City of San Rafael

Local Traffic Analysis for the Proposed 900 A Street Apartments Project

Draft Project Report

July 2025

AMG ADVANCED MOBILITY GROUP

SAN RAFAEL THE CITY WITH A MISSION

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Redefining Mobility.

EXECUTIVE SUMMARY

The purpose of this Local Traffic Analysis (LTA) is to evaluate potential transportation impacts associated with the proposed mixed-use development project located on A Street between 4th Street and 3rd Street in San Rafael, California. The proposed project is an 8-story mixed use building that will consist of 131 dwelling units and 4,000 square feet of ground-floor retail.

Results

AMG determined that the project would have no significant impacts under existing plus project conditions. Based on the results of the analysis, the following is a summary of our findings:

Existing Traffic Condition:

- All the intersections operate at an acceptable LOS C or better.

Existing Plus Project Traffic Condition:

- The project will generate 41 total trips during both the AM and PM peak hours.
- All the intersections operate at an acceptable LOS C or better.

Project Site Access and Circulation Assessment:

- Site access to the project site is adequate.
- Sight Distance at the project driveway is adequate.
- Site Circulation within the project site is adequate. We recommend widening the driveway that goes into the parking garage to 11' and the driveway that goes out of the parking garage to 10' and relocating the trash staging location for more comfortable turning movements.
- Parking spaces provided at the project site are sufficient to meet the City of San Rafael's parking requirements.
- The existing and proposed storage capacity on A Street is adequate and will not result in a spillover of traffic queues due to the addition of the project.

INTRODUCTION

This technical memorandum presents the Local Transportation Analysis (LTA) for the proposed 900 A Street mixed-use development project. The project site is located on A Street between 4th Street and 3rd Street in the City of San Rafael as shown in **Figure 1**. The project will be a newly constructed 8-story structure that will consist of 131 dwelling units, a podium garden courtyard, and approximately 4,000 square feet of commercial area. The new project includes 106 on-site parking spaces and 86 bicycle parking spaces. **Appendix A** shows the project site plan.

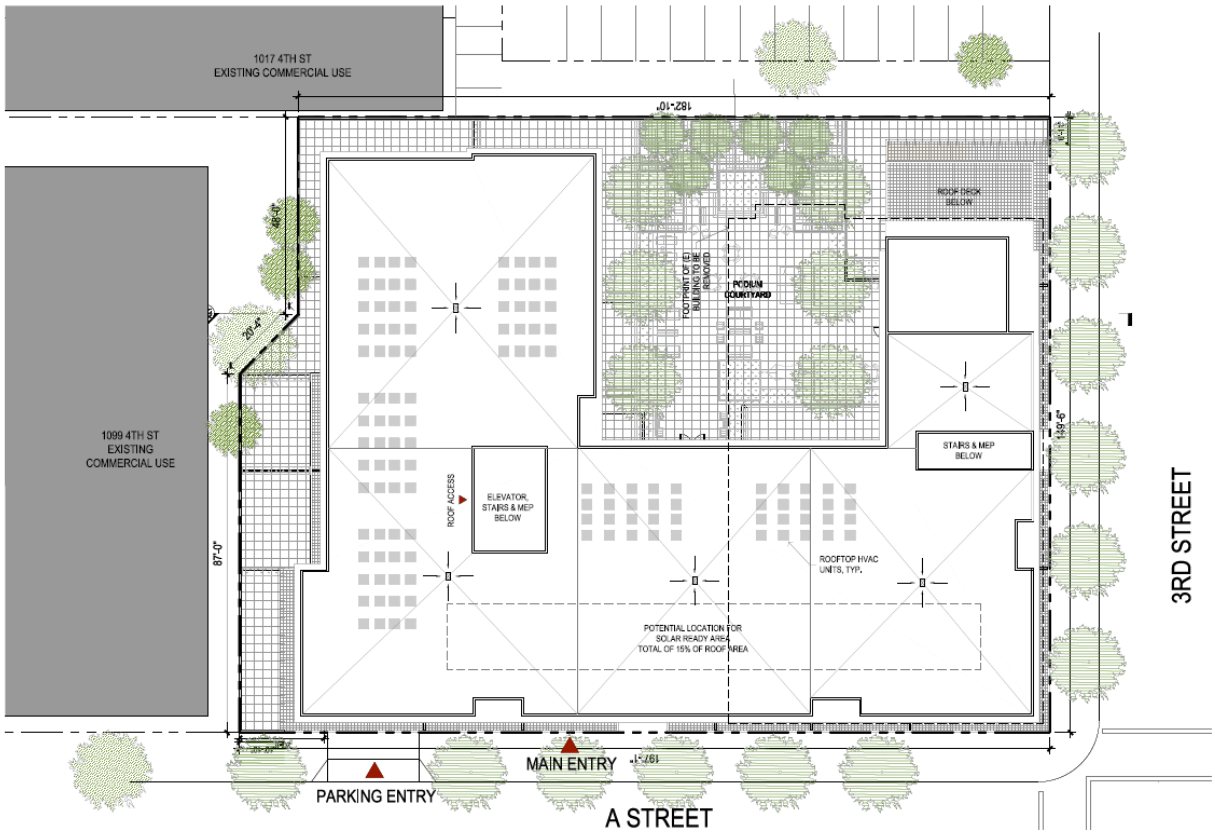


Figure 1: Project Site Plan

The purpose of a Local Transportation Analysis is to evaluate the potential traffic impacts of a proposed project and assess if any improvements would be required to mitigate these impacts based on the level of significance criteria established by the City of San Rafael. Vehicular traffic impacts are typically evaluated by determining the number of new trips that the proposed use is expected to generate and distribute these trips to the surrounding street system based on existing travel patterns or anticipated travel patterns specific to the proposed project. The existing street system is then evaluated using the new traffic to assess the impact of the proposed project. Additionally, parking requirements, sight evaluation, and site circulation will be qualitatively evaluated.

Project Study Area

This study evaluates five intersections along 3rd and 4th Street surrounding the project site, as shown in **Figure 2**. The intersections that were analyzed are as follows:

1. 4th Street and A Street (Signalized Intersection)
2. 4th Street and Court Street (Signalized Intersection)
3. 3rd Street and A Street (Signalized Intersection)
4. 3rd Street and B Street (Signalized Intersection)
5. 4th Street and B Street (Signalized Intersection

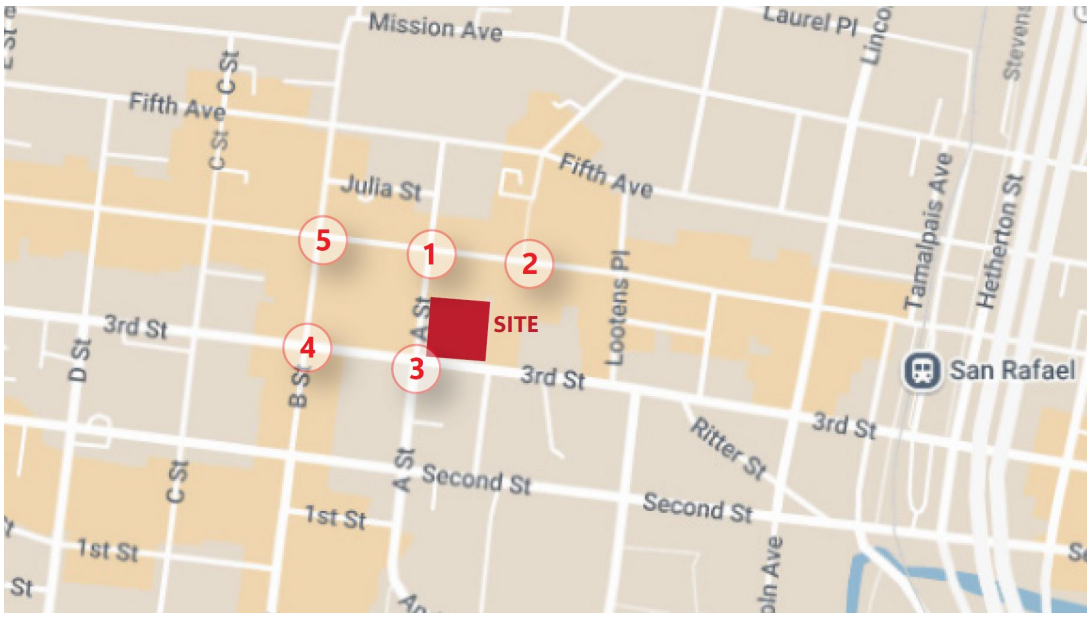


Figure 2: Project Study Area

Study Approach

The following are key steps of the study approach:

- Conduct traffic counts to establish baseline traffic conditions
- Conduct trip generation and distribution of project trips
- Determine the traffic conditions for the following scenarios:
  - Existing Traffic Condition
  - Existing Plus Project Traffic Condition
- Determine the impact of project trips based on established Significance Criteria
- Determine the impact of proposed project driveways

Project Study Scenarios

This study evaluates the weekday a.m. and p.m. peak hour traffic conditions for the following scenarios:

1. **Existing Conditions:**
   The existing conditions scenario evaluates weekday a.m. and p.m. peak hours with existing lane geometry, traffic control and traffic volumes.
2. **Existing plus Project Conditions:**
   The existing plus project conditions scenario adds proposed project trips to the existing conditions traffic models and evaluates the impact of the proposed project at the project intersection and study segments. This scenario recommends mitigation measures, based on the City of San Rafael TA guidelines, to mitigate any significant impacts that may occur due to the proposed project.

Data Collection

AMG collected the AM and PM peak hour intersection turning movement counts (TMC) on February 5, 2025, for the five study intersections. Counts were collected during the typical weekday AM peak hour, occurring between 7:00 and 9:00 AM, and PM peak hour, occurring between 4:00 and 6:00 PM. These counts are shown in **Appendix B**.

Field Review

AMG conducted a field visit to observe any potential issues with queuing or traffic operations under the existing conditions. At the time of observation, a couple of vehicles were seen to be queuing along A Street at both A Street/3rd Street and A Street/ 4th Street intersections. A few pedestrians and bicyclists were observed at study intersections.

SIGNIFICANCE CRITERIA

Significance Criteria for the City of San Rafael

The City of San Rafael has established criteria to determine the level of significance of traffic impacts based on standards set in the San Rafael General Plan 2040, the Downtown Precise Plan, and the Draft 2021 Congestion Management Program Update, by the Transportation Authority of Marin (TAM).

Based on these planning documents, a traffic impact is considered significant if the project would conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

The following policies/goals are applicable to the proposed project:

Policy M-2.5: Traffic Level of Service

Maintain traffic Level of Service (LOS) standards that ensure an efficient roadway network and provide a consistent basis for evaluating the transportation effects of proposed development projects on local roadways. For most intersections, the citywide LOS Standard from the San Rafael General Plan 2040 is LOS D. For the study intersections, LOS D or better is the threshold.

For this analysis, significant impacts to an intersection are:

- If baseline traffic volumes are operating at an acceptable LOS and it deteriorates to an unacceptable operation with the addition of project traffic.

However, Point C from Policy M-2.5 in the San Rafael General Plan 2040, states that intersections within the boundaries of the Downtown Precise Plan are not subject to LOS Standards, if proactive measures are taken to address and manage congestion, and functionality of these intersections are insured. All five of the study intersections are within these boundaries, but LOS Analysis will be completed to quantify congestion caused by the proposed project.

Goal M-3: Cleaner Transportation
Reduce transportation impacts on the environment by supporting higher vehicle efficiency standards and reducing Vehicle Miles Travelled (VMT) by San Rafael workers and residents.

Special exemptions for VMT Analysis are provided for mixed use and infill developments in downtown San Rafael. Since this project meets the description above, it is exempt from VMT Analysis per Program M-3.2A in the San Rafael General Plan 2040[1].

Goal M-4: High Quality, Affordable Public Transit
Offer a safe, convenient, and affordable transit system that will become a competitive alternative to driving.

For this analysis, significant transit impacts would be:

- If demand is significantly increased and existing standards are not maintained
- If access to public transit facilities is reduced

Goal M-6: Safe Walking and Cycling
Encourage walking and cycling as the travel mode of choice for short trips, prioritize pedestrian and bicycle safety, and provide greater access to pedestrian and cycling amenities.

For this analysis, significant cycling/walking impacts would be:

- If safety and quality of service of existing pedestrian/cycling facilities are reduced
- If access to pedestrian/cycling facilities are reduced

The analysis conducted in the following sections of the report show that there is no significant impact to the study intersection with the proposed project based on the City of San Rafael's thresholds of significance criteria.

EXISTING CONDITIONS

Existing Street Network

A Street is a two-lane north-south local street and is adjacent to the west of the project site. Near the project site, Class III bike facilities, sidewalks, and on-street parking are available on both sides of the street. The posted speed limit is 25 mph.

3rd Street is a three-lane one-way minor arterial roadway serving downtown San Rafael. The street runs from east to west and is adjacent to the south of the project site. It serves as a major transit route in San Rafael and Marin County. Sidewalks are available on both sides of the street and on-street parking is available on the south side of the street. The posted speed limit is 25 mph.

B Street is a two-lane north-south local street that is one block west of the project site. Sidewalks and on-street parking are available on both sides of the street. The speed limit is 25 mph.

4th Street is a two-lane east-west minor arterial roadway serving as a major transit route in San Rafael and Marin County. Class III bike facilities and sidewalks are provided on both sides of the street. The speed limit is 25 mph.

