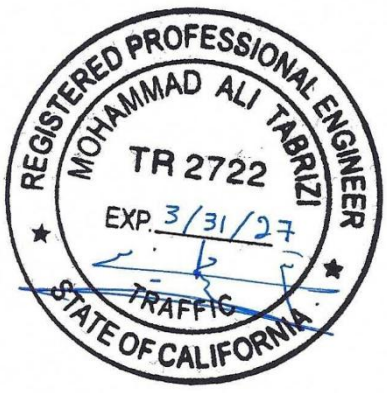
SEAL BEACH, CA 90740

Prepared by

MAT ENGINEERING INC.
17192 MURPHY AVENUE, IRVINE, CALIFORNIA 92623

CONTACT: ALEX TABRIZI, PE, TE ■ 949.344.1828 ■ at@matengineering.com

Alex Tabrizi, PE, TE



April 28, 2026

Project & Doc No. 0012-2026-02

TABLE OF CONTENTS

Section	Page
1.0 INTRODUCTION & PROJECT DESCRIPTION	1
1.1 Purpose of Report & Study Objectives	1
1.2 Site Location & Project Description	1
1.3 Study Area & Analysis Scenarios	2
2.0 ANALYSIS METHODOLOGIES, PERFORMANCE CRITERIA & THRESHOLDS	3
2.1 Intersection Peak Hour Level of Service Analysis Methodology	3
2.1.1 City of Monterey Park Study Intersection Methodology: HCM	4
3.0 EXISTING TRAFFIC VOLUMES & CIRCULATION SYSTEM	6
3.1 Existing Traffic Controls & Intersection Geometrics	6
3.2 Existing Traffic Volumes	6
4.0 PROJECT TRIPS & STUDY AREA TRAFFIC VOLUMES	7
4.1 Project Trip Generation	7
4.2 Project Trip Distribution	9
4.3 Project Traffic Volumes	9
4.4 Background Traffic	9
4.4.1 Cumulative Projects	9
4.5 Forecast Existing With Project Conditions Traffic Volumes	10
4.6 Forecast Opening Year Without Project Conditions Traffic Volumes	10
4.7 Forecast Opening Year With Project Conditions Traffic Volumes	11
5.0 LEVEL OF SERVICE ANALYSIS	12
5.1 Existing Conditions Level of Service	12
5.2 Forecast Existing With Project Conditions Level of Service	13
5.3 Forecast Opening Year Without Project Conditions Level of Service	15
5.4 Forecast Opening Year With Project Conditions Level of Service	16
6.0 DRIVEWAY GATE STACKING CAPACITY EVALUATION	17
7.0 DRIVEWAY SIGHT DISTANCE EVALUATION	19
8.0 ON-SITE PARKING & WASTE COLLECTION SERVICES	20

9.0 FINDINGS & CONCLUSIONS 22
9.1 Project Trip Generation Summary 22
9.2 LOS Analysis Summary 22
9.3 Gate Stacking Evaluation Summary 23
9.4 Driveway Sight Distance Evaluation Summary 24
9.5 Project On-Site Parking & Waste Collection Services 25

APPENDICES

APPENDIX A: EXISTING TRAFFIC COUNT DATA

APPENDIX B: LOS ANALYSIS SHEETS

EXISTING CONDITIONS

FORECAST EXISTING WITH PROJECT CONDITIONS

FORECAST OPENING YEAR WITHOUT PROJECT CONDITIONS

FORECAST OPENING YEAR WITH PROJECT CONDITIONS

APPENDIX C: CROMMELIN GATE STACKING METHODOLOGY

APPENDIX D: WASTE COLLECTION COMPANY WILL SERVE LETTER

LIST OF TABLES

Table		Page
Table 1	HCM Level of Service	4
Table 2	City of Monterey Park Thresholds for Requiring LOS Improvements (Signalized)	5
Table 3	Proposed Project ITE Trip Generation Rates	7
Table 4	Proposed Project Trip Generation Summary	7
Table 5	Existing Office Use Trip Generation Summary	8
Table 6	Proposed Project Net Trip Generation Summary	8
Table 7	Cumulative Projects Trip Generation Summary	10
Table 8	Existing Conditions - Study Intersection Peak Hour LOS Analysis Summary	13
Table 9	Forecast Existing With Project Conditions Study Intersection Peak Hour LOS Analysis Summary	14
Table 10	Forecast Opening Year Without Project Conditions Study Intersection Peak Hour LOS Analysis Summary	15
Table 11	Forecast Opening Year With Project Conditions Study Intersection Peak Hour LOS Analysis Summary	16
Table 12	Project Required Parking Per the State Density Bonus Law	20

LIST OF EXHIBITS

Exhibit		Follows Page
Exhibit A	Proposed Project Site Location	2
Exhibit B	Proposed Site Plan	2
Exhibit C	Study Intersection Location	2
Exhibit D	Study Intersection Geometry	6
Exhibit E	Existing Conditions Traffic Volumes	6
Exhibit F	Project Forecast Trip Distribution (Inbound)	11
Exhibit G	Project Traffic Volumes	11
Exhibit H	Cumulative Projects Location Map	11
Exhibit I	Cumulative Projects Traffic Volumes	11
Exhibit J	Forecast Existing With Project Conditions Traffic Volumes	11
Exhibit K	Forecast Opening Year Without Project Conditions Traffic Volumes	11
Exhibit L	Forecast Opening Year With Project Conditions Traffic Volumes	11
Exhibit M-1	Saturn Street Project Driveway – Distance from Street to Gate	18
Exhibit M-2	Atlas Avenue Project Driveway – Distance from Street to Gate	18
Exhibit N	Driveway Crommelin Gate Queueing Analysis	18
Exhibit O-1	Saturn Street Project Driveway – Required Stopping Sight Distance	19
Exhibit O-2	Atlas Avenue Project Driveway – Required Stopping Sight Distance	19
Exhibit P	Trash Bin Location Plan	21

1.0 INTRODUCTION & PROJECT DESCRIPTION

1.1 Purpose of Report & Study Objectives

This study analyzes forecast traffic conditions associated with the proposed 601 Potrero Grande Drive Residential Project (Project) in the City of Monterey Park.

The study evaluates the traffic and level of service operations for the proposed project in accordance with the scope of work previously prepared by MAT Engineering, Inc., and reviewed and approved by City staff.

1.2 Site Location & Project Description

The project site is located at 601 Potrero Grande Drive in the City of Monterey Park.

The site is currently occupied by an office building with a total of approximately 120,191 square feet in size (this consists of 91,363 square feet at 601 Potrero Grande and 28,828 square feet at 2100 Saturn Street). The proposed project will displace the existing use.

The proposed project consists of construction and operation of 159 dwelling units of multi-family residential use. Eight (8) of the units are planned to be live/work units. The total combined live/work area for the project within these eight (8) units is approximately 3,560 square feet.

Access for the project is planned to continue to be provided via one unsignalized driveway on Atlas Avenue and one unsignalized driveway on Saturn Street. Both project access locations will be gated.

The project is planned to open and be in full operation by 2028.

Exhibit A shows the project location. **Exhibit B** shows the proposed site plan.

1.3 Study Area & Analysis Scenarios

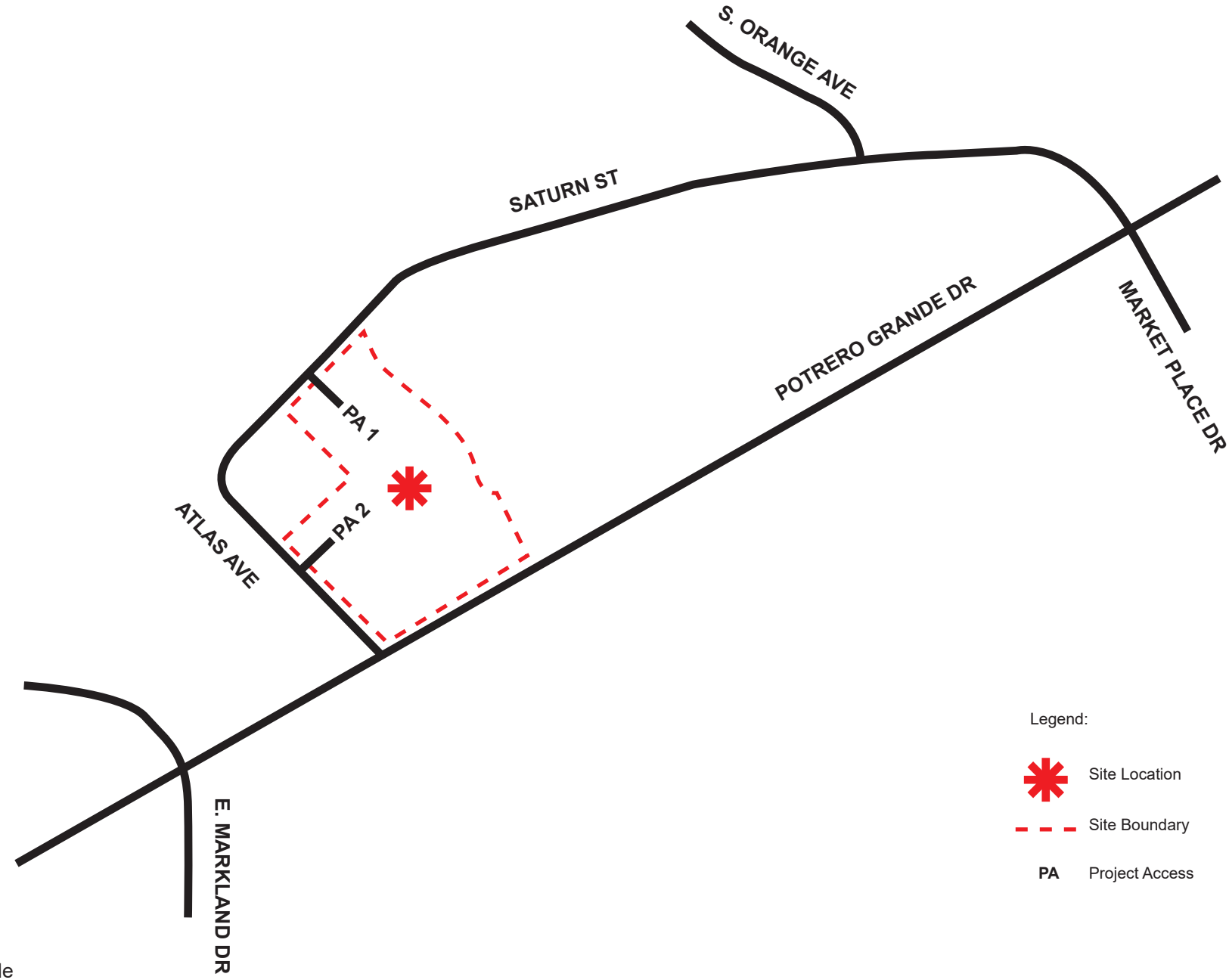
The study area has been identified based discussions with City during the scoping process and consists of the following study intersections:

1. East Markland Drive / Potrero Grande Drive;
2. Atlas Avenue / Potrero Grande Drive;
3. South Orange Avenue / Saturn Street; and
4. Saturn Street – Market Place Drive / Potrero Grande Drive.

Exhibit C shows the study intersection locations.

Consistent with the approved scope of work, the level of service analysis evaluates the following scenarios for weekday peak hour (7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM) conditions:

- Existing Conditions;
- Forecast Existing With Project Conditions;
- Forecast Opening Year Without Project Conditions (Existing + Ambient Growth + Cumulative Projects); and
- Forecast Opening Year With Project Conditions (Existing + Ambient Growth + Cumulative Projects + Project).



Not to Scale

ENGINEERING, INC.

Project Location

Exhibit A

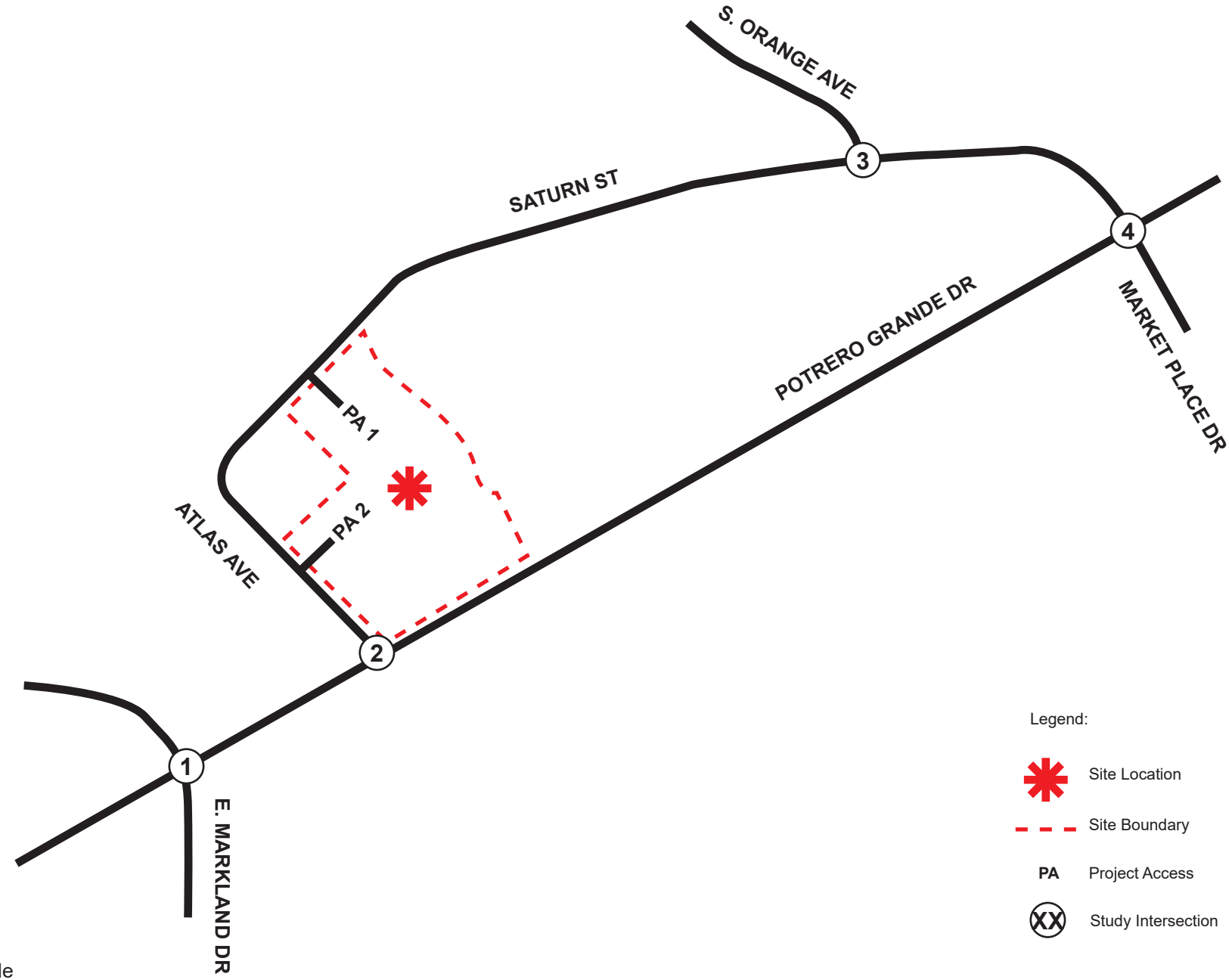


ENGINEERING, INC.

601 Potrero Grande Residential Project, City of Monterey Park, California / 0006-2026-02 MAR/2026

Site Plan

Exhibit B



ENGINEERING, INC.

Study Intersections

601 Potrero Grande Residential Project, City of Monterey Park, California / 0006-2026-02 MAR/2026

Exhibit C

2.0 ANALYSIS METHODOLOGIES, PERFORMANCE CRITERIA & THRESHOLDS

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report in accordance with the *City of Monterey Park Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment (November 2024)*.

This section also discusses the agency-established applicable performance criteria and thresholds of level of service operation for the study facilities.

2.1 Intersection Peak Hour Level of Service Analysis Methodology

Level of Service (LOS) is commonly used as a qualitative description of intersection operation and is based on the capacity of the intersection and the volume of traffic using the intersection.

The definitions of level of service for uninterrupted flow (flow unrestrained by the existence of traffic control devices) are:

- LOS A represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream.

- LOS B is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.

- LOS C is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.

- LOS D represents high-density but stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.

- LOS E represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.

- LOS F is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations.

2.1.1 City of Monterey Park Study Intersection Methodology: HCM

The methodology used to assess the operation of the study area intersections in the City of Monterey Park is the Highway Capacity Manual (HCM) methodology.

The Highway Capacity Manual (HCM) defines level of service (LOS) as a qualitative measure which describes operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The criteria used to evaluate LOS conditions vary based on the type of roadway and whether the traffic flow is considered interrupted or uninterrupted.

For intersections with stop control on the minor street only, the calculation of LOS is dependent on the occurrence of gaps in the traffic flow of the main street, and the LOS is determined based on the worst individual movement or movements sharing a single lane of the stop-controlled movement.

The Highway Capacity Manual 6th Edition (HCM 7) methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding ranges of stopped delay experienced per vehicle for intersections.

Table 2 shows the LOS criteria for intersections based on the HCM methodology.

Table 1
HCM Level of Service

Level of Service	Signalized (delay in seconds)	Unsignalized (delay in seconds)
A	0.00 - 10.00	0.00 - 10.00
B	10.10 - 20.00	10.01 - 15.00
C	20.10 - 35.00	15.01 - 25.00
D	35.10 - 55.00	25.01 - 35.00
E	55.10 - 80.00	35.01 - 50.00
F	>80.00	>50.00

2.2 Level of Service Performance Criteria

In accordance with the *City of Monterey Park Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment (November 2024)*, the acceptable LOS for intersections in the City is D or better as established in the City's General Plan. Any intersection operating at a LOS of E or F is considered deficient.

2.3 Level of Service Thresholds for Requiring Improvements

Signalized intersections will require improvements if one of the following conditions is met:

- The addition of project traffic to an intersection results in the degradation of intersection operations from acceptable operations (LOS D or better to unacceptable operations (LOS E or F).

- The project-related increase in delay is the following based on the LOS of the intersection prior to the addition of project traffic.

Table 2
City of Monterey Park
Thresholds for Requiring LOS Improvements (Signalized)

Existing Level of Service	Project-Related Increase in Delay (Seconds)
C or better	6 seconds
D	4 seconds
E or F	2 seconds

Unsignalized intersections will require improvements if both of the following conditions are met:

- The minor stop-controlled approach operates at LOS F and the addition of project trips increases the total control delay to more than 4.0 seconds per vehicle for a single lane approach or 5.0 seconds per vehicle for a multilane approach.

- The intersection meets peak hour signal warrants either caused by project volumes, or project volumes are added at an intersection that meets peak hour signal warrants in the baseline scenario(s). Peak hour signal warrants should be determined based on the latest California Manual on Uniform Traffic Control Devices (CA MUTCD).

3.0 EXISTING TRAFFIC VOLUMES & CIRCULATION SYSTEM

This section provides a discussion of existing study area conditions and traffic volumes.

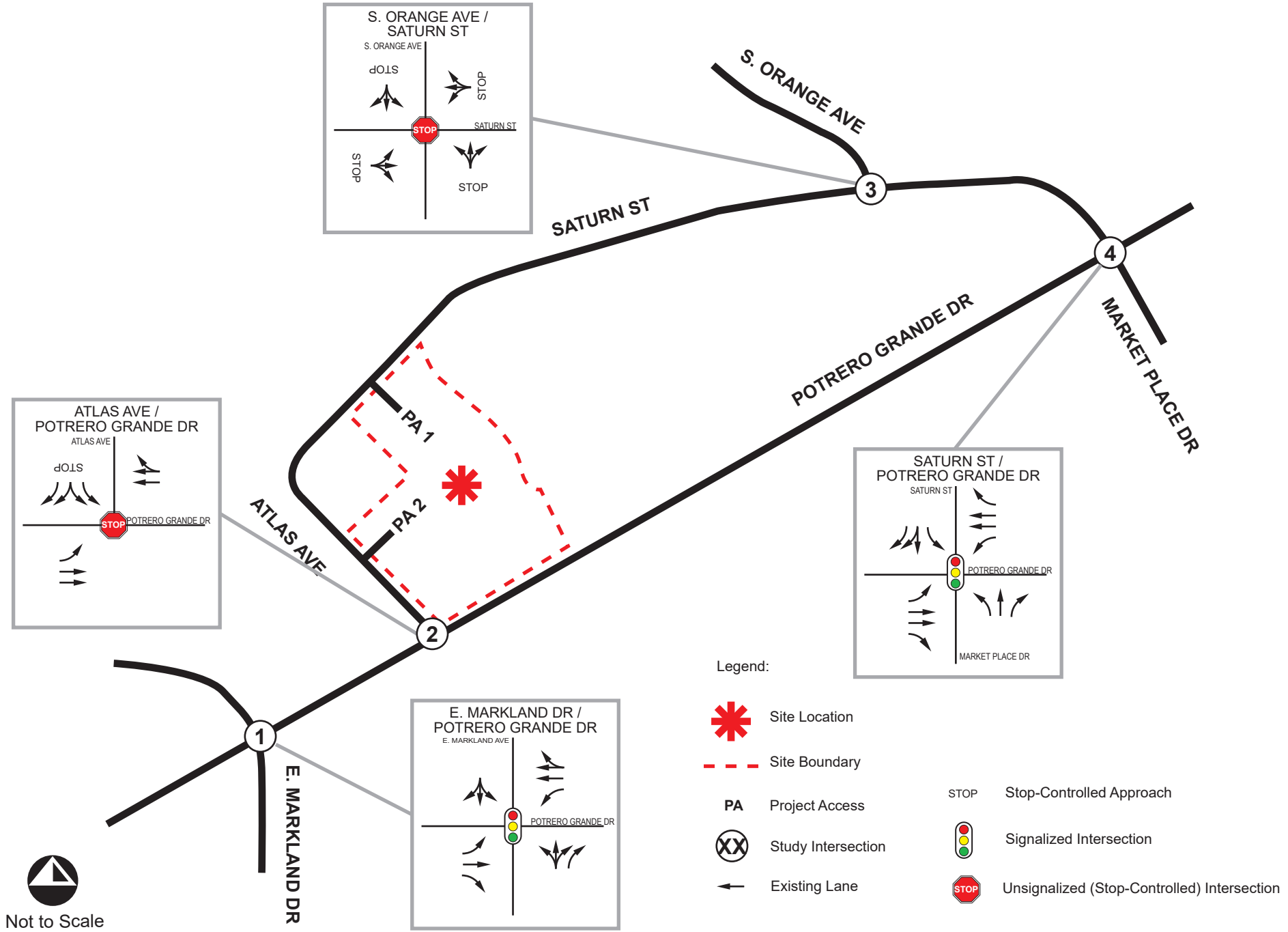
3.1 Existing Traffic Controls & Intersection Geometrics

Exhibit D identifies the existing roadway conditions for the study area. The number of through traffic lanes for existing roadways and the existing intersection controls are identified.

3.2 Existing Traffic Volumes

Existing Conditions intersection level of service calculations are based upon manual AM and PM peak hour turning movement counts taken in January 2026 during typical conditions when schools were in session. The AM peak hour traffic volumes were determined by counting the two-hour period between 7:00 AM and 9:00 AM. Similarly, the PM peak hour traffic volumes were identified by counting the two-hour period between 4:00 PM and 6:00 PM.

Exhibit E shows the existing traffic volumes at the study intersections. Detailed traffic count worksheets are included in **Appendix A**.

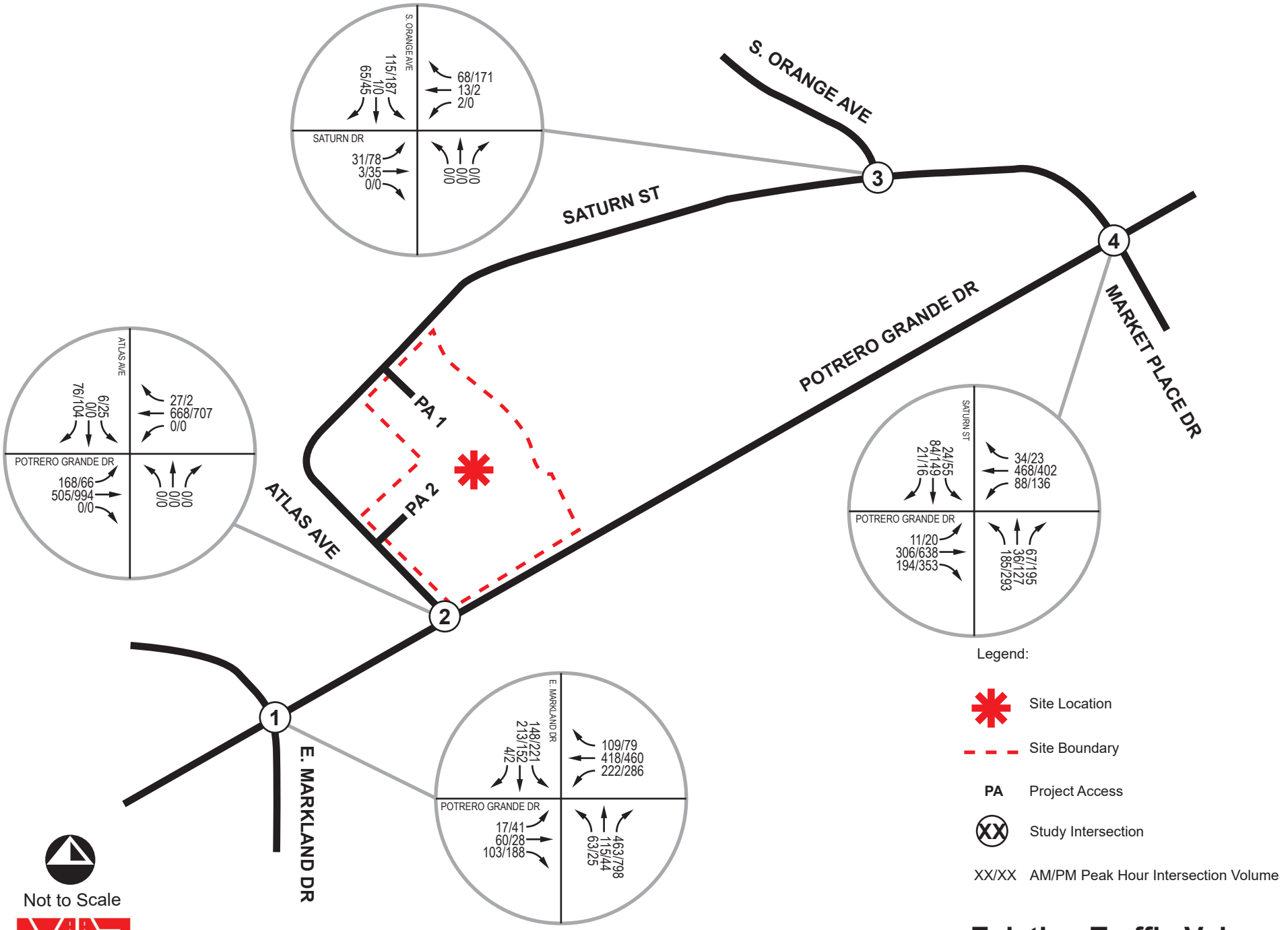


Existing Study Intersection Geometry

Exhibit D

ENGINEERING, INC.

601 Potrero Grande Residential Project, City of Monterey Park, California / 0006-2026-02 MAR/2026



ENGINEERING, INC.

Existing Traffic Volumes

Exhibit E

4.0 PROJECT TRIPS & STUDY AREA TRAFFIC VOLUMES

This section provides a discussion on methodologies utilized to derive future traffic volumes for the study area.

4.1 Project Trip Generation

Trip generation represents the amount of trips attracted and produced by a land use.

The trip generation for the project is based upon the specific land uses that have been planned for this project and has been determined utilizing the Institute of Transportation Engineers (ITE) trip generation rates which is an industry standard for calculating trips associated with land uses.

Table 3 shows the trip ITE trip generation rates for the proposed project as well as the existing office use on the site.

Table 3
Proposed Project ITE Trip Generation Rates

Land Use	ITE Code	Units	Peak Hour						Daily
			AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
Multi Family Residential (Low-Rise)	220	DU	0.10	0.31	0.41	0.32	0.20	0.52	6.21
Office	710	TSF	1.09	0.15	1.24	0.19	0.99	1.18	7.83

Notes:

Source: 2025 ITE 12th Edition Trip Generation Manual; DU = Dwelling Units; TSF = Thousand Square Feet.

Utilizing the ITE trip generation rates from **Table 3**, **Table 4** shows a summary of the trip generation for the proposed project.

Table 4
Proposed Project Trip Generation Summary

Land Use	Quantity	Units	ITE Code	Peak Hour						Daily
				AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	
Multi Family Residential (Low-Rise)	159	DU	220	16	49	65	51	32	83	987

Notes: Trip Generation Source: 2025 ITE 12th Edition Trip Generation Manual; DU = Dwelling Units.

As shown in **Table 4**, utilizing the ITE trips rates, the proposed project is forecast to generate approximately 987 daily trips which include approximately 65 AM peak hour trips and approximately 83 PM peak hour trips.

Utilizing the ITE trip generation rates from **Table 3**, **Table 5** shows a summary of the trip generation for the existing office use.

Table 5
Existing Office Use Trip Generation Summary

Land Use	Quantity	Units	ITE Code	Peak Hour						Daily
				AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	
Office	120.191	TSF	710	131	18	149	23	119	142	941

Notes: Trip Generation Source: 2025 ITE 12th Edition Trip Generation Manual; TSF = Thousand Square Feet.

As shown in **Table 5**, based on the ITE trips rates, the existing office use is forecast to generate approximately 941 daily trips which include approximately 149 AM peak hour trips and approximately 142 PM peak hour trips.

Table 6 shows a comparison of the trip generation between the existing office use and the proposed residential use.

Table 6
Proposed Project Net Trip Generation Summary

Land Use	Quantity	Units	ITE Code	Peak Hour						Daily
				AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	
Proposed Residential Use				16	49	65	51	32	83	987
Existing Office Use				-131	-18	-149	-23	-119	-142	-941
Net Difference				***-115***	***31***	***-84***	***28***	***-87***	***-59***	***46***

As shown in **Table 6**, based on the ITE trips rates, when compared to the existing office use, the proposed project is forecast to generate approximately 46 additional net daily trips which include approximately 84 net fewer AM peak hour trips and approximately 59 net fewer PM peak hour trips. **This traffic analysis utilizes the full project trip generation shown in Table 4**.

4.2 Project Trip Distribution

Trip distribution represents the directional orientation of traffic to and from the project site.

Trip distribution is heavily influenced by the geographical location of the site, the location of residential, employment and recreational opportunities, and the proximity to the regional freeway system. The directional orientation of traffic was determined by evaluating existing and proposed land uses, and highways within the community and existing traffic volumes.

Exhibit F shows the project forecast trip distribution.

4.3 Project Traffic Volumes

The assignment of traffic from the project site to the adjoining roadway system has been based upon the project's trip generation, trip distribution, and proposed arterial highway and local street systems that this traffic study assumes would be in place by the time of initial occupancy of the site. **Exhibit G** shows the project traffic volumes.

4.4 Background Traffic

Project opening year (2028) background traffic volumes are derived by applying an annual growth rate of 1.0 percent per year to the existing (2026) traffic volumes.

4.4.1 Cumulative Projects

Information on cumulative projects in the vicinity of the study area has been provided by City of Monterey Park staff for inclusion in this analysis.

Exhibit H shows the location of the approved and pending projects. **Table 7** shows the trip generation of the approved and pending projects based on corresponding ITE trip generation rates.

Table 7
Cumulative Projects Trip Generation Summary

Approved/Pending Project & Land Use	Quantity	Units	ITE Code	Peak Hour						Daily
				AM Peak Hour			PM Peak Hour			
				In	Out	Total	In	Out	Total	
1. 1977 Saturn Street										
Data Center	248	TSF	160	12	5	17	2	10	12	181
Total Approved/Pending Projects				***12***	***5***	***17***	***2***	***10***	***12***	***181***

Notes: Trip Generation Source: 2025 ITE 12th Edition Trip Generation Manual;
TSF = Thousand Square Feet

Cumulative projects traffic volumes at the study intersections are shown in **Exhibit I**.

In reality, some of the approved and pending projects may change in scope and/or may not be open and generating trips by the opening year (2028) of the proposed project. In addition, many of the pending and approved projects will be subject to a variety of mitigation measures associated with those projects. However, those mitigation measures have not been taken into account in this analysis, resulting in a conservative analysis.

4.5 Forecast Existing With Project Conditions Traffic Volumes

Forecast Existing With Project Conditions traffic volumes consist of the summation of the Existing traffic volumes shown in **Exhibit E** and the project traffic volumes shown in **Exhibit G**.

Forecast Existing With Project Conditions traffic volumes are shown in **Exhibit J**.

4.6 Forecast Opening Year Without Project Conditions Traffic Volumes

Forecast Opening Year Without Project Conditions traffic volumes consist of existing traffic volumes shown in **Exhibit E** after application of an annual growth rate of 1.0 percent per year over a two-year period plus the traffic generated by the cumulative projects as shown in **Exhibit I**.

Forecast Opening Year Without Project Conditions traffic volumes are shown in **Exhibit K**.