Study Intersections

1. 4th Street and A Street (Signalized Intersection)
2. 4th Street and Court Street (Signalized Intersection)
3. 3rd Street and A Street (Signalized Intersection)
4. 3rd Street and B Street (Signalized Intersection)
5. 4th Street and B Street (Signalized Intersection)

The intersection of 4th Street and A Street is a signalized intersection with four approaches. The intersection is currently operating with two-phase signal control. Left turn pockets are present on the 4th Street approaches, and left turns are permitted on all approaches.

The intersection of 4th Street and Court Street is a signalized intersection with two approaches. The intersection is currently operating with two-phase signal control, with one exclusive pedestrian phase which allows pedestrians to cross 4th Street.

The intersection of 3rd Street and A Street is a signalized intersection with three approaches. The intersection is currently operating with a two-phase signal control.

The intersection of 3rd Street and B Street is a signalized intersection with three approaches. The intersection is currently operating with a two-phase signal control.

The intersection of 4th Street and B Street is a signalized intersection with four approaches. The intersection is currently operating with a two-phase signal control.

Bike Facilities

Bicycle facilities are classified by Caltrans into four distinct types of bikeway facilities, as generally described below:

- Class I Bikeway (Bike Path). Provides a separate right-of-way and is designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian crossflow minimized.

- Class II Bikeway (Bike Lane). Provides a restricted right-of-way and is designated for the use of bicycles with a striped lane on a street or highway. Vehicle parking and vehicle/pedestrian crossflow are permitted.

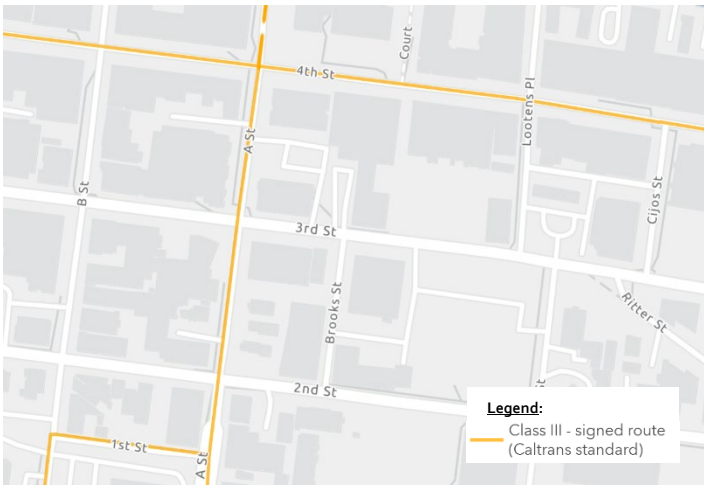


Figure 3: Existing Bicycle Facilities

- Class III Bikeway (Bike Route). Provides for a right-of-way designated by signs or pavement markings for shared use with pedestrians or motor vehicles.

- Class IV Bikeway (Separated Bikeway/Cycle Track). Provides a cycle track or protected bike lane, is for the exclusive use of bicycles, physically separated from motor traffic with a vertical feature.

Class III facilities with sharrow markings are available on A Street and 4th Street near the proposed project as seen in **Figure 3**.

Pedestrian Facilities

Pedestrian facilities in the project area include sidewalks, crosswalks, ADA curb ramps, audible pedestrian pushbuttons, and curb extensions. Sidewalks along the study roadways vary in width from 5 to 12 feet, meeting the minimum city standards for sidewalks and wider zone areas (4th Street).

4th Street/A Street has crosswalks at every intersection leg and curb extensions at both southern corners of the intersection.

4th Street/Court Street has crosswalks at every intersection leg.

3rd Street/A Street has a ladder and triple-four crosswalks at every intersection leg, and curb extensions, audible pedestrian pushbuttons, and ADA curb ramps at every corner of the intersection.

3rd Street/B Street has a ladder and triple-four crosswalks at every intersection leg, curb extensions, audible pedestrian pushbuttons, and ADA curb ramps at every corner of the intersection.

4th Street/B Street has crosswalks at every intersection leg and curb extensions at both northern corners of the intersection.

Transit Facilities

Transit Service within the study area is provided by Marin Transit, Golden Gate Transit, and the Sonoma-Marin Area Rail Transit (SMART). The project site is in the block bounded by 3rd Street, 4th Street, A Street, and Court Street. Bus stops for Marin Transit (Lines 22,23 and 68), and Golden Gate Transit (Line 132) are within a 0.25-mile radius of the project site. The downtown San Rafael SMART transit station is approximately 0.30 miles from the proposed project and connects multiple cities in Marin County to cities in Sonoma County.

The existing transit network is shown in **Figure 4**.

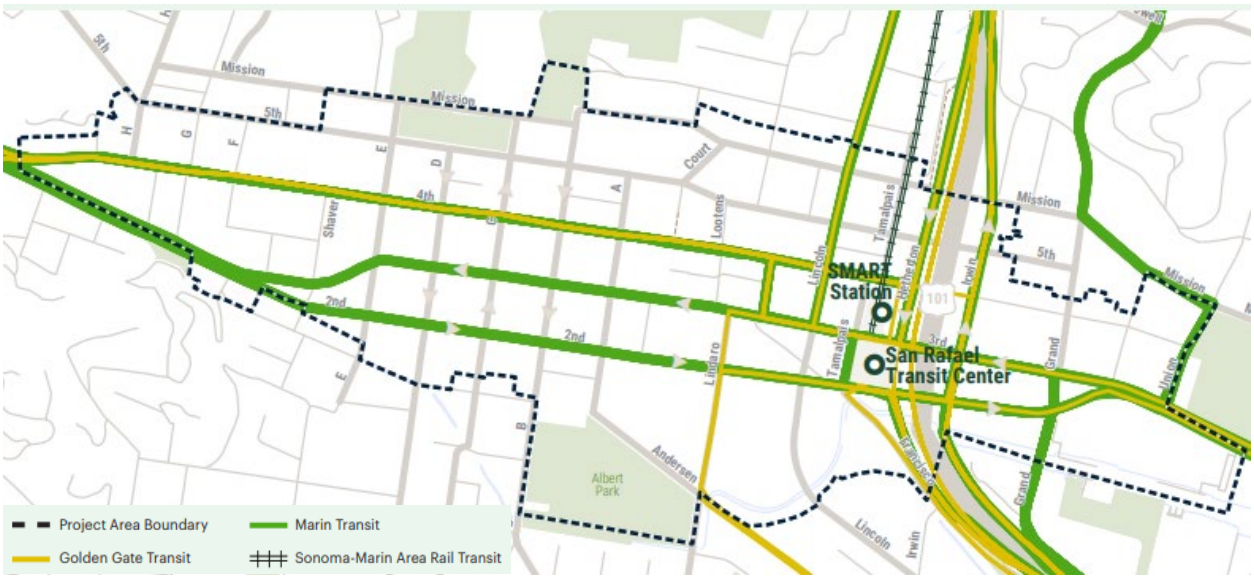


Figure 4: Existing Transit Network

Marin Transit: Route 22 provides bus service between San Rafael to the north and Marin City to the south. Half of the trips that leave San Rafael do not travel all the way to Marin City, instead stopping at College of Marin. The route provides 27 daily trips from San Rafael and 15 daily trips from Marin City on weekdays. The closest southbound stop and northbound stop to the project site is located at 4th Street and Court Street.

Marin Transit: Route 23 provides bus service between Fairfax to the west and the Canal area of San Rafael to the east. The route provides 22 daily trips from Fairfax and 24 daily trips from Canal on weekdays. The closest eastbound stop and westbound stop to the project site is located at 4th Street and Court Street.

Marin Transit: Route 68 provides bus service between Inverness to the west and San Rafael to the east. The route provides 9 daily trips from Inverness and 10 daily trips from San Rafael on weekdays. The closest eastbound stop to the project site is located at 4th Street and Court Street. The closest westbound stop to the project site is located at 4th Street and Court Street.

Golden Gate Transit: Route 132 provides bus service between San Anselmo to the north and San Francisco to the south, passing through San Rafael. The route provides 6 daily trips from San Anselmo (with an additional 2 daily trips that begin in San Rafael) and 6 daily trips from San Francisco on

weekdays. Route 132 is a commuter route, and San Francisco-bound trips occur in the morning, while San Anselmo-bound trips occur in the afternoon. The closest southbound stop and northbound stop to the project site is located at the San Rafael Transit Center.

Sonoma Marin Area Rail Transit: Main Line provides rail service between the Sonoma County Airport to the north and Larkspur to the south, passing through San Rafael. The route provides 21 daily trips from Sonoma County Airport and 21 daily trips from Larkspur on weekdays. The closest southbound stop and northbound stop to the project site is located at the San Rafael SMART Station.

Level of Service (LOS) Methodology

This study uses two different methods to determine LOS. For the signalized intersection, the percentile method was used. For the unsignalized intersection, the LOS criteria established in the Highway Capacity Manual (HCM), 6th Edition published and updated by the Transportation Research Board for unsignalized intersections.

The HCM 7th Edition methodology in Synchro 12 does not provide delay or LOS when signal timing includes non-standard ring-barrier structures (NEMA phasing). Therefore, the percentile delay method was used for analysis. The percentile delay method is based on HCM 2000 methodology that Synchro uses for optimization.

The Highway Capacity Manual (HCM) assigns intersection level of service (LOS) based on average control delay. Signalized intersection LOS is defined in terms of weighted average control delay for the entire intersection. Unsignalized intersection LOS criteria can be reduced into three intersection types: all-way stop control, two-way stop control, and roundabout control.

All-way stop control intersection LOS is expressed in terms of the weighted average control delay for the entire intersection. Two-way stop-controlled intersection LOS is defined in terms of the average control delay for each minor-street movement (or shared movement) as well as critical major-street left-turns. Roundabout control LOS is expressed using both average control delay for the intersection as well as LOS for the worst performing lane.

Table 1 provides the relationship between LOS rating and delay for signalized and unsignalized intersections based on the San Rafael General Plan 2040 thresholds.

Table 1: Level of Service Thresholds Based on Intersection Delay

Level of Service	Signalized Intersection Delay (sec)	Unsignalized Intersection Delay (sec)
A	$0 \leq D \leq 10$	$0 \leq D \leq 10$
B	$10 < D \leq 20$	$10 < D \leq 15$
C	$20 < D \leq 35$	$15 < D \leq 25$
D	$35 < D \leq 55$	$25 < D \leq 35$
E	$55 < D \leq 80$	$35 < D \leq 50$
F	$80 < D$	$50 < D$

Existing Conditions Analysis

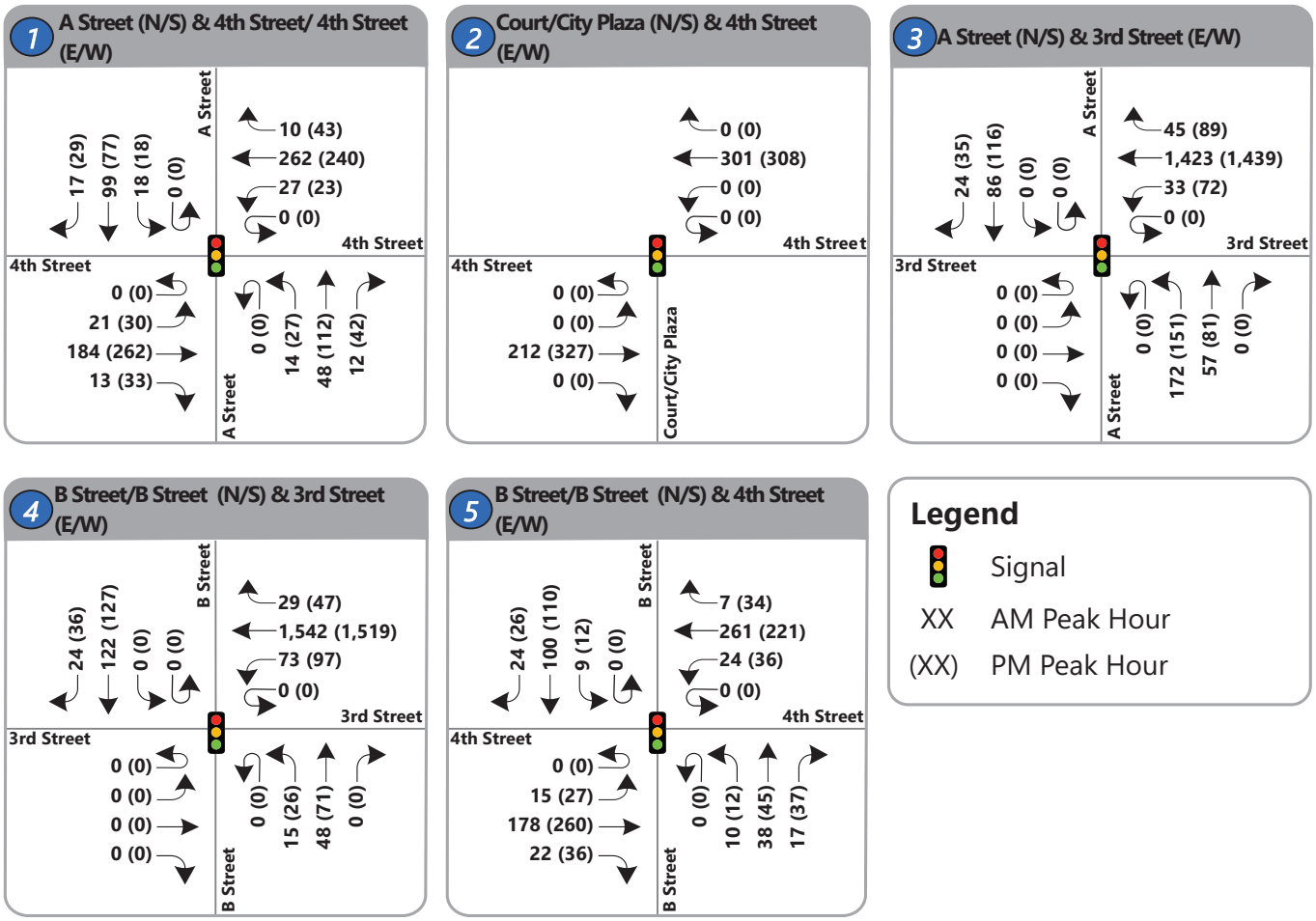
AMG developed existing conditions traffic simulation models using Synchro 12 software using existing lane configuration, traffic signal timings and traffic volumes. Existing conditions level of service (LOS) and delay were evaluated for the weekday a.m. and p.m. peak hours.

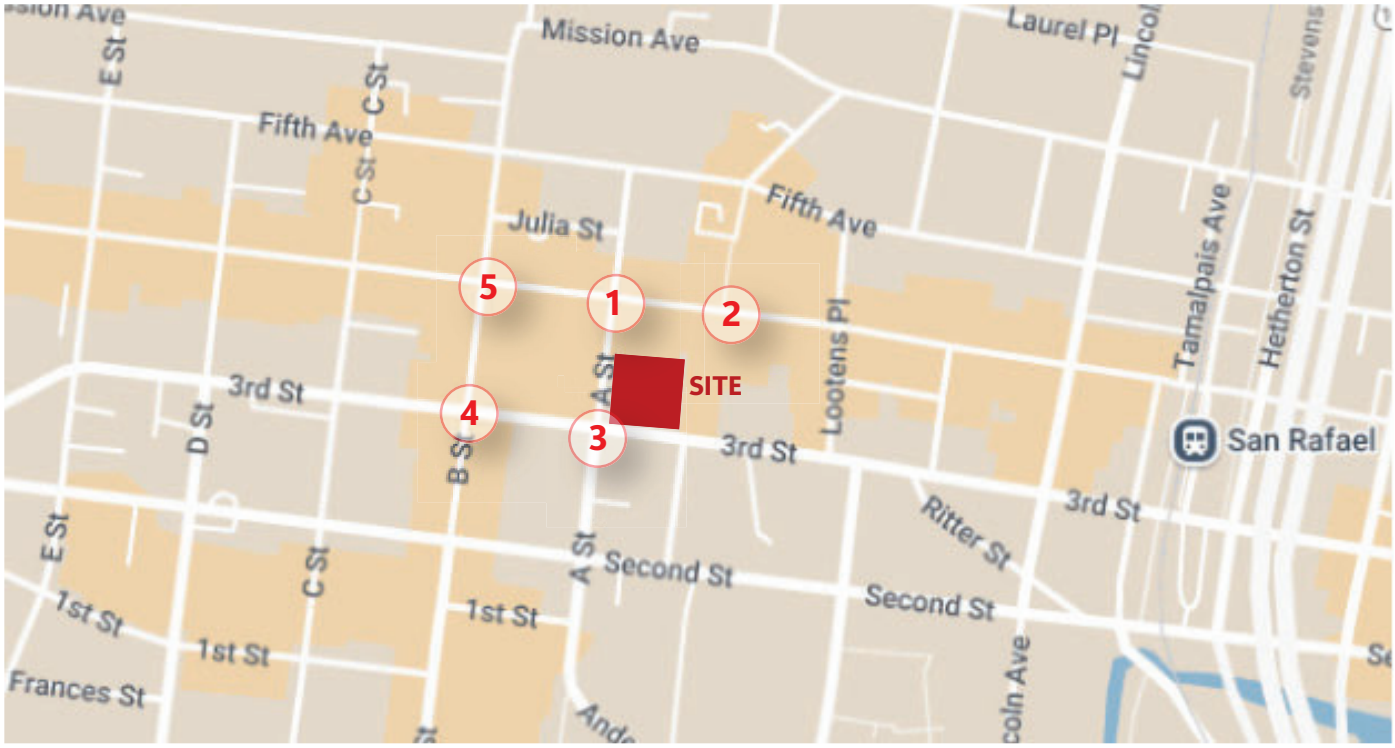
The results of the LOS and delay analysis conducted for the existing conditions scenario are summarized in **Table 2**. **Appendix C** contains the existing conditions Synchro analysis reports. **Figure 5** illustrates the existing plus project turning movement counts, lane geometry & traffic controls.

Table 2: Existing Conditions LOS and Delay

#	Intersection	Control Type	Peak Hour	Existing Conditions	
				Average Delay (sec)	LOS
1	4th Street and A Street	Signal	AM	9.8	A
			PM	9.4	A
2	4th Street and Court Street	Signal	AM	6.2	A
			PM	6.8	A
3	3rd Street and A Street	Signal	AM	34.6	C
			PM	28.5	C
4	3rd Street and B Street	Signal	AM	5.8	A
			PM	5.3	A
5	4th Street and B Street	Signal	AM	10.8	B
			PM	12.1	B

Based on the results of the existing conditions analysis, both study intersections operate at LOS C or better during both the a.m. and p.m. peak hours.


1 A Street (N/S) & 4th Street/ 4th Street (E/W)
A Street
4th Street
17 (29)
99 (77)
18 (18)
0 (0)
10 (43)
262 (240)
27 (23)
0 (0)
0 (0)
21 (30)
184 (262)
13 (33)
0 (0)
14 (27)
48 (112)
12 (42)
2 Court/City Plaza (N/S) & 4th Street (E/W)
Court/City Plaza
0 (0)
301 (308)
0 (0)
0 (0)
0 (0)
0 (0)
212 (327)
0 (0)
3 A Street (N/S) & 3rd Street (E/W)
3rd Street
24 (35)
86 (116)
0 (0)
0 (0)
45 (89)
1,423 (1,439)
33 (72)
0 (0)
0 (0)
0 (0)
0 (0)
0 (0)
172 (151)
57 (81)
0 (0)
4 B Street/B Street (N/S) & 3rd Street (E/W)
B Street
24 (36)
122 (127)
0 (0)
0 (0)
29 (47)
1,542 (1,519)
73 (97)
0 (0)
0 (0)
0 (0)
0 (0)
0 (0)
15 (26)
48 (71)
0 (0)
5 B Street/B Street (N/S) & 4th Street (E/W)
24 (26)
100 (110)
9 (12)
0 (0)
7 (34)
261 (221)
24 (36)
0 (0)
0 (0)
15 (27)
178 (260)
22 (36)
0 (0)
10 (12)
38 (45)
17 (37)
Legend
Signal
XX AM Peak Hour
(XX) PM Peak Hour


Mission Ave
Fifth Ave
Julia St
Laurel Pl
Tamalpais Ave
Hetherton St
Lootens Pl
3rd St
Second St
1st St
Ritter St
San Rafael
Frances St
E St
C St
D St
A St
B St
SITE
1
2
3
4
5

PROJECT TRIP GENERATION AND DISTRIBUTION

Trip Generation is defined as the number of "vehicle trips" produced by a particular land use or project. A trip is defined as a one-direction vehicle movement. The total number of trips generated by each land use includes the inbound and outbound trips.

The trip generation estimates for the proposed land uses (Multifamily Housing (Mid-Rise) & Variety Store) were calculated using the standard reference, Trip Generation, 11th Edition, published by the Institute of Transportation Engineers (ITE).

The estimated potential trip generation of the proposed project is shown in **Table 3**. It is estimated that the project will generate approximately 43 and 46 trips during the AM and PM peak hours respectively.

Table 3: Trip Generation

Land Use	ITE Code	Size[1,2]	Daily		Weekday A.M.				Weekday P.M.			
			Rate	Total	Rate	In	Out	Total	Rate	In	Out	Total
Apartments	ITE 221	131 DU	2.93	366	0.28	6	31	37	0.26	25	9	34
Commercial Variety Store	ITE 814	4 KSF	37.27	149	1.47	3	3	6	3.1	6	6	28
Total			-	**515**	-	**9**	**34**	**43**	-	**31**	**15**	**46**

Notes:
1. DU = Dwelling Units
2. KSF = 1000 Square Feet

The San Rafael Transportation Analysis Guidelines state that projects within the downtown area and projects of mixed-use development are allowed to trip rate reductions as internal trips. The proposed project will be a mixed-use development and is within the downtown area, so it will allow for internally captured trips. Internal trip reductions were calculated using the ITE Trip Generation Handbook, 3rd Edition. The estimated trip reduction and net project vehicle trip generation are shown in **Table 4**.

Table 4: Trip Reduction and Net Trip Generation

	AM Trips			PM Trips		
	In	Out	Total	In	Out	Total
Gross Project Trip Generation	9	34	43	31	15	46
Internal Trip Reduction	0	0	0	2	3	5
Net Project Trip Generation	**9**	**34**	**43**	**29**	**12**	**41**
Percent Reduction	**0%**	**0%**	**0%**	**8%**	**18%**	**10%**

The trip distribution was estimated based on existing traffic counts and patterns and is shown in **Figure 6**. **Figure 7** illustrates the project trips for the a.m. and p.m. peak hours through the study intersection based on existing peak hour turning movement counts.

The previous use on the site was a walk-in bank, however, the drive-in bank land use was used to calculate the daily trips, AM peak hour, and PM peak hour trips as walk-in banks are typically closed during the AM Peak hour. **Table 5** shows the number of trips that were generated by the existing bank use. Nonetheless since a drive-in bank seems to attract trips from an existing trip as an intermediate stop, a pass-by trip reduction will be applied to the AM and PM peak trips for the existing bank. The pass-by rates supplied by ITE's Trip Generation Manual for drive-in bank use were 29% during the AM peak hour and 35% during PM Peak hour. However, the San Rafael Transportation Analysis Guidelines state that a pass-by reduction of 30% can be applied, a max of 30% pass-by reduction was used for the PM peak hour. The estimated pass-by trip reduction rate and net vehicle trip generation for the existing land use are shown in **Table 6**.

Table 5: Trip Generation of Existing Use

Land Use[1]	ITE Code	Size	Daily		Weekday A.M.				Weekday P.M.			
			Rate	Total	Rate	In	Out	Total	Rate	In	Out	Total
Drive-In Bank	ITE 912	8.31 KSF	100.4	835	9.95	48	35	83	21.01	88	87	175

Notes:
1. Used ITE Land Use Drive-In Bank Land Use (ITE 912)
2. KSF = 1000 Square Feet

Table 6: Pass-By Trip Reduction and Net Trip Generation of Existing Use

	AM Trips			PM Trips		
	In	Out	Total	In	Out	Total
Gross Project Trip Generation	48	35	83	88	87	175
Pass-By Trip Reduction	14	10	24	27	26	53
Net Project Trip Generation	**34**	**25**	**59**	**61**	**61**	**122**
Percent Reduction	**29%**			**30%**		

Table 7 shows the net AM and PM peak hour trips the proposed project would generate in comparison with the existing bank. No credits from the previous use at the project site were used for further trip reduction for a conservative analysis. However, since the bank was operational within the past three years, the existing trip credit should be applied to the Transportation Mitigation Fee Calculation, as stated in the city's Transportation Analysis Guidelines.