4.7 Forecast Opening Year With Project Conditions Traffic Volumes

Forecast Opening Year With Project Conditions traffic volumes consist of Existing traffic volumes shown in **Exhibit E** after application of an annual growth rate of 1.0 percent per year over a two-year period plus the traffic generated by the cumulative projects as shown in **Exhibit I** plus the project traffic volumes shown in **Exhibit G.**

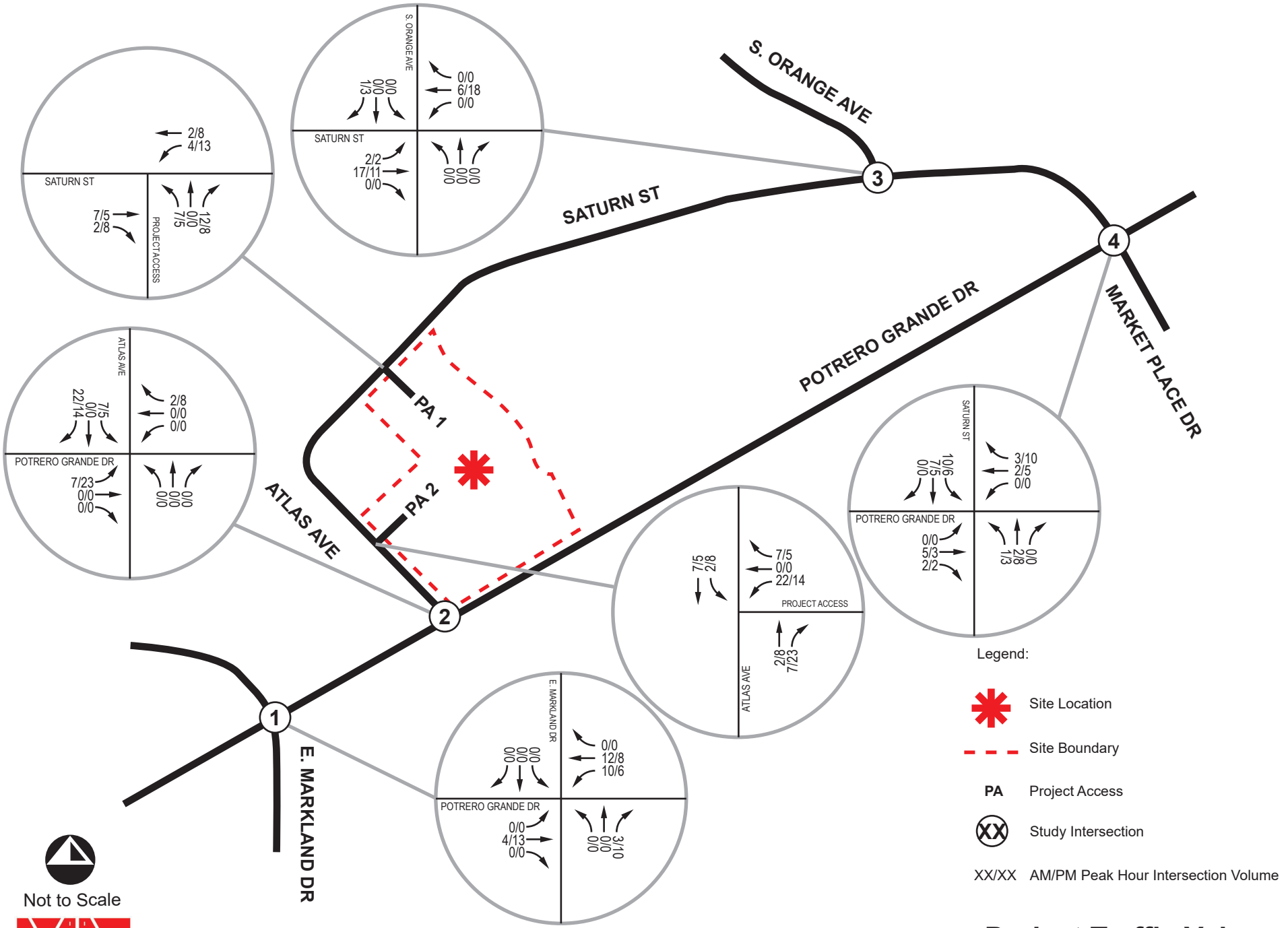
Forecast Opening Year With Project Conditions traffic volumes are shown in **Exhibit L**.

ENGINEERING, INC.

Project Trip Distribution

601 Potrero Grande Residential Project, City of Monterey Park, California / 0006-2026-02 MAR/2026

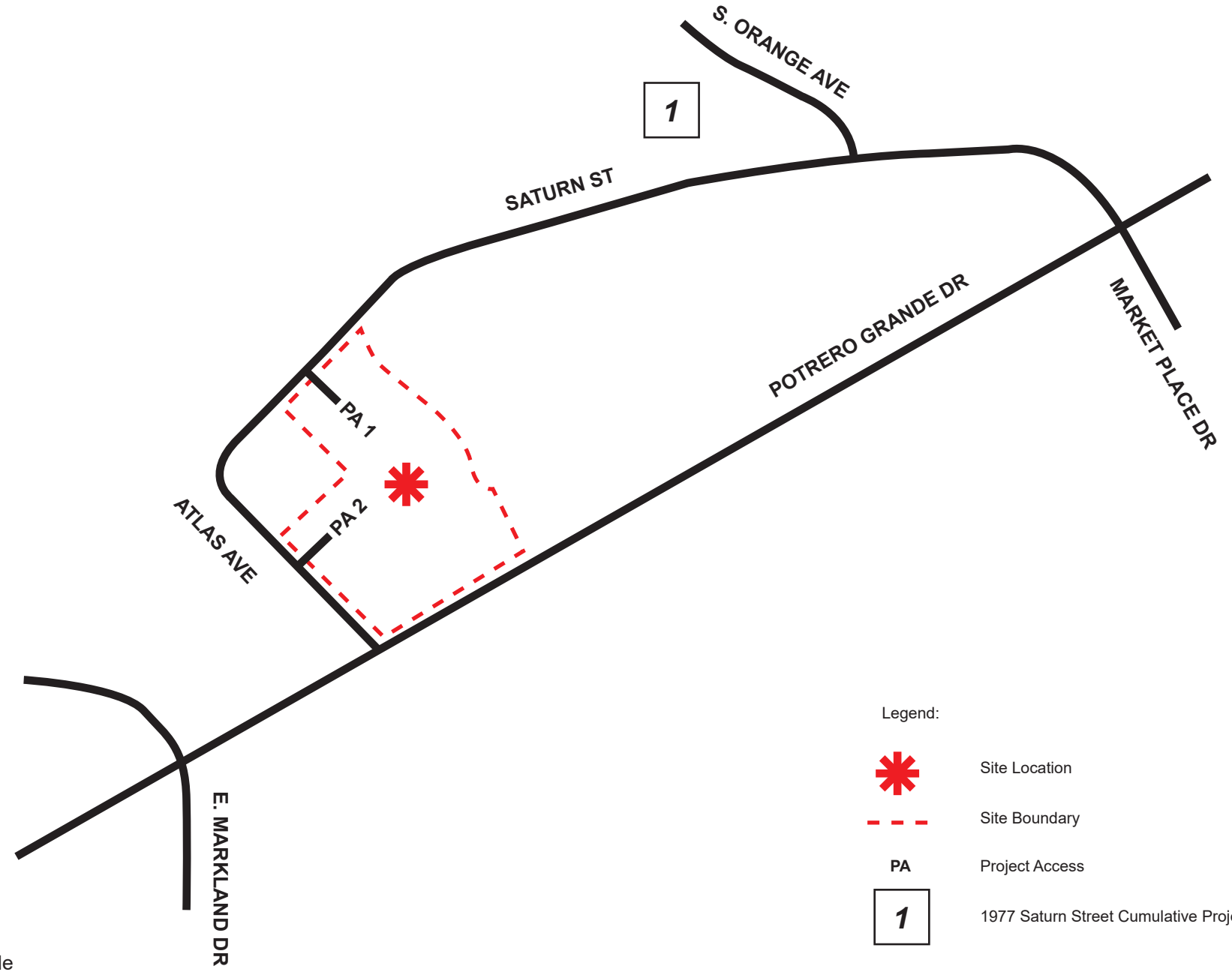
Exhibit F



Project Traffic Volumes

Exhibit G

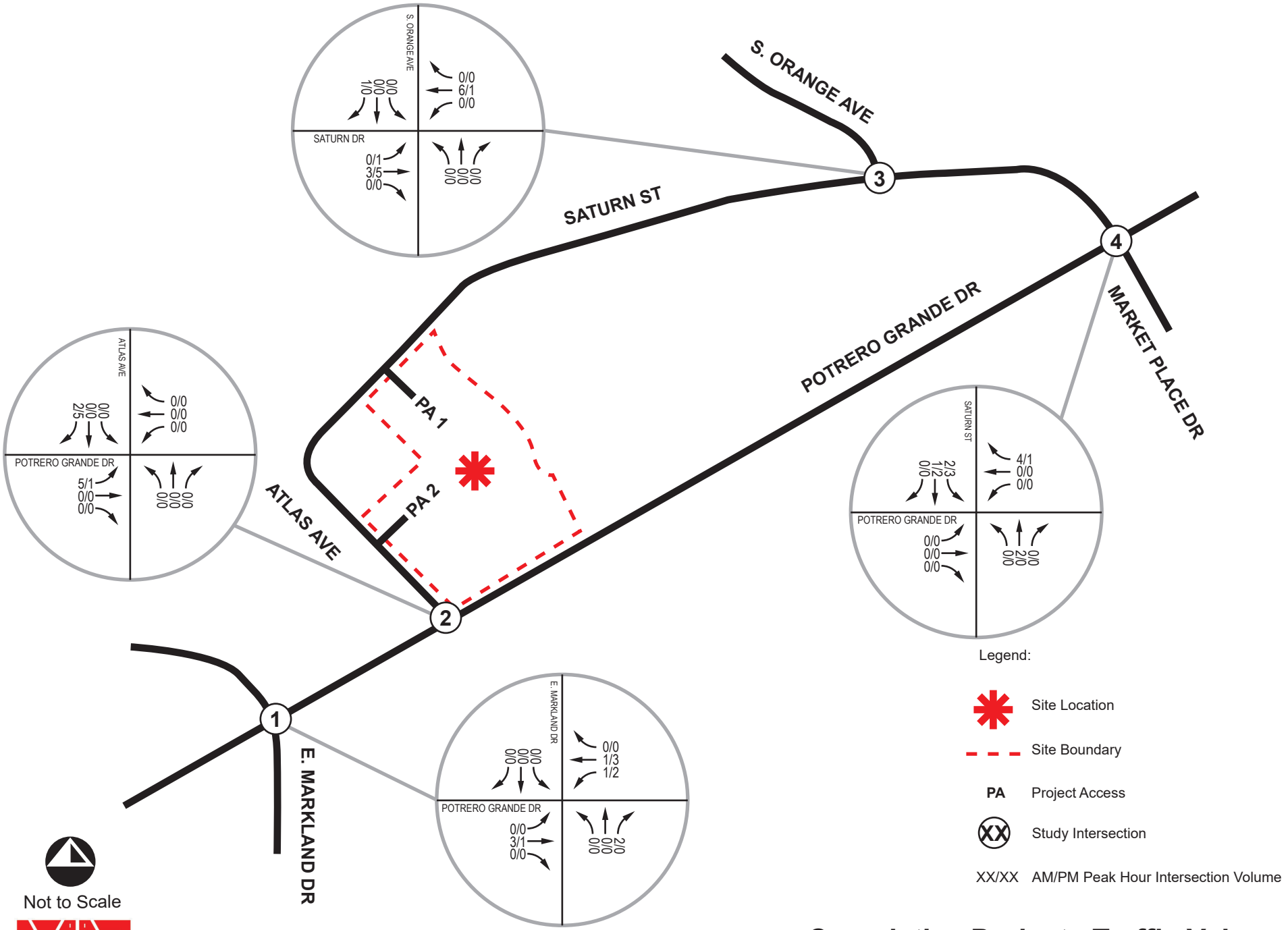
ENGINEERING, INC.



Not to Scale

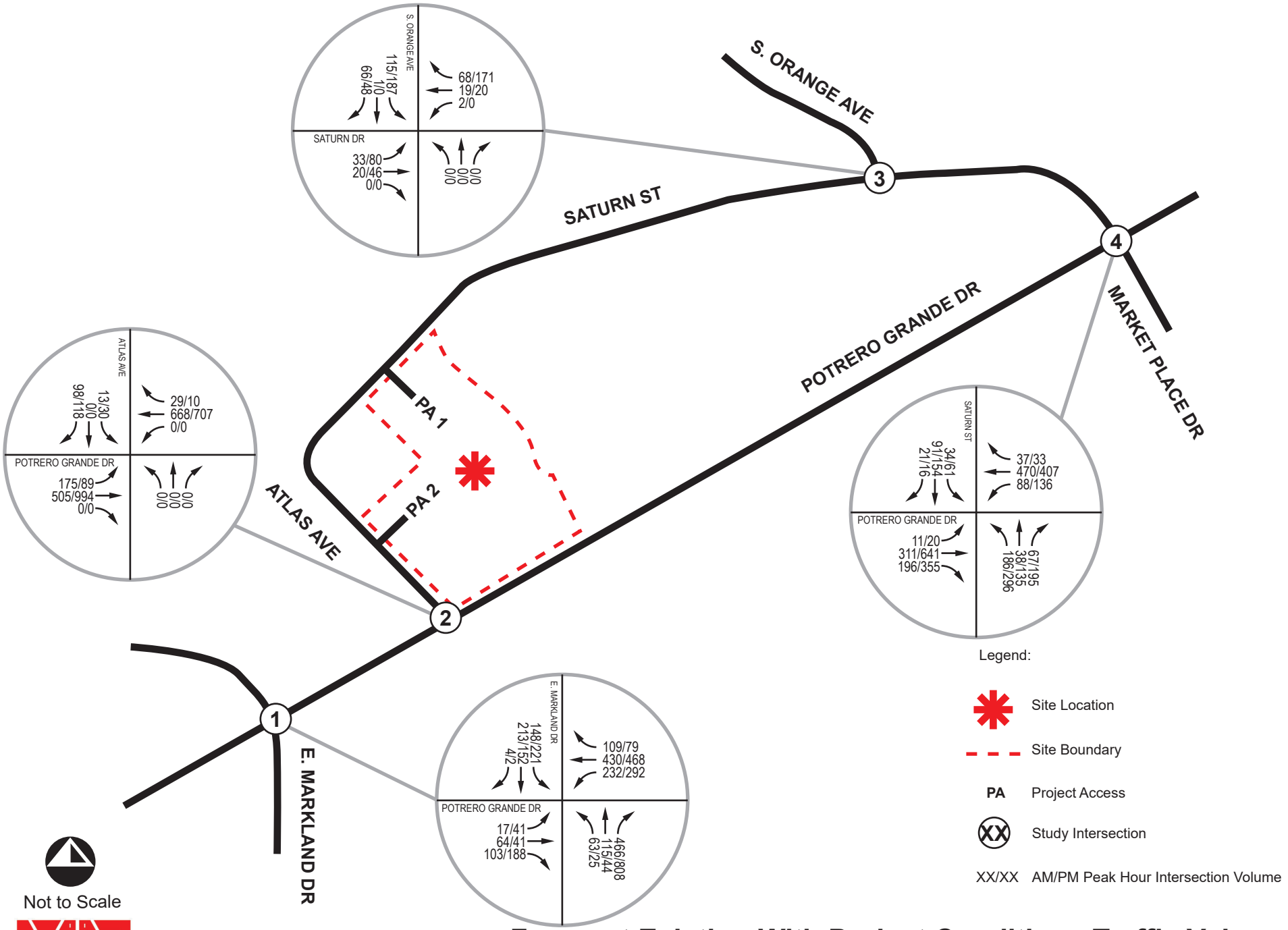
ENGINEERING, INC.

Cumulative Projects Location



Cumulative Projects Traffic Volumes

ENGINEERING, INC.

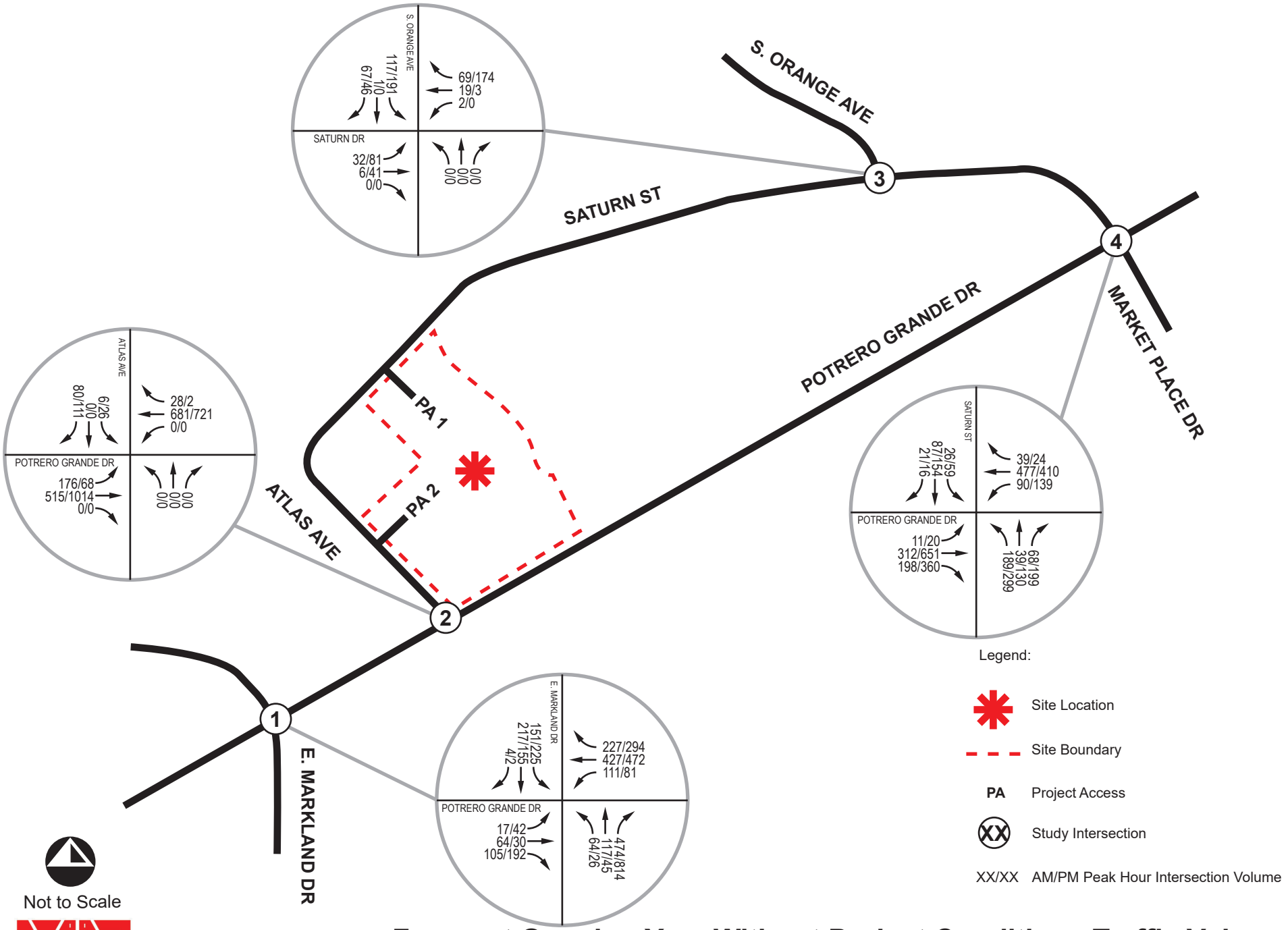


Forecast Existing With Project Conditions Traffic Volumes

ENGINEERING, INC.

601 Potrero Grande Residential Project, City of Monterey Park, California / 0006-2026-02 MAR/2026

Exhibit J

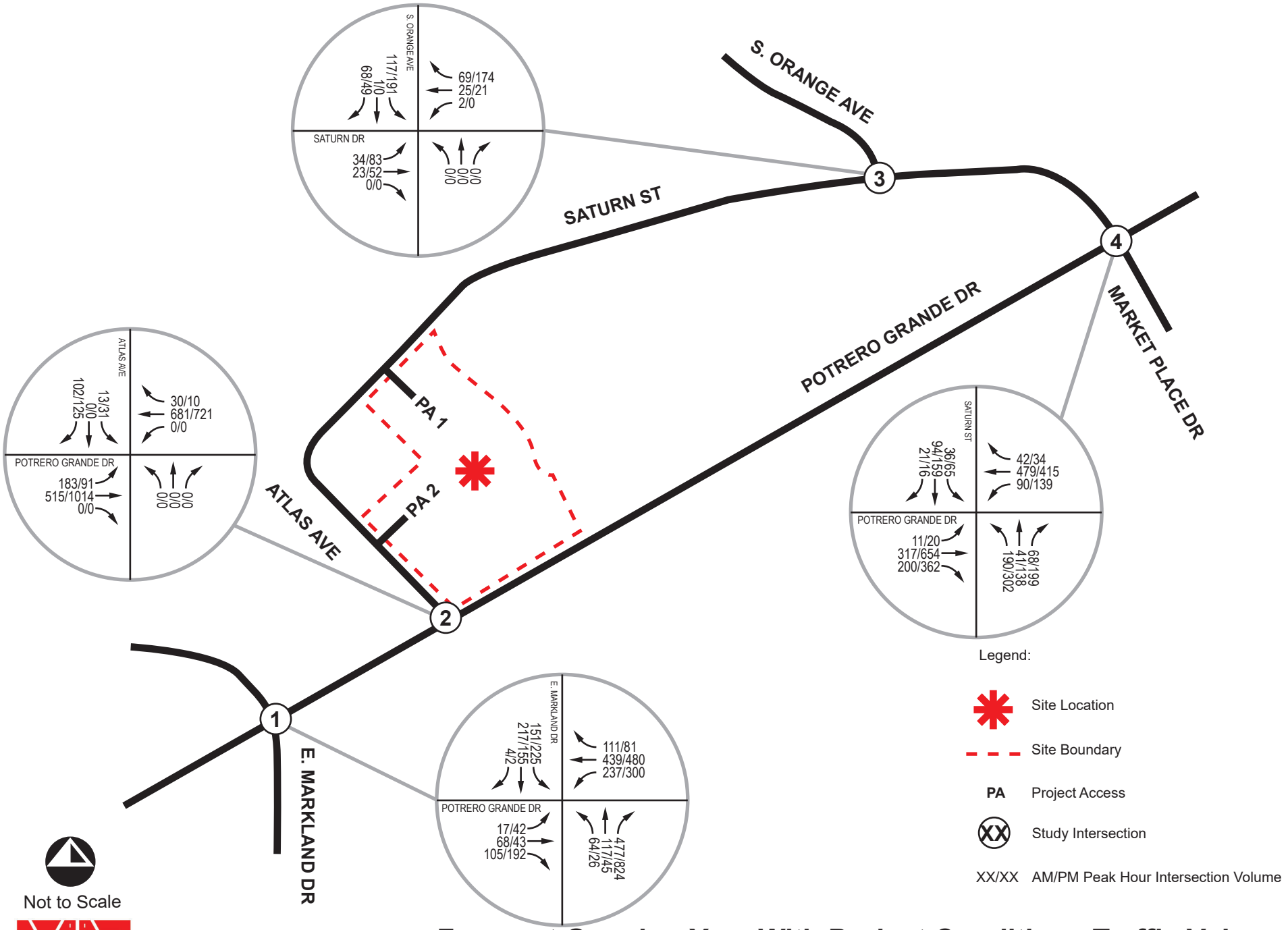


Forecast Opening Year Without Project Conditions Traffic Volumes

601 Potrero Grande Residential Project, City of Monterey Park, California / 0006-2026-02 MAR/2026

Exhibit K

ENGINEERING, INC.



Forecast Opening Year With Project Conditions Traffic Volumes

ENGINEERING, INC.

601 Potrero Grande Residential Project, City of Monterey Park, California / 0006-2026-02 MAR/2026

Exhibit L

5.0 LEVEL OF SERVICE ANALYSIS

This section provides a discussion on the study intersection peak hour level of service analysis and findings for the study intersections.

The analysis accounts for the two-stage left-turn operation of the southbound left-turn at the Atlas Avenue / Potrero Grande Drive intersection where left-turning vehicles can utilize the painted median refuge on Potrero Grande Drive to make a left-turn out of Atlas Avenue and wait for gaps in the traffic on Potrero Grande Drive before completing the left-turn maneuver.

Additionally, the Atlas Avenue approach of the Atlas Avenue / Potrero Grande intersection currently has one dedicated left-turn lane, one shared left-turn/right-turn lane and one dedicated right-turn lane. However, the Highway Capacity Manual analysis methodology has limitations on the number of approach lanes at unsignalized intersections. Hence, for the level of service analysis, assumes the Atlas Avenue approach to have one dedicated left-turn lane and one dedicated right-turn lane. As shown in the subsequent sections of this report, the intersection still operates at an acceptable level of service with this geometry. Since the intersection is unsignalized, it is not recommended to have two left-turn lanes. Therefore, ***it is recommended the Atlas Avenue approach at the Atlas Avenue / Potrero Grande intersection be restriped from one dedicated left-turn lane, one shared left-turn/right-turn lane and one dedicated right-turn lane to only consist of one dedicated left-turn lane and one dedicated right-turn lane.***

5.1 Existing Conditions Level of Service

Existing Conditions Level of Service (LOS) calculations for the study intersections are shown in **Table 8** and are based upon the Existing Conditions peak hour turning movement volumes shown in **Exhibit E** and the existing geometry shown in **Exhibit D**.

Table 8
Existing Conditions - Study Intersection Peak Hour LOS Analysis Summary

#	Study Intersection (North-South / East-West)	Traffic Control Type	Analysis Methodology	LOS Standard	Existing Conditions			
					AM Peak Hour		PM Peak Hour	
					Delay	LOS	Delay	LOS
1	E. Markland Dr / Potrero Grande Dr	TS	HCM	D	19.2	B	28.5	C
2	Atlas Ave / Potrero Grande Dr	CSS	HCM	D	23.3	C	21.8	C
3	S. Orange Ave / Saturn St	AWS	HCM	D	8.3	A	9.4	A
4	Saturn Street – Market Place Dr / Potrero Grande Dr	TS	HCM	D	15.0	B	19.0	B

Notes:

Intersection Methodology: HCM (Highway Capacity Manual) 7th Edition methodology based on delay (shown and reported in seconds) utilizing Synchro Version 12 analysis software.

TS = Traffic Signal; CSS = Cross-Street Stop; AWS = All-way Stop;

As shown in **Table 8**, the study area intersections currently operate at an acceptable level of service (LOS D or better) during the peak hours for Existing Conditions.

Detailed level of service analysis sheets are contained in **Appendix B**.

5.2 Forecast Existing With Project Conditions Level of Service

Forecast Existing With Project Conditions Level of Service (LOS) calculations for the study intersections are shown in **Table 9** and are based upon the Forecast Existing With Project Conditions peak hour turning movement volumes shown in **Exhibit J** and the existing study intersection geometry shown in **Exhibit D**.

Table 9
Forecast Existing With Project Conditions
Study Intersection Peak Hour LOS Analysis Summary

#	Study Intersection (North-South / East-West)	Traffic Control Type	Analysis Methodology	LOS Standard	Existing Conditions				Forecast Existing With Project Conditions				Change		Requires Improvement?	
					AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM	AM	PM
					Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS				
1	E. Markland Dr / Potrero Grande Dr	TS	HCM	D	19.2	B	28.5	C	19.6	B	29.1	C	0.4	0.6	NO	NO
2	Atlas Ave / Potrero Grande Dr	CSS	HCM	D	23.3	C	21.8	C	24.8	C	24.4	C	1.5	2.6	NO	NO
3	S. Orange Ave / Saturn St	AWS	HCM	D	8.3	A	9.4	A	8.5	A	9.7	A	0.2	0.3	NO	NO
4	Saturn Street – Market Place Dr / Potrero Grande Dr	TS	HCM	D	15.0	B	19.0	B	15.0	B	19.1	B	0.0	0.1	NO	NO

Notes:

Intersection Methodology: HCM (Highway Capacity Manual) 7th Edition methodology based on delay (shown and reported in seconds) utilizing Synchro Version 12 analysis software.

TS = Traffic Signal; CSS = Cross-Street Stop; AWS = All-way Stop;

As shown in **Table 9**, the study area intersections are forecast to continue to operate at an acceptable level of service (LOS D or better) during the peak hours for Forecast Existing With Project Conditions.

As also shown in **Table 9**, based on the City's adopted and established thresholds, no level of service improvements are required at the study intersections to accommodate the project trips for Forecast Existing With Project Conditions.

Detailed level of service analysis sheets are contained in **Appendix B**.

5.3 Forecast Opening Year Without Project Conditions Level of Service

Forecast Opening Year Without Project Conditions Level of Service (LOS) calculations for the study intersections are shown in **Table 10** and are based upon the Forecast Opening Year Without Project Conditions peak hour turning movement volumes shown in **Exhibit K** and the existing geometry shown in **Exhibit D**.

Table 10
Forecast Opening Year Without Project Conditions
Study Intersection Peak Hour LOS Analysis Summary

#	Study Intersection (North-South / East-West)	Traffic Control Type	Analysis Methodology	LOS Standard	Forecast Opening Year Without Project Conditions			
					AM Peak Hour		PM Peak Hour	
					Delay	LOS	Delay	LOS
1	E. Markland Dr / Potrero Grande Dr	TS	HCM	D	20.5	C	30.1	C
2	Atlas Ave / Potrero Grande Dr	CSS	HCM	D	24.5	C	22.4	C
3	S. Orange Ave / Saturn St	AWS	HCM	D	8.4	A	9.6	A
4	Saturn Street – Market Place Dr / Potrero Grande Dr	TS	HCM	D	15.0	B	19.4	B

Notes:

Intersection Methodology: HCM (Highway Capacity Manual) 7th Edition methodology based on delay (shown and reported in seconds) utilizing Synchro Version 12 analysis software.

TS = Traffic Signal; CSS = Cross-Street Stop; AWS = All-way Stop;

As shown in **Table 10**, the study area intersections are forecast to continue to operate at an acceptable level of service (LOS D or better) during the peak hours for Forecast Opening Year Without Project Conditions.

Detailed level of service analysis sheets are contained in **Appendix B**.

5.4 Forecast Opening Year With Project Conditions Level of Service

Forecast Opening Year With Project Conditions Level of Service (LOS) calculations for the study intersections are shown in **Table 11** and are based upon the Forecast Opening Year With Project Conditions peak hour turning movement volumes shown in **Exhibit L** and the study intersection geometry shown in **Exhibit D**.

Table 11
Forecast Opening Year With Project Conditions
Study Intersection Peak Hour LOS Analysis Summary

#	Study Intersection (North-South / East-West)	Traffic Control Type	Analysis Methodology	LOS Standard	Forecast Opening Year Without Project Conditions				Forecast Opening Year With Project Conditions				Change		Requires Improvement?	
					AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM	AM	PM
					Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS				
1	E. Markland Dr / Potrero Grande Dr	TS	HCM	D	20.5	C	30.1	C	21.0	C	32.2	C	0.5	2.1	NO	NO
2	Atlas Ave / Potrero Grande Dr	CSS	HCM	D	24.5	C	22.4	C	26.1	D	24.9	C	1.6	2.5	NO	NO
3	S. Orange Ave / Saturn St	AWS	HCM	D	8.4	A	9.6	A	8.6	A	9.9	A	0.2	0.3	NO	NO
4	Saturn Street – Market Place Dr / Potrero Grande Dr	TS	HCM	D	15.0	B	19.4	B	15.0	B	19.5	B	0.0	0.1	NO	NO

Notes:

Intersection Methodology: HCM (Highway Capacity Manual) 7th Edition methodology based on delay (shown and reported in seconds) utilizing Synchro Version 12 analysis software.

TS = Traffic Signal; CSS = Cross-Street Stop; AWS = All-way Stop;

As shown in **Table 11**, the study area intersections are forecast to continue to operate at an acceptable level of service (LOS D or better) during the peak hours for Forecast Opening Year With Project Conditions.

As also shown in **Table 11**, based on the City's adopted and established thresholds, no level of service improvements are required at the study intersections to accommodate the project trips for Forecast Opening year With Project Conditions.

Detailed level of service analysis sheets are contained in **Appendix B**.

6.0 DRIVEWAY GATE STACKING CAPACITY EVALUATION

An evaluation of gate stacking has been performed for the proposed gated access driveways. As shown in **Exhibit G**, based on the analysis:

- Approximately 6 vehicles enter the Saturn Street driveway during the AM peak hour and approximately 21 vehicles enter the Saturn Street driveway during the PM peak hour

- Approximately 9 vehicles enter the Atlas Avenue driveway during the AM peak hour and approximately 31 vehicles enter the Atlas Avenue driveway during the PM peak hour

Exhibit M-1 shows the proposed gate stacking distance for the driveway on Saturn Street. As shown in **Exhibit M-1**, approximately 48 feet (equivalent of approximately two vehicles) of stacking is planned to be provided at the Saturn Street driveway.

Exhibit M-2 shows the proposed gate stacking distance for the driveway on Atlas Avenue. As shown in **Exhibit M-2**, approximately 79 feet of stacking (equivalent of approximately 4 vehicles) is planned to be provided at the Atlas Avenue driveway. As shown in **Exhibit M-2**, the Atlas Avenue driveway width and entry lane is wide and can potentially allow for two entry lanes or for implementation of a bypass lane. Since homeowners will have transmitters for more immediate access, they can utilize the bypass lane on the right side. Guests can remain in the left lane and wait to gain access.

MAT Engineering, Inc. has conducted an analysis of gate queueing/stacking to determine the required stacking space between the gate and the edge of the roadway to avoid vehicles backing up onto the public right-of-way as they are waiting to enter the site.

The Crommelin methodology has been utilized to determine the appropriate stacking capacity at the two project entry locations. The methodology utilizes the arrival rate of vehicles and the service rate at which arriving vehicles are processed to determine the traffic intensity and resulting vehicular queues building up behind the gate. The methodology calculates the number of vehicles which are waiting in the queue behind the one vehicle that is being served at the gate. The traffic intensity is calculated by dividing the average arrival rate by the average service rate. Crommelin analysis methodology is contained in **Appendix C**.

As shown in Table 4 of the Crommelin methodology document contained in **Appendix C**, different gate types provide different service rates depending on how fast they can close and open and process inbound vehicles. The rates range from 140 vehicles per hour of design service rate to 1,200 vehicles per hour and are based on field observations conducted as part of the

methodology. For the purposes of this analysis, the lowest and minimum service rate of 140 vehicles per hour are utilized to provide a conservative analysis.

The methodology provides the expected length of the vehicular queue based on average (50 percent) probability, 95 percent probability, and 99 percent probability. The 99th percentile probability is the most conservative level of analysis result, meaning the probability of occurrence is one or less per 100 occurrences.

Since the PM peak hour at the Atlas Avenue driveway has the highest inbound traffic levels for the project, the analysis is based on the PM peak hour arrival rates at this driveway.

Assuming an arrival rate of 31 vehicles per hour and a service rate of 140 vehicles per hour, (traffic intensity of 0.22), the 99-percentile required stacking capacity at the project gated access is forecast to be approximately two (2) vehicles when accounting for the one vehicle in front of the queue that is being served at the gate. Utilizing the industry-standard vehicle length of 20 feet for the purposes of vehicular queueing analysis, this is equivalent to a queue of 40 feet to accommodate a queue of two (2) vehicles. The Crommelin analysis worksheet and calculations are shown in **Exhibit N**.

Therefore, based on the analysis, the gate stacking capacity is found adequate to serve the proposed project.



Not to Scale

ENGINEERING, INC.