Table 7: Net Trip Generation between Existing Bank and Proposed Project

	AM Trips			PM Trips		
	In	Out	Total	In	Out	Total
Existing Use (Walk-in Bank)	34	25	59	61	61	122
Proposed Project (900 A Street Apartments)	9	34	43	29	12	41
Net Project Trip Generation	**-25**	**+9**	**-16**	**-32**	**-49**	**-81**
Net AM & PM Trips between Existing Bank and Proposed Project						**-97**

Legend

One-Way Distribution

In & Out Distribution

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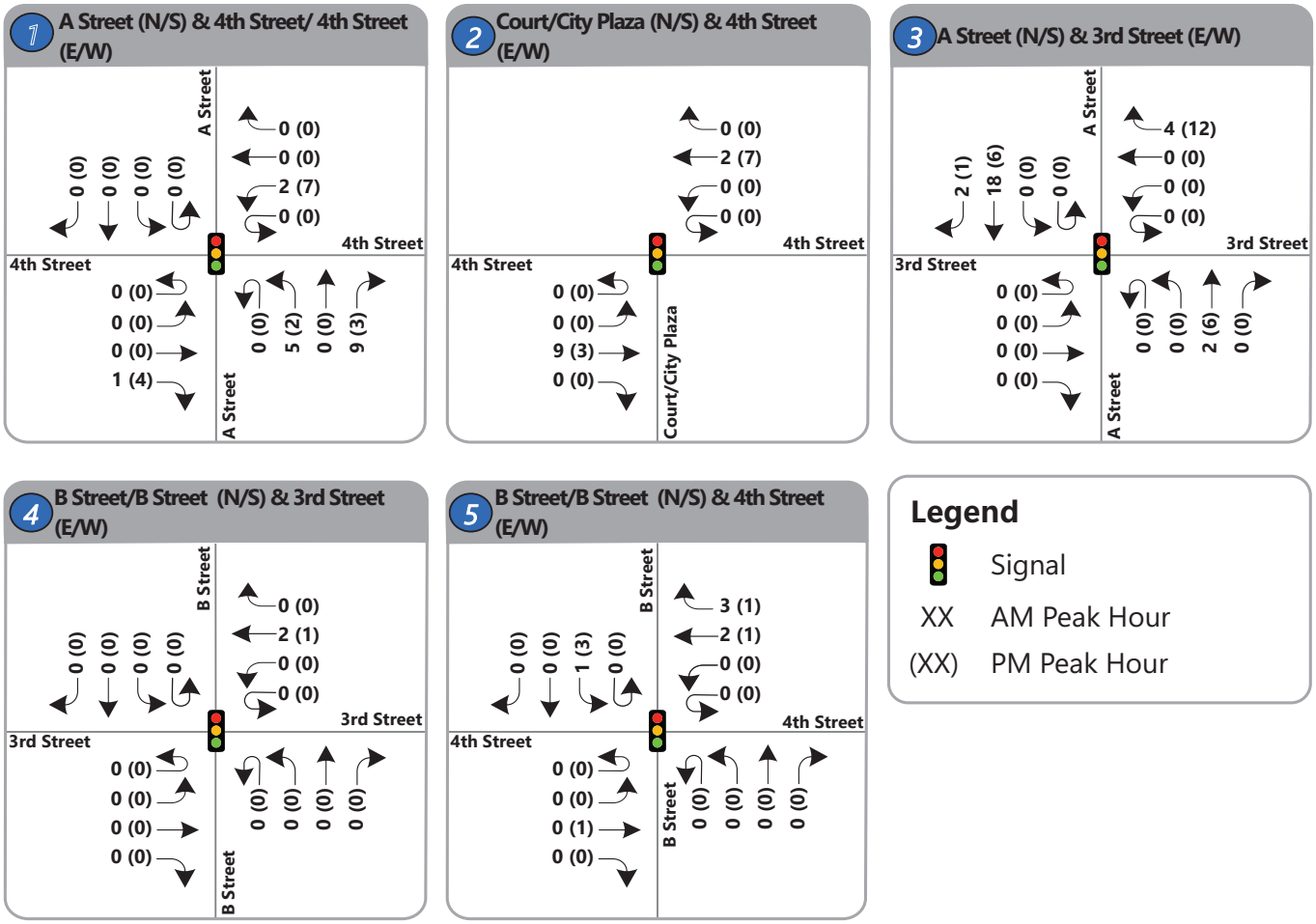
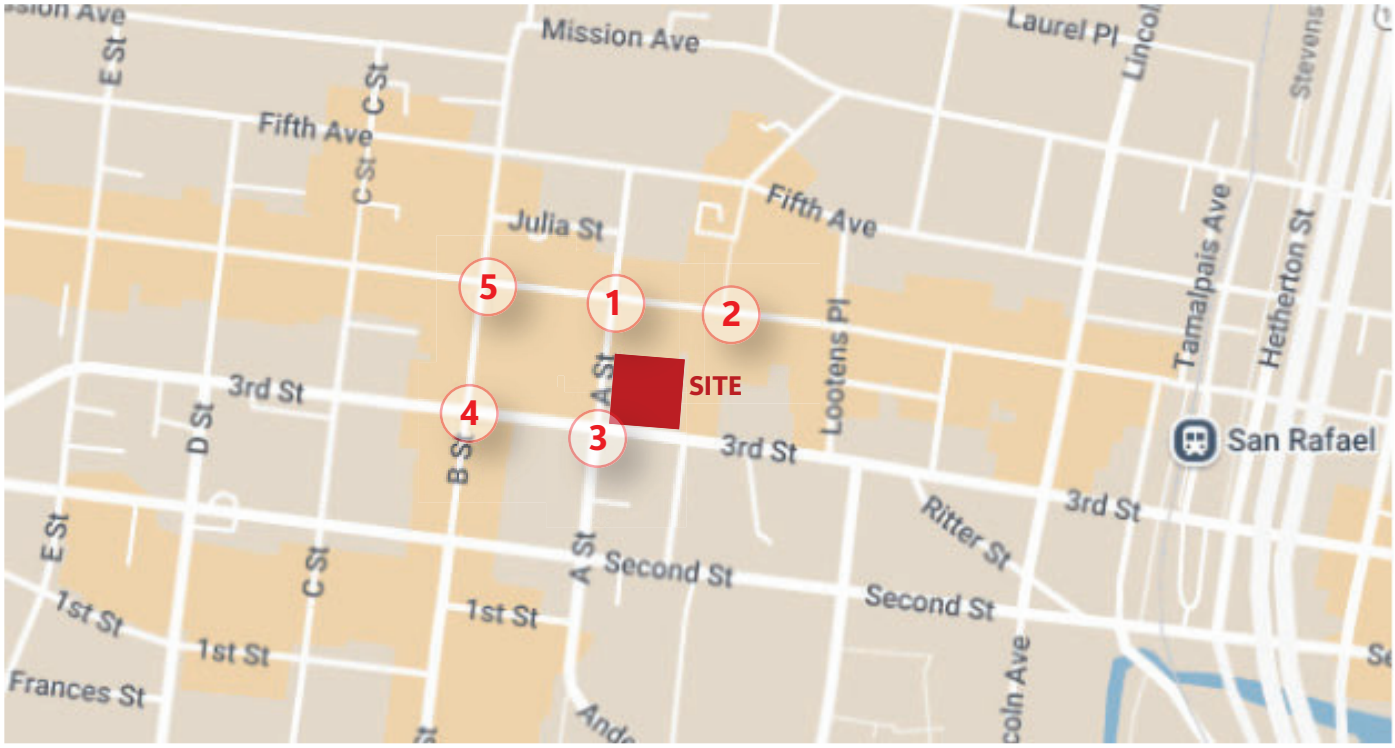

1 A Street (N/S) & 4th Street/ 4th Street (E/W)
A Street
4th Street
0 (0) 0 (0) 2 (7) 0 (0)
0 (0) 0 (0) 0 (0) 0 (0)
0 (0) 0 (0) 0 (0) 1 (4)
0 (0) 5 (2) 0 (0) 9 (3)
2 Court/City Plaza (N/S) & 4th Street (E/W)
Court/City Plaza
0 (0) 2 (7) 0 (0) 0 (0)
0 (0) 0 (0) 9 (3) 0 (0)
3 A Street (N/S) & 3rd Street (E/W)
3rd Street
2 (1) 18 (6) 0 (0) 0 (0)
4 (12) 0 (0) 0 (0) 0 (0)
0 (0) 0 (0) 0 (0) 0 (0)
0 (0) 0 (0) 2 (6) 0 (0)
4 B Street/B Street (N/S) & 3rd Street (E/W)
B Street
0 (0) 2 (1) 0 (0) 0 (0)
0 (0) 0 (0) 0 (0) 0 (0)
0 (0) 0 (0) 0 (0) 0 (0)
5 B Street/B Street (N/S) & 4th Street (E/W)
3 (1) 2 (1) 0 (0) 0 (0)
0 (0) 0 (0) 1 (3) 0 (0)
0 (0) 0 (0) 0 (1) 0 (0)
Legend
Signal
XX AM Peak Hour
(XX) PM Peak Hour


Mission Ave
Fifth Ave
Julia St
Laurel Pl
Tamalpais Ave
Hetherton St
Lootens Pl
3rd St
Second St
1st St
Ritter St
San Rafael
Frances St
SITE
1
2
3
4
5

EXISTING CONDITIONS PLUS PROJECT CONDITIONS ASSESSMENT

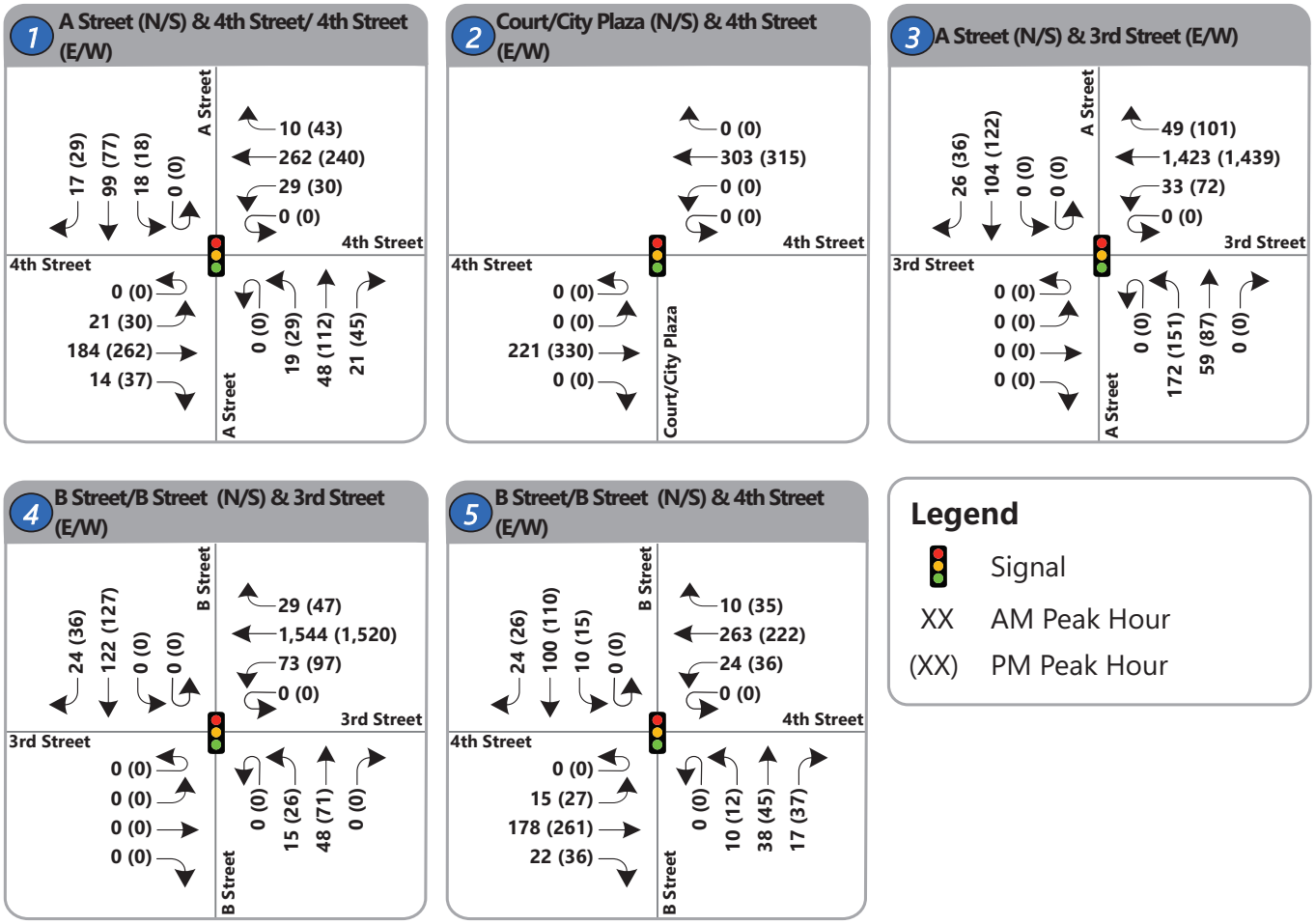
As aforementioned, existing plus project conditions scenario adds proposed project trips to the existing conditions traffic models and evaluates the impact of the proposed project at the project intersection and study segments. **Figure 8** illustrates the existing plus project turning movement counts, lane geometry & traffic controls.

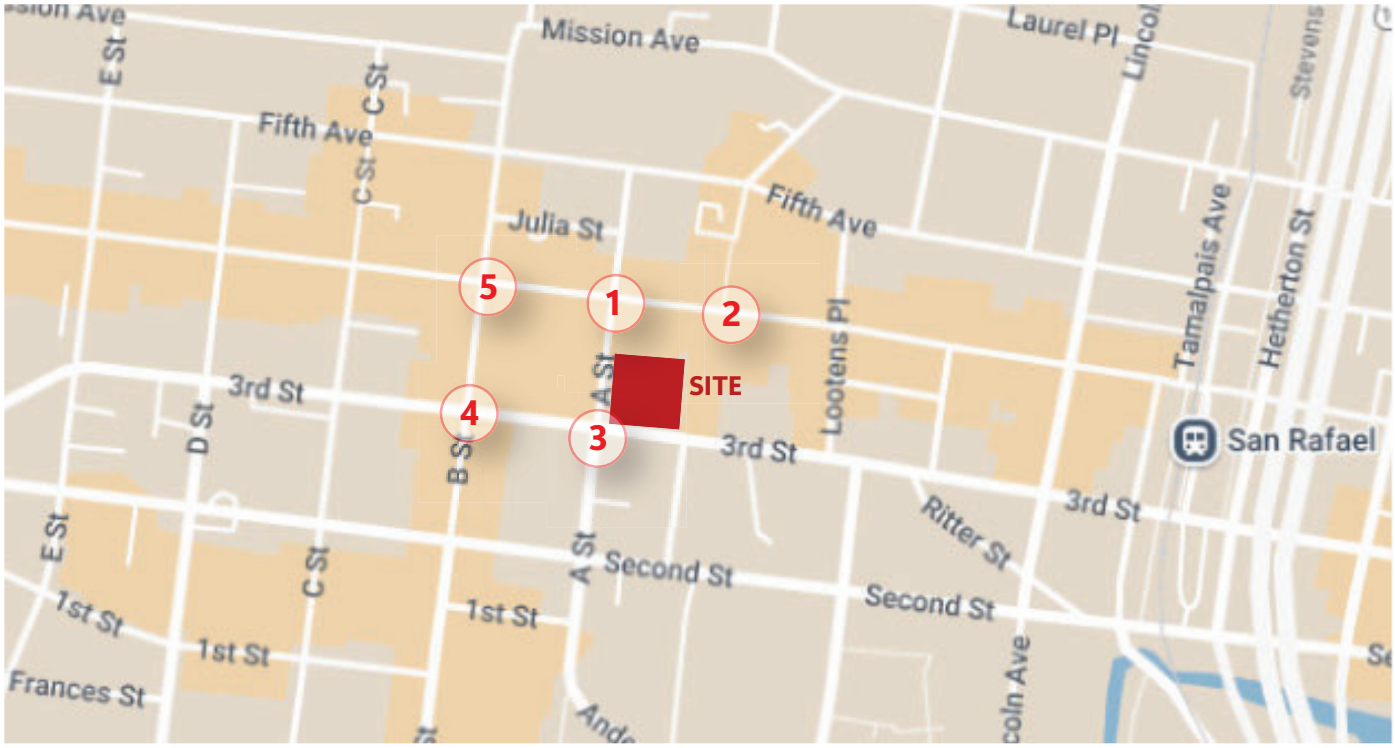
The results of the LOS and delay analysis conducted for existing plus project conditions scenario are summarized in **Table 8**. **Appendix D** contains the existing plus project conditions Synchro analysis reports.

Table 8: Existing Plus Project Conditions LOS and Delay

#	Intersection	Peak Hour	Existing Conditions		Existing Plus Proposed Conditions	
			Average Delay (sec)	LOS	Average Delay (sec)	LOS
1	4th Street and A Street	AM	9.8	A	10.0	B
		PM	9.4	A	9.5	A
2	4th Street and Court Street	AM	6.2	A	6.3	A
		PM	6.8	A	7.0	A
3	3rd Street and A Street	AM	34.6	C	34.6	C
		PM	28.5	C	28.5	C
4	3rd Street and B Street	AM	5.8	A	5.9	A
		PM	5.3	A	5.3	A
5	4th Street and B Street	AM	10.8	B	10.9	B
		PM	12.1	B	12.1	B

The results of the existing plus project conditions analysis show that there is no significant impact with the addition of the project trips, all five intersections will continue to operate at LOS C or better. Though there are slight increases in delay at the study intersections, none are significant enough to change the LOS rating.





AMG ADVANCED MOBILITY GROUP

SITE CIRCULATION & ACCESS, ROADWAY & DRIVEWAY ASSESMENT

Site Access

The project site would be located on the northeast corner at the intersection of A Street & 3rd Street. Vehicle access to the apartments will be provided by one driveway along A Street. This approach would be the only access point to on-site parking and is expected to be adequate.

Pedestrian access to the project will be provided through three entrances on A Street and one on 3rd Street. Along A Street, one entrance gives access to the parking garage that is next to the project driveway, the other two entrances provide access to the building (lobby and commercial).

Sight Distance

AMG conducted stopping sight distance analysis in the field to ensure that there is sufficient distance for a driver to effectively apply the brakes and stop the vehicle without colliding with a vehicle/obstruction on the road. At driveways, a clear line of sight should be provided between the vehicle waiting at the driveway and the approaching vehicle. The vehicle waiting to either cross, turn left, or turn right, through the driveway should have sufficient time to make that maneuver without requiring the through traffic to drastically alter their speed.

Based on AMG's field observations and The Highway Design Manual, July 1, 2020, Chapter 200 - Geometric Design & Structure Standards, Table 201.1 Sight Distance Standards, which recommends a stopping sight distance of 150 feet for a design speed of 25 mph, the sight distance along A Street adjacent to the project is adequate.

Based on City of San Rafael's Municipal Code, Article 14.16.295 - Sight Distance, the required "vision triangle" at driveways is fifteen feet from the curb return. Any improvements or vegetation within that established vision triangle shall be less than 3 feet from the street pavement. Sight Distance for the driveway on A Street should also be adequate, given that landscaping on A Street is maintained at the dimensions mentioned above.

On-Site Circulation

AMG assessed the on-site circulation at the project site based on the site plan provided by the client. The proposed project will have one driveway, that will allow entrance, parking, and exit of vehicles. On-Site circulation is expected to be adequate, given that a parking management plan be provided by the project sponsor for tandem parking.

Pedestrian, Bicycle & Transit Facilities

The proposed project will seem to attract 5 PM peak hour non-vehicular trips as shown in **Table 4**. These trips will cause no reduction in the quality of service on existing facilities and will not reduce safety or access to pedestrian, bicycle, or transit facilities. Therefore, the proposed project impacts on these facilities have no substantial effect.

Pedestrian Access:

Sidewalks are provided along A Street, 3rd Street, 4th Street, B Street in the vicinity of the project site. The width of the sidewalk ranges from 6 feet to 8 feet. Crosswalks mentioned in the Existing Conditions at the study intersections would also provide pedestrian access to the project site from other cross-streets. Based on AMG's observations, pedestrian access to the site is adequate.

Bicycle Access

There are Class III Bike facilities on A Street and 4th Street near the project site. These facilities include sharrow markings on the pavement and wayfinding signs to alert drivers that the roadway is shared with cyclists. Based on these observations, bicycle access to the project site is adequate.

Transit Facilities

There are two transit stops in the vicinity of the project site and two others that are close by at the intersection of 4th Street and C Street. The two bus stops in the vicinity of the project site are located at the 4th Street/ Court Street intersection, one along the north side of 4th Street (westbound) and along the south side of 4th street (eastbound). Pedestrians and cyclists can access the southern stop by walking along the west sidewalk on A Street and turning left at 4th Street and continuing walking on the south sidewalk until they reach the stop. Pedestrians and cyclists can access the northern stop by using the crosswalk located at the east leg of the 4th Street/Court Street intersection. Hence, transit access to the project site is adequate.

Roadway Assessment

A Street is a 40-foot-wide local roadway that currently has on-street parking on both sides. On-Street parking occupies 8 feet while the travel lane is approximately 12 feet on each side. The proposed project will not remove on-street parking or make any other changes to A Street. Based on observations and existing conditions, the roadway width along A Street is adequate to accommodate the proposed project.

The current sidewalk width on the east side of A Street is 10 feet. The proposed project sidewalk will be widened to 12 feet to accommodate for the project driveways. This will provide a wider path for pedestrians, hence, the proposed sidewalk along A Street is adequate.

Parking

The proposed project provides 106 parking spaces including five (5) total handicap parking spaces within the parking garage of the project site. There will be 86 bike parking spaces provided on bike racks located within the parking garage.

Table 9 and summarize the parking requirements and **Table 10** summarizes the bike parking requirements for the proposed project based on City of San Rafael's Downtown Precise Plan (DSRPP) for buildings in the T5N 50/70 Zone. Per Section 2.3.050.H of the DSRPP, off-street parking for buildings in the Downtown Parking district is waived up to 1.0 Floor Area Ratio (FAR) of the total square footage. This project has a total of 4.83 FAR and with the waiver of 1.0 FAR, the FAR used for the project is 3.83 FAR.

Table 9: Parking Requirements for buildings within T5N 50/70 Zone

Unit Type	Size	Size with Waiver	Parking Demand	Minimum Parking Spaces Required
1 Bedroom Unit	77 units	61 units	0.75 per unit	46
2 Bedroom Unit	54 units	43 units	1.0 per unit	43
Commercial[1]	0.14 FAR	-	Waived	-
Total Parking Spaces required				89
Note: 1: Commercial Use is waived up to 1.0 FAR				

Table 10: Bike Parking Requirements for buildings within T5N 50/70 Zone

Unit Type	Size	Size with Waiver	Parking Demand	Minimum Parking Spaces Required
1 Bedroom Unit	77 units	61 units	1.0 per unit	61
2 Bedroom Unit	54 units	43 units	2.0 per unit	86
Total Bicycle Parking Spaces required				143

Based on the parking analysis conducted, the proposed project provides the minimum number of parking spaces per the City of San Rafael's parking requirements. However, the project applicant has requested a waiver of the City of San Rafael's bicycle parking requirements. Based on state density bonus waiver, the bicycle parking requirement becomes zero. Therefore, the proposed project provides an adequate number of bicycle parking spaces.

The proposed project will not remove any existing on-street parking spaces adjacent to the project along A Street. There will be no net loss or net gain of on-street parking due to the proposed project.

Driveway Assessment

The proposed project will have one driveway, which will allow entrance, parking, and exit of vehicles. No vehicles larger than a single unit car will be allowed in the parking garage. AMG prepared turning radii diagrams to show that the driveway width is adequate to accommodate entrance/exit into/out of the parking garage. However, to produce more comfortable movements, we recommend widening the driveway that goes into the parking garage to 11' and the driveway that goes out of the parking garage to 10' and relocating the trash staging location. **Appendix E** shows the turning radii diagrams.

To provide safety at the project driveway a flashing light will be installed at each driveway to alert pedestrians of any vehicles exiting the driveway, providing additional safety. A Gate System will be recessed from the edge of the driveway, to enhance pedestrian safety on the sidewalk. **Figure 9** shows a similar flashing light system and gate system installed in another San Rafael project.

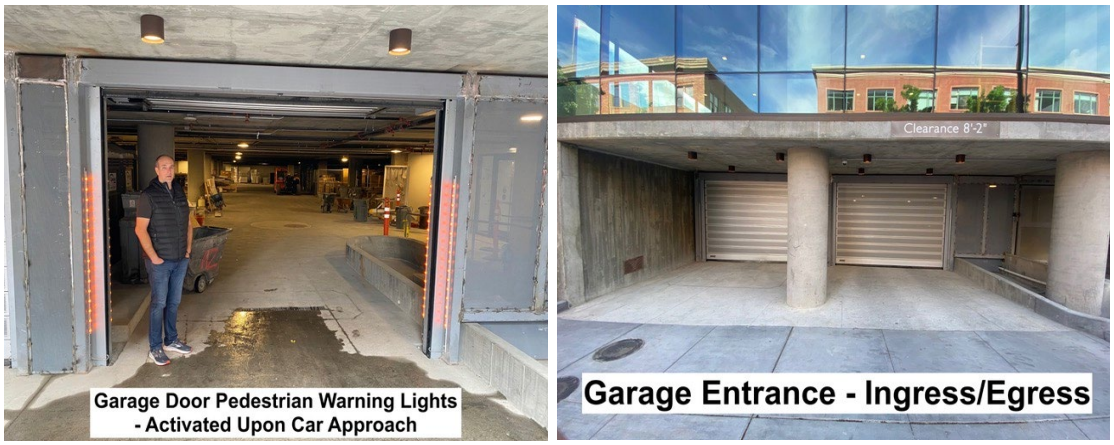


Figure 9: Example of proposed Flashing Light and Gate Systems at Project Driveway

Intersection & Driveway Queueing

AMG evaluated 95th percentile queues at the study intersections adjacent to the project site to assess if the existing storage capacity is adequate with the proposed project demands. The 95th percentile queue was calculated using HCM 2000 methodology. The 95th percentile queue lengths were analyzed along certain approaches to ensure that those approach queues do not extend past the project driveway under existing plus project conditions along A Street. **Table 11** summarizes the existing and existing plus project conditions queue lengths at the approaches. **Appendix F** contains the Synchro 95th percentile queue length reports.

Table 11: 95th Percentile Queue Length (ft) Analysis

Intersection	Movements	Existing Storage Length (ft)	Proposed Project Storage Length (ft)	Existing Conditions		Existing Plus Proposed Project Conditions	
				AM	PM	AM	PM
A St & 4th St	NBLTR	295*	140**	50	112	56	115
A St & 3rd St	SBLTR	295*	155**	91	121	107	127

Note:
SBLTR=Southbound shared thru, right-turn, and left-turn lane; NBLTR=Northbound shared thru, right-turn, and left-turn lane
*Assumed based on existing Google Earth imagery.
**Storage is measured from the intersection to the project driveway

Based on the 95th percentile queue length analysis, the existing and proposed project storage capacity for the eastbound approach, northbound left-turn and southbound right-turn movements are adequate to accommodate the proposed project trips.

AMG also evaluated queuing at the project driveways, given that there will be a gate system to get into the parking garage. The garage access gate takes approximately 5-10 seconds to open and serve a car. Using Poisson's Distribution Model, and the trip generation for the project, the arrival rate at the driveway is expected to be 0.20 veh/min and the service rate is 6 veh/min (assuming 10 seconds to serve). Based on the expected arrival and service rates, the average number of vehicles in the queue is calculated to be 0.001 vehicles, meaning that the queue length at the driveways is never expected to be more than one car. The project driveways have enough storage to accommodate a car without conflicting with pedestrian activities on the sidewalk.