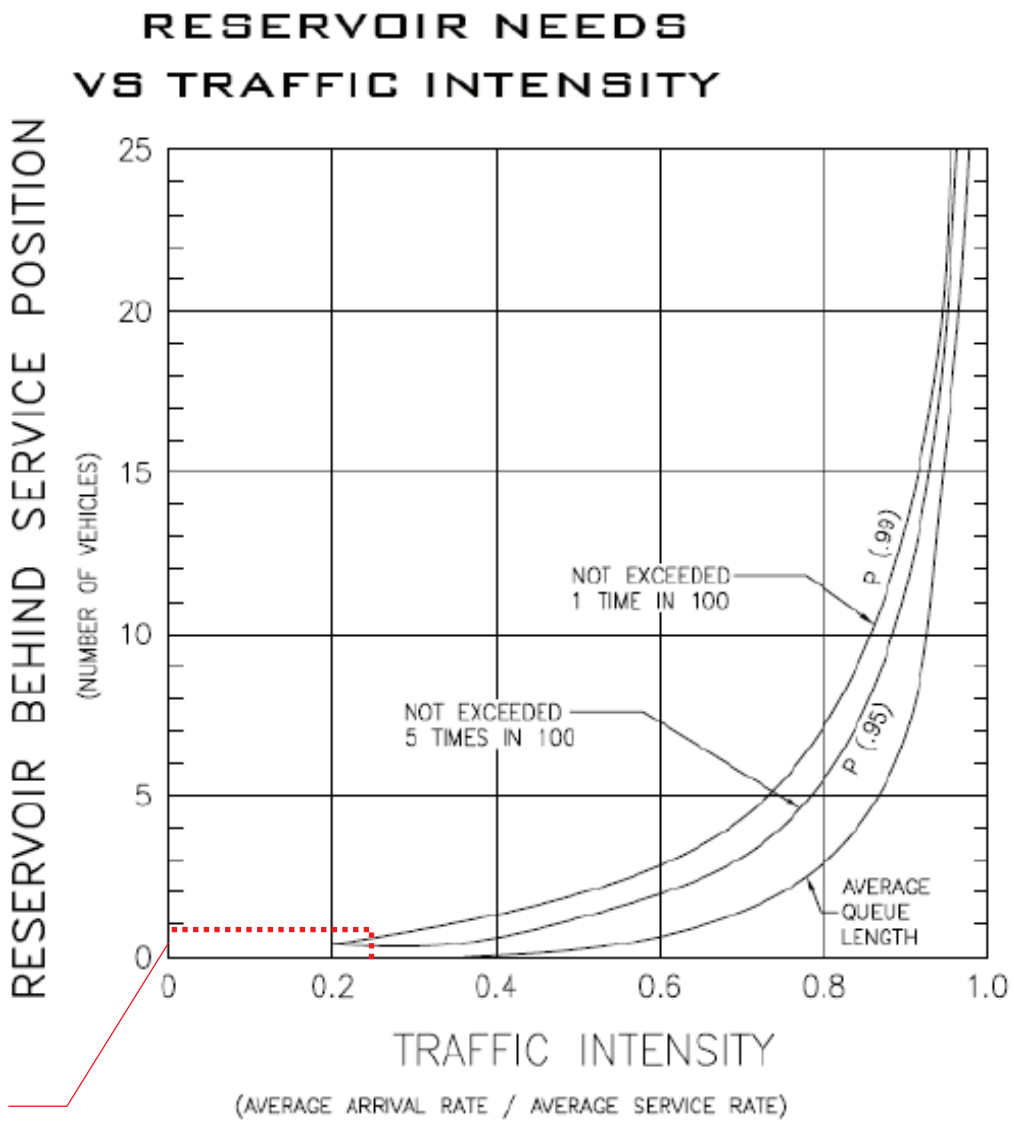
Saturn Street Project Driveway - Distance from Street to Gate



Not to Scale

ENGINEERING, INC.

Atlas Avenue Project Driveway - Distance from Street to Gate



Not to Scale

ENGINEERING, INC.

Crommelin Methodology Peak Hour Gate Stacking Analysis

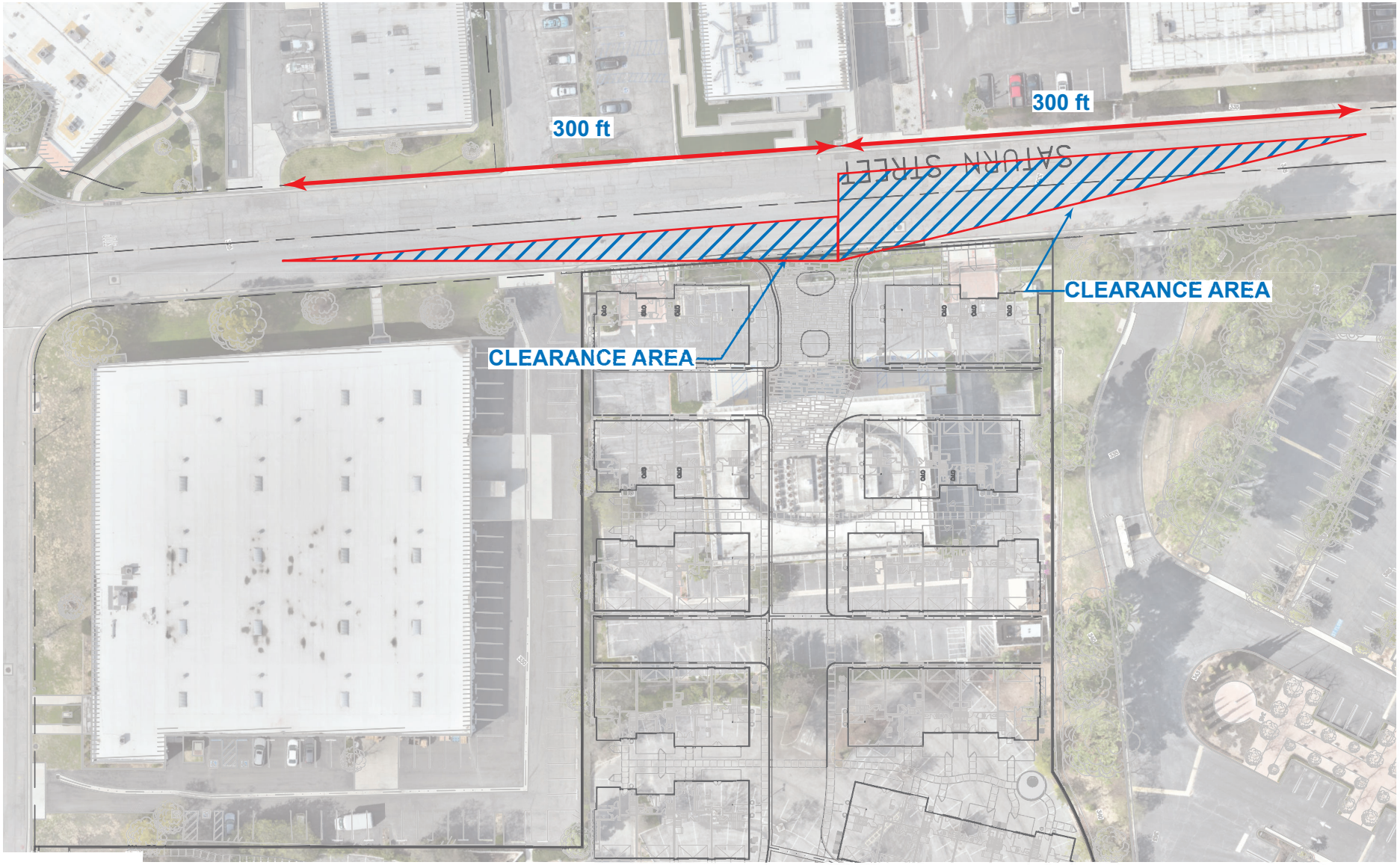
7.0 DRIVEWAY SIGHT DISTANCE EVALUATION

An evaluation of stopping sight distance has been conducted for the project driveways on Saturn Street and Atlas Avenue.

The analysis assumes a design speed of 40 miles per hour for the purposes of the sight distance analysis on Saturn Street and Atlas Avenue. Per the Caltrans highway Design Manual (HDM), this would require a stopping sight distance of approximately 300 feet.

Exhibit O-1 shows the stopping sight distance analysis results for the project driveway on Saturn Street.

Exhibit O-2 shows the stopping sight distance analysis results for the project driveway on Atlas Avenue.



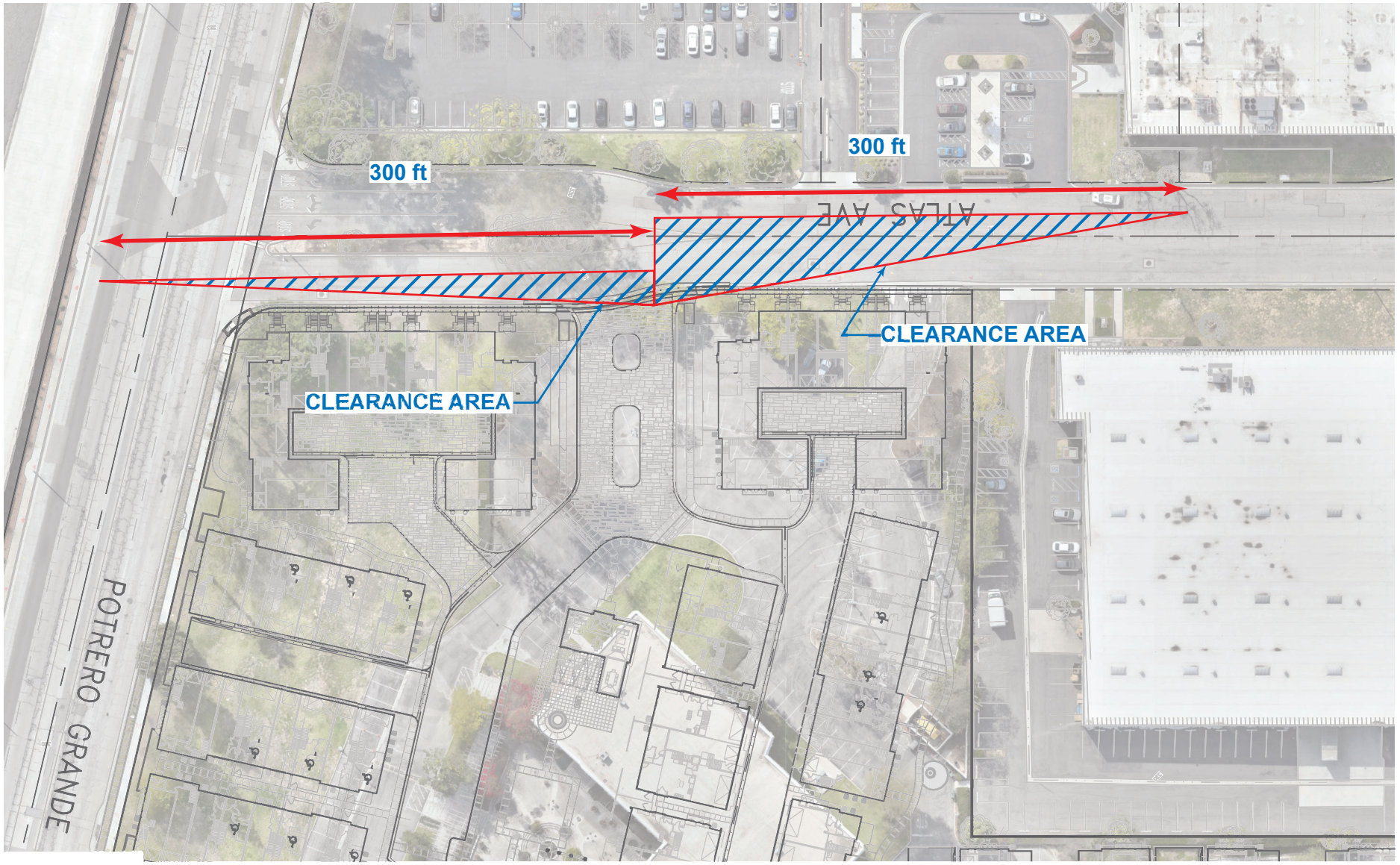
Not to Scale

ENGINEERING, INC.

Saturn Street Project Driveway - Required Stopping Sight Distance

601 Potrero Grande Residential Project, City of Monterey Park, California / 0006-2026-02 APR/2026

Exhibit O-1



Not to Scale

ENGINEERING, INC.

Atlas Avenue Project Driveway - Required Stopping Sight Distance

601 Potrero Grande Residential Project, City of Monterey Park, California / 0006-2026-02 APR/2026

Exhibit O-2

8.0 ON-SITE PARKING & WASTE COLLECTION SERVICES

Since the project is planned to provide over 10 or more percent affordable housing units, it will qualify for the State density bonus law and would need to provide parking for the residential use per the State density bonus law requirements which are as follows:

- Zero to one bedroom units: 1.0 onsite parking space per unit (covered or uncovered);
- Two to three bedroom units: 1.5 onsite parking space per unit (covered or uncovered); and
- Four or more bedroom units: 2.5 onsite parking space per unit (covered or uncovered).

Table 12 shows the project required onsite parking per the State density bonus law.

Table 12
Project Required Parking Per the State Density Bonus Law

Unit Type	Unit Count	Parking Requirement Standard	Parking Required (Spaces)
Two & Three Bedroom	135 dwelling units	1.5 onsite parking space per unit	203
Four Bedroom	24 dwelling units	2.5 onsite parking space per unit	60
Live/Work/Retail	3,560 SF	5.5 onsite parking space per 1,000 SF *	20
		Total	**283**
		Parking Spaces Provided	**351**
		Onsite Parking Deficiency/Surplus	**+68.0**

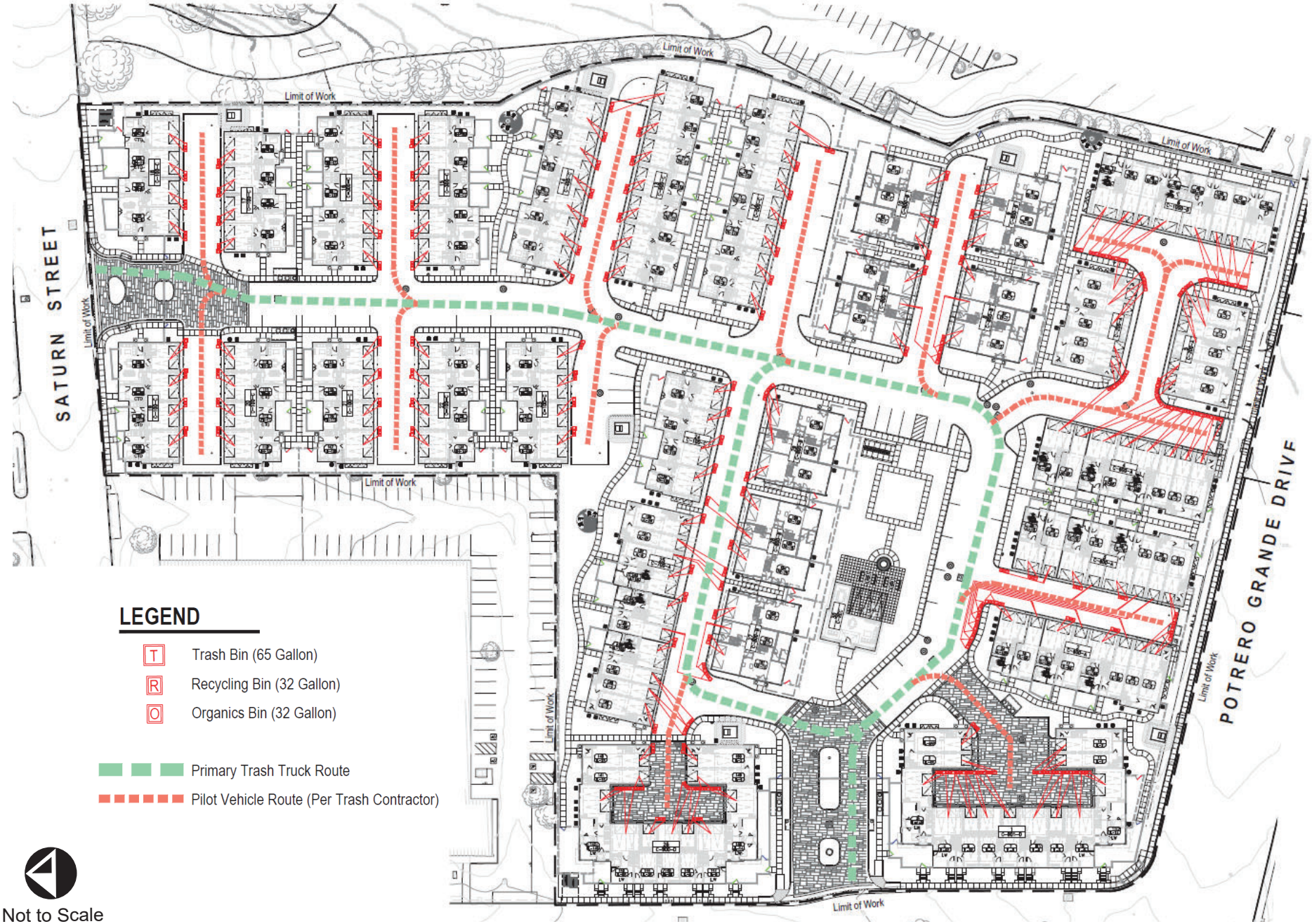
Notes:
* City of Monterey Park Municipal Code Parking Requirement for Retail use.

As shown in **Table 12**, based on the State density bonus law, the project is required to provide a total of 283 onsite parking spaces. As also shown in **Table 12**, since the project is planned to have a total of 351 onsite parking spaces, it has more than adequate onsite parking spaces to satisfy the State density bonus law onsite parking requirements.

Below is a summary of the on-site parking provided for the proposed project:

- Parking Provided
    - 318 Garage Spaces
    - 33 Open Guest Spaces
    - **Total Provided - 351**
- Parking Required under State Density Bonus Law
    - Parking Required (townhomes) – 263 Spaces per State Density Bonus Law, based on the provision of 10% affordable housing – This is inclusive of guest parking.
    - Parking Required (live/work) – 20 Spaces (5.5 spaces per thousand square feet of retail area per City of Monterey Park code)
    - **Total Parking Required – 283**

Exhibit P shows the waste staging plan for the proposed project. For waste collection, a will serve letter has been provided for the project the waste management company which will serve the site. A copy of the letter is contained in **Appendix D**.



Not to Scale

ENGINEERING, INC.

Trash Bin Location Plan

601 Potrero Grande Residential Project, City of Monterey Park, California / 0006-2026-02 APR/2026

Exhibit P

9.0 FINDINGS & CONCLUSIONS

9.1 Project Trip Generation Summary

Proposed Use: utilizing the ITE trips rates, the proposed project is forecast to generate approximately 987 daily trips which include approximately 65 AM peak hour trips and approximately 83 PM peak hour trips.

Existing Office Use: based on the ITE trips rates, the existing office use is forecast to generate approximately 941 daily trips which include approximately 149 AM peak hour trips and approximately 142 PM peak hour trips.

Based on the ITE trips rates, when compared to the existing office use, the proposed project is forecast to generate approximately 46 additional net daily trips which include approximately 84 net fewer AM peak hour trips and approximately 59 net fewer PM peak hour trips. **This traffic analysis utilizes the full project trip generation**.

9.2 LOS Analysis Summary

The LOS analysis accounts for the two-stage left-turn operation of the southbound left-turn at the Atlas Avenue / Potrero Grande Drive intersection where left-turning vehicles can utilize the painted median refuge on Potrero Grande Drive to make a left-turn out of Atlas Avenue and wait for gaps in the traffic on Potrero Grande Drive before completing the left-turn maneuver.

Additionally, the Atlas Avenue approach of the Atlas Avenue / Potrero Grande intersection currently has one dedicated left-turn lane, one shared left-turn/right-turn lane and one dedicated right-turn lane. However, the Highway Capacity Manual analysis methodology has limitations on the number of approach lanes at unsignalized intersections. Hence, for the level of service analysis, assumes the Atlas Avenue approach to have one dedicated left-turn lane and one dedicated right-turn lane. As shown in this report, the intersection still operates at an acceptable level of service with this geometry. Since the intersection is unsignalized, it is not recommended to have two left-turn lanes. Therefore, ***it is recommended the Atlas Avenue approach at the Atlas Avenue / Potrero Grande intersection be restriped from one dedicated left-turn lane, one shared left-turn/right-turn lane and one dedicated right-turn lane to only consist of one dedicated left-turn lane and one dedicated right-turn lane.***

Based on the analysis, the study area intersections are forecast to operate at an acceptable level of service (LOS D or better) during the peak hours for all of the analysis scenarios evaluated as part of this report.

Based on the City's adopted and established thresholds, no level of service improvements are required at the study intersections to accommodate the project trips for the analysis scenarios evaluated as part of this report.

9.3 Gate Stacking Evaluation Summary

An evaluation of gate stacking has been performed for the proposed gated access driveways. As shown in **Exhibit G**, based on the analysis:

- Approximately 6 vehicles enter the Saturn Street driveway during the AM peak hour and approximately 21 vehicles enter the Saturn Street driveway during the PM peak hour

- Approximately 9 vehicles enter the Atlas Avenue driveway during the AM peak hour and approximately 31 vehicles enter the Atlas Avenue driveway during the PM peak hour

Exhibit M-1 shows the proposed gate stacking distance for the driveway on Saturn Street. As shown in **Exhibit M-1**, approximately 48 feet (equivalent of approximately two vehicles) of stacking is planned to be provided at the Saturn Street driveway.

Exhibit M-2 shows the proposed gate stacking distance for the driveway on Atlas Avenue. As shown in **Exhibit M-2**, approximately 79 feet of stacking (equivalent of approximately 4 vehicles) is planned to be provided at the Atlas Avenue driveway. As shown in **Exhibit M-2**, the Atlas Avenue driveway width and entry lane is wide and can potentially allow for two entry lanes or for implementation of a bypass lane. Since homeowners will have transmitters for more immediate access, they can utilize the bypass lane on the right side. Guests can remain in the left lane and wait to gain access.

MAT Engineering, Inc. has conducted an analysis of gate queueing/stacking to determine the required stacking space between the gate and the edge of the roadway to avoid vehicles backing up onto the public right-of-way as they are waiting to enter the site.

The Crommelin methodology has been utilized to determine the appropriate stacking capacity at the two project entry locations. The methodology utilizes the arrival rate of vehicles and the service rate at which arriving vehicles are processed to determine the traffic intensity and resulting vehicular queues building up behind the gate. The methodology calculates the number of vehicles which are waiting in the queue behind the one vehicle that is being served at the gate. The traffic

intensity is calculated by dividing the average arrival rate by the average service rate. Crommelin analysis methodology is contained in **Appendix C**.

As shown in Table 4 of the Crommelin methodology document contained in **Appendix C**, different gate types provide different service rates depending on how fast they can close and open and process inbound vehicles. The rates range from 140 vehicles per hour of design service rate to 1,200 vehicles per hour and are based on field observations conducted as part of the methodology. For the purposes of this analysis, the lowest and minimum service rate of 140 vehicles per hour are utilized to provide a conservative analysis.

The methodology provides the expected length of the vehicular queue based on average (50 percent) probability, 95 percent probability, and 99 percent probability. The 99th percentile probability is the most conservative level of analysis result, meaning the probability of occurrence is one or less per 100 occurrences.

Since the PM peak hour at the Atlas Avenue driveway has the highest inbound traffic levels for the project, the analysis is based on the PM peak hour arrival rates at this driveway.

Assuming an arrival rate of 31 vehicles per hour and a service rate of 140 vehicles per hour, (traffic intensity of 0.22), the 99-percentile required stacking capacity at the project gated access is forecast to be approximately two (2) vehicles when accounting for the one vehicle in front of the queue that is being served at the gate. Utilizing the industry-standard vehicle length of 20 feet for the purposes of vehicular queueing analysis, this is equivalent to a queue of 40 feet to accommodate a queue of two (2) vehicles. The Crommelin analysis worksheet and calculations are shown in **Exhibit N**.

Therefore, based on the analysis, the gate stacking capacity is found adequate to serve the proposed project.

9.4 Driveway Sight Distance Evaluation Summary

An evaluation of stopping sight distance has been conducted for the project driveways on Saturn Street and Atlas Avenue.

The analysis assumes a design speed of 40 miles per hour for the purposes of the sight distance analysis on Saturn Street and Atlas Avenue. Per the Caltrans highway Design Manual (HDM), this would require a stopping sight distance of approximately 300 feet.

Exhibit O-1 shows the stopping sight distance analysis results for the project driveway on Saturn Street.

Exhibit O-2 shows the stopping sight distance analysis results for the project driveway on Atlas Avenue.

9.5 Project On-Site Parking & Waste Collection Services

Below is a summary of the on-site parking provided for the proposed project:

- Parking Provided
    - 318 Garage Spaces
    - 33 Open Guest Spaces
    - **Total Provided - 351**
- Parking Required under State Density Bonus Law
    - Parking Required (townhomes) – 263 Spaces per State Density Bonus Law, based on the provision of 10% affordable housing – This is inclusive of guest parking.
    - Parking Required (live/work) – 20 Spaces (5.5 spaces per thousand square feet of retail area per City of Monterey Park code)
    - **Total Parking Required – 283**

Exhibit P shows the waste staging plan for the proposed project. For waste collection, a will serve letter has been provided for the project the waste management company which will serve the site. A copy of the letter is contained in **Appendix D**.

APPENDIX A:
Existing Traffic Count Data

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Monterey Park
N/S: Markland Drive
E/W: Potrero Grande Drive
Weather: Clear

File Name : 02_MNP_Mkl_PG AM
Site Code : 23826099
Start Date : 1/29/2026
Page No : 1

Groups Printed- Total Volume

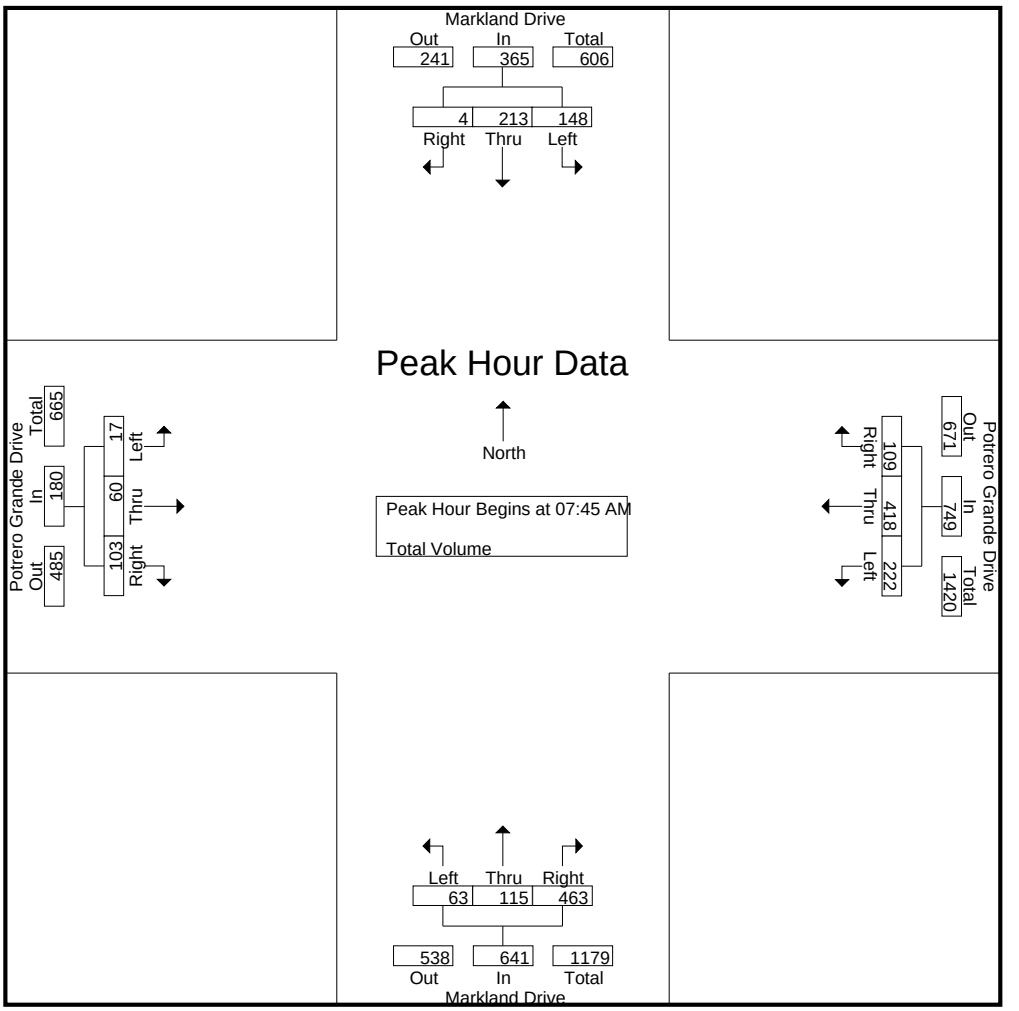
	Markland Drive Southbound				Potrero Grande Drive Westbound				Markland Drive Northbound				Potrero Grande Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	16	16	1	33	24	85	6	115	20	9	60	89	1	16	13	30	267
07:15 AM	12	27	3	42	37	96	6	139	19	22	70	111	2	17	20	39	331
07:30 AM	22	33	3	58	41	87	7	135	19	23	92	134	2	9	25	36	363
07:45 AM	24	48	1	73	47	107	21	175	17	29	126	172	2	16	32	50	470
Total	74	124	8	206	149	375	40	564	75	83	348	506	7	58	90	155	1431
08:00 AM	45	56	1	102	51	114	36	201	12	18	110	140	6	18	24	48	491
08:15 AM	35	56	1	92	73	95	30	198	17	46	99	162	5	12	35	52	504
08:30 AM	44	53	1	98	51	102	22	175	17	22	128	167	4	14	12	30	470
08:45 AM	24	29	2	55	45	107	11	163	4	6	104	114	5	20	19	44	376
Total	148	194	5	347	220	418	99	737	50	92	441	583	20	64	90	174	1841
Grand Total	222	318	13	553	369	793	139	1301	125	175	789	1089	27	122	180	329	3272
Apprch %	40.1	57.5	2.4		28.4	61	10.7		11.5	16.1	72.5		8.2	37.1	54.7		
Total %	6.8	9.7	0.4	16.9	11.3	24.2	4.2	39.8	3.8	5.3	24.1	33.3	0.8	3.7	5.5	10.1	

	Markland Drive Southbound				Potrero Grande Drive Westbound				Markland Drive Northbound				Potrero Grande Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	24	48	**1**	73	47	107	21	175	**17**	29	126	**172**	2	16	32	50	470
08:00 AM	**45**	**56**	1	**102**	51	**114**	**36**	**201**	12	18	110	140	**6**	**18**	24	48	491
08:15 AM	35	56	1	92	**73**	95	30	198	17	**46**	99	162	5	12	**35**	**52**	**504**
08:30 AM	44	53	1	98	51	102	22	175	17	22	**128**	167	4	14	12	30	470
Total Volume	148	213	4	365	222	418	109	749	63	115	463	641	17	60	103	180	1935
% App. Total	40.5	58.4	1.1		29.6	55.8	14.6		9.8	17.9	72.2		9.4	33.3	57.2		
PHF	.822	.951	1.00	.895	.760	.917	.757	.932	.926	.625	.904	.932	.708	.833	.736	.865	.960

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Monterey Park
N/S: Markland Drive
E/W: Potrero Grande Drive
Weather: Clear

File Name : 02_MNP_Mkl_PG AM
Site Code : 23826099
Start Date : 1/29/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:30 AM			
+0 mins.	24	48	**1**	73	47	107	21	175	**17**	29	126	**172**	2	9	25	36
+15 mins.	**45**	**56**	1	**102**	51	**114**	**36**	**201**	12	18	110	140	2	16	32	50
+30 mins.	35	56	1	92	**73**	95	30	198	17	**46**	99	162	**6**	**18**	24	48
+45 mins.	44	53	1	98	51	102	22	175	17	22	**128**	167	5	12	**35**	**52**
Total Volume	148	213	4	365	222	418	109	749	63	115	463	641	15	55	116	186
% App. Total	40.5	58.4	1.1		29.6	55.8	14.6		9.8	17.9	72.2		8.1	29.6	62.4	
PHF	.822	.951	1.000	.895	.760	.917	.757	.932	.926	.625	.904	.932	.625	.764	.829	.894

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Monterey Park
N/S: Markland Drive
E/W: Potrero Grande Drive
Weather: Clear

File Name : 02_MNP_Mkl_PG PM
Site Code : 23826099
Start Date : 1/29/2026
Page No : 1

Groups Printed- Total Volume

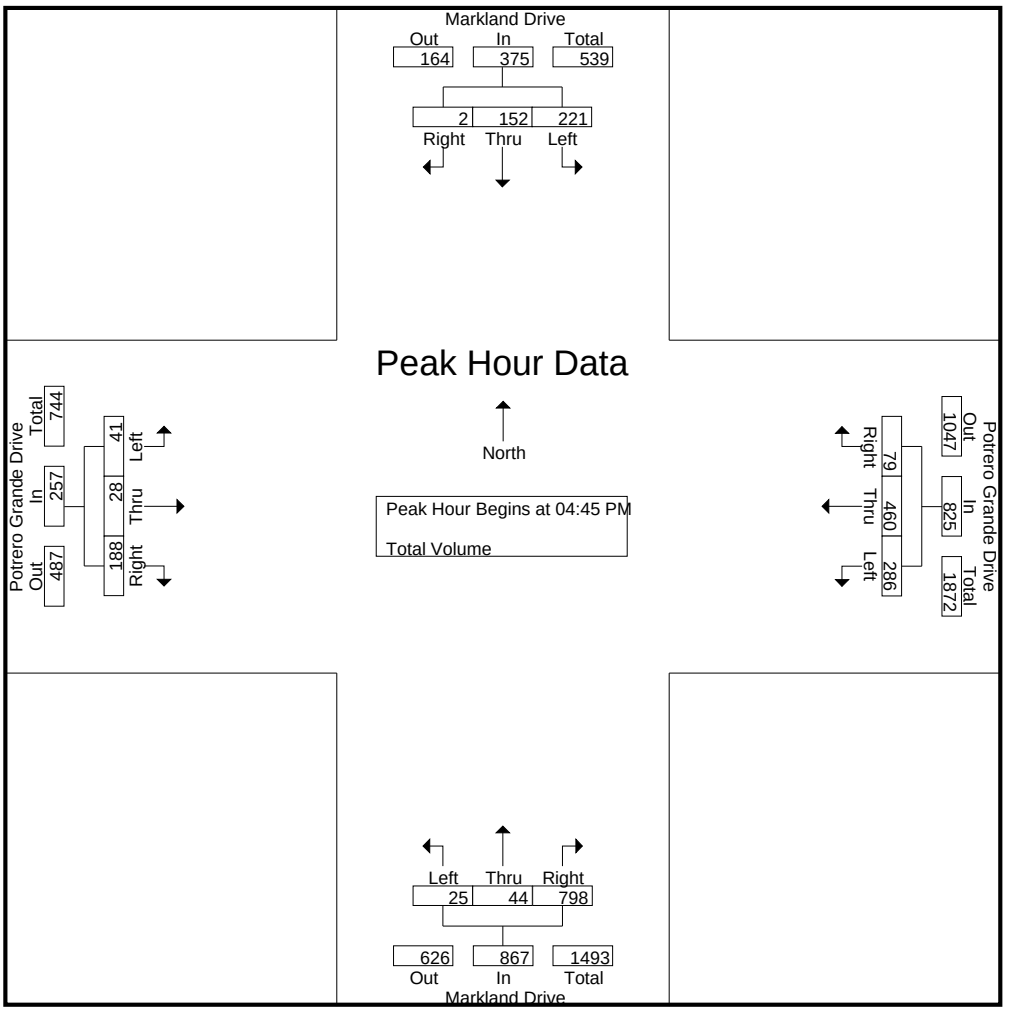
	Markland Drive Southbound				Potrero Grande Drive Westbound				Markland Drive Northbound				Potrero Grande Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	43	36	0	79	68	118	13	199	11	7	154	172	6	4	62	72	522
04:15 PM	57	47	0	104	77	112	26	215	4	18	164	186	10	13	58	81	586
04:30 PM	62	56	0	118	78	97	18	193	8	12	165	185	4	12	41	57	553
04:45 PM	45	54	0	99	82	107	17	206	5	17	191	213	6	9	55	70	588
Total	207	193	0	400	305	434	74	813	28	54	674	756	26	38	216	280	2249
05:00 PM	57	40	1	98	75	109	32	216	9	12	195	216	14	2	47	63	593
05:15 PM	56	28	0	84	71	118	19	208	4	8	211	223	7	11	46	64	579
05:30 PM	63	30	1	94	58	126	11	195	7	7	201	215	14	6	40	60	564
05:45 PM	58	33	0	91	77	111	19	207	8	3	191	202	11	10	38	59	559
Total	234	131	2	367	281	464	81	826	28	30	798	856	46	29	171	246	2295
Grand Total	441	324	2	767	586	898	155	1639	56	84	1472	1612	72	67	387	526	4544
Apprch %	57.5	42.2	0.3		35.8	54.8	9.5		3.5	5.2	91.3		13.7	12.7	73.6		
Total %	9.7	7.1	0	16.9	12.9	19.8	3.4	36.1	1.2	1.8	32.4	35.5	1.6	1.5	8.5	11.6	

	Markland Drive Southbound				Potrero Grande Drive Westbound				Markland Drive Northbound				Potrero Grande Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	45	**54**	0	**99**	**82**	107	17	206	5	**17**	191	213	6	9	**55**	**70**	588
05:00 PM	57	40	**1**	98	75	109	**32**	**216**	**9**	12	195	216	**14**	2	47	63	**593**
05:15 PM	56	28	0	84	71	118	19	208	4	8	**211**	**223**	7	**11**	46	64	579
05:30 PM	**63**	30	1	94	58	**126**	11	195	7	7	201	215	14	6	40	60	564
Total Volume	221	152	2	375	286	460	79	825	25	44	798	867	41	28	188	257	2324
% App. Total	58.9	40.5	0.5		34.7	55.8	9.6		2.9	5.1	92		16	10.9	73.2		
PHF	.877	.704	.500	.947	.872	.913	.617	.955	.694	.647	.945	.972	.732	.636	.855	.918	.980

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Monterey Park
N/S: Markland Drive
E/W: Potrero Grande Drive
Weather: Clear

File Name : 02_MNP_Mkl_PG PM
Site Code : 23826099
Start Date : 1/29/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:45 PM				04:00 PM			
+0 mins.	57	47	0	104	77	**112**	26	215	5	**17**	191	213	6	4	**62**	72
+15 mins.	**62**	**56**	0	**118**	78	97	18	193	**9**	12	195	216	**10**	**13**	58	**81**
+30 mins.	45	54	0	99	**82**	107	17	206	4	8	**211**	**223**	4	12	41	57
+45 mins.	57	40	**1**	98	75	109	**32**	**216**	7	7	201	215	6	9	55	70
Total Volume	221	197	1	419	312	425	93	830	25	44	798	867	26	38	216	280
% App. Total	52.7	47	0.2		37.6	51.2	11.2		2.9	5.1	92		9.3	13.6	77.1	
PHF	.891	.879	.250	.888	.951	.949	.727	.961	.694	.647	.945	.972	.650	.731	.871	.864

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Monterey Park
N/S: Atlas Avenue
E/W: Potrero Grande Drive
Weather: Clear

File Name : 01_MNP_Atl_PG AM
Site Code : 23826099
Start Date : 1/29/2026
Page No : 1

Groups Printed- Total Volume

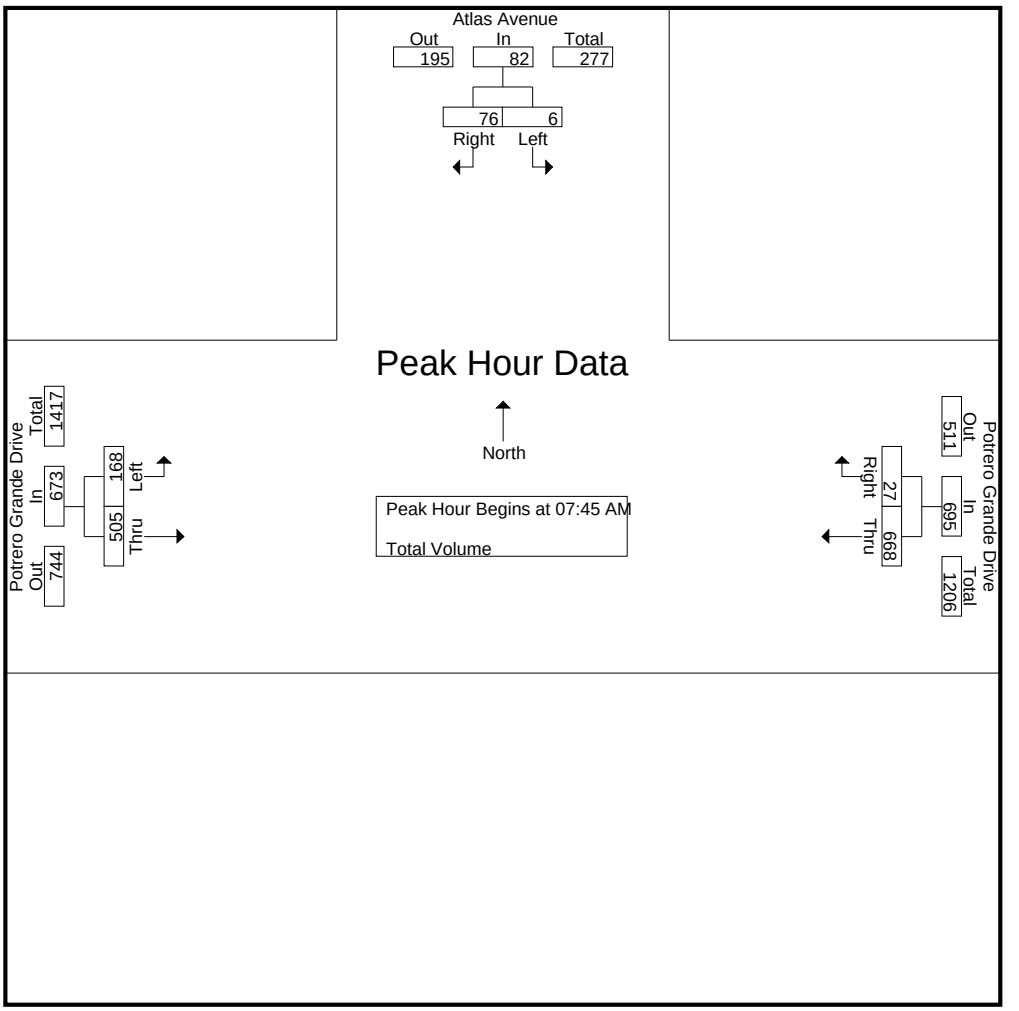
	Atlas Avenue Southbound			Potrero Grande Drive Westbound			Potrero Grande Drive Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	10	10	106	6	112	30	64	94	216
07:15 AM	1	14	15	125	4	129	31	63	94	238
07:30 AM	0	16	16	121	1	122	26	101	127	265
07:45 AM	1	16	17	163	8	171	51	112	163	351
Total	2	56	58	515	19	534	138	340	478	1070
08:00 AM	2	24	26	178	7	185	46	129	175	386
08:15 AM	1	17	18	176	7	183	29	116	145	346
08:30 AM	2	19	21	151	5	156	42	148	190	367
08:45 AM	0	15	15	143	9	152	33	112	145	312
Total	5	75	80	648	28	676	150	505	655	1411
Grand Total	7	131	138	1163	47	1210	288	845	1133	2481
Apprch %	5.1	94.9		96.1	3.9		25.4	74.6		
Total %	0.3	5.3	5.6	46.9	1.9	48.8	11.6	34.1	45.7	

	Atlas Avenue Southbound			Potrero Grande Drive Westbound			Potrero Grande Drive Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	1	16	17	163	**8**	171	**51**	112	163	351
08:00 AM	**2**	**24**	**26**	**178**	7	**185**	46	129	175	**386**
08:15 AM	1	17	18	176	7	183	29	116	145	346
08:30 AM	2	19	21	151	5	156	42	**148**	**190**	367
Total Volume	6	76	82	668	27	695	168	505	673	1450
% App. Total	7.3	92.7		96.1	3.9		25	75		
PHF	.750	.792	.788	.938	.844	.939	.824	.853	.886	.939

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Monterey Park
N/S: Atlas Avenue
E/W: Potrero Grande Drive
Weather: Clear

File Name : 01_MNP_Atl_PG AM
Site Code : 23826099
Start Date : 1/29/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	1	16	17	163	**8**	171	**51**	112	163
+15 mins.	**2**	**24**	**26**	**178**	7	**185**	46	129	175
+30 mins.	1	17	18	176	7	183	29	116	145
+45 mins.	2	19	21	151	5	156	42	**148**	**190**
Total Volume	6	76	82	668	27	695	168	505	673
% App. Total	7.3	92.7		96.1	3.9		25	75	
PHF	.750	.792	.788	.938	.844	.939	.824	.853	.886

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Monterey Park
N/S: Atlas Avenue
E/W: Potrero Grande Drive
Weather: Clear

File Name : 01_MNP_Atl_PG PM
Site Code : 23826099
Start Date : 1/29/2026
Page No : 1

Groups Printed- Total Volume

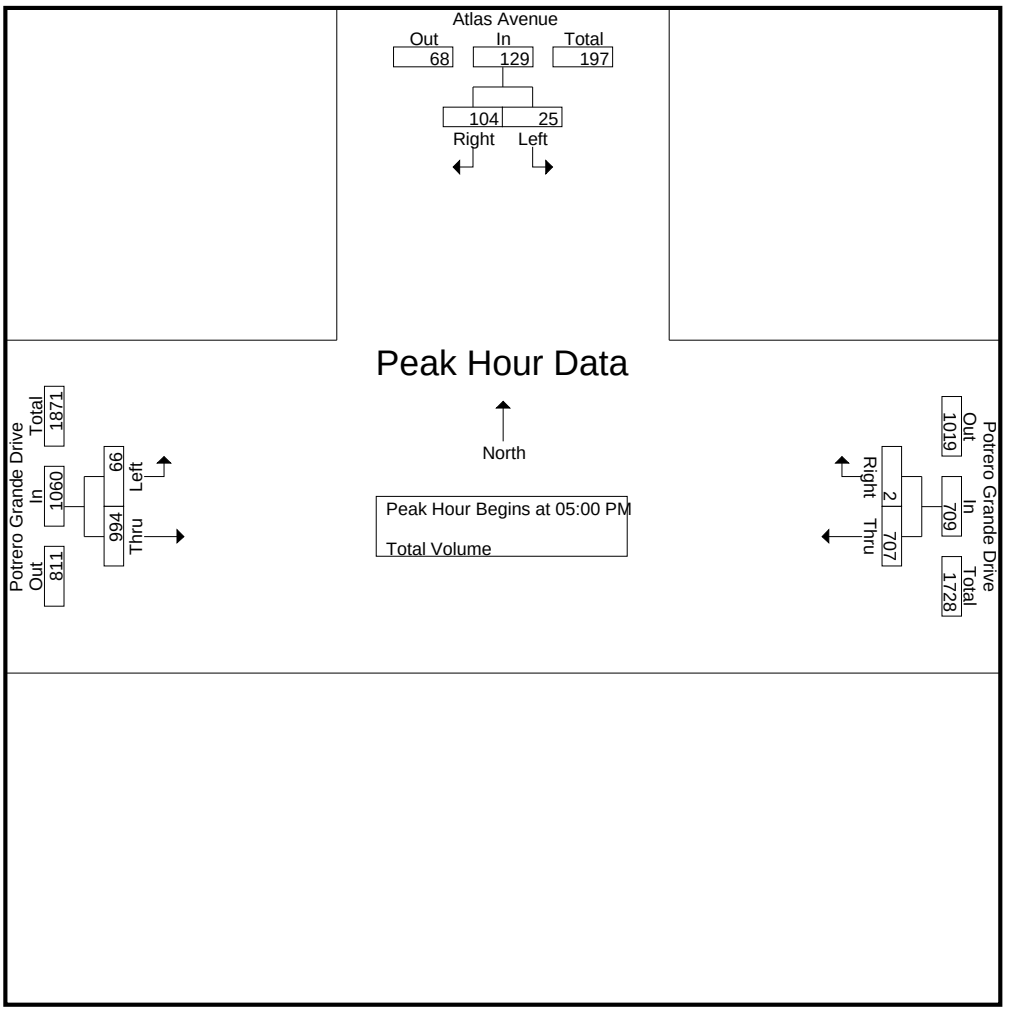
	Atlas Avenue Southbound			Potrero Grande Drive Westbound			Potrero Grande Drive Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	4	20	24	187	1	188	9	188	197	409
04:15 PM	2	22	24	194	0	194	12	222	234	452
04:30 PM	3	16	19	165	0	165	23	213	236	420
04:45 PM	2	27	29	171	1	172	20	236	256	457
Total	11	85	96	717	2	719	64	859	923	1738
05:00 PM	11	47	58	186	1	187	12	239	251	496
05:15 PM	2	19	21	165	0	165	18	259	277	463
05:30 PM	7	21	28	184	1	185	22	246	268	481
05:45 PM	5	17	22	172	0	172	14	250	264	458
Total	25	104	129	707	2	709	66	994	1060	1898
Grand Total	36	189	225	1424	4	1428	130	1853	1983	3636
Apprch %	16	84		99.7	0.3		6.6	93.4		
Total %	1	5.2	6.2	39.2	0.1	39.3	3.6	51	54.5	

	Atlas Avenue Southbound			Potrero Grande Drive Westbound			Potrero Grande Drive Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**11**	**47**	**58**	**186**	**1**	**187**	12	239	251	**496**
05:15 PM	2	19	21	165	0	165	18	**259**	**277**	463
05:30 PM	7	21	28	184	1	185	**22**	246	268	481
05:45 PM	5	17	22	172	0	172	14	250	264	458
Total Volume	25	104	129	707	2	709	66	994	1060	1898
% App. Total	19.4	80.6		99.7	0.3		6.2	93.8		
PHF	.568	.553	.556	.950	.500	.948	.750	.959	.957	.957

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Monterey Park
N/S: Atlas Avenue
E/W: Potrero Grande Drive
Weather: Clear

File Name : 01_MNP_Atl_PG PM
Site Code : 23826099
Start Date : 1/29/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:00 PM			05:00 PM		
+0 mins.	2	27	29	187	**1**	188	12	239	251
+15 mins.	**11**	**47**	**58**	**194**	0	**194**	18	**259**	**277**
+30 mins.	2	19	21	165	0	165	**22**	246	268
+45 mins.	7	21	28	171	1	172	14	250	264
Total Volume	22	114	136	717	2	719	66	994	1060
% App. Total	16.2	83.8		99.7	0.3		6.2	93.8	
PHF	.500	.606	.586	.924	.500	.927	.750	.959	.957

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Monterey Park
N/S: Orange Avenue
E/W: Saturn Street
Weather: Clear

File Name : 03_MNP_Ora_Sat AM
Site Code : 23826099
Start Date : 1/29/2026
Page No : 1

Groups Printed- Total Volume

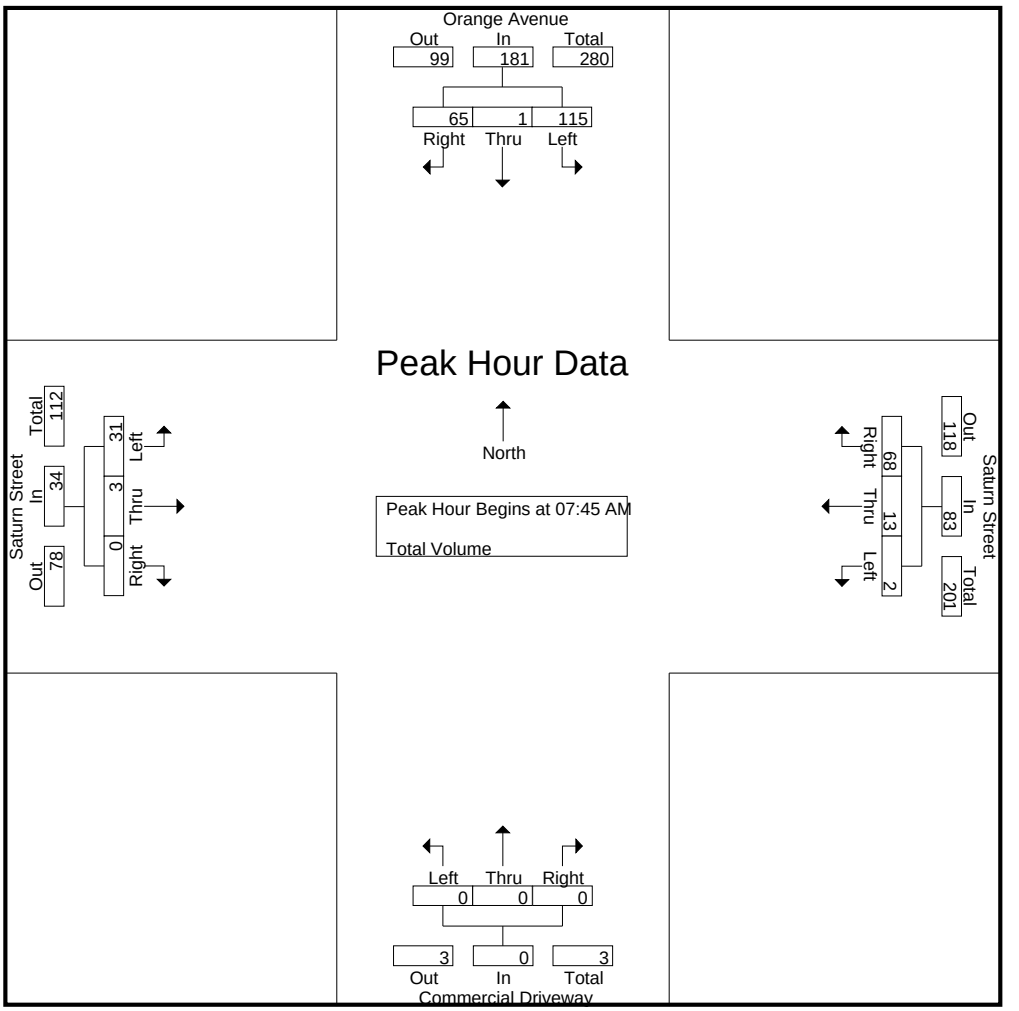
	Orange Avenue Southbound				Saturn Street Westbound				Commercial Driveway Northbound				Saturn Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	11	0	9	20	0	6	13	19	0	0	0	0	6	1	0	7	46
07:15 AM	18	0	15	33	1	3	12	16	0	0	0	0	6	1	0	7	56
07:30 AM	14	0	15	29	0	2	12	14	0	0	0	0	7	0	0	7	50
07:45 AM	23	0	13	36	1	7	12	20	0	0	0	0	10	0	0	10	66
Total	66	0	52	118	2	18	49	69	0	0	0	0	29	2	0	31	218
08:00 AM	35	0	21	56	1	4	23	28	0	0	0	0	12	1	0	13	97
08:15 AM	30	0	18	48	0	2	19	21	0	0	0	0	2	1	0	3	72
08:30 AM	27	1	13	41	0	0	14	14	0	0	0	0	7	1	0	8	63
08:45 AM	31	0	13	44	1	2	16	19	0	0	0	0	0	1	0	1	64
Total	123	1	65	189	2	8	72	82	0	0	0	0	21	4	0	25	296
Grand Total	189	1	117	307	4	26	121	151	0	0	0	0	50	6	0	56	514
Apprch %	61.6	0.3	38.1		2.6	17.2	80.1		0	0	0		89.3	10.7	0		
Total %	36.8	0.2	22.8	59.7	0.8	5.1	23.5	29.4	0	0	0	0	9.7	1.2	0	10.9	

	Orange Avenue Southbound				Saturn Street Westbound				Commercial Driveway Northbound				Saturn Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	23	0	13	36	**1**	**7**	12	20	0	0	0	0	10	0	0	10	66
08:00 AM	**35**	0	**21**	**56**	1	4	**23**	**28**	0	0	0	0	**12**	**1**	0	**13**	**97**
08:15 AM	30	0	18	48	0	2	19	21	0	0	0	0	2	1	0	3	72
08:30 AM	27	**1**	13	41	0	0	14	14	0	0	0	0	7	1	0	8	63
Total Volume	115	1	65	181	2	13	68	83	0	0	0	0	31	3	0	34	298
% App. Total	63.5	0.6	35.9		2.4	15.7	81.9		0	0	0		91.2	8.8	0		
PHF	.821	.250	.774	.808	.500	.464	.739	.741	.000	.000	.000	.000	.646	.750	.000	.654	.768

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Monterey Park
N/S: Orange Avenue
E/W: Saturn Street
Weather: Clear

File Name : 03_MNP_Ora_Sat AM
Site Code : 23826099
Start Date : 1/29/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				07:00 AM				07:15 AM			
+0 mins.	**35**	0	**21**	**56**	0	2	12	14	0	0	0	0	6	**1**	0	7
+15 mins.	30	0	18	48	**1**	**7**	12	20	0	0	0	0	7	0	0	7
+30 mins.	27	**1**	13	41	1	4	**23**	**28**	0	0	0	0	10	0	0	10
+45 mins.	31	0	13	44	0	2	19	21	0	0	0	0	**12**	1	0	**13**
Total Volume	123	1	65	189	2	15	66	83	0	0	0	0	35	2	0	37
% App. Total	65.1	0.5	34.4		2.4	18.1	79.5		0	0	0		94.6	5.4	0	
PHF	.879	.250	.774	.844	.500	.536	.717	.741	.000	.000	.000	.000	.729	.500	.000	.712

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Monterey Park
N/S: Orange Avenue
E/W: Saturn Street
Weather: Clear

File Name : 03_MNP_Ora_Sat PM
Site Code : 23826099
Start Date : 1/29/2026
Page No : 1

Groups Printed- Total Volume

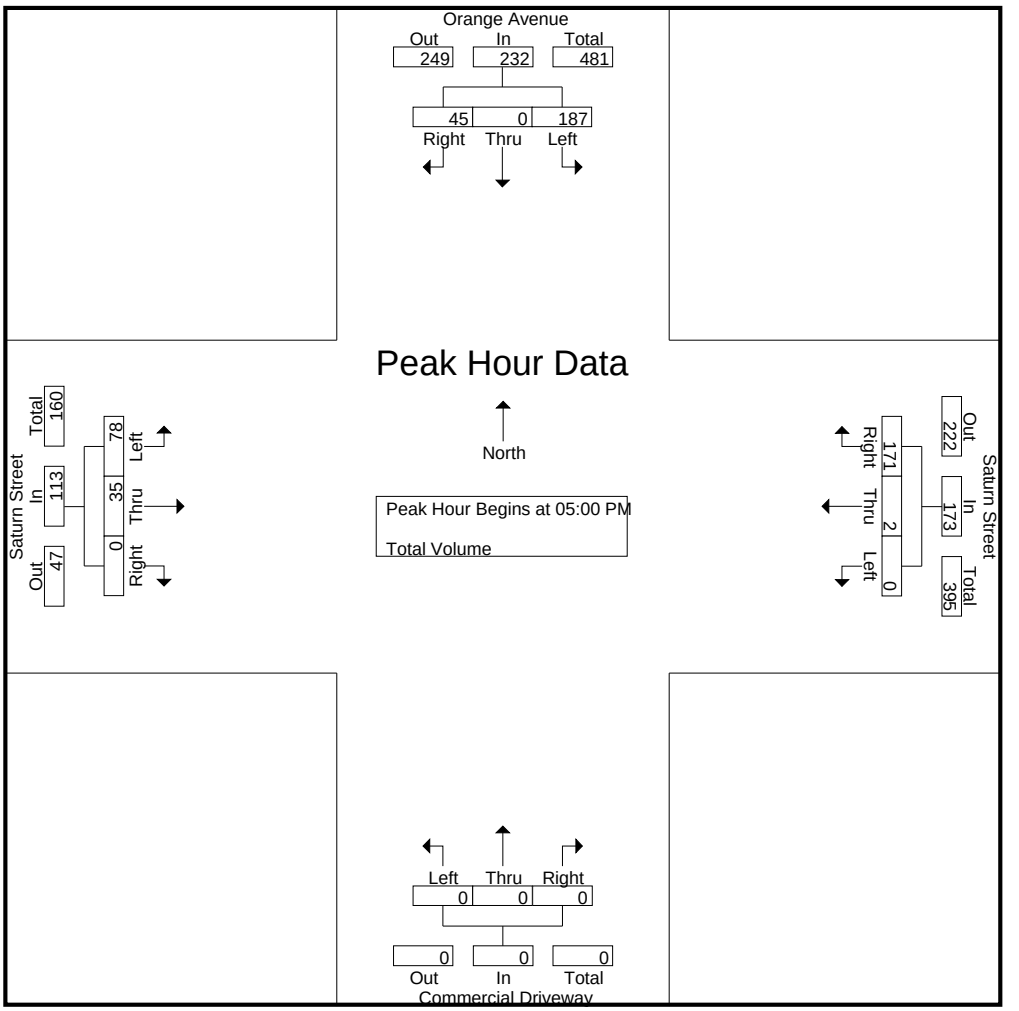
	Orange Avenue Southbound				Saturn Street Westbound				Commercial Driveway Northbound				Saturn Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	46	0	11	57	0	1	28	29	0	1	0	1	9	4	0	13	100
04:15 PM	39	0	9	48	0	5	44	49	0	0	0	0	6	4	0	10	107
04:30 PM	49	0	8	57	0	0	35	35	0	0	0	0	12	5	1	18	110
04:45 PM	45	0	10	55	0	2	26	28	0	0	0	0	19	0	0	19	102
Total	179	0	38	217	0	8	133	141	0	1	0	1	46	13	1	60	419
05:00 PM	52	0	10	62	0	1	46	47	0	0	0	0	22	19	0	41	150
05:15 PM	38	0	9	47	0	0	42	42	0	0	0	0	19	4	0	23	112
05:30 PM	52	0	15	67	0	1	40	41	0	0	0	0	23	8	0	31	139
05:45 PM	45	0	11	56	0	0	43	43	0	0	0	0	14	4	0	18	117
Total	187	0	45	232	0	2	171	173	0	0	0	0	78	35	0	113	518
Grand Total	366	0	83	449	0	10	304	314	0	1	0	1	124	48	1	173	937
Apprch %	81.5	0	18.5		0	3.2	96.8		0	100	0		71.7	27.7	0.6		
Total %	39.1	0	8.9	47.9	0	1.1	32.4	33.5	0	0.1	0	0.1	13.2	5.1	0.1	18.5	

	Orange Avenue Southbound				Saturn Street Westbound				Commercial Driveway Northbound				Saturn Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**52**	0	10	62	0	**1**	**46**	**47**	0	0	0	0	22	**19**	0	**41**	**150**
05:15 PM	38	0	9	47	0	0	42	42	0	0	0	0	19	4	0	23	112
05:30 PM	52	0	**15**	**67**	0	1	40	41	0	0	0	0	**23**	8	0	31	139
05:45 PM	45	0	11	56	0	0	43	43	0	0	0	0	14	4	0	18	117
Total Volume	187	0	45	232	0	2	171	173	0	0	0	0	78	35	0	113	518
% App. Total	80.6	0	19.4		0	1.2	98.8		0	0	0		69	31	0		
PHF	.899	.000	.750	.866	.000	.500	.929	.920	.000	.000	.000	.000	.848	.461	.000	.689	.863

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Monterey Park
N/S: Orange Avenue
E/W: Saturn Street
Weather: Clear

File Name : 03_MNP_Ora_Sat PM
Site Code : 23826099
Start Date : 1/29/2026
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				04:00 PM				04:45 PM			
+0 mins.	**52**	0	10	62	0	**1**	**46**	**47**	0	**1**	0	**1**	19	0	0	19
+15 mins.	38	0	9	47	0	0	42	42	0	0	0	0	22	**19**	0	**41**
+30 mins.	52	0	**15**	**67**	0	1	40	41	0	0	0	0	19	4	0	23
+45 mins.	45	0	11	56	0	0	43	43	0	0	0	0	**23**	8	0	31
Total Volume	187	0	45	232	0	2	171	173	0	1	0	1	83	31	0	114
% App. Total	80.6	0	19.4		0	1.2	98.8		0	100	0		72.8	27.2	0	
PHF	.899	.000	.750	.866	.000	.500	.929	.920	.000	.250	.000	.250	.902	.408	.000	.695

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Monterey Park
N/S: Saturn Street/Market Place Drive
E/W: Potrero Grande Drive
Weather: Clear

File Name : 04_MNP_Sat_PG AM
Site Code : 23826099
Start Date : 1/29/2026
Page No : 1

Groups Printed- Total Volume

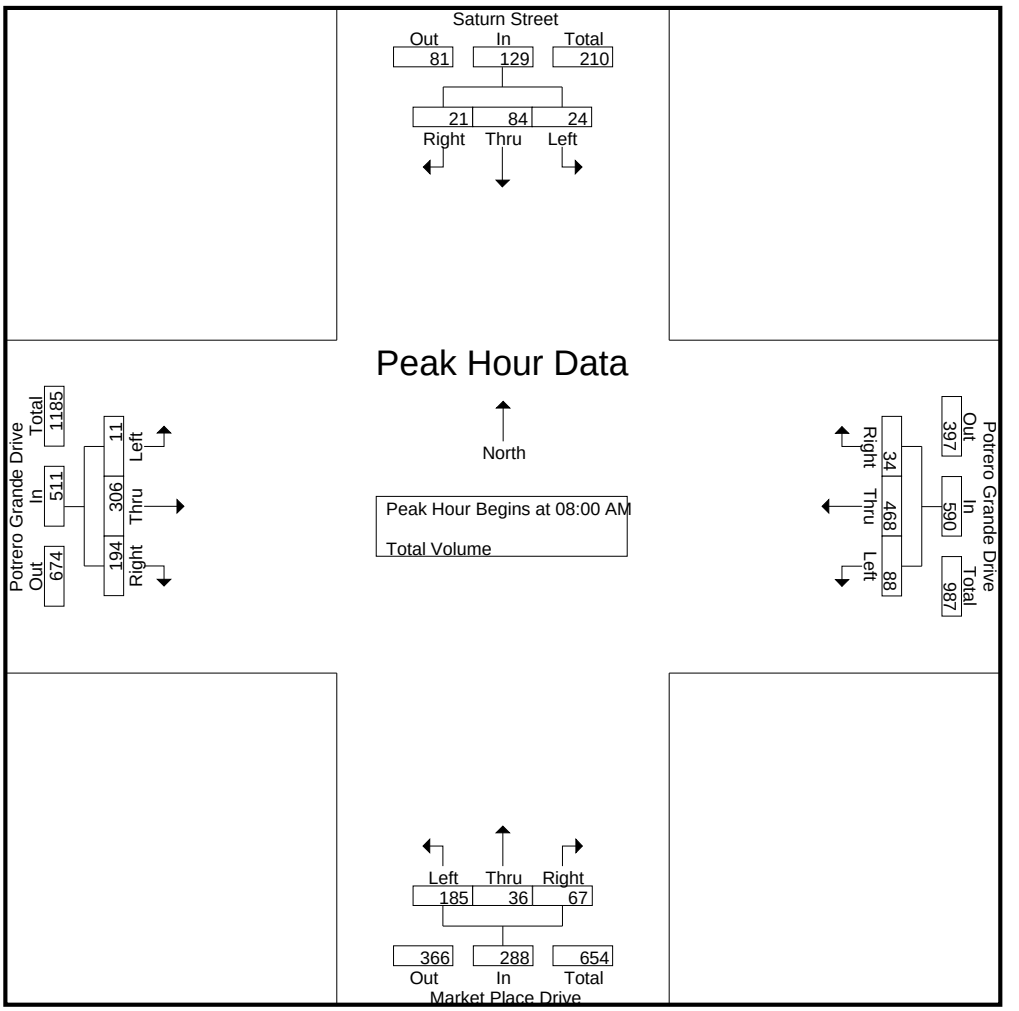
	Saturn Street Southbound				Potrero Grande Drive Westbound				Market Place Drive Northbound				Potrero Grande Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	9	2	14	10	82	9	101	31	8	10	49	2	36	26	64	228
07:15 AM	1	13	5	19	15	98	3	116	25	11	10	46	2	35	29	66	247
07:30 AM	0	13	0	13	7	87	10	104	33	4	8	45	1	58	35	94	256
07:45 AM	5	16	3	24	11	137	10	158	32	8	7	47	1	75	30	106	335
Total	9	51	10	70	43	404	32	479	121	31	35	187	6	204	120	330	1066
08:00 AM	8	22	6	36	17	131	14	162	42	9	18	69	5	74	46	125	392
08:15 AM	9	18	2	29	23	138	8	169	45	12	19	76	3	79	44	126	400
08:30 AM	3	20	6	29	19	103	3	125	50	8	14	72	1	88	54	143	369
08:45 AM	4	24	7	35	29	96	9	134	48	7	16	71	2	65	50	117	357
Total	24	84	21	129	88	468	34	590	185	36	67	288	11	306	194	511	1518
Grand Total	33	135	31	199	131	872	66	1069	306	67	102	475	17	510	314	841	2584
Apprch %	16.6	67.8	15.6		12.3	81.6	6.2		64.4	14.1	21.5		2	60.6	37.3		
Total %	1.3	5.2	1.2	7.7	5.1	33.7	2.6	41.4	11.8	2.6	3.9	18.4	0.7	19.7	12.2	32.5	

	Saturn Street Southbound				Potrero Grande Drive Westbound				Market Place Drive Northbound				Potrero Grande Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	8	22	6	**36**	17	131	**14**	162	42	9	18	69	**5**	74	46	125	392
08:15 AM	**9**	18	2	29	23	**138**	8	**169**	45	**12**	**19**	**76**	3	79	44	126	**400**
08:30 AM	3	20	6	29	19	103	3	125	**50**	8	14	72	1	**88**	**54**	**143**	369
08:45 AM	4	**24**	**7**	35	**29**	96	9	134	48	7	16	71	2	65	50	117	357
Total Volume	24	84	21	129	88	468	34	590	185	36	67	288	11	306	194	511	1518
% App. Total	18.6	65.1	16.3		14.9	79.3	5.8		64.2	12.5	23.3		2.2	59.9	38		
PHF	.667	.875	.750	.896	.759	.848	.607	.873	.925	.750	.882	.947	.550	.869	.898	.893	.949

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Monterey Park
N/S: Saturn Street/Market Place Drive
E/W: Potrero Grande Drive
Weather: Clear