VMT ANALYSIS

In 2013, Governor Jerry Brown signed SB 743, which streamlined reviews for transit-oriented infill projects and directed the State Office of Planning and Research (OPR) to establish new practices and metrics to evaluate transportation impacts under the California Environmental Quality Act (CEQA). Specifically, SB 743 requires that Level of Service (LOS) metrics be replaced by VMT metrics for purposes of CEQA analysis. While SB 743 did not eliminate the ability of local agencies to continue using LOS as a planning metric in General Plans, it reflected a shift in perspective to more sustainable transportation planning that relies on metrics like VMT, which avoid discouraging infill development, and can help make non-automotive transportation faster, safer, and more reliable. The new guidelines require the use of vehicle miles travelled (VMT) as the metric for evaluating the significant traffic impacts to promote greenhouse gas emissions reductions, multimodal transportation networks and diverse land uses.

Senate Bill (SB) 743 (Steinberg 2013) adds Public Resources Code Section 21099 to CEQA and changes the way that transportation impacts are analyzed to better align local environmental review with statewide objectives to reduce greenhouse gas (GHG) emissions, encourage infill mixed-use development in designated priority development areas, reduce regional sprawl development, and reduce vehicle miles traveled (VMT) in California.

The City of San Rafael has adopted VMT methodology for application within the city. The methodology has five screening criteria to determine if a project can be exempted from the VMT analysis.

1. **Transit Priority Area (TPA)**: Projects located within ½ mile walkshed around major transit stops in San Rafael. *The proposed project **is** within ½ mile walkshed of a major transit stop () and is within the Downtown San Rafael TPA.*
2. **Affordable Housing:** 100% restricted affordable residential projects in infill locations. *The project is located within an infill location.*
3. **Small Projects:** Small projects can be presumed to cause a less-than-significant VMT impact. Small projects are defined as generating 110 or fewer average daily vehicle trips. *The proposed project generates more than 110 daily vehicle trips.*

4. **Local Serving Public Facilities.** Projects that consist of Local Serving Public Facilities that encompass government, civic, cultural, health, and infrastructure uses and activity which contribute to and support community needs. *The proposed project is not a local serving public facility.*
5. **Neighborhood-Serving Retail Project.** Neighborhood-serving retail projects that are less than 50,000 square feet, which serve the immediate neighborhoods. *The proposed project's retail has not been defined as a neighborhood-serving retail project.*
6. **Residential and Office Projects Located in Low VMT Areas.** Residential and employment-generating projects located within a low VMT-generating area can be presumed to have a less-than-significant impact, absent substantial evidence to the contrary. *The proposed project is a residential generating project. Based on the information provided by the TAM model, the project is in a 2040 low VMT area per residents.*

Section 15064.3 of the CEQA Guidelines provides guidance on evaluating a project's transportation impacts. According to Section 15064.3, vehicle miles traveled (VMT) is generally the most appropriate measure of transportation impacts, except for projects consisting of the addition of travel lanes to roadways. VMT refers to the amount and distance of automobile travel attributable to a project, regardless of the type of vehicle or number of occupants in a vehicle. Section 15064.3(b) establishes metrics and thresholds by which VMT can be evaluated for land use projects and transportation projects.

The proposed project is a mixed-use development in a downtown location that will increase non-vehicular trips and is expected to lower emissions and VMT within the project area. Based on evaluation performed for the San Rafael General Plan 2040, housing projects in Downtown San Rafael will be screened out of a detailed VMT analysis. The project passes three of the criteria shown above, hence, this proposed project will not contain a detailed VMT analysis.

CONCLUSIONS

AMG determined that the project would have no significant impacts under existing plus project conditions. Based on the results of the analysis, the following is a summary of our findings:

- All the intersections operate at an acceptable LOS C or better.
- The project will generate 41 total trips during both the AM and PM peak hours.
- All the intersections operate at an acceptable LOS C or better.
- Pedestrian, bicycle, and transit facilities are adequate to serve the project site.
- Site access to the project site is adequate.
- Sight Distance at the project driveway is adequate.
- Site Circulation within the project site is adequate. We recommend widening the driveway that goes into the parking garage to 11' and the driveway that goes out of the parking garage to 10' and relocating the trash staging location for more comfortable turning movements.
- Parking spaces provided at the project site are sufficient to meet the City of San Rafael's parking requirements.
- The existing and proposed storage capacity on A Street is adequate and will not result in a spillover of traffic queues due to the addition of the project.

APPENDIX A | Project Site Plan

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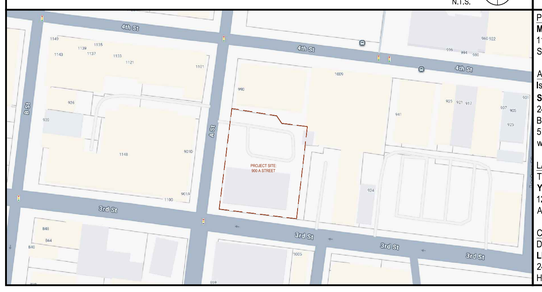
COVERSHEET

A0.0

VICINITY MAP

N.T.S.



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ARCHITECT:
Isaiah Stackhouse, Principal
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YAMASAKI LANDSCAPE ARCHITECTURE
1223 High Street
Auburn, CA 95603

CIVIL ENGINEER:
Denis Maslennikov
LEA & BRAZE ENGINEERING
2495 Industrial Parkway West
Hayward, CA 94545

PROJECT DESCRIPTION

PROJECT ADDRESS: 900 A STREET, SAN RAFAEL, CA 94901
APN: 011-263-21

SCOPE OF WORK:
NEW CONSTRUCTION OF AN 8-STORY MIXED USE DEVELOPMENT WITH 131 DWELLING UNITS OVER GROUND-LEVEL LOBBIES, COMMERCIAL SPACE AND PARKING, WITH SB-330 AND STATE OF CALIFORNIA DENSITY BONUS.

CONSTRUCTION TYPE: 5 STORIES TYPE III-A OVER 3 STORIES TYPE I-A CONCRETE PODIUM

DRAWING LIST

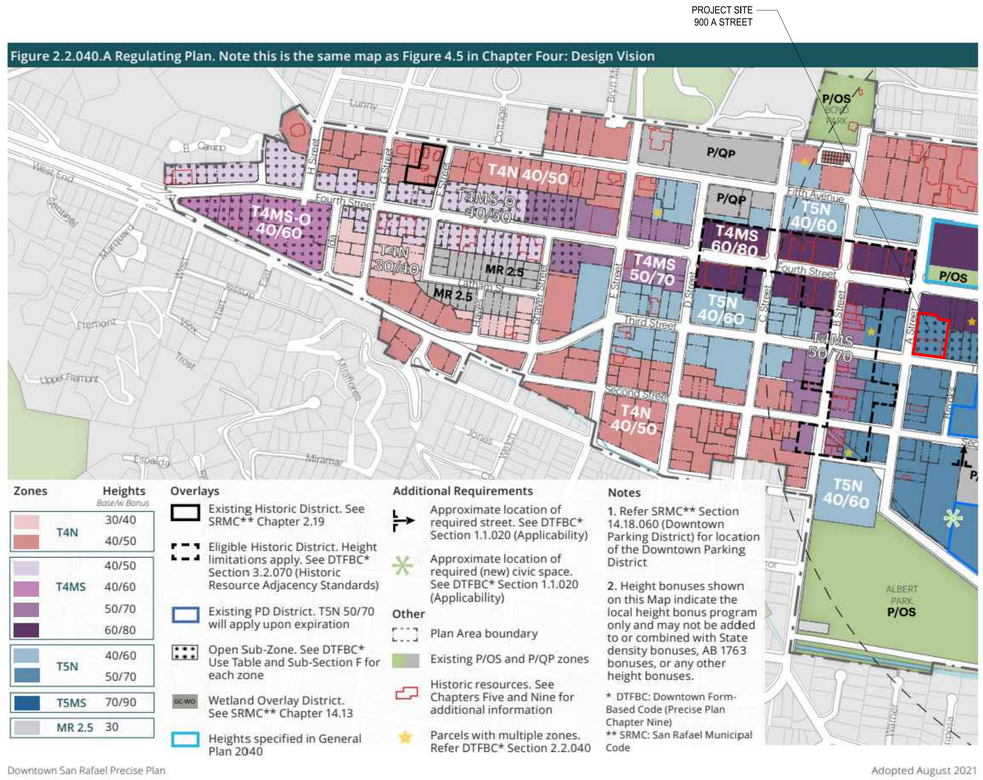

Figure 2.2.040.A Regulating Plan. Note this is the same map as Figure 4.5 in Chapter Four: Design Vision

2 - ZONING MAP

-

PROPOSED PROEJCT - ZONING INFORMATION	
ZONING	T5N 50/70
LOT AREA (SF)	28,667
DENSITY BONUS TABLE:	
BASE DENSITY	110
LI PERCENTAGE OF BASE DENSITY	10%
LI UNITS (ROUNDS UP)	11
DENSITY BONUS	20.0%
BONUS UNITS (ROUNDS UP)	22
MAXIMUM PROJECT WITH BONUS UNITS	132
PROPOSED PROJECT UNITS	131
DENSITY BONUS CONCESSIONS EARNED	1
DENSITY BONUS CONCESSIONS / INCENTIVES:	
1. TBD	

ZONING COMPLIANCE - T5N 50/70

	BASE ZONING	PROPOSED	COMPLIANCE
OVERALL BUILDING HEIGHT	50'	88'-6"	COMPLIES W/ WAIVER
HIGHEST TOP PLATE	45'	83'-8"	COMPLIES W/ WAIVER
SETBACK - FRONT	0' MIN.; 15' MAX	0'	COMPLIES
SETBACK - SIDE STREET	0' MIN.; 15' MAX	0'	COMPLIES
SETBACK - SIDE	0' MIN.	0'	COMPLIES
SETBACK - REAR	0' MIN.	0'	COMPLIES
STEPBACKS - FRONT	10' MIN AT 45'*	4'-0"	COMPLIES W/ WAIVER
STEPBACKS - SIDE STREET	10' MIN AT 45'*	4'-0"	COMPLIES W/ WAIVER
STEPBACKS - REAR	10' MIN AT 45'*	9'-1"	COMPLIES W/ WAIVER
GROUND LEVEL CEILING	10' MIN.	13'	COMPLIES

*NOT REQUIRED FOR MANSARD ROOFS

FLOOR AREA TABLE

	RESIDENTIAL	RETAIL	GARAGE / MEP	TOTAL
LEVEL 8	17,374			17,374
LEVEL 7	18,443			18,443
LEVEL 6	18,443			18,443
LEVEL 5	18,443			18,443
LEVEL 4	20,372			20,372
LEVEL 3	20,213			20,213
LEVEL 2	20,213			20,213
LEVEL 1	4,223	4,000	19757	27,980
BASEMENT	678		27,988	28,666
TOTAL	138,402	4,000	47,745	190,147
Excluding Bonus*	115,335	-	NA	115,335

* Residential Area excludes 20% bonus

UNIT COUNT TABLE

	1-BR	2-BR	TOTAL		
LEVEL 8	12	6	18		
LEVEL 7	11	8	19		
LEVEL 6	11	8	19		
LEVEL 5	11	8	19		
LEVEL 4	11	8	19		
LEVEL 3	11	8	19		
LEVEL 2	10	8	18		
LEVEL 1					
BASEMENT				AVG UNIT SIZE	
TOTAL	77	54	131	1,057	
	59%	41%			
LI UNITS	6	5	11		
	55%	45%			

PARKING PER DOWNTOWN SAN RAFAEL PRECISE PLAN

	UNITS/FAR	RATIO	PER UNIT/FAR	TOTAL	
REQ'D FOR 1BR	77	0.75	1	58	
REQ'D FOR 2BR	54	1.0	1	54	
COMMERCIAL	0.14 FAR	WAIVED	UP TO 1.0 FAR	0	
REQUIRED PARKING				112	
	STANDARD	**COMPACT**	**STACKER**	**TOTAL**	
LEVEL 1	43			43	
BASEMENT	63			63	
PROVIDED PARKING	**106**	**0**	**0**	**106**	W/ WAIVER

BIKE PARKING (Per DSRPP)

	UNITS	RATIO	PER UNIT	TOTAL
1-BR UNITS	77	1	1	77
2-BR UNITS	54	2	1	108
TOTAL REQUIRED				185
PROVIDED				86 W/ WAIVER

CIVIC AREA

	REQUIRED	PROVIDED
CIVIC AREA	200 SF	0 W/ WAIVER

1 - PROJECT DATA

-

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ZONING INFO & PROJECT DATA

A0.1

AVERAGE UNIT SIZE TABLE		
	BASE PROJECT	PROPOSED PROJECT
RESIDENTIAL FLOOR AREA	116,270	138,402
TOTAL UNITS	110	131
AVERAGE UNIT SIZE	1,057	1,057

5 - AVERAGE UNIT SIZE CALCS

-

ZONING TABLE			
ZONE	**T5N 50/70**	**BASE PROJECT**	**COMPLIANCE**
MAXIMUM BUILDING HEIGHT	50'	45'	COMPLIES
GROUND LEVEL CEILING HEIGHT	10' MIN.	10'	COMPLIES
SETBACK - FRONT	0' MIN., 15' MAX.	0'	COMPLIES
SETBACK - STREET SIDE	0' MIN., 15' MAX.	0'	COMPLIES
SETBACK - INTERIOR SIDE	0'	0'	COMPLIES
SETBACK - REAR	0'	5'	COMPLIES