File Name : 04_MNP_Sat_PG AM
Site Code : 23826099
Start Date : 1/29/2026
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				08:00 AM				08:00 AM			
+0 mins.	8	22	6	**36**	11	137	10	158	42	9	18	69	**5**	74	46	125
+15 mins.	**9**	18	2	29	17	131	**14**	162	45	**12**	**19**	**76**	3	79	44	126
+30 mins.	3	20	6	29	**23**	**138**	8	**169**	**50**	8	14	72	1	**88**	**54**	**143**
+45 mins.	4	**24**	**7**	35	19	103	3	125	48	7	16	71	2	65	50	117
Total Volume	24	84	21	129	70	509	35	614	185	36	67	288	11	306	194	511
% App. Total	18.6	65.1	16.3		11.4	82.9	5.7		64.2	12.5	23.3		2.2	59.9	38	
PHF	.667	.875	.750	.896	.761	.922	.625	.908	.925	.750	.882	.947	.550	.869	.898	.893

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Monterey Park
N/S: Saturn Street/Market Place Drive
E/W: Potrero Grande Drive
Weather: Clear

File Name : 04_MNP_Sat_PG PM
Site Code : 23826099
Start Date : 1/29/2026
Page No : 1

Groups Printed- Total Volume

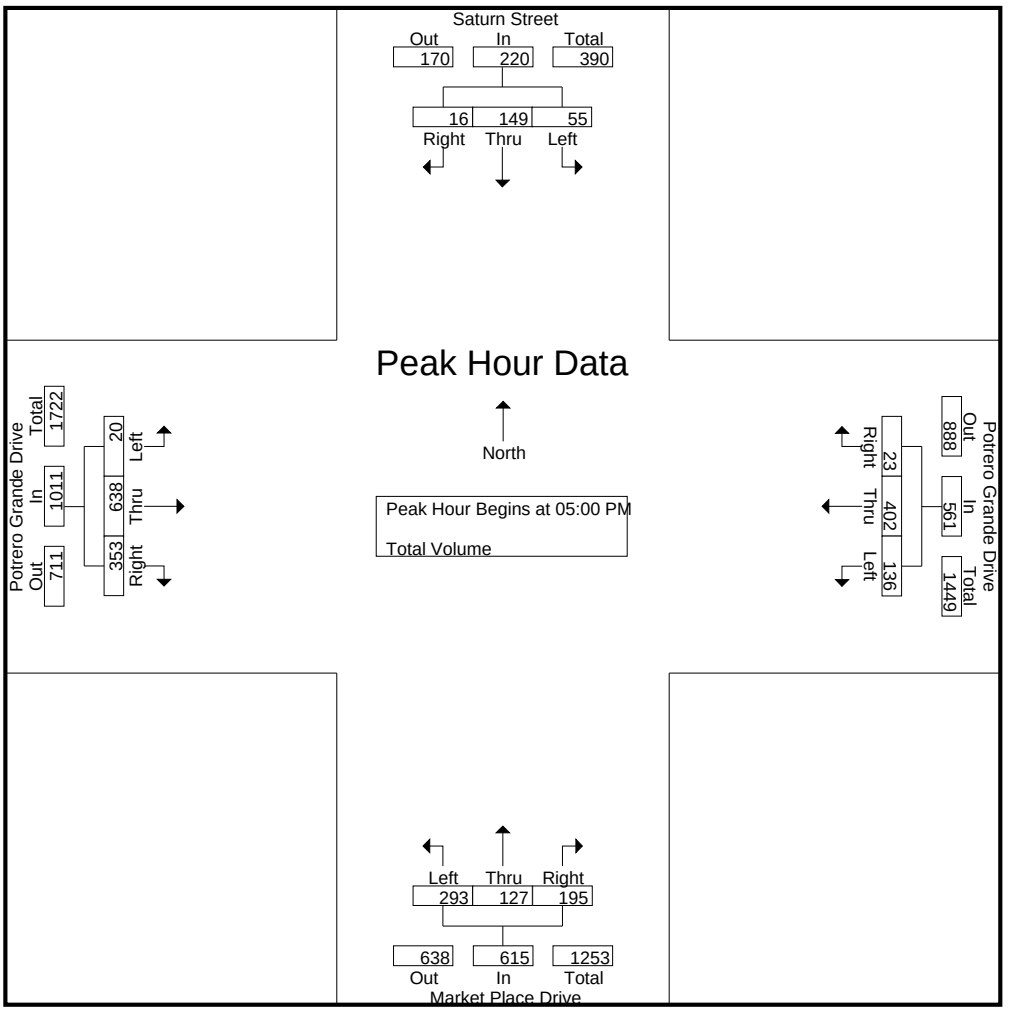
	Saturn Street Southbound				Potrero Grande Drive Westbound				Market Place Drive Northbound				Potrero Grande Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	11	38	8	57	46	95	5	146	90	23	53	166	1	119	72	192	561
04:15 PM	10	24	4	38	43	96	10	149	88	40	47	175	1	128	86	215	577
04:30 PM	9	40	8	57	43	75	5	123	81	26	46	153	3	116	88	207	540
04:45 PM	7	34	4	45	25	87	6	118	83	24	56	163	2	138	99	239	565
Total	37	136	24	197	157	353	26	536	342	113	202	657	7	501	345	853	2243
05:00 PM	26	40	5	71	33	105	4	142	69	33	46	148	7	145	96	248	609
05:15 PM	9	27	4	40	35	86	5	126	82	29	51	162	8	178	71	257	585
05:30 PM	13	43	2	58	22	122	9	153	59	27	47	133	4	179	88	271	615
05:45 PM	7	39	5	51	46	89	5	140	83	38	51	172	1	136	98	235	598
Total	55	149	16	220	136	402	23	561	293	127	195	615	20	638	353	1011	2407
Grand Total	92	285	40	417	293	755	49	1097	635	240	397	1272	27	1139	698	1864	4650
Apprch %	22.1	68.3	9.6		26.7	68.8	4.5		49.9	18.9	31.2		1.4	61.1	37.4		
Total %	2	6.1	0.9	9	6.3	16.2	1.1	23.6	13.7	5.2	8.5	27.4	0.6	24.5	15	40.1	

	Saturn Street Southbound				Potrero Grande Drive Westbound				Market Place Drive Northbound				Potrero Grande Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**26**	40	**5**	**71**	33	105	4	142	69	33	46	148	7	145	96	248	609
05:15 PM	9	27	4	40	35	86	5	126	82	29	**51**	162	**8**	178	71	257	585
05:30 PM	13	**43**	2	58	22	**122**	**9**	**153**	59	27	47	133	4	**179**	88	**271**	**615**
05:45 PM	7	39	5	51	**46**	89	5	140	**83**	**38**	51	**172**	1	136	**98**	235	598
Total Volume	55	149	16	220	136	402	23	561	293	127	195	615	20	638	353	1011	2407
% App. Total	25	67.7	7.3		24.2	71.7	4.1		47.6	20.7	31.7		2	63.1	34.9		
PHF	.529	.866	.800	.775	.739	.824	.639	.917	.883	.836	.956	.894	.625	.891	.901	.933	.978

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Monterey Park
N/S: Saturn Street/Market Place Drive
E/W: Potrero Grande Drive
Weather: Clear

File Name : 04_MNP_Sat_PG PM
Site Code : 23826099
Start Date : 1/29/2026
Page No : 2

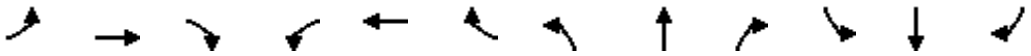


Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				04:00 PM				04:45 PM			
+0 mins.	**26**	40	**5**	**71**	33	105	4	142	**90**	23	53	166	2	138	**99**	239
+15 mins.	9	27	4	40	35	86	5	126	88	**40**	47	**175**	7	145	96	248
+30 mins.	13	**43**	2	58	22	**122**	**9**	**153**	81	26	46	153	**8**	178	71	257
+45 mins.	7	39	5	51	**46**	89	5	140	83	24	**56**	163	4	**179**	88	**271**
Total Volume	55	149	16	220	136	402	23	561	342	113	202	657	21	640	354	1015
% App. Total	25	67.7	7.3		24.2	71.7	4.1		52.1	17.2	30.7		2.1	63.1	34.9	
PHF	.529	.866	.800	.775	.739	.824	.639	.917	.950	.706	.902	.939	.656	.894	.894	.936

APPENDIX B:
LOS Analysis Sheets

Existing Conditions



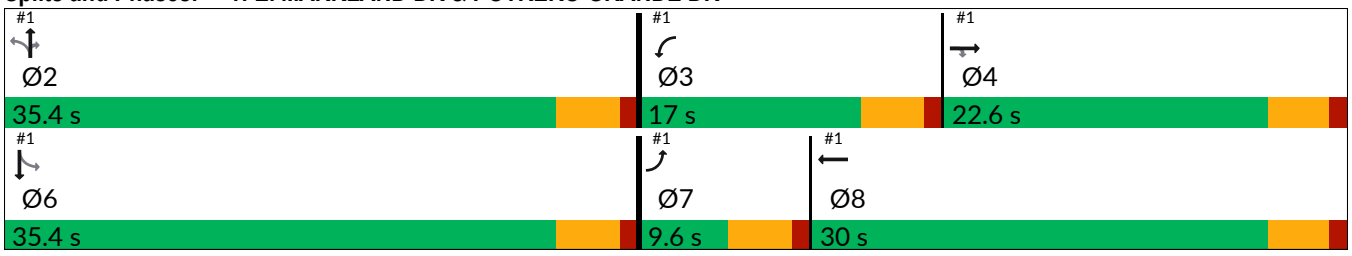
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	17	60	103	222	418	109	63	115	463	148	213	4
Future Volume (vph)	17	60	103	222	418	109	63	115	463	148	213	4
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	18	63	107	231	435	114	66	120	482	154	222	4
Shared Lane Traffic (%)									31%			
Lane Group Flow (vph)	18	63	107	231	549	0	0	335	333	0	380	0

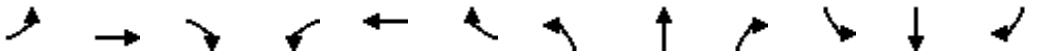
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	17	60	103	222	418	63	115	463	148	213
Future Volume (vph)	17	60	103	222	418	63	115	463	148	213
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		2			6
Permitted Phases			4			2		2	6	
Detector Phase	7	4	4	3	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.6	22.6	22.6	17.0	30.0	35.4	35.4	35.4	35.4	35.4
Total Split (%)	12.8%	30.1%	30.1%	22.7%	40.0%	47.2%	47.2%	47.2%	47.2%	47.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max
Act Effct Green (s)	5.2	8.3	8.3	11.9	20.5		31.4	31.4		31.4
Actuated g/C Ratio	0.08	0.13	0.13	0.19	0.33		0.50	0.50		0.50
v/c Ratio	0.12	0.26	0.31	0.69	0.48		0.45	0.36		0.61
Control Delay (s/veh)	31.5	28.0	4.6	38.1	16.9		11.9	2.9		18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay (s/veh)	31.5	28.0	4.6	38.1	16.9		11.9	2.9		18.8
LOS	C	C	A	D	B		B	A		B
Approach Delay (s/veh)		15.0			23.2		7.4			18.8
Approach LOS		B			C		A			B

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 62.7	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay (s/veh): 16.4	Intersection LOS: B
Intersection Capacity Utilization 68.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: E. MARKLAND DR & POTRERO GRANDE DR





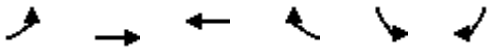
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	60	103	222	418	109	63	115	463	148	213	4
Future Volume (veh/h)	17	60	103	222	418	109	63	115	463	148	213	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	63	107	231	435	114	66	342	334	154	222	4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	38	198	168	282	677	176	165	794	812	263	348	6
Arrive On Green	0.02	0.11	0.11	0.16	0.24	0.24	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	1781	1870	1585	1781	2791	725	186	1550	1585	350	680	11
Grp Volume(v), veh/h	18	63	107	231	276	273	408	0	334	380	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1740	1736	0	1585	1041	0	0
Q Serve(g_s), s	0.6	1.9	3.9	7.6	8.4	8.5	0.0	0.0	7.9	11.1	0.0	0.0
Cycle Q Clear(g_c), s	0.6	1.9	3.9	7.6	8.4	8.5	8.2	0.0	7.9	19.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.42	0.16		1.00	0.41		0.01
Lane Grp Cap(c), veh/h	38	198	168	282	431	422	959	0	812	617	0	0
V/C Ratio(X)	0.47	0.32	0.64	0.82	0.64	0.65	0.43	0.00	0.41	0.62	0.00	0.00
Avail Cap(c_a), veh/h	151	561	476	369	751	735	959	0	812	617	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.2	25.0	25.9	24.6	20.5	20.5	9.2	0.0	9.1	12.3	0.0	0.0
Incr Delay (d2), s/veh	8.6	0.9	4.0	10.6	1.6	1.7	1.4	0.0	1.5	4.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	1.6	3.8	3.4	3.4	3.1	0.0	2.6	4.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	37.8	25.9	29.9	35.1	22.1	22.2	10.6	0.0	10.6	16.8	0.0	0.0
LnGrp LOS	D	C	C	D	C	C	B		B	B		
Approach Vol, veh/h		188			780			742			380	
Approach Delay, s/veh		29.3			26.0			10.6			16.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		35.4	14.1	10.9		35.4	5.8	19.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		30.9	12.5	18.1		30.9	5.1	25.5				
Max Q Clear Time (g_c+I1), s		10.2	9.6	5.9		21.3	2.6	10.5				
Green Ext Time (p_c), s		3.8	0.2	0.5		2.0	0.0	3.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	19.2
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Volume (vph)	168	505	668	27	6	76
Future Volume (vph)	168	505	668	27	6	76
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	179	537	711	29	6	81
Shared Lane Traffic (%)						
Lane Group Flow (vph)	179	537	740	0	6	81

Intersection Summary

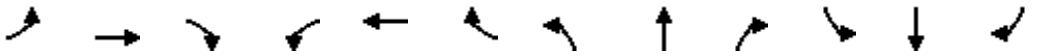
Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	168	505	668	27	6	76
Future Vol, veh/h	168	505	668	27	6	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	179	537	711	29	6	81

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	739	0	-	0	1351	370
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	626	-
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	863	-	-	-	141	627
Stage 1	-	-	-	-	440	-
Stage 2	-	-	-	-	495	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	863	-	-	-	112	627
Mov Cap-2 Maneuver	-	-	-	-	203	-
Stage 1	-	-	-	-	349	-
Stage 2	-	-	-	-	495	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	2.56	0	12.45
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	863	-	-	-	203	627
HCM Lane V/C Ratio	0.207	-	-	-	0.032	0.129
HCM Ctrl Dly (s/v)	10.3	-	-	-	23.3	11.6
HCM Lane LOS	B	-	-	-	C	B
HCM 95th %tile Q(veh)	0.8	-	-	-	0.1	0.4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	31	3	0	2	13	68	0	0	0	115	1	65
Future Volume (vph)	31	3	0	2	13	68	0	0	0	115	1	65
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	40	4	0	3	17	88	0	0	0	149	1	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	0	0	108	0	0	0	0	0	234	0

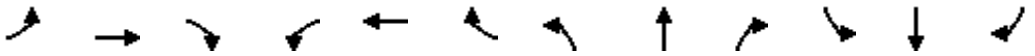
Intersection Summary

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	3	0	2	13	68	0	0	0	115	1	65
Future Vol, veh/h	31	3	0	2	13	68	0	0	0	115	1	65
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	4	0	3	17	88	0	0	0	149	1	84
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.1	7.6	0	8.7
HCM LOS	A	A	-	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	91%	2%	64%
Vol Thru, %	100%	9%	16%	1%
Vol Right, %	0%	0%	82%	36%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	34	83	181
LT Vol	0	31	2	115
Through Vol	0	3	13	1
RT Vol	0	0	68	65
Lane Flow Rate	0	44	108	235
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.058	0.121	0.268
Departure Headway (Hd)	4.516	4.757	4.027	4.107
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	757	896	863
Service Time	2.526	2.761	2.028	2.19
HCM Lane V/C Ratio	0	0.058	0.121	0.272
HCM Control Delay, s/veh	7.5	8.1	7.6	8.7
HCM Lane LOS	N	A	A	A
HCM 95th-tile Q	0	0.2	0.4	1.1



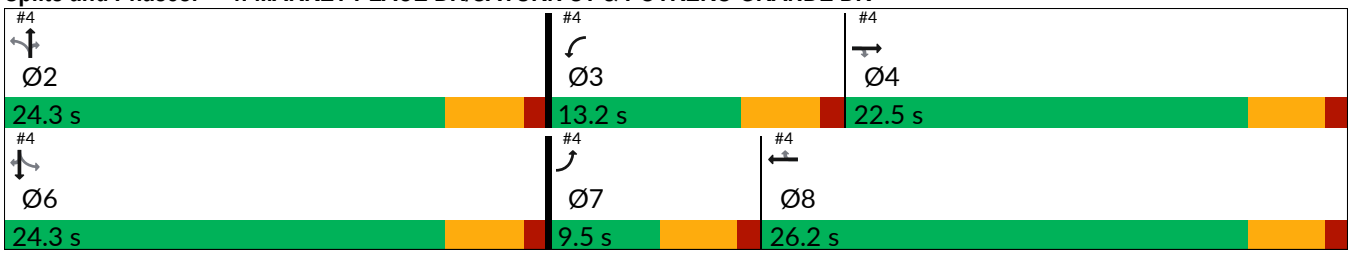
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	11	306	194	88	468	34	185	36	67	24	84	21
Future Volume (vph)	11	306	194	88	468	34	185	36	67	24	84	21
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	12	322	204	93	493	36	195	38	71	25	88	22
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	12	322	204	93	493	36	195	38	71	25	90	20

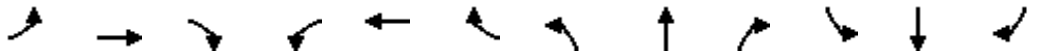
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	306	194	88	468	34	185	36	67	24	84	21
Future Volume (vph)	11	306	194	88	468	34	185	36	67	24	84	21
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	13.2	26.2	26.2	24.3	24.3	24.3	24.3	24.3	24.3
Total Split (%)	15.8%	37.5%	37.5%	22.0%	43.7%	43.7%	40.5%	40.5%	40.5%	40.5%	40.5%	40.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	5.2	11.4	11.4	7.6	16.6	16.6	20.5	20.5	20.5	20.5	20.5	20.5
Actuated g/C Ratio	0.11	0.24	0.24	0.16	0.35	0.35	0.43	0.43	0.43	0.43	0.43	0.43
v/c Ratio	0.06	0.38	0.38	0.33	0.40	0.06	0.35	0.05	0.10	0.04	0.12	0.03
Control Delay (s/veh)	24.4	17.9	5.7	24.2	12.9	0.2	14.9	12.0	1.9	12.4	12.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.4	17.9	5.7	24.2	12.9	0.2	14.9	12.0	1.9	12.4	12.0	0.1
LOS	C	B	A	C	B	A	B	B	A	B	B	A
Approach Delay (s/veh)		13.4			13.8			11.5			10.3	
Approach LOS		B			B			B			B	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 48	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.40	
Intersection Signal Delay (s/veh): 12.9	Intersection LOS: B
Intersection Capacity Utilization 45.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: MARKET PLACE DR/SATURN ST & POTRERO GRANDE DR



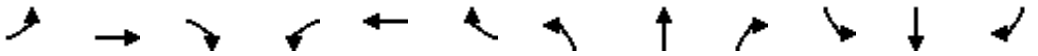


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	306	194	88	468	34	185	36	67	24	84	21
Future Volume (veh/h)	11	306	194	88	468	34	185	36	67	24	84	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	322	204	93	493	36	195	38	71	25	88	22
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	730	326	134	943	420	668	800	678	690	800	678
Arrive On Green	0.02	0.21	0.21	0.08	0.27	0.27	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1283	1870	1585	1284	1870	1585
Grp Volume(v), veh/h	12	322	204	93	493	36	195	38	71	25	88	22
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1283	1870	1585	1284	1870	1585
Q Serve(g_s), s	0.3	3.7	5.4	2.4	5.5	0.8	5.0	0.5	1.2	0.5	1.3	0.4
Cycle Q Clear(g_c), s	0.3	3.7	5.4	2.4	5.5	0.8	6.3	0.5	1.2	1.1	1.3	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	28	730	326	134	943	420	668	800	678	690	800	678
V/C Ratio(X)	0.44	0.44	0.63	0.69	0.52	0.09	0.29	0.05	0.10	0.04	0.11	0.03
Avail Cap(c_a), veh/h	192	1382	616	335	1666	743	668	800	678	690	800	678
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	16.1	16.8	20.9	14.5	12.8	9.8	7.7	7.9	8.1	8.0	7.7
Incr Delay (d2), s/veh	10.5	0.4	2.0	6.3	0.5	0.1	1.1	0.1	0.3	0.1	0.3	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.3	1.9	1.1	1.9	0.3	1.3	0.2	0.4	0.1	0.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.1	16.5	18.8	27.1	15.0	12.9	11.0	7.9	8.2	8.2	8.2	7.8
LnGrp LOS	C	B	B	C	B	B	B	A	A	A	A	A
Approach Vol, veh/h		538			622			304			135	
Approach Delay, s/veh		17.7			16.7			9.9			8.1	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.3	8.0	14.0		24.3	5.2	16.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.8	8.7	18.0		19.8	5.0	21.7				
Max Q Clear Time (g_c+I1), s		8.3	4.4	7.4		3.3	2.3	7.5				
Green Ext Time (p_c), s		0.8	0.1	2.1		0.5	0.0	2.9				

Intersection Summary	
HCM 7th Control Delay, s/veh	15.0
HCM 7th LOS	B

Notes
User approved volume balancing among the lanes for turning movement.



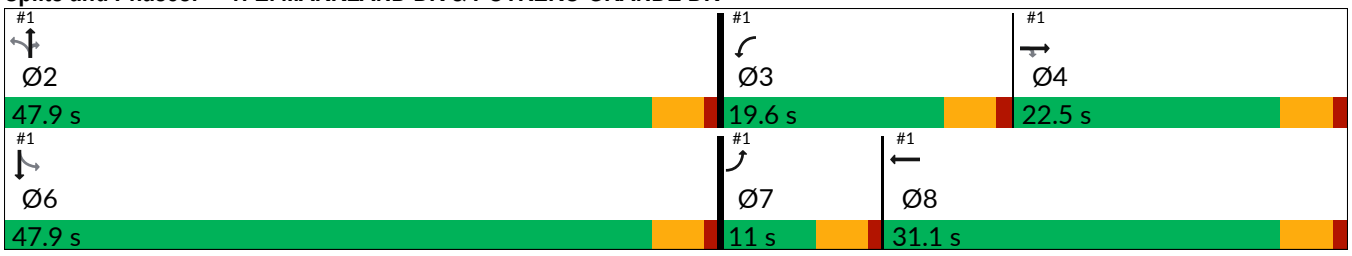
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	41	28	188	286	460	79	25	44	798	221	152	2
Future Volume (vph)	41	28	188	286	460	79	25	44	798	221	152	2
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	42	29	192	292	469	81	26	45	814	226	155	2
Shared Lane Traffic (%)									46%			
Lane Group Flow (vph)	42	29	192	292	550	0	0	445	440	0	383	0

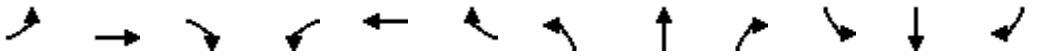
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	41	28	188	286	460	25	44	798	221	152
Future Volume (vph)	41	28	188	286	460	25	44	798	221	152
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		2			6
Permitted Phases			4			2		2	6	
Detector Phase	7	4	4	3	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	11.0	22.5	22.5	19.6	31.1	47.9	47.9	47.9	47.9	47.9
Total Split (%)	12.2%	25.0%	25.0%	21.8%	34.6%	53.2%	53.2%	53.2%	53.2%	53.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max
Act Effct Green (s)	6.3	9.7	9.7	15.1	23.0		43.5	43.5		43.5
Actuated g/C Ratio	0.08	0.12	0.12	0.18	0.28		0.53	0.53		0.53
v/c Ratio	0.31	0.13	0.54	0.89	0.56		0.46	0.44		0.86
Control Delay (s/veh)	43.6	32.6	11.2	64.6	27.5		4.2	2.8		39.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay (s/veh)	43.6	32.6	11.2	64.6	27.5		4.2	2.8		39.6
LOS	D	C	B	E	C		A	A		D
Approach Delay (s/veh)		18.7			40.4		3.5			39.6
Approach LOS		B			D		A			D

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 81.9	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay (s/veh): 24.1	Intersection LOS: C
Intersection Capacity Utilization 75.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: E. MARKLAND DR & POTRERO GRANDE DR





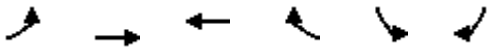
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	28	188	286	460	79	25	44	798	221	152	2
Future Volume (veh/h)	41	28	188	286	460	79	25	44	798	221	152	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	29	192	292	469	81	0	0	872	226	155	2
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	273	231	319	873	150	0	963	1632	324	206	2
Arrive On Green	0.04	0.15	0.15	0.18	0.29	0.29	0.00	0.00	0.51	0.51	0.51	0.51
Sat Flow, veh/h	1781	1870	1585	1781	3033	521	0	1870	3170	497	401	5
Grp Volume(v), veh/h	42	29	192	292	274	276	0	0	872	383	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1777	0	1870	1585	903	0	0
Q Serve(g_s), s	2.0	1.1	9.9	13.6	10.9	11.1	0.0	0.0	15.5	27.9	0.0	0.0
Cycle Q Clear(g_c), s	2.0	1.1	9.9	13.6	10.9	11.1	0.0	0.0	15.5	29.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.29	0.00		1.00	0.59		0.01
Lane Grp Cap(c), veh/h	66	273	231	319	512	511	0	963	1632	533	0	0
V/C Ratio(X)	0.64	0.11	0.83	0.92	0.54	0.54	0.00	0.00	0.53	0.72	0.00	0.00
Avail Cap(c_a), veh/h	137	399	338	319	561	561	0	963	1632	533	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	40.0	31.2	35.0	34.0	25.3	25.3	0.0	0.0	13.7	16.4	0.0	0.0
Incr Delay (d2), s/veh	9.7	0.2	10.7	29.7	0.9	0.9	0.0	0.0	1.3	8.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.5	4.4	8.3	4.6	4.6	0.0	0.0	5.4	6.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.7	31.4	45.7	63.7	26.1	26.2	0.0	0.0	14.9	24.6	0.0	0.0
LnGrp LOS	D	C	D	E	C	C			B	C		
Approach Vol, veh/h		263			842			872			383	
Approach Delay, s/veh		44.8			39.2			14.9			24.6	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	47.9	19.6	16.8	47.9	7.6	28.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	43.4	15.1	18.0	43.4	6.5	26.6
Max Q Clear Time (g_c+I1), s	17.5	15.6	11.9	31.3	4.0	13.1
Green Ext Time (p_c), s	4.1	0.0	0.4	3.0	0.0	2.8

Intersection Summary	
HCM 7th Control Delay, s/veh	28.5
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Volume (vph)	66	994	707	2	25	104
Future Volume (vph)	66	994	707	2	25	104
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	69	1035	736	2	26	108
Shared Lane Traffic (%)						
Lane Group Flow (vph)	69	1035	738	0	26	108

Intersection Summary

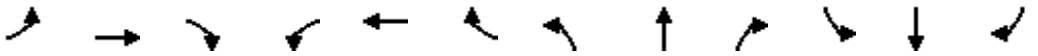
Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	66	994	707	2	25	104
Future Vol, veh/h	66	994	707	2	25	104
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	69	1035	736	2	26	108

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	739	0	-	0	1393	369
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	655	-
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	863	-	-	-	133	628
Stage 1	-	-	-	-	434	-
Stage 2	-	-	-	-	478	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	863	-	-	-	122	628
Mov Cap-2 Maneuver	-	-	-	-	240	-
Stage 1	-	-	-	-	399	-
Stage 2	-	-	-	-	478	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.59	0	13.84
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	863	-	-	-	240	628
HCM Lane V/C Ratio	0.08	-	-	-	0.108	0.173
HCM Ctrl Dly (s/v)	9.5	-	-	-	21.8	11.9
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.4	0.6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	78	35	0	0	2	171	0	0	0	187	0	45
Future Volume (vph)	78	35	0	0	2	171	0	0	0	187	0	45
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	91	41	0	0	2	199	0	0	0	217	0	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	132	0	0	201	0	0	0	0	0	269	0

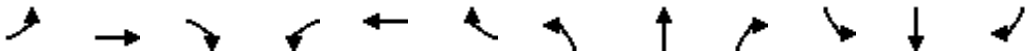
Intersection Summary

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	78	35	0	0	2	171	0	0	0	187	0	45
Future Vol, veh/h	78	35	0	0	2	171	0	0	0	187	0	45
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	91	41	0	0	2	199	0	0	0	217	0	52
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.1	8.5	0	10.3
HCM LOS	A	A	-	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	69%	0%	81%
Vol Thru, %	100%	31%	1%	0%
Vol Right, %	0%	0%	99%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	113	173	232
LT Vol	0	78	0	187
Through Vol	0	35	2	0
RT Vol	0	0	171	45
Lane Flow Rate	0	131	201	270
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.181	0.233	0.353
Departure Headway (Hd)	5.028	4.958	4.175	4.717
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	723	859	761
Service Time	3.089	2.999	2.21	2.759
HCM Lane V/C Ratio	0	0.181	0.234	0.355
HCM Control Delay, s/veh	8.1	9.1	8.5	10.3
HCM Lane LOS	N	A	A	B
HCM 95th-tile Q	0	0.7	0.9	1.6



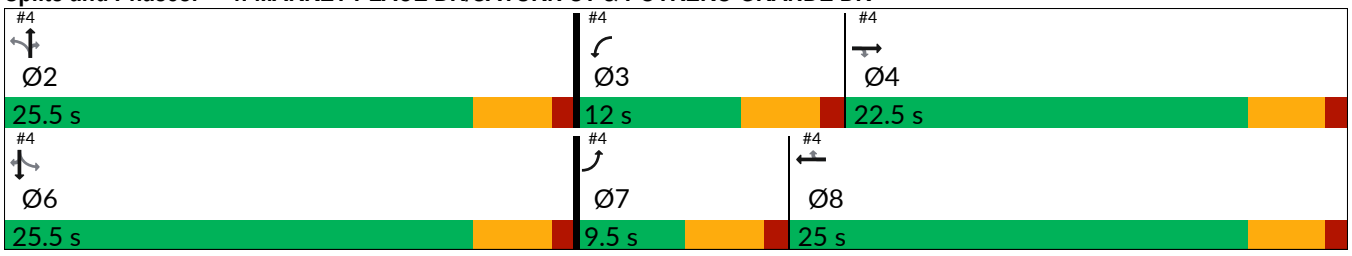
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	20	638	353	136	402	23	293	127	195	55	149	16
Future Volume (vph)	20	638	353	136	402	23	293	127	195	55	149	16
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	20	651	360	139	410	23	299	130	199	56	152	16
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	20	651	360	139	410	23	299	130	199	56	154	14

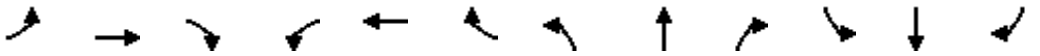
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	638	353	136	402	23	293	127	195	55	149	16
Future Volume (vph)	20	638	353	136	402	23	293	127	195	55	149	16
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	12.0	25.0	25.0	25.5	25.5	25.5	25.5	25.5	25.5
Total Split (%)	15.8%	37.5%	37.5%	20.0%	41.7%	41.7%	42.5%	42.5%	42.5%	42.5%	42.5%	42.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	5.1	16.1	16.1	7.3	23.3	23.3	21.5	21.5	21.5	21.5	21.5	21.5
Actuated g/C Ratio	0.09	0.29	0.29	0.13	0.42	0.42	0.39	0.39	0.39	0.39	0.39	0.39
v/c Ratio	0.12	0.64	0.50	0.60	0.28	0.03	0.64	0.18	0.27	0.12	0.23	0.02
Control Delay (s/veh)	27.5	21.0	5.1	38.1	11.5	0.1	24.7	14.5	3.7	14.1	14.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.5	21.0	5.1	38.1	11.5	0.1	24.7	14.5	3.7	14.1	14.9	0.1
LOS	C	C	A	D	B	A	C	B	A	B	B	A
Approach Delay (s/veh)		15.6			17.5			16.0			13.8	
Approach LOS		B			B			B			B	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 55.8	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay (s/veh): 16.0	Intersection LOS: B
Intersection Capacity Utilization 64.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: MARKET PLACE DR/SATURN ST & POTRERO GRANDE DR





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	638	353	136	402	23	293	127	195	55	149	16
Future Volume (veh/h)	20	638	353	136	402	23	293	127	195	55	149	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	651	360	139	410	23	299	130	199	56	152	16
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	1012	452	178	1282	572	517	701	594	473	701	594
Arrive On Green	0.02	0.28	0.28	0.10	0.36	0.36	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1217	1870	1585	1051	1870	1585
Grp Volume(v), veh/h	20	651	360	139	410	23	299	130	199	56	152	16
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1217	1870	1585	1051	1870	1585
Q Serve(g_s), s	0.6	9.0	11.8	4.3	4.7	0.5	12.4	2.6	5.0	2.1	3.1	0.4
Cycle Q Clear(g_c), s	0.6	9.0	11.8	4.3	4.7	0.5	15.5	2.6	5.0	4.7	3.1	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	1012	452	178	1282	572	517	701	594	473	701	594
V/C Ratio(X)	0.47	0.64	0.80	0.78	0.32	0.04	0.58	0.19	0.34	0.12	0.22	0.03
Avail Cap(c_a), veh/h	159	1141	509	238	1300	580	517	701	594	473	701	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	17.5	18.5	24.6	12.9	11.6	17.2	11.8	12.5	13.4	11.9	11.1
Incr Delay (d2), s/veh	7.9	1.0	7.8	11.4	0.1	0.0	4.7	0.6	1.5	0.5	0.7	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.4	4.8	2.2	1.7	0.2	3.7	1.1	1.8	0.5	1.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.9	18.6	26.4	36.0	13.1	11.7	21.9	12.4	14.1	13.9	12.6	11.2
LnGrp LOS	C	B	C	D	B	B	C	B	B	B	B	B
Approach Vol, veh/h		1031			572			628			224	
Approach Delay, s/veh		21.6			18.6			17.4			12.8	
Approach LOS		C			B			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.5	10.1	20.5		25.5	5.8	24.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		21.0	7.5	18.0		21.0	5.0	20.5				
Max Q Clear Time (g_c+I1), s		17.5	6.3	13.8		6.7	2.6	6.7				
Green Ext Time (p_c), s		1.0	0.0	2.2		0.9	0.0	2.3				

Intersection Summary	
HCM 7th Control Delay, s/veh	19.0
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Forecast Existing With Project Conditions

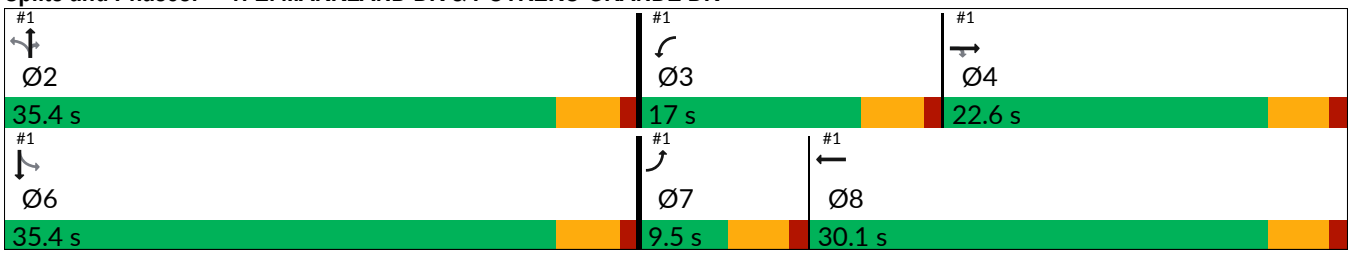
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	17	64	103	232	430	109	63	115	466	148	213	4
Future Volume (vph)	17	64	103	232	430	109	63	115	466	148	213	4
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	18	67	107	242	448	114	66	120	485	154	222	4
Shared Lane Traffic (%)									31%			
Lane Group Flow (vph)	18	67	107	242	562	0	0	336	335	0	380	0

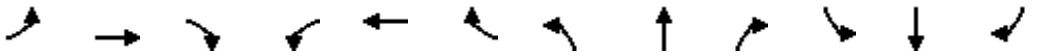
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	17	64	103	232	430	63	115	466	148	213
Future Volume (vph)	17	64	103	232	430	63	115	466	148	213
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		2			6
Permitted Phases			4			2		2	6	
Detector Phase	7	4	4	3	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	22.6	22.6	17.0	30.1	35.4	35.4	35.4	35.4	35.4
Total Split (%)	12.7%	30.1%	30.1%	22.7%	40.1%	47.2%	47.2%	47.2%	47.2%	47.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max
Act Effct Green (s)	5.1	8.4	8.4	12.0	20.7		31.4	31.4		31.4
Actuated g/C Ratio	0.08	0.13	0.13	0.19	0.33		0.50	0.50		0.50
v/c Ratio	0.13	0.27	0.31	0.72	0.48		0.45	0.36		0.61
Control Delay (s/veh)	31.8	28.1	4.5	40.1	17.0		12.0	2.9		19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay (s/veh)	31.8	28.1	4.5	40.1	17.0		12.0	2.9		19.1
LOS	C	C	A	D	B		B	A		B
Approach Delay (s/veh)		15.3			23.9		7.5			19.1
Approach LOS		B			C		A			B

Intersection Summary	
Cycle Length: 75	
Actuated Cycle Length: 62.9	
Natural Cycle: 75	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay (s/veh): 16.8	Intersection LOS: B
Intersection Capacity Utilization 69.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: E. MARKLAND DR & POTRERO GRANDE DR





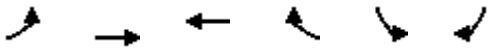
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	64	103	232	430	109	63	115	466	148	213	4
Future Volume (veh/h)	17	64	103	232	430	109	63	115	466	148	213	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	67	107	242	448	114	66	344	336	154	222	4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	38	198	167	293	698	176	162	787	805	259	343	6
Arrive On Green	0.02	0.11	0.11	0.16	0.25	0.25	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	1781	1870	1585	1781	2810	710	184	1549	1585	346	675	11
Grp Volume(v), veh/h	18	67	107	242	282	280	410	0	336	380	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1743	1733	0	1585	1032	0	0
Q Serve(g_s), s	0.6	2.0	3.9	8.0	8.6	8.8	0.0	0.0	8.0	11.4	0.0	0.0
Cycle Q Clear(g_c), s	0.6	2.0	3.9	8.0	8.6	8.8	8.4	0.0	8.0	19.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.41	0.16		1.00	0.41		0.01
Lane Grp Cap(c), veh/h	38	198	167	293	441	433	949	0	805	607	0	0
V/C Ratio(X)	0.47	0.34	0.64	0.83	0.64	0.65	0.43	0.00	0.42	0.63	0.00	0.00
Avail Cap(c_a), veh/h	146	557	472	366	748	733	949	0	805	607	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.4	25.2	26.1	24.6	20.4	20.5	9.4	0.0	9.3	12.7	0.0	0.0
Incr Delay (d2), s/veh	8.6	1.0	4.0	11.9	1.5	1.6	1.4	0.0	1.6	4.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.9	1.6	4.1	3.5	3.5	3.2	0.0	0.4	4.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.0	26.2	30.1	36.5	22.0	22.1	10.9	0.0	10.9	17.5	0.0	0.0
LnGrp LOS	D	C	C	D	C	C	B		B	B		
Approach Vol, veh/h		192			804			746			380	
Approach Delay, s/veh		29.5			26.4			10.9			17.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	35.4	14.5	10.9	35.4	5.8	19.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	30.9	12.5	18.1	30.9	5.0	25.6
Max Q Clear Time (g_c+I1), s	10.4	10.0	5.9	21.9	2.6	10.8
Green Ext Time (p_c), s	3.8	0.2	0.5	2.0	0.0	3.0

Intersection Summary	
HCM 7th Control Delay, s/veh	19.6
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Volume (vph)	175	505	668	29	13	98
Future Volume (vph)	175	505	668	29	13	98
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	186	537	711	31	14	104
Shared Lane Traffic (%)						
Lane Group Flow (vph)	186	537	742	0	14	104

Intersection Summary

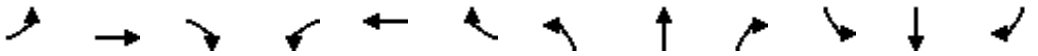
Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	175	505	668	29	13	98
Future Vol, veh/h	175	505	668	29	13	98
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	186	537	711	31	14	104

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	741	0	-	0	1367	371
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	641	-
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	861	-	-	-	138	626
Stage 1	-	-	-	-	440	-
Stage 2	-	-	-	-	487	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	861	-	-	-	108	626
Mov Cap-2 Maneuver	-	-	-	-	196	-
Stage 1	-	-	-	-	345	-
Stage 2	-	-	-	-	487	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	2.66	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	861	-	-	-	196	626
HCM Lane V/C Ratio	0.216	-	-	-	0.071	0.166
HCM Ctrl Dly (s/v)	10.3	-	-	-	24.8	11.9
HCM Lane LOS	B	-	-	-	C	B
HCM 95th %tile Q(veh)	0.8	-	-	-	0.2	0.6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	33	20	0	2	19	68	0	0	0	115	1	66
Future Volume (vph)	33	20	0	2	19	68	0	0	0	115	1	66
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	43	26	0	3	25	88	0	0	0	149	1	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	0	0	116	0	0	0	0	0	236	0

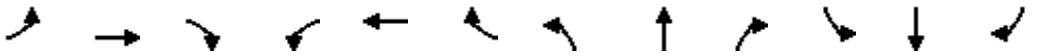
Intersection Summary

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	20	0	2	19	68	0	0	0	115	1	66
Future Vol, veh/h	33	20	0	2	19	68	0	0	0	115	1	66
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	26	0	3	25	88	0	0	0	149	1	86
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.2	7.7	0	8.9
HCM LOS	A	A	-	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	62%	2%	63%
Vol Thru, %	100%	38%	21%	1%
Vol Right, %	0%	0%	76%	36%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	53	89	182
LT Vol	0	33	2	115
Through Vol	0	20	19	1
RT Vol	0	0	68	66
Lane Flow Rate	0	69	116	236
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.09	0.132	0.28
Departure Headway (Hd)	4.602	4.719	4.098	4.268
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	761	876	846
Service Time	2.625	2.737	2.115	2.268
HCM Lane V/C Ratio	0	0.091	0.132	0.279
HCM Control Delay, s/veh	7.6	8.2	7.7	8.9
HCM Lane LOS	N	A	A	A
HCM 95th-tile Q	0	0.3	0.5	1.1



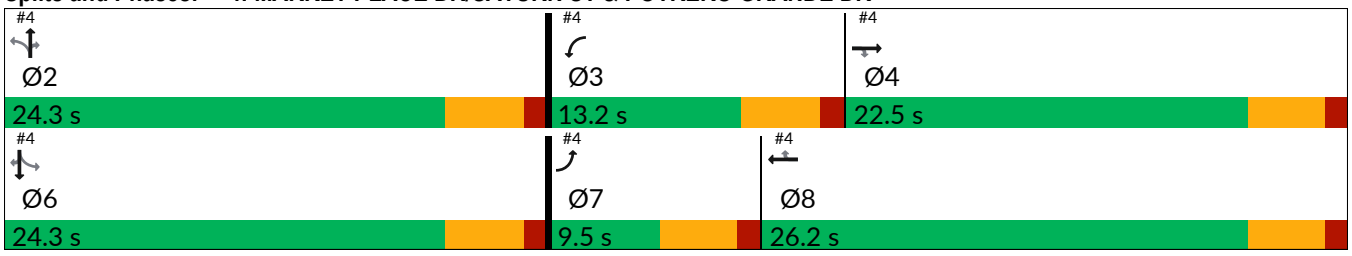
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	11	311	196	88	470	37	186	38	67	34	91	21
Future Volume (vph)	11	311	196	88	470	37	186	38	67	34	91	21
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	12	327	206	93	495	39	196	40	71	36	96	22
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	12	327	206	93	495	39	196	40	71	36	98	20

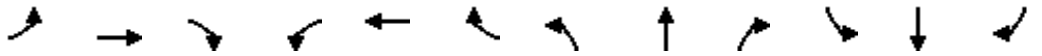
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	311	196	88	470	37	186	38	67	34	91	21
Future Volume (vph)	11	311	196	88	470	37	186	38	67	34	91	21
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	13.2	26.2	26.2	24.3	24.3	24.3	24.3	24.3	24.3
Total Split (%)	15.8%	37.5%	37.5%	22.0%	43.7%	43.7%	40.5%	40.5%	40.5%	40.5%	40.5%	40.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	5.2	11.4	11.4	7.6	16.7	16.7	20.5	20.5	20.5	20.5	20.5	20.5
Actuated g/C Ratio	0.11	0.24	0.24	0.16	0.35	0.35	0.43	0.43	0.43	0.43	0.43	0.43
v/c Ratio	0.06	0.39	0.39	0.33	0.40	0.06	0.36	0.05	0.10	0.06	0.13	0.03
Control Delay (s/veh)	24.5	17.9	5.6	24.2	12.9	0.2	15.0	12.0	1.9	12.4	12.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.5	17.9	5.6	24.2	12.9	0.2	15.0	12.0	1.9	12.4	12.1	0.1
LOS	C	B	A	C	B	A	B	B	A	B	B	A
Approach Delay (s/veh)		13.4			13.8			11.6			10.6	
Approach LOS		B			B			B			B	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 48.1	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.40	
Intersection Signal Delay (s/veh): 12.9	Intersection LOS: B
Intersection Capacity Utilization 45.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: MARKET PLACE DR/SATURN ST & POTRERO GRANDE DR





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	311	196	88	470	37	186	38	67	34	91	21
Future Volume (veh/h)	11	311	196	88	470	37	186	38	67	34	91	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	327	206	93	495	39	196	40	71	36	96	22
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	735	328	134	948	423	659	798	677	686	798	677
Arrive On Green	0.02	0.21	0.21	0.08	0.27	0.27	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1274	1870	1585	1282	1870	1585
Grp Volume(v), veh/h	12	327	206	93	495	39	196	40	71	36	96	22
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1274	1870	1585	1282	1870	1585
Q Serve(g_s), s	0.3	3.7	5.5	2.4	5.5	0.9	5.1	0.6	1.2	0.8	1.4	0.4
Cycle Q Clear(g_c), s	0.3	3.7	5.5	2.4	5.5	0.9	6.5	0.6	1.2	1.4	1.4	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	28	735	328	134	948	423	659	798	677	686	798	677
V/C Ratio(X)	0.44	0.44	0.63	0.69	0.52	0.09	0.30	0.05	0.10	0.05	0.12	0.03
Avail Cap(c_a), veh/h	192	1379	615	334	1662	741	659	798	677	686	798	677
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	16.1	16.8	20.9	14.5	12.8	10.0	7.8	8.0	8.2	8.0	7.7
Incr Delay (d2), s/veh	10.5	0.4	2.0	6.3	0.4	0.1	1.2	0.1	0.3	0.1	0.3	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.4	1.9	1.1	1.9	0.3	1.3	0.2	0.4	0.2	0.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.1	16.5	18.8	27.2	14.9	12.9	11.2	7.9	8.3	8.3	8.3	7.8
LnGrp LOS	C	B	B	C	B	B	B	A	A	A	A	A
Approach Vol, veh/h		545			627			307			154	
Approach Delay, s/veh		17.7			16.6			10.1			8.3	
Approach LOS		B			B			B			A	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.3	8.0	14.1		24.3	5.2	16.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.8	8.7	18.0		19.8	5.0	21.7				
Max Q Clear Time (g_c+I1), s		8.5	4.4	7.5		3.4	2.3	7.5				
Green Ext Time (p_c), s		0.8	0.1	2.1		0.5	0.0	2.9				

Intersection Summary	
HCM 7th Control Delay, s/veh	15.0
HCM 7th LOS	B

Notes
User approved volume balancing among the lanes for turning movement.

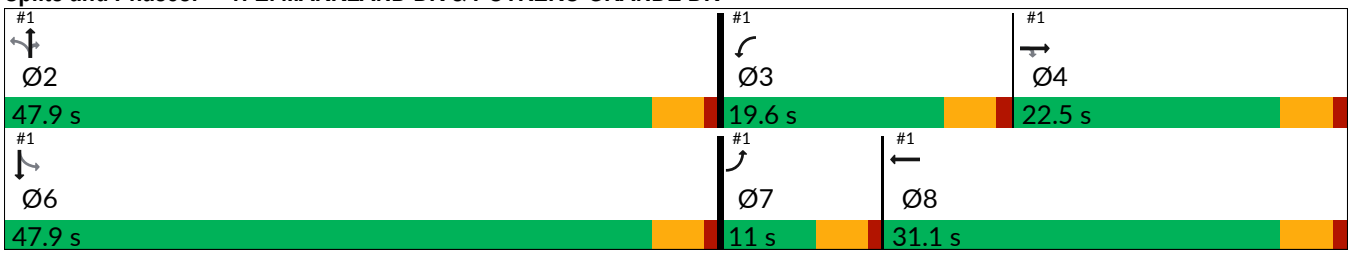
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	41	41	188	292	468	79	25	44	808	221	152	2
Future Volume (vph)	41	41	188	292	468	79	25	44	808	221	152	2
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	42	42	192	298	478	81	26	45	824	226	155	2
Shared Lane Traffic (%)									46%			
Lane Group Flow (vph)	42	42	192	298	559	0	0	450	445	0	383	0

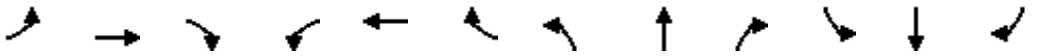
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	41	41	188	292	468	25	44	808	221	152
Future Volume (vph)	41	41	188	292	468	25	44	808	221	152
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		2			6
Permitted Phases			4			2		2	6	
Detector Phase	7	4	4	3	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	11.0	22.5	22.5	19.6	31.1	47.9	47.9	47.9	47.9	47.9
Total Split (%)	12.2%	25.0%	25.0%	21.8%	34.6%	53.2%	53.2%	53.2%	53.2%	53.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max
Act Effct Green (s)	6.3	10.1	10.1	15.1	23.4		43.5	43.5		43.5
Actuated g/C Ratio	0.08	0.12	0.12	0.18	0.28		0.53	0.53		0.53
v/c Ratio	0.31	0.18	0.53	0.92	0.56		0.46	0.44		0.88
Control Delay (s/veh)	44.0	33.3	10.8	69.1	27.4		4.3	2.8		42.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay (s/veh)	44.0	33.3	10.8	69.1	27.4		4.3	2.8		42.8
LOS	D	C	B	E	C		A	A		D
Approach Delay (s/veh)		19.3			41.9		3.6			42.8
Approach LOS		B			D		A			D

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 82.3	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.92	
Intersection Signal Delay (s/veh): 25.2	Intersection LOS: C
Intersection Capacity Utilization 76.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: E. MARKLAND DR & POTRERO GRANDE DR





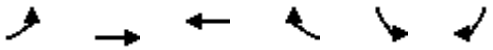
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	41	188	292	468	79	25	44	808	221	152	2
Future Volume (veh/h)	41	41	188	292	468	79	25	44	808	221	152	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	42	192	298	478	81	0	0	882	226	155	2
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	274	232	319	877	148	0	962	1631	322	205	2
Arrive On Green	0.04	0.15	0.15	0.18	0.29	0.29	0.00	0.00	0.51	0.51	0.51	0.51
Sat Flow, veh/h	1781	1870	1585	1781	3042	513	0	1870	3170	494	398	5
Grp Volume(v), veh/h	42	42	192	298	278	281	0	0	882	383	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1778	0	1870	1585	896	0	0
Q Serve(g_s), s	2.0	1.7	9.9	13.9	11.1	11.3	0.0	0.0	15.8	28.3	0.0	0.0
Cycle Q Clear(g_c), s	2.0	1.7	9.9	13.9	11.1	11.3	0.0	0.0	15.8	29.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.29	0.00		1.00	0.59		0.01
Lane Grp Cap(c), veh/h	66	274	232	319	512	512	0	962	1631	529	0	0
V/C Ratio(X)	0.64	0.15	0.83	0.93	0.54	0.55	0.00	0.00	0.54	0.72	0.00	0.00
Avail Cap(c_a), veh/h	137	399	338	319	560	561	0	962	1631	529	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	40.0	31.4	35.0	34.1	25.3	25.4	0.0	0.0	13.8	16.5	0.0	0.0
Incr Delay (d2), s/veh	9.7	0.3	10.6	33.7	0.9	0.9	0.0	0.0	1.3	8.4	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.8	4.4	8.8	4.7	4.7	0.0	0.0	5.5	6.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.7	31.7	45.5	67.8	26.2	26.3	0.0	0.0	15.1	24.9	0.0	0.0
LnGrp LOS	D	C	D	E	C	C			B	C		
Approach Vol, veh/h		276			857			882			383	
Approach Delay, s/veh		44.1			40.7			15.1			24.9	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	47.9	19.6	16.8	47.9	7.6	28.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	43.4	15.1	18.0	43.4	6.5	26.6
Max Q Clear Time (g_c+I1), s	17.8	15.9	11.9	31.7	4.0	13.3
Green Ext Time (p_c), s	4.1	0.0	0.4	3.0	0.0	2.8

Intersection Summary	
HCM 7th Control Delay, s/veh	29.1
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Volume (vph)	89	994	707	10	30	118
Future Volume (vph)	89	994	707	10	30	118
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	93	1035	736	10	31	123
Shared Lane Traffic (%)						
Lane Group Flow (vph)	93	1035	746	0	31	123

Intersection Summary

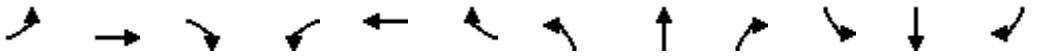
Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	89	994	707	10	30	118
Future Vol, veh/h	89	994	707	10	30	118
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	93	1035	736	10	31	123

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	747	0	-	0	1445	373
Stage 1	-	-	-	-	742	-
Stage 2	-	-	-	-	703	-
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	857	-	-	-	123	624
Stage 1	-	-	-	-	432	-
Stage 2	-	-	-	-	452	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	857	-	-	-	109	624
Mov Cap-2 Maneuver	-	-	-	-	220	-
Stage 1	-	-	-	-	385	-
Stage 2	-	-	-	-	452	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.8	0	14.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	857	-	-	-	220	624
HCM Lane V/C Ratio	0.108	-	-	-	0.142	0.197
HCM Ctrl Dly (s/v)	9.7	-	-	-	24.1	12.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.5	0.7



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	80	46	0	0	20	171	0	0	0	187	0	48
Future Volume (vph)	80	46	0	0	20	171	0	0	0	187	0	48
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	93	53	0	0	23	199	0	0	0	217	0	56
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	146	0	0	222	0	0	0	0	0	273	0

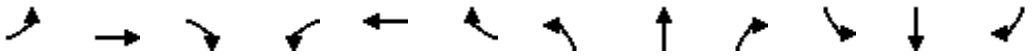
Intersection Summary

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	46	0	0	20	171	0	0	0	187	0	48
Future Vol, veh/h	80	46	0	0	20	171	0	0	0	187	0	48
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	93	53	0	0	23	199	0	0	0	217	0	56
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.3	8.8	0	10.6
HCM LOS	A	A	-	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	63%	0%	80%
Vol Thru, %	100%	37%	10%	0%
Vol Right, %	0%	0%	90%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	126	191	235
LT Vol	0	80	0	187
Through Vol	0	46	20	0
RT Vol	0	0	171	48
Lane Flow Rate	0	147	222	273
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.203	0.263	0.364
Departure Headway (Hd)	5.133	4.992	4.269	4.794
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	716	840	746
Service Time	3.207	3.04	2.311	2.845
HCM Lane V/C Ratio	0	0.205	0.264	0.366
HCM Control Delay, s/veh	8.2	9.3	8.8	10.6
HCM Lane LOS	N	A	A	B
HCM 95th-tile Q	0	0.8	1.1	1.7



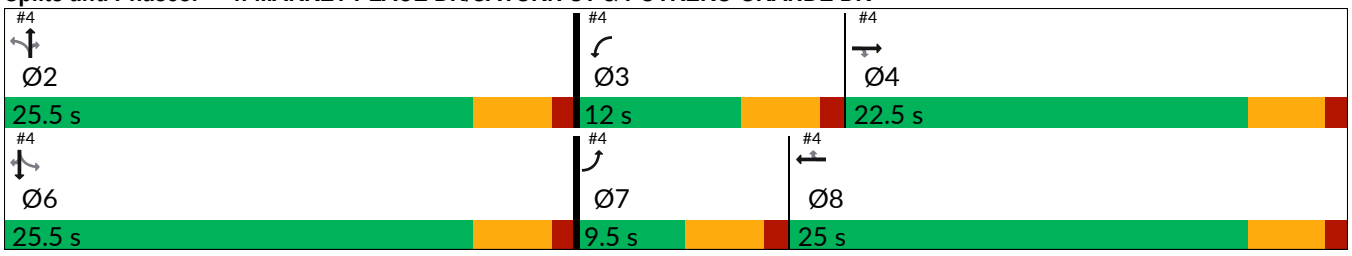
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	20	641	355	136	407	33	296	135	195	61	154	16
Future Volume (vph)	20	641	355	136	407	33	296	135	195	61	154	16
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	20	654	362	139	415	34	302	138	199	62	157	16
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	20	654	362	139	415	34	302	138	199	62	159	14

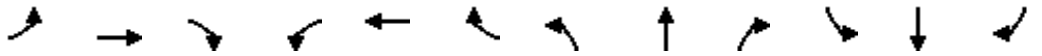
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	641	355	136	407	33	296	135	195	61	154	16
Future Volume (vph)	20	641	355	136	407	33	296	135	195	61	154	16
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	12.0	25.0	25.0	25.5	25.5	25.5	25.5	25.5	25.5
Total Split (%)	15.8%	37.5%	37.5%	20.0%	41.7%	41.7%	42.5%	42.5%	42.5%	42.5%	42.5%	42.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	5.1	16.1	16.1	7.3	23.3	23.3	21.5	21.5	21.5	21.5	21.5	21.5
Actuated g/C Ratio	0.09	0.29	0.29	0.13	0.42	0.42	0.39	0.39	0.39	0.39	0.39	0.39
v/c Ratio	0.12	0.64	0.51	0.60	0.28	0.05	0.65	0.19	0.27	0.13	0.23	0.02
Control Delay (s/veh)	27.5	21.1	5.1	38.1	11.5	0.1	25.2	14.6	3.7	14.3	15.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.5	21.1	5.1	38.1	11.5	0.1	25.2	14.6	3.7	14.3	15.0	0.1
LOS	C	C	A	D	B	A	C	B	A	B	B	A
Approach Delay (s/veh)		15.6			17.1			16.2			13.9	
Approach LOS		B			B			B			B	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 55.8	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay (s/veh): 16.0	Intersection LOS: B
Intersection Capacity Utilization 65.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: MARKET PLACE DR/SATURN ST & POTRERO GRANDE DR





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	641	355	136	407	33	296	135	195	61	154	16
Future Volume (veh/h)	20	641	355	136	407	33	296	135	195	61	154	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	654	362	139	415	34	302	138	199	62	157	16
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	43	1015	453	178	1284	573	512	700	593	467	700	593
Arrive On Green	0.02	0.29	0.29	0.10	0.36	0.36	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1212	1870	1585	1043	1870	1585
Grp Volume(v), veh/h	20	654	362	139	415	34	302	138	199	62	157	16
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1212	1870	1585	1043	1870	1585
Q Serve(g_s), s	0.6	9.0	11.9	4.3	4.7	0.8	12.7	2.8	5.0	2.4	3.2	0.4
Cycle Q Clear(g_c), s	0.6	9.0	11.9	4.3	4.7	0.8	15.9	2.8	5.0	5.2	3.2	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	43	1015	453	178	1284	573	512	700	593	467	700	593
V/C Ratio(X)	0.47	0.64	0.80	0.78	0.32	0.06	0.59	0.20	0.34	0.13	0.22	0.03
Avail Cap(c_a), veh/h	159	1140	508	238	1298	579	512	700	593	467	700	593
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	17.6	18.6	24.7	13.0	11.7	17.4	11.9	12.6	13.6	12.0	11.1
Incr Delay (d2), s/veh	7.9	1.1	8.0	11.4	0.1	0.0	4.9	0.6	1.5	0.6	0.7	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.4	4.9	2.2	1.7	0.3	3.8	1.1	1.8	0.6	1.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.9	18.6	26.6	36.1	13.1	11.7	22.4	12.5	14.1	14.2	12.7	11.2
LnGrp LOS	C	B	C	D	B	B	C	B	B	B	B	B
Approach Vol, veh/h		1036			588			639			235	
Approach Delay, s/veh		21.7			18.5			17.7			13.0	
Approach LOS		C			B			B			B	

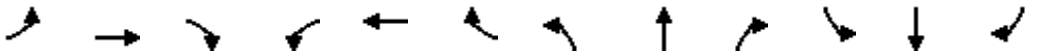
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.5	10.1	20.5		25.5	5.8	24.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		21.0	7.5	18.0		21.0	5.0	20.5				
Max Q Clear Time (g_c+I1), s		17.9	6.3	13.9		7.2	2.6	6.7				
Green Ext Time (p_c), s		0.9	0.0	2.2		0.9	0.0	2.4				

Intersection Summary	
HCM 7th Control Delay, s/veh	19.1
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Forecast Opening Year Without Project Conditions



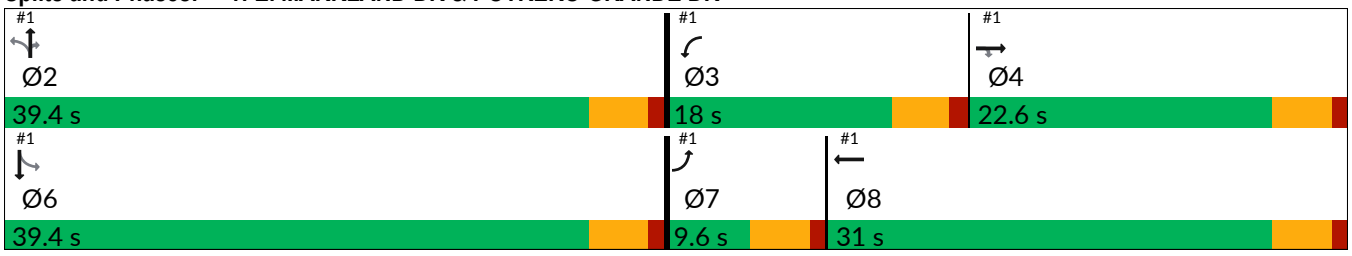
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	17	64	105	227	427	111	64	117	474	151	217	4
Future Volume (vph)	17	64	105	227	427	111	64	117	474	151	217	4
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	18	67	109	236	445	116	67	122	494	157	226	4
Shared Lane Traffic (%)									31%			
Lane Group Flow (vph)	18	67	109	236	561	0	0	342	341	0	387	0

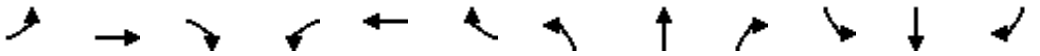
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	17	64	105	227	427	64	117	474	151	217
Future Volume (vph)	17	64	105	227	427	64	117	474	151	217
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		2			6
Permitted Phases			4			2		2	6	
Detector Phase	7	4	4	3	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.6	22.6	22.6	18.0	31.0	39.4	39.4	39.4	39.4	39.4
Total Split (%)	12.0%	28.3%	28.3%	22.5%	38.8%	49.3%	49.3%	49.3%	49.3%	49.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max
Act Effct Green (s)	5.2	8.5	8.5	12.8	21.6		35.4	35.4		35.4
Actuated g/C Ratio	0.08	0.13	0.13	0.19	0.32		0.52	0.52		0.52
v/c Ratio	0.13	0.29	0.34	0.71	0.50		0.44	0.36		0.60
Control Delay (s/veh)	34.5	31.0	6.0	41.0	18.9		11.8	2.7		18.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay (s/veh)	34.5	31.0	6.0	41.0	18.9		11.8	2.7		18.2
LOS	C	C	A	D	B		B	A		B
Approach Delay (s/veh)		17.3			25.5		7.3			18.2
Approach LOS		B			C		A			B

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 67.8	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay (s/veh): 17.3	Intersection LOS: B
Intersection Capacity Utilization 69.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: E. MARKLAND DR & POTRERO GRANDE DR





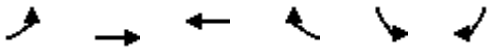
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	64	105	227	427	111	64	117	474	151	217	4
Future Volume (veh/h)	17	64	105	227	427	111	64	117	474	151	217	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	67	109	236	445	116	67	351	342	157	226	4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	38	194	165	284	677	175	164	812	842	264	352	6
Arrive On Green	0.02	0.10	0.10	0.16	0.24	0.24	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	1781	1870	1585	1781	2794	723	190	1529	1585	352	662	11
Grp Volume(v), veh/h	18	67	109	236	282	279	418	0	342	387	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1740	1719	0	1585	1025	0	0
Q Serve(g_s), s	0.7	2.2	4.3	8.4	9.4	9.5	0.0	0.0	8.5	12.7	0.0	0.0
Cycle Q Clear(g_c), s	0.7	2.2	4.3	8.4	9.4	9.5	8.9	0.0	8.5	21.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.42	0.16		1.00	0.41		0.01
Lane Grp Cap(c), veh/h	38	194	165	284	431	422	976	0	842	621	0	0
V/C Ratio(X)	0.47	0.34	0.66	0.83	0.65	0.66	0.43	0.00	0.41	0.62	0.00	0.00
Avail Cap(c_a), veh/h	138	515	436	366	716	702	976	0	842	621	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.8	27.4	28.3	26.8	22.4	22.5	9.3	0.0	9.2	12.9	0.0	0.0
Incr Delay (d2), s/veh	8.9	1.0	4.5	11.8	1.7	1.8	1.4	0.0	1.5	4.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.0	1.8	4.3	3.9	3.9	3.4	0.0	2.8	4.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.7	28.4	32.8	38.6	24.1	24.3	10.7	0.0	10.7	17.5	0.0	0.0
LnGrp LOS	D	C	C	D	C	C	B		B	B		
Approach Vol, veh/h		194			797			760			387	
Approach Delay, s/veh		32.0			28.5			10.7			17.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		39.4	15.0	11.3		39.4	5.9	20.4				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.9	13.5	18.1		34.9	5.1	26.5				
Max Q Clear Time (g_c+I1), s		10.9	10.4	6.3		23.6	2.7	11.5				
Green Ext Time (p_c), s		4.1	0.2	0.5		2.3	0.0	3.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	20.5
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Volume (vph)	176	515	681	28	6	80
Future Volume (vph)	176	515	681	28	6	80
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	187	548	724	30	6	85
Shared Lane Traffic (%)						
Lane Group Flow (vph)	187	548	754	0	6	85

Intersection Summary

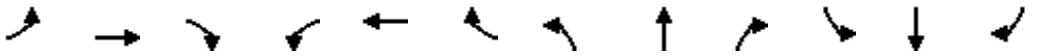
Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	176	515	681	28	6	80
Future Vol, veh/h	176	515	681	28	6	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	187	548	724	30	6	85

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	754	0	-	0	1388	377
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	648	-
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	852	-	-	-	134	621
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	482	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	852	-	-	-	104	621
Mov Cap-2 Maneuver	-	-	-	-	191	-
Stage 1	-	-	-	-	338	-
Stage 2	-	-	-	-	482	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	2.65	0	12.61
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	852	-	-	-	191	621
HCM Lane V/C Ratio	0.22	-	-	-	0.033	0.137
HCM Ctrl Dly (s/v)	10.4	-	-	-	24.5	11.7
HCM Lane LOS	B	-	-	-	C	B
HCM 95th %tile Q(veh)	0.8	-	-	-	0.1	0.5



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	32	6	0	2	19	69	0	0	0	117	1	67
Future Volume (vph)	32	6	0	2	19	69	0	0	0	117	1	67
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	42	8	0	3	25	90	0	0	0	152	1	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	50	0	0	118	0	0	0	0	0	240	0

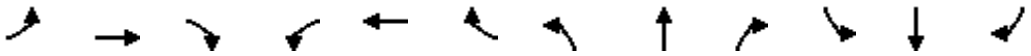
Intersection Summary

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	6	0	2	19	69	0	0	0	117	1	67
Future Vol, veh/h	32	6	0	2	19	69	0	0	0	117	1	67
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	8	0	3	25	90	0	0	0	152	1	87
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.1	7.7	0	8.8
HCM LOS	A	A	-	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	84%	2%	63%
Vol Thru, %	100%	16%	21%	1%
Vol Right, %	0%	0%	77%	36%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	38	90	185
LT Vol	0	32	2	117
Through Vol	0	6	19	1
RT Vol	0	0	69	67
Lane Flow Rate	0	49	117	240
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.065	0.132	0.276
Departure Headway (Hd)	4.558	4.77	4.08	4.129
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	755	884	855
Service Time	2.57	2.774	2.082	2.222
HCM Lane V/C Ratio	0	0.065	0.132	0.281
HCM Control Delay, s/veh	7.6	8.1	7.7	8.8
HCM Lane LOS	N	A	A	A
HCM 95th-tile Q	0	0.2	0.5	1.1



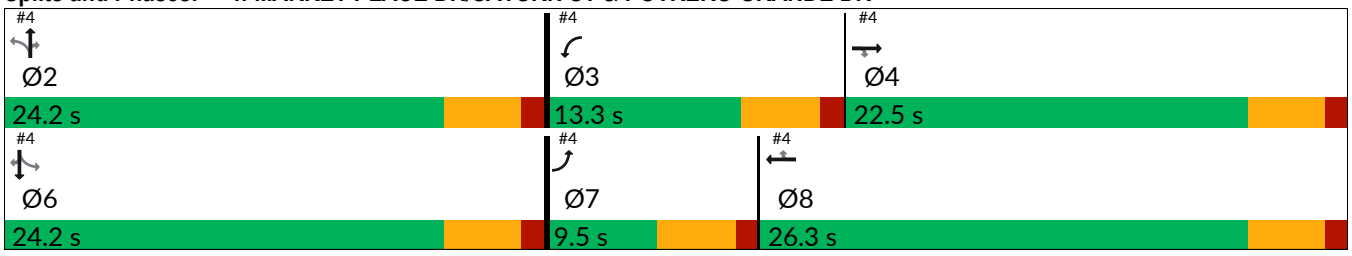
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	11	312	198	90	477	39	189	39	68	26	87	21
Future Volume (vph)	11	312	198	90	477	39	189	39	68	26	87	21
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	12	328	208	95	502	41	199	41	72	27	92	22
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	12	328	208	95	502	41	199	41	72	27	94	20

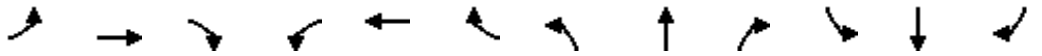
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	312	198	90	477	39	189	39	68	26	87	21
Future Volume (vph)	11	312	198	90	477	39	189	39	68	26	87	21
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	13.3	26.3	26.3	24.2	24.2	24.2	24.2	24.2	24.2
Total Split (%)	15.8%	37.5%	37.5%	22.2%	43.8%	43.8%	40.3%	40.3%	40.3%	40.3%	40.3%	40.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	5.2	11.5	11.5	7.7	16.7	16.7	20.4	20.4	20.4	20.4	20.4	20.4
Actuated g/C Ratio	0.11	0.24	0.24	0.16	0.35	0.35	0.42	0.42	0.42	0.42	0.42	0.42
v/c Ratio	0.06	0.39	0.39	0.34	0.41	0.07	0.36	0.05	0.10	0.05	0.13	0.03
Control Delay (s/veh)	24.5	17.9	5.6	24.2	12.8	0.2	15.1	12.1	2.0	12.5	12.1	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.5	17.9	5.6	24.2	12.8	0.2	15.1	12.1	2.0	12.5	12.1	0.1
LOS	C	B	A	C	B	A	B	B	A	B	B	A
Approach Delay (s/veh)		13.4			13.7			11.7			10.5	
Approach LOS		B			B			B			B	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 48.1	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.41	
Intersection Signal Delay (s/veh): 12.9	Intersection LOS: B
Intersection Capacity Utilization 45.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: MARKET PLACE DR/SATURN ST & POTRERO GRANDE DR



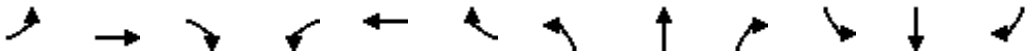


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	312	198	90	477	39	189	39	68	26	87	21
Future Volume (veh/h)	11	312	198	90	477	39	189	39	68	26	87	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	328	208	95	502	41	199	41	72	27	92	22
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	740	330	136	955	426	660	794	673	682	794	673
Arrive On Green	0.02	0.21	0.21	0.08	0.27	0.27	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1279	1870	1585	1280	1870	1585
Grp Volume(v), veh/h	12	328	208	95	502	41	199	41	72	27	92	22
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1279	1870	1585	1280	1870	1585
Q Serve(g_s), s	0.3	3.7	5.5	2.4	5.6	0.9	5.2	0.6	1.3	0.6	1.4	0.4
Cycle Q Clear(g_c), s	0.3	3.7	5.5	2.4	5.6	0.9	6.6	0.6	1.3	1.2	1.4	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	28	740	330	136	955	426	660	794	673	682	794	673
V/C Ratio(X)	0.44	0.44	0.63	0.70	0.53	0.10	0.30	0.05	0.11	0.04	0.12	0.03
Avail Cap(c_a), veh/h	192	1379	615	338	1670	745	660	794	673	682	794	673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	16.0	16.7	20.9	14.4	12.7	10.1	7.8	8.0	8.2	8.1	7.8
Incr Delay (d2), s/veh	10.5	0.4	2.0	6.4	0.5	0.1	1.2	0.1	0.3	0.1	0.3	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.4	1.9	1.1	2.0	0.3	1.4	0.2	0.4	0.1	0.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.1	16.4	18.7	27.3	14.9	12.8	11.2	8.0	8.4	8.3	8.4	7.9
LnGrp LOS	C	B	B	C	B	B	B	A	A	A	A	A
Approach Vol, veh/h		548			638			312			141	
Approach Delay, s/veh		17.7			16.6			10.1			8.3	
Approach LOS		B			B			B			A	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.2	8.0	14.2		24.2	5.2	17.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.7	8.8	18.0		19.7	5.0	21.8				
Max Q Clear Time (g_c+I1), s		8.6	4.4	7.5		3.4	2.3	7.6				
Green Ext Time (p_c), s		0.8	0.1	2.1		0.5	0.0	3.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	15.0
HCM 7th LOS	B

Notes
User approved volume balancing among the lanes for turning movement.