BASE PROJECT UNITS

	1-BR	2-BR	TOTAL	
LEVEL 5	14	10	24	
LEVEL 4	14	10	24	
LEVEL 3	14	10	24	
LEVEL 2	14	10	24	
LEVEL 1	8	6	14	
GROUND/UNDERGROUND PARKING				
TOTAL	64	46	110	

VEHICULAR PARKING (Per DSRPP)

	UNITS/SF	RATIO	PER UNIT/SF	TOTAL
1-BR UNITS	64	0.75	1	48
2-BR UNITS	46	1	1	46
COMMERCIAL	3,200	2.75	1,000	9
TOTAL REQUIRED				103
		PARKLIFT	ADA	TOTAL
TOTAL PROVIDED		105	2	107

BIKE PARKING (Per DSRPP)

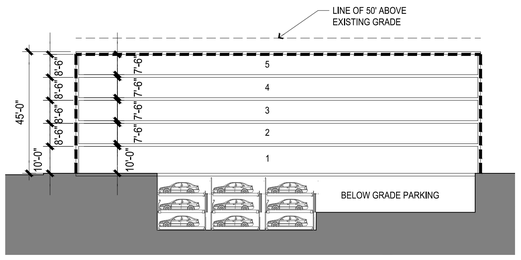
	UNITS	RATIO	/ UNIT	TOTAL
1-BR UNITS	64	1	1	64
2-BR UNITS	46	2	1	92
TOTAL REQUIRED				156
PROVIDED				156

CIVIC AREA

			REQUIRED	PROVIDED
CIVIC AREA			200	200

4 - BASE PROJECT DATA

-



2 - BASE PROJECT SECTION

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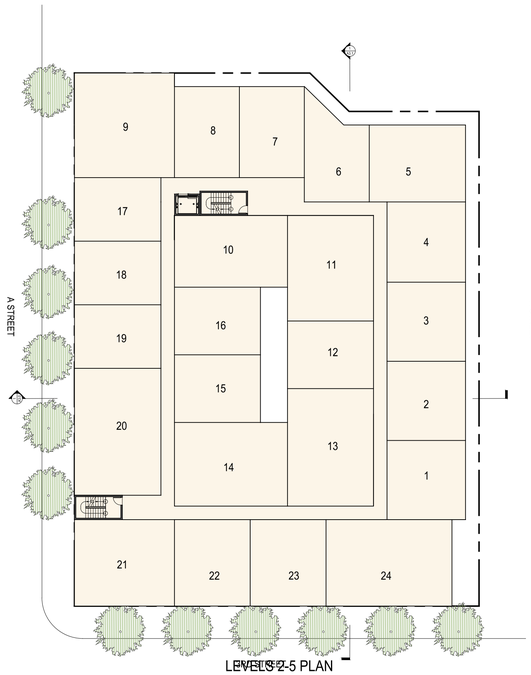
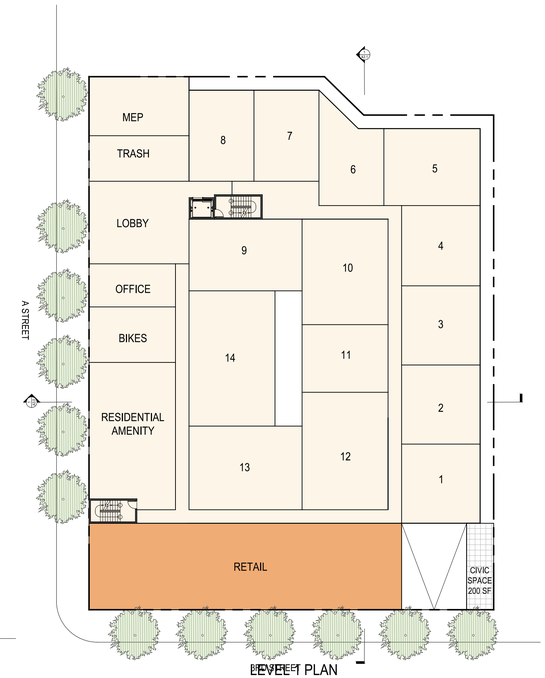
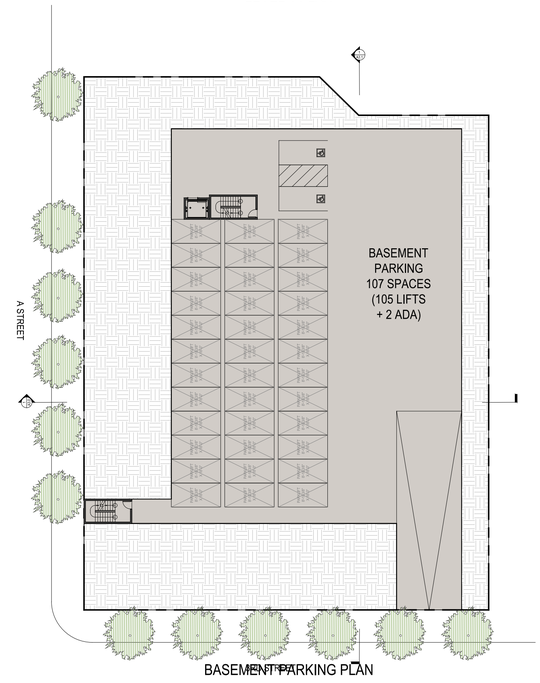


LEVELS 2-5 PLAN



LEVEL 1 PLAN



BASEMENT PARKING PLAN

1 - BASE PROJECT PLANS

-

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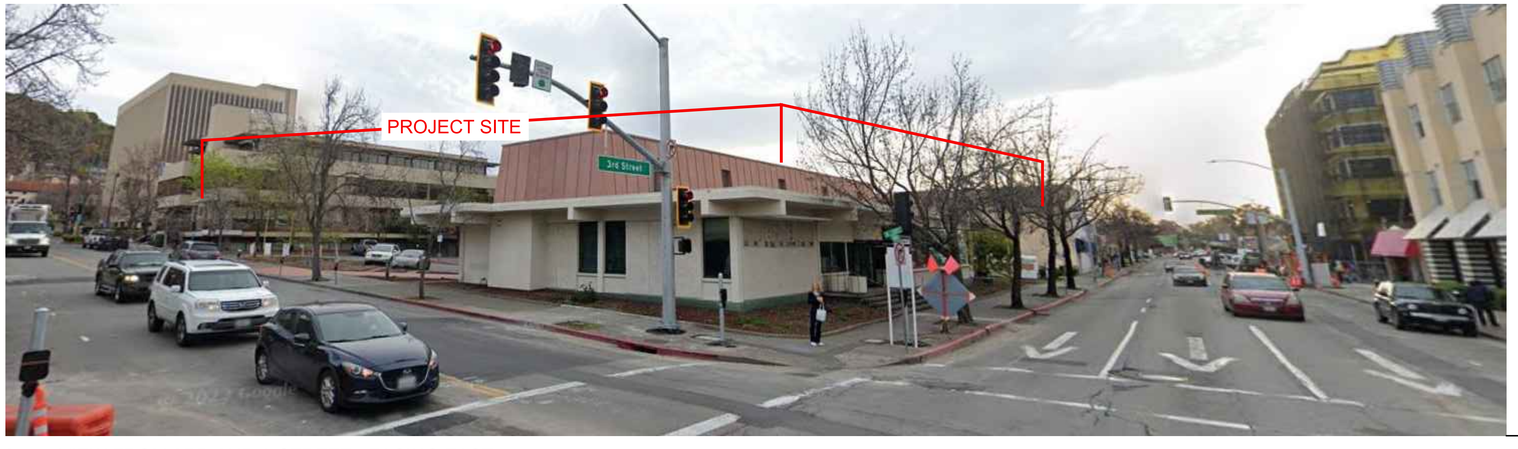
BASE PROJECT PLANS AND DATA

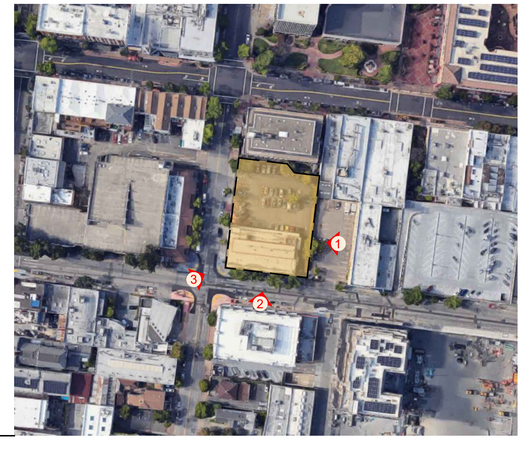
A0.2

1. VIEW FROM ADJACENT LOT - FACING WEST

2. VIEW FROM 3RD STREET - FACING NORTH



3. VIEW FROM 3RD AND A STREET - FACING EAST



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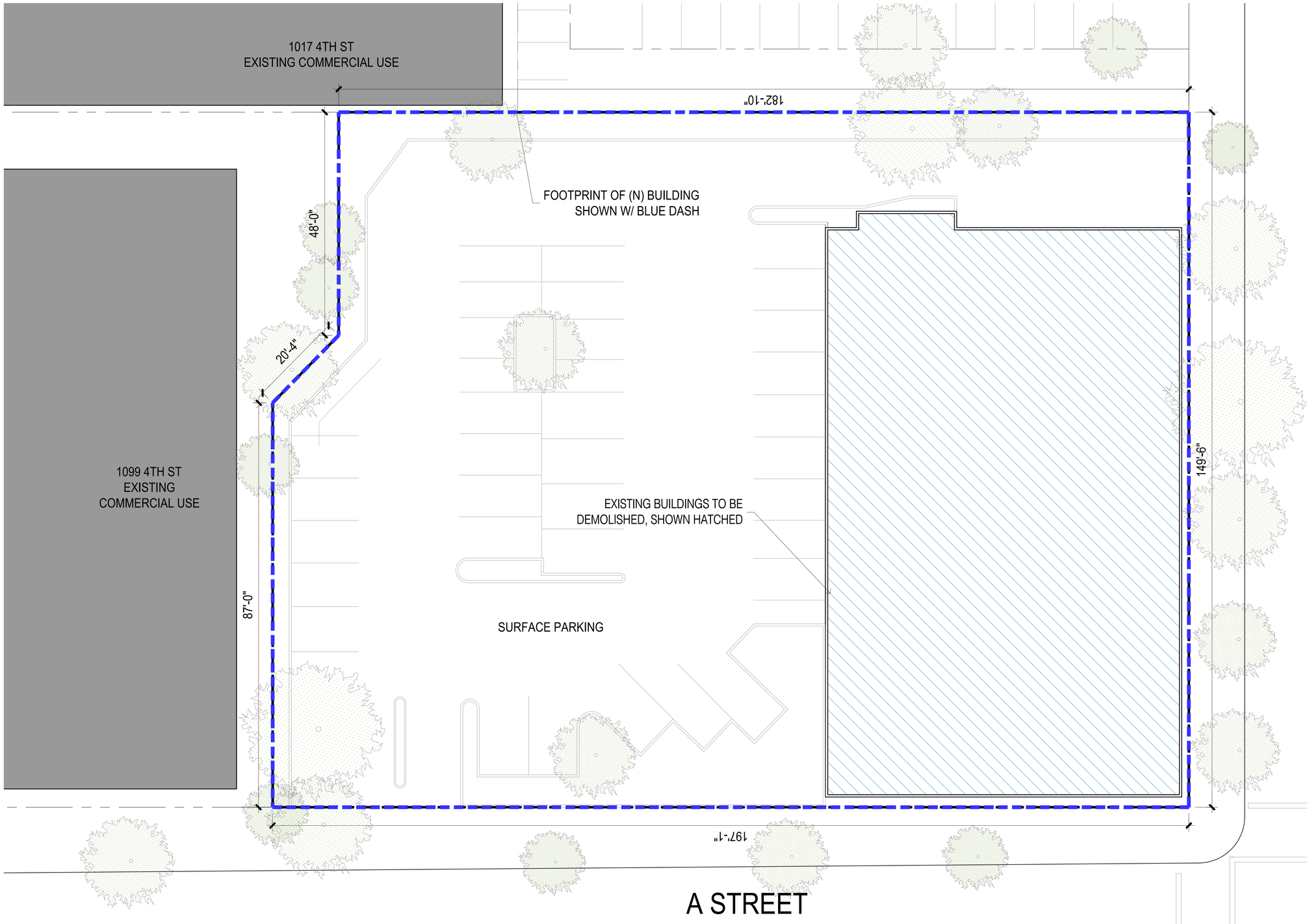
EXISTING
CONTEXT
PHOTOS