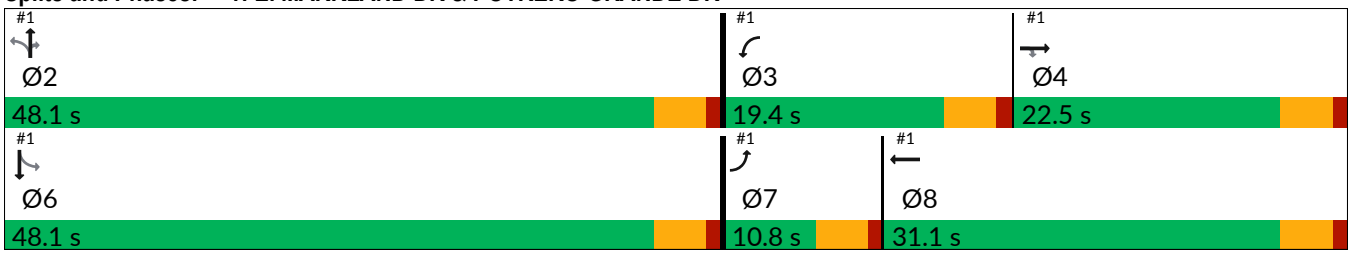
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	42	30	192	294	472	81	26	45	814	225	155	2
Future Volume (vph)	42	30	192	294	472	81	26	45	814	225	155	2
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	43	31	196	300	482	83	27	46	831	230	158	2
Shared Lane Traffic (%)									46%			
Lane Group Flow (vph)	43	31	196	300	565	0	0	455	449	0	390	0

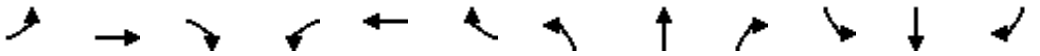
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	42	30	192	294	472	26	45	814	225	155
Future Volume (vph)	42	30	192	294	472	26	45	814	225	155
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		2			6
Permitted Phases			4			2		2	6	
Detector Phase	7	4	4	3	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.8	22.5	22.5	19.4	31.1	48.1	48.1	48.1	48.1	48.1
Total Split (%)	12.0%	25.0%	25.0%	21.6%	34.6%	53.4%	53.4%	53.4%	53.4%	53.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max
Act Effct Green (s)	6.1	10.2	10.2	14.9	23.4		43.7	43.7		43.7
Actuated g/C Ratio	0.07	0.12	0.12	0.18	0.28		0.53	0.53		0.53
v/c Ratio	0.33	0.13	0.53	0.94	0.57		0.47	0.45		0.90
Control Delay (s/veh)	44.8	32.4	10.8	73.1	27.6		4.3	2.8		45.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay (s/veh)	44.8	32.4	10.8	73.1	27.6		4.3	2.8		45.3
LOS	D	C	B	E	C		A	A		D
Approach Delay (s/veh)		18.7			43.4		3.6			45.3
Approach LOS		B			D		A			D

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 82.4	
Natural Cycle: 90	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay (s/veh): 26.1	Intersection LOS: C
Intersection Capacity Utilization 76.7%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: E. MARKLAND DR & POTRERO GRANDE DR





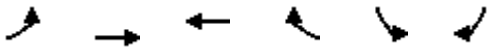
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	30	192	294	472	81	26	45	814	225	155	2
Future Volume (veh/h)	42	30	192	294	472	81	26	45	814	225	155	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	31	196	300	482	83	0	0	891	230	158	2
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	277	235	314	871	149	0	965	1635	321	204	2
Arrive On Green	0.04	0.15	0.15	0.18	0.29	0.29	0.00	0.00	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1781	1870	1585	1781	3034	520	0	1870	3170	490	396	5
Grp Volume(v), veh/h	43	31	196	300	281	284	0	0	891	390	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1777	0	1870	1585	891	0	0
Q Serve(g_s), s	2.0	1.2	10.2	14.1	11.3	11.5	0.0	0.0	16.0	29.7	0.0	0.0
Cycle Q Clear(g_c), s	2.0	1.2	10.2	14.1	11.3	11.5	0.0	0.0	16.0	31.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.29	0.00		1.00	0.59		0.01
Lane Grp Cap(c), veh/h	67	277	235	314	510	510	0	965	1635	527	0	0
V/C Ratio(X)	0.64	0.11	0.83	0.96	0.55	0.56	0.00	0.00	0.54	0.74	0.00	0.00
Avail Cap(c_a), veh/h	133	398	337	314	559	559	0	965	1635	527	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	40.1	31.2	35.0	34.5	25.5	25.6	0.0	0.0	13.8	16.8	0.0	0.0
Incr Delay (d2), s/veh	9.8	0.2	11.4	38.9	1.0	1.0	0.0	0.0	1.3	9.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.6	4.6	9.3	4.8	4.8	0.0	0.0	5.5	7.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.9	31.4	46.4	73.4	26.5	26.6	0.0	0.0	15.1	25.8	0.0	0.0
LnGrp LOS	D	C	D	E	C	C			B	C		
Approach Vol, veh/h		270			865			891			390	
Approach Delay, s/veh		45.2			42.8			15.1			25.8	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	48.1	19.4	17.0	48.1	7.7	28.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	43.6	14.9	18.0	43.6	6.3	26.6
Max Q Clear Time (g_c+I1), s	18.0	16.1	12.2	33.1	4.0	13.5
Green Ext Time (p_c), s	4.2	0.0	0.4	2.8	0.0	2.9

Intersection Summary	
HCM 7th Control Delay, s/veh	30.1
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Volume (vph)	68	1014	721	2	26	111
Future Volume (vph)	68	1014	721	2	26	111
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	71	1056	751	2	27	116
Shared Lane Traffic (%)						
Lane Group Flow (vph)	71	1056	753	0	27	116

Intersection Summary

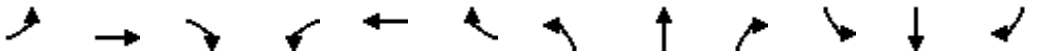
Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	68	1014	721	2	26	111
Future Vol, veh/h	68	1014	721	2	26	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	1056	751	2	27	116

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	753	0	-	0	1422	377
Stage 1	-	-	-	-	752	-
Stage 2	-	-	-	-	670	-
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	853	-	-	-	127	621
Stage 1	-	-	-	-	426	-
Stage 2	-	-	-	-	470	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	853	-	-	-	116	621
Mov Cap-2 Maneuver	-	-	-	-	234	-
Stage 1	-	-	-	-	391	-
Stage 2	-	-	-	-	470	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.6	0	14.07
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	853	-	-	-	234	621
HCM Lane V/C Ratio	0.083	-	-	-	0.116	0.186
HCM Ctrl Dly (s/v)	9.6	-	-	-	22.4	12.1
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.4	0.7



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	81	41	0	0	3	174	0	0	0	191	0	46
Future Volume (vph)	81	41	0	0	3	174	0	0	0	191	0	46
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	94	48	0	0	3	202	0	0	0	222	0	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	142	0	0	205	0	0	0	0	0	275	0

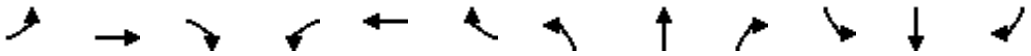
Intersection Summary

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	81	41	0	0	3	174	0	0	0	191	0	46
Future Vol, veh/h	81	41	0	0	3	174	0	0	0	191	0	46
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	94	48	0	0	3	202	0	0	0	222	0	53
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.2	8.6	0	10.5
HCM LOS	A	A	-	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	66%	0%	81%
Vol Thru, %	100%	34%	2%	0%
Vol Right, %	0%	0%	98%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	122	177	237
LT Vol	0	81	0	191
Through Vol	0	41	3	0
RT Vol	0	0	174	46
Lane Flow Rate	0	142	206	276
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.196	0.241	0.364
Departure Headway (Hd)	5.079	4.98	4.212	4.753
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	719	850	755
Service Time	3.147	3.024	2.251	2.8
HCM Lane V/C Ratio	0	0.197	0.242	0.366
HCM Control Delay, s/veh	8.1	9.2	8.6	10.5
HCM Lane LOS	N	A	A	B
HCM 95th-tile Q	0	0.7	0.9	1.7



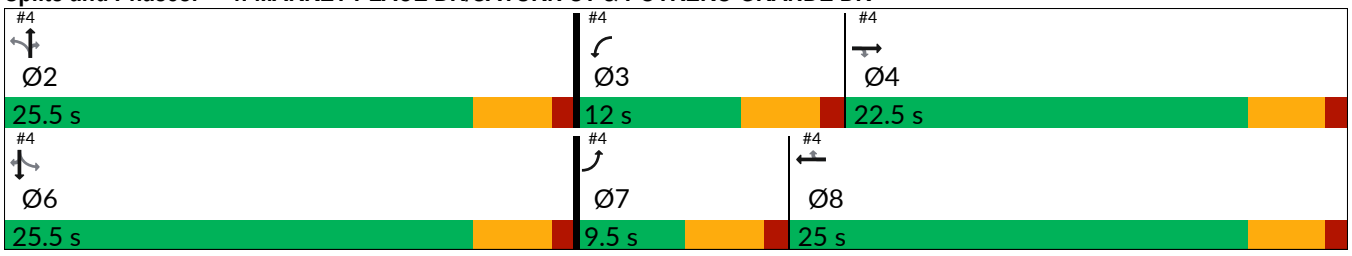
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	20	651	360	139	410	24	299	130	199	59	154	16
Future Volume (vph)	20	651	360	139	410	24	299	130	199	59	154	16
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	20	664	367	142	418	24	305	133	203	60	157	16
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	20	664	367	142	418	24	305	133	203	60	159	14

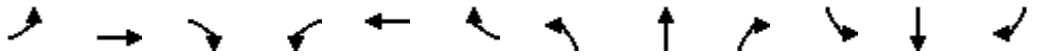
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	651	360	139	410	24	299	130	199	59	154	16
Future Volume (vph)	20	651	360	139	410	24	299	130	199	59	154	16
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	12.0	25.0	25.0	25.5	25.5	25.5	25.5	25.5	25.5
Total Split (%)	15.8%	37.5%	37.5%	20.0%	41.7%	41.7%	42.5%	42.5%	42.5%	42.5%	42.5%	42.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	5.1	16.2	16.2	7.3	23.4	23.4	21.5	21.5	21.5	21.5	21.5	21.5
Actuated g/C Ratio	0.09	0.29	0.29	0.13	0.42	0.42	0.38	0.38	0.38	0.38	0.38	0.38
v/c Ratio	0.12	0.65	0.51	0.61	0.28	0.03	0.65	0.19	0.28	0.12	0.23	0.02
Control Delay (s/veh)	27.5	21.2	5.1	38.8	11.5	0.1	25.5	14.6	3.7	14.2	15.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.5	21.2	5.1	38.8	11.5	0.1	25.5	14.6	3.7	14.2	15.0	0.1
LOS	C	C	A	D	B	A	C	B	A	B	B	A
Approach Delay (s/veh)		15.7			17.7			16.4			13.9	
Approach LOS		B			B			B			B	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 55.9	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.65	
Intersection Signal Delay (s/veh): 16.2	Intersection LOS: B
Intersection Capacity Utilization 65.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: MARKET PLACE DR/SATURN ST & POTRERO GRANDE DR





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	651	360	139	410	24	299	130	199	59	154	16
Future Volume (veh/h)	20	651	360	139	410	24	299	130	199	59	154	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	664	367	142	418	24	305	133	203	60	157	16
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	42	1020	455	181	1296	578	509	696	590	466	696	590
Arrive On Green	0.02	0.29	0.29	0.10	0.36	0.36	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1212	1870	1585	1044	1870	1585
Grp Volume(v), veh/h	20	664	367	142	418	24	305	133	203	60	157	16
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1212	1870	1585	1044	1870	1585
Q Serve(g_s), s	0.6	9.2	12.1	4.4	4.8	0.6	13.0	2.7	5.2	2.3	3.2	0.4
Cycle Q Clear(g_c), s	0.6	9.2	12.1	4.4	4.8	0.6	16.3	2.7	5.2	5.0	3.2	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	42	1020	455	181	1296	578	509	696	590	466	696	590
V/C Ratio(X)	0.47	0.65	0.81	0.78	0.32	0.04	0.60	0.19	0.34	0.13	0.23	0.03
Avail Cap(c_a), veh/h	158	1133	506	237	1296	578	509	696	590	466	696	590
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	17.6	18.7	24.7	12.9	11.6	17.7	12.0	12.8	13.7	12.1	11.2
Incr Delay (d2), s/veh	7.9	1.1	8.6	12.0	0.1	0.0	5.1	0.6	1.6	0.6	0.8	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.5	5.0	2.3	1.7	0.2	3.9	1.1	1.9	0.6	1.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.1	18.8	27.2	36.7	13.0	11.6	22.9	12.6	14.4	14.2	12.9	11.3
LnGrp LOS	D	B	C	D	B	B	C	B	B	B	B	B
Approach Vol, veh/h		1051			584			641			233	
Approach Delay, s/veh		22.0			18.7			18.0			13.1	
Approach LOS		C			B			B			B	

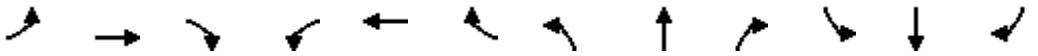
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.5	10.2	20.7		25.5	5.8	25.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		21.0	7.5	18.0		21.0	5.0	20.5				
Max Q Clear Time (g_c+I1), s		18.3	6.4	14.1		7.0	2.6	6.8				
Green Ext Time (p_c), s		0.8	0.0	2.1		0.9	0.0	2.4				

Intersection Summary	
HCM 7th Control Delay, s/veh	19.4
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Forecast Opening Year With Project Conditions



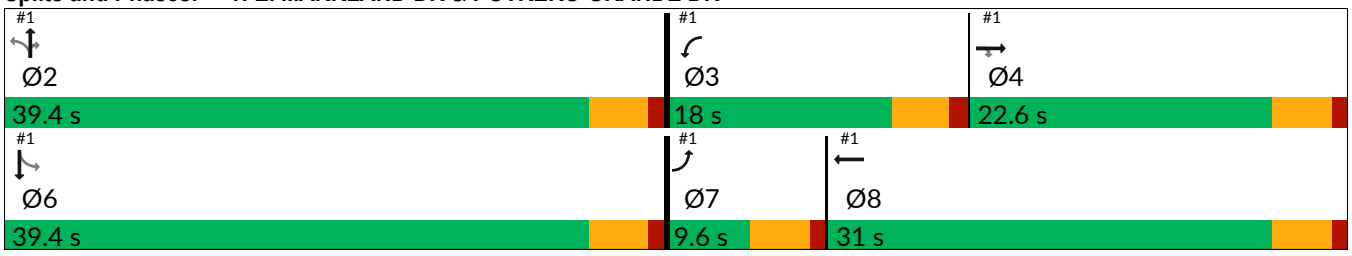
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	17	68	105	237	439	111	64	117	477	151	217	4
Future Volume (vph)	17	68	105	237	439	111	64	117	477	151	217	4
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	18	71	109	247	457	116	67	122	497	157	226	4
Shared Lane Traffic (%)									32%			
Lane Group Flow (vph)	18	71	109	247	573	0	0	348	338	0	387	0

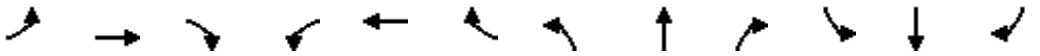
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	17	68	105	237	439	64	117	477	151	217
Future Volume (vph)	17	68	105	237	439	64	117	477	151	217
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		2			6
Permitted Phases			4			2		2	6	
Detector Phase	7	4	4	3	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.6	22.6	22.6	18.0	31.0	39.4	39.4	39.4	39.4	39.4
Total Split (%)	12.0%	28.3%	28.3%	22.5%	38.8%	49.3%	49.3%	49.3%	49.3%	49.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max
Act Effct Green (s)	5.2	8.8	8.8	12.9	22.1		35.4	35.4		35.4
Actuated g/C Ratio	0.08	0.13	0.13	0.19	0.32		0.52	0.52		0.52
v/c Ratio	0.13	0.30	0.33	0.74	0.50		0.45	0.36		0.61
Control Delay (s/veh)	34.9	30.9	5.7	43.3	18.9		12.1	2.8		19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay (s/veh)	34.9	30.9	5.7	43.3	18.9		12.1	2.8		19.2
LOS	C	C	A	D	B		B	A		B
Approach Delay (s/veh)		17.4			26.3		7.5			19.2
Approach LOS		B			C		A			B

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 68.3	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay (s/veh): 18.0	Intersection LOS: B
Intersection Capacity Utilization 70.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: E. MARKLAND DR & POTRERO GRANDE DR





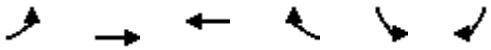
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	68	105	237	439	111	64	117	477	151	217	4
Future Volume (veh/h)	17	68	105	237	439	111	64	117	477	151	217	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	71	109	247	457	116	67	353	343	157	226	4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	38	194	165	295	698	176	162	805	835	260	346	6
Arrive On Green	0.02	0.10	0.10	0.17	0.25	0.25	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	1781	1870	1585	1781	2811	708	188	1528	1585	349	657	11
Grp Volume(v), veh/h	18	71	109	247	288	285	420	0	343	387	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1743	1716	0	1585	1017	0	0
Q Serve(g_s), s	0.7	2.3	4.4	8.9	9.6	9.8	0.0	0.0	8.7	13.1	0.0	0.0
Cycle Q Clear(g_c), s	0.7	2.3	4.4	8.9	9.6	9.8	9.1	0.0	8.7	22.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.41	0.16		1.00	0.41		0.01
Lane Grp Cap(c), veh/h	38	194	165	295	441	433	967	0	835	612	0	0
V/C Ratio(X)	0.47	0.37	0.66	0.84	0.65	0.66	0.43	0.00	0.41	0.63	0.00	0.00
Avail Cap(c_a), veh/h	137	511	433	363	711	697	967	0	835	612	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	32.1	27.6	28.6	26.8	22.3	22.4	9.6	0.0	9.5	13.3	0.0	0.0
Incr Delay (d2), s/veh	8.9	1.1	4.5	13.3	1.6	1.7	1.4	0.0	1.5	4.9	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.1	1.8	4.7	4.0	3.9	3.5	0.0	2.9	4.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.0	28.8	33.1	40.1	24.0	24.1	11.0	0.0	11.0	18.2	0.0	0.0
LnGrp LOS	D	C	C	D	C	C	B		B	B		
Approach Vol, veh/h		198			820			763			387	
Approach Delay, s/veh		32.2			28.9			11.0			18.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		39.4	15.5	11.4		39.4	5.9	20.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		34.9	13.5	18.1		34.9	5.1	26.5				
Max Q Clear Time (g_c+I1), s		11.1	10.9	6.4		24.2	2.7	11.8				
Green Ext Time (p_c), s		4.1	0.2	0.5		2.3	0.0	3.1				

Intersection Summary												
HCM 7th Control Delay, s/veh			21.0									
HCM 7th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Volume (vph)	183	515	681	30	13	102
Future Volume (vph)	183	515	681	30	13	102
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	195	548	724	32	14	109
Shared Lane Traffic (%)						
Lane Group Flow (vph)	195	548	756	0	14	109

Intersection Summary

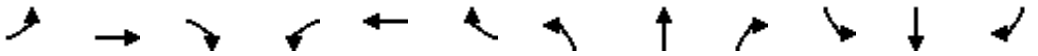
Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	183	515	681	30	13	102
Future Vol, veh/h	183	515	681	30	13	102
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	195	548	724	32	14	109

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	756	0	-	0	1404	378
Stage 1	-	-	-	-	740	-
Stage 2	-	-	-	-	663	-
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	850	-	-	-	131	620
Stage 1	-	-	-	-	432	-
Stage 2	-	-	-	-	474	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	850	-	-	-	101	620
Mov Cap-2 Maneuver	-	-	-	-	184	-
Stage 1	-	-	-	-	333	-
Stage 2	-	-	-	-	474	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	2.75	0	13.63
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	850	-	-	-	184	620
HCM Lane V/C Ratio	0.229	-	-	-	0.075	0.175
HCM Ctrl Dly (s/v)	10.5	-	-	-	26.1	12
HCM Lane LOS	B	-	-	-	D	B
HCM 95th %tile Q(veh)	0.9	-	-	-	0.2	0.6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	34	23	0	2	25	69	0	0	0	117	1	68
Future Volume (vph)	34	23	0	2	25	69	0	0	0	117	1	68
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	44	30	0	3	32	90	0	0	0	152	1	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	74	0	0	125	0	0	0	0	0	241	0

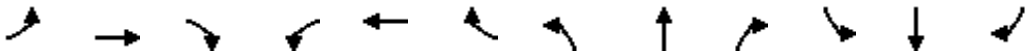
Intersection Summary

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	23	0	2	25	69	0	0	0	117	1	68
Future Vol, veh/h	34	23	0	2	25	69	0	0	0	117	1	68
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	44	30	0	3	32	90	0	0	0	152	1	88
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.3	7.9	0	9
HCM LOS	A	A	-	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	60%	2%	63%
Vol Thru, %	100%	40%	26%	1%
Vol Right, %	0%	0%	72%	37%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	57	96	186
LT Vol	0	34	2	117
Through Vol	0	23	25	1
RT Vol	0	0	69	68
Lane Flow Rate	0	74	125	242
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.097	0.144	0.287
Departure Headway (Hd)	4.646	4.74	4.148	4.284
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	758	866	841
Service Time	2.67	2.758	2.163	2.301
HCM Lane V/C Ratio	0	0.098	0.144	0.288
HCM Control Delay, s/veh	7.7	8.3	7.9	9
HCM Lane LOS	N	A	A	A
HCM 95th-tile Q	0	0.3	0.5	1.2



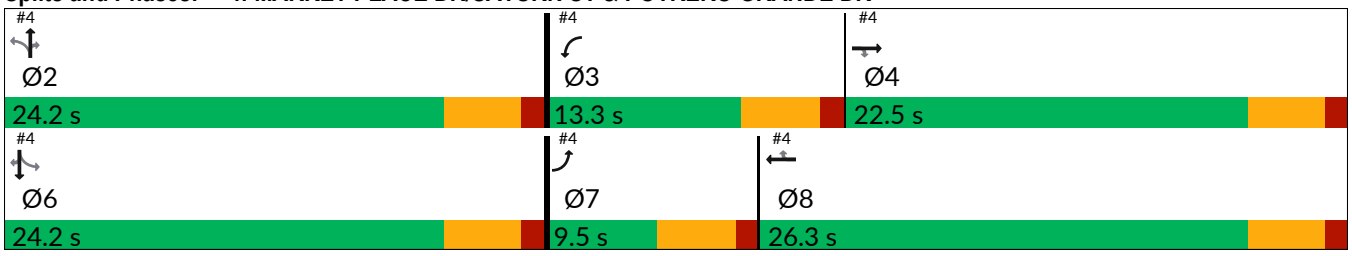
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	11	317	200	90	479	42	190	41	68	36	94	21
Future Volume (vph)	11	317	200	90	479	42	190	41	68	36	94	21
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	12	334	211	95	504	44	200	43	72	38	99	22
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	12	334	211	95	504	44	200	43	72	38	101	20

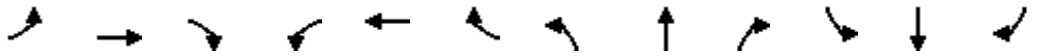
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	317	200	90	479	42	190	41	68	36	94	21
Future Volume (vph)	11	317	200	90	479	42	190	41	68	36	94	21
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	13.3	26.3	26.3	24.2	24.2	24.2	24.2	24.2	24.2
Total Split (%)	15.8%	37.5%	37.5%	22.2%	43.8%	43.8%	40.3%	40.3%	40.3%	40.3%	40.3%	40.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	5.2	11.5	11.5	7.7	16.8	16.8	20.4	20.4	20.4	20.4	20.4	20.4
Actuated g/C Ratio	0.11	0.24	0.24	0.16	0.35	0.35	0.42	0.42	0.42	0.42	0.42	0.42
v/c Ratio	0.06	0.39	0.39	0.34	0.41	0.07	0.37	0.05	0.10	0.07	0.13	0.03
Control Delay (s/veh)	24.5	17.9	5.6	24.2	12.8	0.3	15.2	12.1	2.0	12.5	12.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	24.5	17.9	5.6	24.2	12.8	0.3	15.2	12.1	2.0	12.5	12.3	0.1
LOS	C	B	A	C	B	A	B	B	A	B	B	A
Approach Delay (s/veh)		13.4			13.7			11.8			10.8	
Approach LOS		B			B			B			B	

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 48.1	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.41	
Intersection Signal Delay (s/veh): 12.9	Intersection LOS: B
Intersection Capacity Utilization 45.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: MARKET PLACE DR/SATURN ST & POTRERO GRANDE DR





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	317	200	90	479	42	190	41	68	36	94	21
Future Volume (veh/h)	11	317	200	90	479	42	190	41	68	36	94	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	334	211	95	504	44	200	43	72	38	99	22
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	747	333	135	962	429	652	792	671	679	792	671
Arrive On Green	0.02	0.21	0.21	0.08	0.27	0.27	0.42	0.42	0.42	0.42	0.42	0.42
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1270	1870	1585	1277	1870	1585
Grp Volume(v), veh/h	12	334	211	95	504	44	200	43	72	38	99	22
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1270	1870	1585	1277	1870	1585
Q Serve(g_s), s	0.3	3.8	5.6	2.4	5.6	1.0	5.3	0.6	1.3	0.8	1.5	0.4
Cycle Q Clear(g_c), s	0.3	3.8	5.6	2.4	5.6	1.0	6.8	0.6	1.3	1.5	1.5	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	28	747	333	135	962	429	652	792	671	679	792	671
V/C Ratio(X)	0.44	0.45	0.63	0.70	0.52	0.10	0.31	0.05	0.11	0.06	0.12	0.03
Avail Cap(c_a), veh/h	191	1375	613	337	1666	743	652	792	671	679	792	671
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	16.0	16.7	21.0	14.4	12.7	10.2	7.9	8.1	8.3	8.2	7.8
Incr Delay (d2), s/veh	10.5	0.4	2.0	6.5	0.4	0.1	1.2	0.1	0.3	0.2	0.3	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.4	2.0	1.2	2.0	0.3	1.4	0.2	0.4	0.2	0.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.2	16.4	18.7	27.4	14.9	12.8	11.4	8.0	8.4	8.5	8.5	7.9
LnGrp LOS	C	B	B	C	B	B	B	A	A	A	A	A
Approach Vol, veh/h		557			643			315			159	
Approach Delay, s/veh		17.7			16.6			10.3			8.4	
Approach LOS		B			B			B			A	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.2	8.0	14.3		24.2	5.2	17.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		19.7	8.8	18.0		19.7	5.0	21.8				
Max Q Clear Time (g_c+I1), s		8.8	4.4	7.6		3.5	2.3	7.6				
Green Ext Time (p_c), s		0.8	0.1	2.1		0.6	0.0	3.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	15.0
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

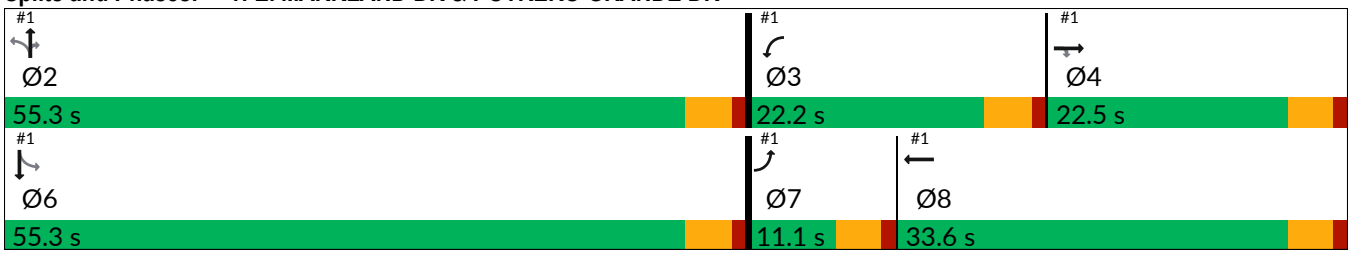
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	42	43	192	300	480	81	26	45	824	225	155	2
Future Volume (vph)	42	43	192	300	480	81	26	45	824	225	155	2
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	43	44	196	306	490	83	27	46	841	230	158	2
Shared Lane Traffic (%)									46%			
Lane Group Flow (vph)	43	44	196	306	573	0	0	460	454	0	390	0

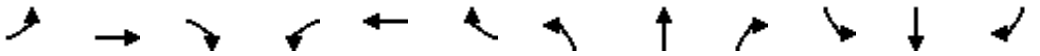
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	42	43	192	300	480	26	45	824	225	155
Future Volume (vph)	42	43	192	300	480	26	45	824	225	155
Turn Type	Prot	NA	Perm	Prot	NA	Perm	NA	Perm	Perm	NA
Protected Phases	7	4		3	8		2			6
Permitted Phases			4			2		2	6	
Detector Phase	7	4	4	3	8	2	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	11.1	22.5	22.5	22.2	33.6	55.3	55.3	55.3	55.3	55.3
Total Split (%)	11.1%	22.5%	22.5%	22.2%	33.6%	55.3%	55.3%	55.3%	55.3%	55.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag					
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes					
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max
Act Effct Green (s)	6.4	10.0	10.0	17.7	25.7		50.9	50.9		50.9
Actuated g/C Ratio	0.07	0.11	0.11	0.19	0.28		0.55	0.55		0.55
v/c Ratio	0.35	0.22	0.57	0.90	0.58		0.46	0.44		0.85
Control Delay (s/veh)	50.7	39.3	12.4	67.6	31.3		4.1	2.7		38.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay (s/veh)	50.7	39.3	12.4	67.6	31.3		4.1	2.7		38.8
LOS	D	D	B	E	C		A	A		D
Approach Delay (s/veh)		22.4			43.9		3.4			38.8
Approach LOS		C			D		A			D

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 92.1	
Natural Cycle: 100	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay (s/veh): 25.6	Intersection LOS: C
Intersection Capacity Utilization 77.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: E. MARKLAND DR & POTRERO GRANDE DR





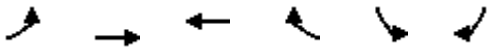
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	43	192	300	480	81	26	45	824	225	155	2
Future Volume (veh/h)	42	43	192	300	480	81	26	45	824	225	155	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	44	196	306	490	83	0	0	901	230	158	2
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	63	271	230	329	894	151	0	991	1679	319	205	2
Arrive On Green	0.04	0.15	0.15	0.18	0.29	0.29	0.00	0.00	0.53	0.53	0.53	0.53
Sat Flow, veh/h	1781	1870	1585	1781	3042	513	0	1870	3170	489	387	5
Grp Volume(v), veh/h	43	44	196	306	285	288	0	0	901	390	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1777	1778	0	1870	1585	880	0	0
Q Serve(g_s), s	2.3	2.0	11.6	16.2	12.9	13.1	0.0	0.0	17.9	33.6	0.0	0.0
Cycle Q Clear(g_c), s	2.3	2.0	11.6	16.2	12.9	13.1	0.0	0.0	17.9	35.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.29	0.00		1.00	0.59		0.01
Lane Grp Cap(c), veh/h	63	271	230	329	522	523	0	991	1679	526	0	0
V/C Ratio(X)	0.68	0.16	0.85	0.93	0.55	0.55	0.00	0.00	0.54	0.74	0.00	0.00
Avail Cap(c_a), veh/h	123	351	297	329	539	539	0	991	1679	526	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	45.7	35.9	40.0	38.5	28.5	28.5	0.0	0.0	14.8	18.2	0.0	0.0
Incr Delay (d2), s/veh	12.0	0.3	16.8	32.3	1.1	1.1	0.0	0.0	1.2	9.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.9	5.5	9.9	5.6	5.6	0.0	0.0	6.3	7.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.7	36.2	56.8	70.8	29.5	29.6	0.0	0.0	16.1	27.3	0.0	0.0
LnGrp LOS	E	D	E	E	C	C			B	C		
Approach Vol, veh/h		283			879			901			390	
Approach Delay, s/veh		53.7			43.9			16.1			27.3	
Approach LOS		D			D			B			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		55.3	22.2	18.4		55.3	7.9	32.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		50.8	17.7	18.0		50.8	6.6	29.1				
Max Q Clear Time (g_c+I1), s		19.9	18.2	13.6		37.0	4.3	15.1				
Green Ext Time (p_c), s		4.4	0.0	0.3		3.4	0.0	3.0				

Intersection Summary												
HCM 7th Control Delay, s/veh			32.2									
HCM 7th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Traffic Volume (vph)	91	1014	721	10	31	125
Future Volume (vph)	91	1014	721	10	31	125
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	95	1056	751	10	32	130
Shared Lane Traffic (%)						
Lane Group Flow (vph)	95	1056	761	0	32	130

Intersection Summary

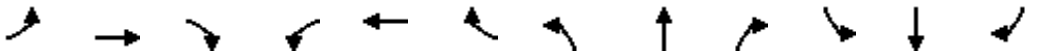
Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	91	1014	721	10	31	125
Future Vol, veh/h	91	1014	721	10	31	125
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	95	1056	751	10	32	130

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	761	0	-	0	1474	381
Stage 1	-	-	-	-	756	-
Stage 2	-	-	-	-	718	-
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	847	-	-	-	117	617
Stage 1	-	-	-	-	424	-
Stage 2	-	-	-	-	444	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	847	-	-	-	104	617
Mov Cap-2 Maneuver	-	-	-	-	213	-
Stage 1	-	-	-	-	377	-
Stage 2	-	-	-	-	444	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0.81	0	14.87
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	847	-	-	-	213	617
HCM Lane V/C Ratio	0.112	-	-	-	0.152	0.211
HCM Ctrl Dly (s/v)	9.8	-	-	-	24.9	12.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.4	-	-	-	0.5	0.8



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	83	52	0	0	21	174	0	0	0	191	0	49
Future Volume (vph)	83	52	0	0	21	174	0	0	0	191	0	49
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	97	60	0	0	24	202	0	0	0	222	0	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	157	0	0	226	0	0	0	0	0	279	0

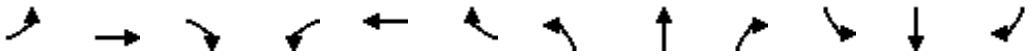
Intersection Summary

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	83	52	0	0	21	174	0	0	0	191	0	49
Future Vol, veh/h	83	52	0	0	21	174	0	0	0	191	0	49
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	97	60	0	0	24	202	0	0	0	222	0	57
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	9.5	9	0	10.8
HCM LOS	A	A	-	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	61%	0%	80%
Vol Thru, %	100%	39%	11%	0%
Vol Right, %	0%	0%	89%	20%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	135	195	240
LT Vol	0	83	0	191
Through Vol	0	52	21	0
RT Vol	0	0	174	49
Lane Flow Rate	0	157	227	279
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0.219	0.271	0.375
Departure Headway (Hd)	5.188	5.014	4.304	4.834
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	713	830	740
Service Time	3.268	3.067	2.351	2.888
HCM Lane V/C Ratio	0	0.22	0.273	0.377
HCM Control Delay, s/veh	8.3	9.5	9	10.8
HCM Lane LOS	N	A	A	B
HCM 95th-tile Q	0	0.8	1.1	1.7



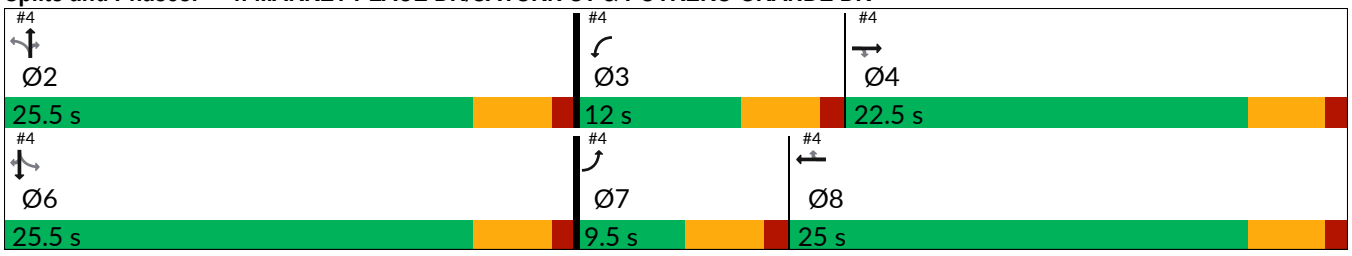
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Volume (vph)	20	654	362	139	415	34	302	138	199	65	159	16
Future Volume (vph)	20	654	362	139	415	34	302	138	199	65	159	16
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	20	667	369	142	423	35	308	141	203	66	162	16
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	20	667	369	142	423	35	308	141	203	66	164	14

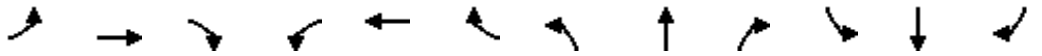
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	654	362	139	415	34	302	138	199	65	159	16
Future Volume (vph)	20	654	362	139	415	34	302	138	199	65	159	16
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	12.0	25.0	25.0	25.5	25.5	25.5	25.5	25.5	25.5
Total Split (%)	15.8%	37.5%	37.5%	20.0%	41.7%	41.7%	42.5%	42.5%	42.5%	42.5%	42.5%	42.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	5.1	16.2	16.2	7.3	23.4	23.4	21.5	21.5	21.5	21.5	21.5	21.5
Actuated g/C Ratio	0.09	0.29	0.29	0.13	0.42	0.42	0.38	0.38	0.38	0.38	0.38	0.38
v/c Ratio	0.12	0.65	0.51	0.61	0.29	0.05	0.66	0.20	0.28	0.14	0.24	0.02
Control Delay (s/veh)	27.5	21.3	5.1	38.8	11.5	0.1	26.1	14.7	3.7	14.4	15.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.5	21.3	5.1	38.8	11.5	0.1	26.1	14.7	3.7	14.4	15.0	0.1
LOS	C	C	A	D	B	A	C	B	A	B	B	A
Approach Delay (s/veh)		15.7			17.3			16.7			14.0	
Approach LOS		B			B			B			B	

Intersection Summary		
Cycle Length: 60		
Actuated Cycle Length: 55.9		
Natural Cycle: 60		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 0.66		
Intersection Signal Delay (s/veh): 16.2	Intersection LOS: B	
Intersection Capacity Utilization 66.2%	ICU Level of Service C	
Analysis Period (min) 15		

Splits and Phases: 4: MARKET PLACE DR/SATURN ST & POTRERO GRANDE DR





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	654	362	139	415	34	302	138	199	65	159	16
Future Volume (veh/h)	20	654	362	139	415	34	302	138	199	65	159	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	667	369	142	423	35	308	141	203	66	162	16
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	42	1023	456	181	1299	579	504	695	589	460	695	589
Arrive On Green	0.02	0.29	0.29	0.10	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1206	1870	1585	1037	1870	1585
Grp Volume(v), veh/h	20	667	369	142	423	35	308	141	203	66	162	16
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1206	1870	1585	1037	1870	1585
Q Serve(g_s), s	0.6	9.3	12.2	4.4	4.8	0.8	13.3	2.9	5.2	2.6	3.4	0.4
Cycle Q Clear(g_c), s	0.6	9.3	12.2	4.4	4.8	0.8	16.7	2.9	5.2	5.5	3.4	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	42	1023	456	181	1299	579	504	695	589	460	695	589
V/C Ratio(X)	0.47	0.65	0.81	0.78	0.33	0.06	0.61	0.20	0.34	0.14	0.23	0.03
Avail Cap(c_a), veh/h	158	1132	505	236	1299	579	504	695	589	460	695	589
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	17.6	18.7	24.8	12.9	11.6	17.9	12.1	12.8	13.9	12.2	11.3
Incr Delay (d2), s/veh	7.9	1.2	8.8	12.0	0.1	0.0	5.4	0.7	1.6	0.7	0.8	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.6	5.1	2.3	1.7	0.3	4.0	1.2	1.9	0.6	1.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.1	18.8	27.4	36.8	13.1	11.7	23.4	12.7	14.4	14.6	13.0	11.4
LnGrp LOS	D	B	C	D	B	B	C	B	B	B	B	B
Approach Vol, veh/h		1056			600			652			244	
Approach Delay, s/veh		22.1			18.6			18.3			13.3	
Approach LOS		C			B			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		25.5	10.2	20.8		25.5	5.8	25.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		21.0	7.5	18.0		21.0	5.0	20.5				
Max Q Clear Time (g_c+I1), s		18.7	6.4	14.2		7.5	2.6	6.8				
Green Ext Time (p_c), s		0.7	0.0	2.0		1.0	0.0	2.4				

Intersection Summary												
HCM 7th Control Delay, s/veh			19.5									
HCM 7th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

APPENDIX C:
Crommelin Gate Stacking Methodology

Retyped Verbatim From the Original

ENTRANCE-EXIT DESIGN AND CONTROL FOR MAJOR PARKING FACILITIES

Robert W. Crommelin, P.E., President
Robert Crommelin and Associates, Inc.
Encino, California

Prepared for Presentation at:

"SEMINAR '72" Los Angeles Parking Association, Biltmore Hotel
Los Angeles, California, October 5, 1972

It hasn't been too many years since a 500-space garage was thought of as a large parking facility. In recent years, garages with over 4,000 spaces have been placed in operation and larger ones are on the drawing boards. Success in the operation of these major parking facilities is dependent upon proper design of access to the facility, in addition to efficient management. Provision of adequate access design and control is a significant item which must be considered as part of the first design concept. The traffic engineer, teamed with the owner's representatives, the architect, and the future parking operator, must work together to develop a proper access and control plan. I have recently read a statement by a nationwide garage design consultant that reservoir space for entrances to garages is no longer an important consideration because of the capacity of ticket dispensers with gates. This is completely untrue as will be brought out later. Thinking of this type can lead to ineffective design which causes backup onto public streets with the accompanying potential hazards and congestion.

This paper covers three principal areas of concern: (1) determination of the number of entrance and exit lanes required based upon the parking control strategy and type of parker served; (2) data to allow comparison of the capacities of the various types of control strategies to allow selection of the one appropriate for each facility, and; (3) determination of needed reservoir space based upon the control strategy selected.

Typical capacity values for the various methods of parking control are included in this paper. A word of caution is necessary since there is much variation in capacity values due to physical conditions present as well as the familiarity of the parker with the parking facility itself. Each major facility requires detailed analysis of its needs and generalized factors are not always adequate.

Design Methodology

In order to provide adequate access design and control for major parking facilities, it is necessary to identify the probable characteristics of the future users of the facility. In this paper it is assumed that the size of the garage has been determined based upon a comprehensive parking study (general public facilities), or the amount necessary to serve a given land use (single purpose facility).

The first step is to determine directional peak hour volumes as related to the total size of the parking garage. Based upon the principal land use served, tables are included in this paper which allow the designer to prepare an estimate of peak hour volumes. In general, our research has found that it is adequate to assume for design purposes that the morning inbound peak flows are approximately equal to the evening outbound peak flows. After determining the peak volumes, a control strategy must be selected which would be appropriate for the intended operation of the garage. Selection of whether it would be best to allow parkers to enter without charge and pay as they leave or to pay a flat fee on the way in and have no control upon exiting will have a significant impact upon traffic capacity. Whether to use no fee, a flat fee, a variable fee, or a combination of fees must be determined as well as whether it is possible to receive the payment in advance, or to collect individual payment of the fee. All of these alternatives should be considered for each individual parking facility in order to determine its proper control strategy.

When the peak hour volumes and control strategy have been determined, it is then possible to determine the number of lanes which will be required to adequately serve inbound and outbound traffic to the parking facility. This requires knowledge of typical service rates of various methods of parking control. The next step is to determine the amount of reservoir space required to serve the parking control location. Following all of these steps will lead to an efficient, well-working garage which will have minimum impact upon the surrounding street system.

Determination of Peak-Hour Volumes

Comprehensive parking studies have provided much information concerning the characteristics of the users of major parking facilities. In general, it may be stated that the traffic characteristics of a garage will be principally related to the trip purpose of the user and the type of land use served by the facility. Both of these items relate to the length of time the parker is in the facility and the time of day during which major traffic flows occur.

Table 1 was prepared which compares the trip purpose of the parker with the length of time which he parks as observed in the Los Angeles Central Business District. Employees are considered long-term parkers since 80 percent parked three hours or longer; at the peak time of day, 84 percent of the daily employee parkers were present; and, their average parking duration was 5.6 hours.

A garage, which serves employees primarily, would tend to have higher peak hour volumes than would one which serves the other uses shown in the table. As an example, 85 percent of the shoppers had a parking duration of less than three hours with an average duration of 1.6 hours. More importantly, only 26 percent of the total daily parkers with a shopping trip purpose were present at the time of peak accumulation. This indicates that the peak hour inbound or outbound volume will be less for a garage serving principally shopper parkers than for a similar sized facility serving only employees.

Table 1

TRIP PURPOSE VS. LENGTH OF TIME PARKED

TRIP PURPOSE	PERCENT OF DAILY PARKERS WITH DURATION SHOWN		RATIO OF PEAK ACCUMULATION TO TOTAL DAILY PARKERS	AVERAGE DURATION
	SHORT-TERM (less than 3 hrs.)	LONG-TERM (3 hrs. or longer)		
	(percent)	(percent)		(hours)
Work	20	80	0.84	5.6
Shopping	85	15	0.26	1.6
Commercial Business	86	14	0.25	1.5
Social-Recreational	91	9	0.24	1.2
Personal Business	94	6	0.21	1.0
Eat Meal	97	3	0.22	0.9

Source: Los Angeles CBD Parking Study, 1967

In order to relate the type of land use served with peak hour volumes, the term entering-leaving ratio has been used. This term represents the volume of cars entering or leaving during a peak hour divided by the maximum accumulation of cars in the parking facility (taken as the size of the facility). If the inbound morning or outbound evening peak hour is equal to half the number of spaces in the garage, the entering-leaving ratio is 0.50. Using data obtained by special counts taken by personnel of my firm, as well as information reported in various parking studies, Table 2 was prepared which shows the range of values of the entering-leaving ratio for various land uses served. It may be seen in the table that the range of values for an individual parking facility may vary considerably. This variation may be explained by the typical length of time parked as well as the variation in the times when employees must start work or are let out of work. In locations where there is some staggering of employment hours, the entering-leaving ratio tends to be lower. The characteristics of the potential users of the parking facility must be studied in detail to arrive at the proper entering ratio.

Once the entering-leaving ratio has been selected, it is possible to determine the actual peak hour design volumes to be used in determining the parking control strategy and the design of access lanes.

Table 2

LAND USE SERVED VS. ENTERING-LEAVING RATIO

PRINCIPAL LAND USE SERVED	ENTERING-LEAVING RATIO [a] (Range of Values)
Hotel-Motel	0.25-0.35
College-University	0.40-0.60
Retail Commercial	0.45-0.65
Public Office Building	0.45-0.65
Private Offices-Multiple Tenant	0.45-0.60
Private Offices-Single Tenant	0.55-0.75
Hospital	0.60-0.70
Medical Offices	0.70-0.85
Airport (public parking)	0.70-0.85
Manufacturing Plant	0.70-0.90
Restaurant (sit-down)	0.80-0.95
Branch Bank	0.90-1.20

[a] Volume of cars entering and leaving in peak hour divided by maximum accumulation of cars (capacity of facility)

Source: Special counts by RC and A; various parking studies by others

Parking Control Strategy Selection

Selection of the proper type of parking control strategy is exceedingly important in the successful operation of a major parking facility. The strategy involves the method of parking control, the charge which will be placed upon the user, and the type of payment to be collected from the user. Table 3 shows the application of various control strategies as related to the type of parking facility used as well as to the type of parking control equipment. For shopper and business parkers, it is normal to allow free entry with payment of a variable fee on an individual basis as they exit the garage. In the case of employees, it is more normal to allow them to enter freely and have a prepaid monthly charge which could be checked through the use of parking permits, coded cards, tokens, or other means as they exit. Parkers at sports events exhibit high peak volumes but have a length of time parked which can be estimated. For this type of condition, it is much more appropriate to collect a flat fee inbound and to have no control outbound. This latter type of control was the one which we recommended for use at the Los Angeles Convention Center.

Table 3

APPLICATION OF VARIOUS CONTROL STRATEGIES

ITEM	CONTROL STRATEGY APPLICABILITY					
	CONTROL METHOD		TYPE CHARGE		TYPE PAYMENT	
	Free-In Pay-Out	Pay-In Free-Out	Flat Fee	Variable Fee	Pre-Paid	Individual Payment
Preferred Method to Serve:						
Employee	X	X	X		X	
Office Building Visitor	X			X		X
Sports Event		X	X			X
Shopper	X			X		X
Student	X		X		X	
Air Traveler	X			X		X
Control Type:						
Ticket Spitter	X			X		X
Cashier/Attendant	X	X	X	X	X	X
Time Stamp Ticket Manually	X			X		X
Coded Card	X	X	X		X	
Coin-Operated Gate	X		X			X
Token-Operated Gate	X	X	X	X	X	
Parking Meter	-	-	X	X		X

Parking Control Operating Characteristics

Table 4 indicates our findings concerning the service rates for various types of parking controls. We have taken the design service rate as being equal to 80 percent of the maximum service rate. There is considerable variation in service rates and careful study must be given to the probable characteristics of the users of the parking facility as well as the experience of the personnel operating the facility.

For the control measures normally used in entering a facility, the average headways vary from 3.6 seconds per vehicle for a clear aisle with no control to 20.4 seconds per vehicle for a coin-operated gate. In terms of design hourly capacities, the rates would be 800 per hour per lane for clear aisles and only 140 per hour per lane for coin-operated gates. The most common type of control used at major parking facilities is the ticket dispenser with a gate. Research in England identified the fact that there is a significant difference in the capacity of this equipment depending upon whether the parker has an easy direct approach or if a sharp turn is required to approach the equipment. This is obvious since a straight approach allows a parker to position himself in a reasonable location to pull the ticket to open the gate. Thus, the design of the approach to a ticket dispenser can cause the hourly capacities to vary between 305 and 520 vehicles per hour.

Internally, the circulation pattern can affect the capacity of the inbound approach. It is very important to have a minimum of interference within the parking facility so that once

a driver leaves the entrance parking control, he can do so without delaying the next inbound parker immediately behind him. This can be accomplished by avoiding situations where outbound parkers queued up from the exit control block parkers entering the facility.

The capacity of exits from a major parking facility are dependent upon adequate space approaching the exit control location as well as adequate reservoir between that location and the driveway to the public street. Analysis must be conducted on both of these reservoir needs and sufficient lanes as well as sufficient reservoir length provided to allow proper operation. The emphasis of this paper will be upon the capacity of the exiting parking control itself. The most common type of operation involves use of a cashier collecting a variable fee from a parker based upon length of time parked. This type of control has a capacity of approximately 150 vehicles per hour. Another approach might be to have the parker pay his fee to the cashier before entering his car and then utilize a token operated gate as a means of exit control. This control strategy would have over twice the capacity of a cashier lane itself and could have application where there is insufficient space to provide an adequate number of cashier lanes.

Table 4

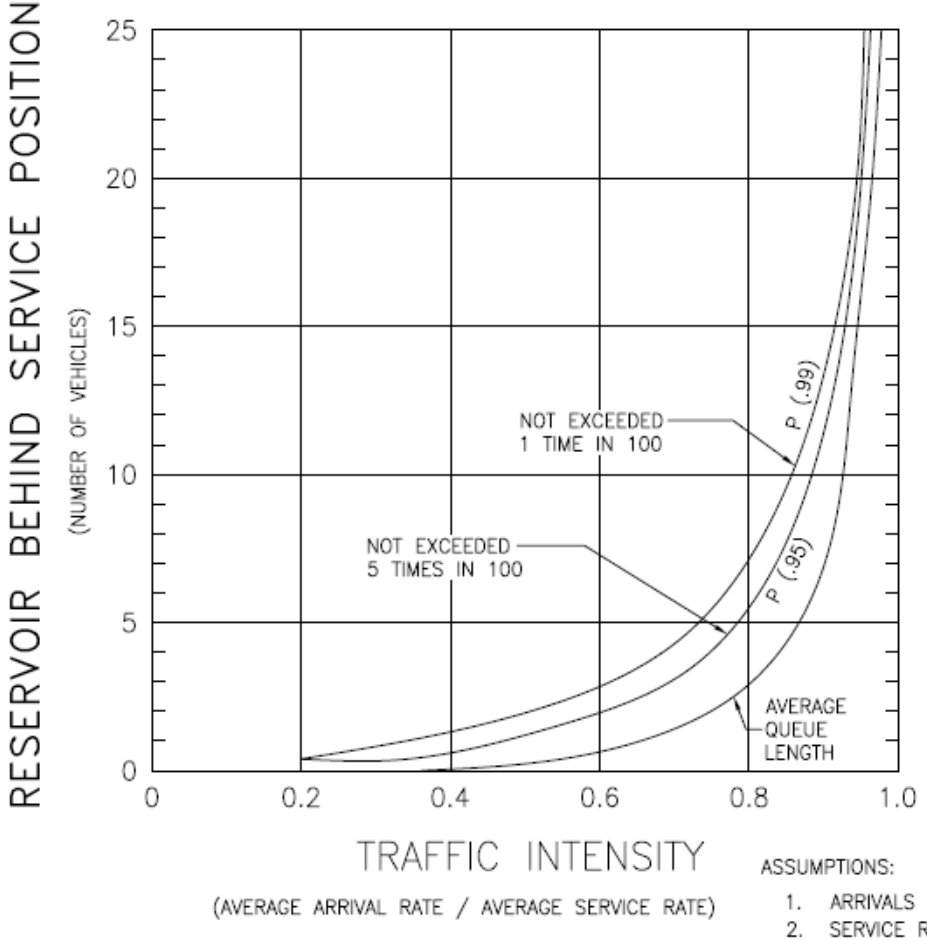
PARKING CONTROL SERVICE RATE

TYPE OF CONTROL	TYPICAL SERVICES RATES PER LANE [a] AVERAGE HEADWAY (Sec/Veh)	HOURLY CAPACITY Design [b] (Veh/Hr)	HOURLY CAPACITY Maximum (Veh/Hr)
Entering:			
Clear Aisle, no control	3.6	800	1,000
Ticket dispenser, no gate	5.0	575	720
Time Stamp and hand to driver	8.5	340	425
Coded-card operated gate	8.9	340	425
Cashier, flat fee, no gate			
No information given	9.2	310	390
Direction-info needed	14.8	195	250
Ticket Dispenser w/gate			
Sharp turn at approach	9.5	305	380
Easy direct approach	5.5	520	650
Coin operated gate	20.4	140	175
Internal:			
Clear aisle or ramp, no parking	2.0	1,200	1,800
Straight ramp w/bend at end	2.2	1,000	1,610
Circular ramp, 30’ R at C/L	2.2	840	1,650
Aisle with adjacent 9 x 18’ stalls			
Inbound	3.5	830	1,040
Outbound	8.6	335	420
Exiting:			
Light street congestion	7.2	400	500
Moderate street congestion	9.0	320	400
Coded-card/token-operated gate	9.0	320	400
Cashier, flat fee w/gate	13.4	215	270
Casher, variable fee w/gate	19.5	150	185
Coin operated gate	20.4	140	175

[a] Assumes no significant interference by pedestrians, other traffic, etc.

[b] Taken as 80% of maximum rate; require 6 car lengths reservoir in advance of control points.

RESERVOIR NEEDS VS TRAFFIC INTENSITY



1

ASSUMPTIONS:

1. ARRIVALS FOLLOW A POISSON DISTRIBUTION
2. SERVICE RATE CAN BE REPRESENTED BY AN EXPONENTIAL PROBABILITY FUNCTION.
3. FLOW IS EQUALLY DIVIDED BETWEEN EACH LANE IF MORE THAN ONE IS AVAILABLE.

Reservoir Needs

If you have ever watched cars approaching any type of parking control, you know that they do not come at an even rate. Even though there may be nearby traffic signals which may cause the approaching parkers to arrive in groups or platoons, random arrival is the normal approach characteristic assumed. Research has shown that random arrivals or events in a traffic stream tend to follow the Poisson mathematical distribution. This distribution provides a means that, if the average rate is known, the probability of exceeding a given volume in a unit of time may be calculated. Thus, if you know the average volume, you may calculate the surges in volume to allow design of reservoir space. As an example, if the average number of cars in a five-minute interval is 10, use of Poisson statistical techniques will yield the fact that no more than 18 cars will arrive in the five-minute interval within a probability that this amount will be exceeded only one time in 100 five-minute intervals. Use of these calculation techniques allow the determination of the amount of reservoir required to serve a given type of parking control.

The relationship between the arrival of vehicles and the ability of the parking control equipment or strategy to handle these vehicles are the most important items in determining reservoir space. If the average number of arrivals per unit of time is called "v" and "s" is the average rate of service (discharge) per unit of time, the ratio of v/s is used to determine the amount of reservoir space. This ratio is called traffic intensity ("i"). The average length of the queue ($\bar{q}$) behind the vehicle being serviced is equal to $\bar{q} = \frac{i^2}{(1-i)}$. This formula assumes that the arrival of vehicles at the service point follows a random distribution, the servicing time for vehicles can be represented by an exponential probability function, and that the flow is equally divided among service facilities if there is more than one lane serving a given area of the garage.

Knowing the average queue length and selecting a probability value which represents the frequency that the design length will be exceeded, will allow the designer to determine the amount of reservoir required behind the service position. These formulas and probabilities were utilized to prepare Figure 1 which compares traffic intensity with required reservoir for common probabilities used in design. The mathematics are such that, as the average volume approaches the average service rate, the amount of backup will be infinite. In addition, the probability that the amount of reservoir space for a given volume will <u>never</u> be exceeded also is infinite. In actuality, these conditions do not occur but the general relationships hold true based on our field observations.

As may be noted in the figure, an insignificant amount of reservoir is required when the average arrival rate is 50 percent or less of the average service rate of the parking control device. At this level, only a two-car reservoir would be required. As the ratio of traffic intensity increases above 0.7, the amount of reservoir space increases rapidly. We have selected a traffic intensity of 0.8 as appropriate for design and a probability that the determined reservoir would be exceeded only five times in 100. Thus, if the average service rate for a given type of parking control is known and sufficient lanes are provided

so that the average arrival rate during the peak hour is 0.8 times the average service rate, a reservoir of six car lengths behind each service position would be adequate to meet the needs of the facility. If this is physically impossible, a traffic intensity of 0.6 should be used to determine the number of lanes requiring only a two-car reservoir.

Summary

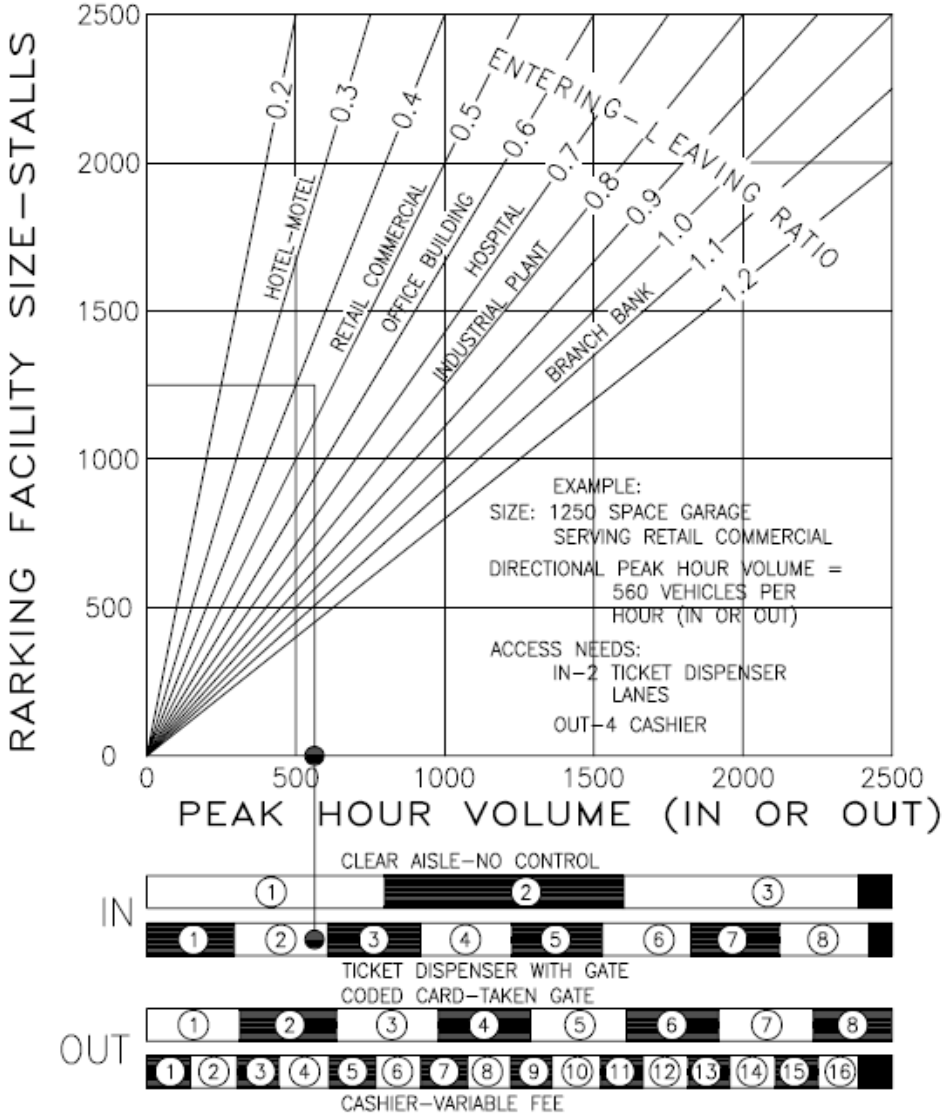
Having determined the peak hour volumes, the parking control strategy, the number of lanes, and the reservoir length to adequately serve the peak-hour volumes, the physical design of the facilities then may be made. As noted previously, having an inadequate capacity to serve the traffic volumes approaching the control means can have a very drastic effect upon the backup which will occur. This backup creates adverse operating characteristics in and around the facility and also causes the length of time that a parker is involved in entering or leaving a garage to grow significantly. Thus, the design features of the facility can have an impact on the attitudes of the users and indirectly affect the success or failure of the parking facility in attracting customers or users.

To provide a means of easily determining the number of lanes necessary for various types of parking garages, Figure 2 was prepared which allows the designer to directly translate the size of the garage and the type of land use served into the number of necessary access lanes for the parking control strategy assumed. The example shows that a 1,250-space garage serving a retail commercial facility will normally have a directional peak hour volume of 560 vehicles per hour. If inbound ticket dispensers with gates are used, two lanes will be adequate to serve this garage. If cashiers collect variable fees, a total of four exit cashier lanes will be required. Normally these four lanes will not be provided all in the same location and, of course, it could be necessary to operate all four only during peak hours.

In the case of an office building rather than a retail facility, it would be possible to use coded card exit gates for monthly parkers. This would significantly reduce the required number of exit lanes since transient visitors are a much lower percentage of the peak hour volumes for an office building than they are in a garage serving a retail facility. The reduction in construction and operating cost would be significant.

A warning is necessary concerning the use of Figure 2 since it was based upon very generalized information. Each individual major parking facility must be considered on its own and its access needs determined in light of the characteristics of the probable users of the facility itself. In order to have satisfied customers and users of a major parking facility, thorough investigation and determination of access needs must be accomplished.

PARKING FACILITY SIZE VS ACCESS NEEDS



2

APPENDIX D:
Waste Collection Company Will Serve Letter

WARE
DISPOSAL, INC.

Providing Solid Waste and Recycling Services Since 1968

30 September 2025

Mr Steve Armanino
The Olson Company
3010 Old Ranch Parkway, Suite 100
Seal Beach, California 90740

Re: Trash Management Plan for Potrero Grande/Atlas Development, City of Monterey Park

Thank you for contacting Ware Disposal Inc. regarding the above referenced project. The above location is located in a franchise city for waste collection. Ware Disposal Inc. is contracted by the City of Monterey Park to provide disposal service to commercial and residential locations.

Ware Disposal Inc. has reviewed the revised Site Plan, for the 159-single family unit project located at Potrero Grande and Atlas in Monterey Park. As discussed with our operations team, each individual unit will store their own Trash/Recycle/Organics cart within their property and on day of service residents shall roll out barrels curbside by 6:00am. In order to avoid a service disruption, the carts need to be free of all obstructions such as vehicles, being too close to a garage, wall, fence, etc.

Please do not hesitate to contact me directly at 714 829 1817 if I can be of further assistance.

Sincerely,

JASON BRYCE RUSH
Legislative Director
Ware Disposal Inc.

P.O. Box 1318 ▪ Santa Ana, CA ▪ 92702
Dispatch (949) 833-9901 ▪ (714) 834-0234 ▪ Toll Free (877) 714-WARE (9273) ▪ Office (714) 664-0677 ▪ Fax (714) 664-0696