A0.3



1 EXISTING SITE PLAN
1" = 10' @ 24x36 1" = 20' @ 11x17

0 5 10 20

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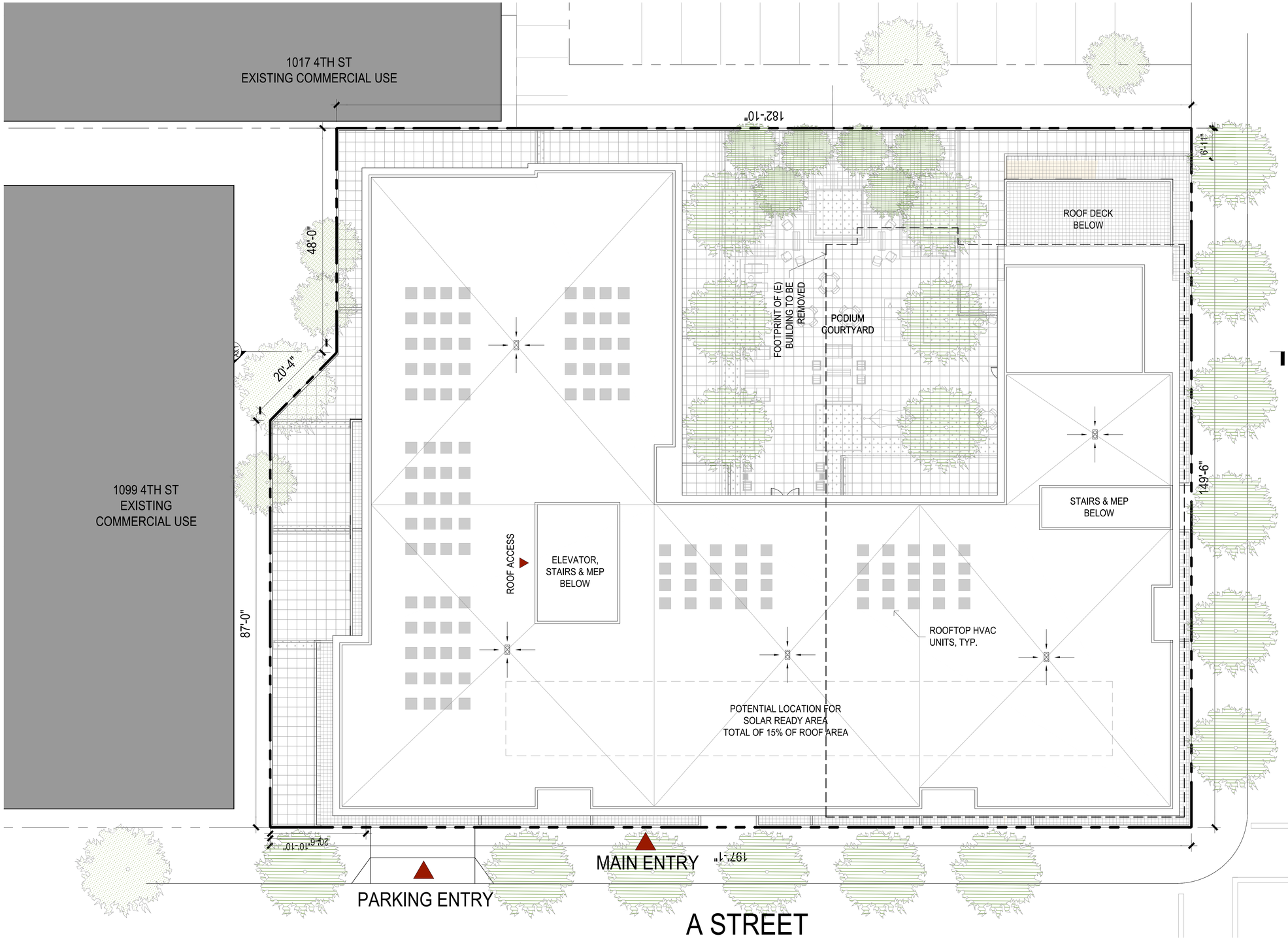
02.06.2025 PLANNING APPLICATION

JOB: 2220

SHEET:

EXISTING
SITE PLAN

A1.1



1 - PROPOSED SITE PLAN

1" = 10' @ 24x36 1" = 20' @ 11x17

0 5 10 20

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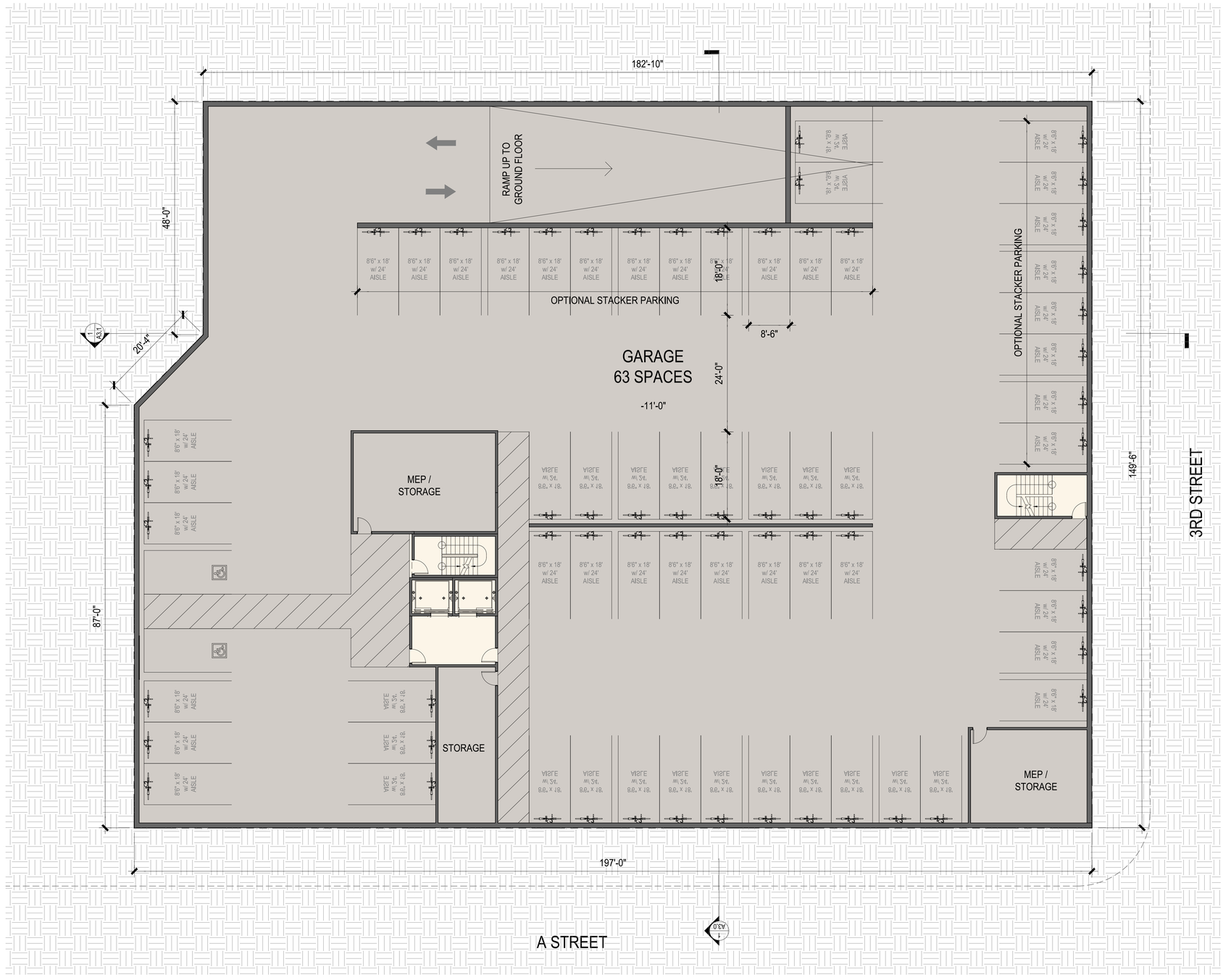
JOB: 2220

SHEET:

PROPOSED
SITE PLAN

A1.2



1 - BASEMENT FLOOR PLAN

3/32" = 1'-0" @ 24x36 3/64" = 1'-0" @ 11x17

0 4 8 16 32

N

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SHEET:

BASEMENT
FLOOR
PLAN

A2.0

1 / - GROUND LEVEL FLOOR PLAN

3/32" = 1'-0" @ 24x36 3/64" = 1'-0" @ 11x17

0 4 8 16 32

N

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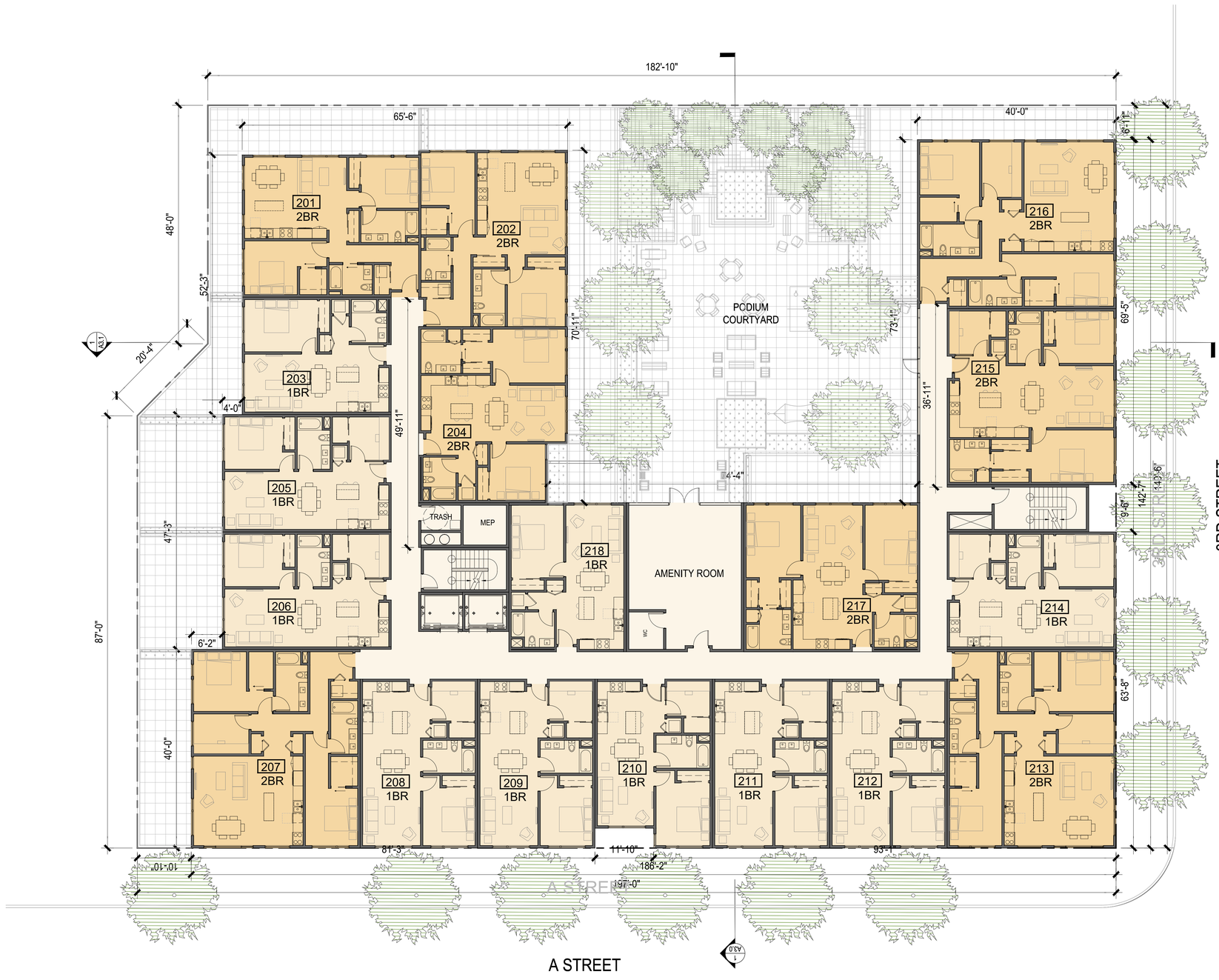
SHEET:

GROUND LEVEL FLOOR PLAN

A2.1



1 / - LEVEL 2 FLOOR PLAN

3/32" = 1'-0" @ 24x36 3/64" = 1'-0" @ 11x17

0 4 8 16 32

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SHEET:

LEVEL 2
FLOOR PLAN

A2.2

1 - LEVEL 3 FLOOR PLAN

3/32" = 1'-0" @ 24x36 3/64" = 1'-0" @ 11x17

0 4 8 16 32

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SHEET:

LEVEL 3
FLOOR PLAN

A2.3

1 / - LEVEL 4 FLOOR PLAN

3/32" = 1'-0" @ 24x36 3/64" = 1'-0" @ 11x17

0 4 8 16 32

N

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SHEET:

LEVEL 4
FLOOR PLAN

A2.4

1 - LEVEL 5 FLOOR PLAN

3/32" = 1'-0" @ 24x36 3/64" = 1'-0" @ 11x17

0 4 8 16 32

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SHEET:

LEVEL 5
FLOOR PLAN

A2.5

1 - LEVEL 6 FLOOR PLAN

3/32" = 1'-0" @ 24x36 3/64" = 1'-0" @ 11x17

0 4 8 16 32

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SHEET:

LEVEL 6
FLOOR PLAN

A2.6

1 - LEVEL 7 FLOOR PLAN

3/32" = 1'-0" @ 24x36 3/64" = 1'-0" @ 11x17

0 4 8 16 32

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SHEET:

LEVEL 7
FLOOR PLAN

A2.7

1 / - LEVEL 8 FLOOR PLAN

3/32" = 1'-0" @ 24x36 3/64" = 1'-0" @ 11x17

0 4 8 16 32

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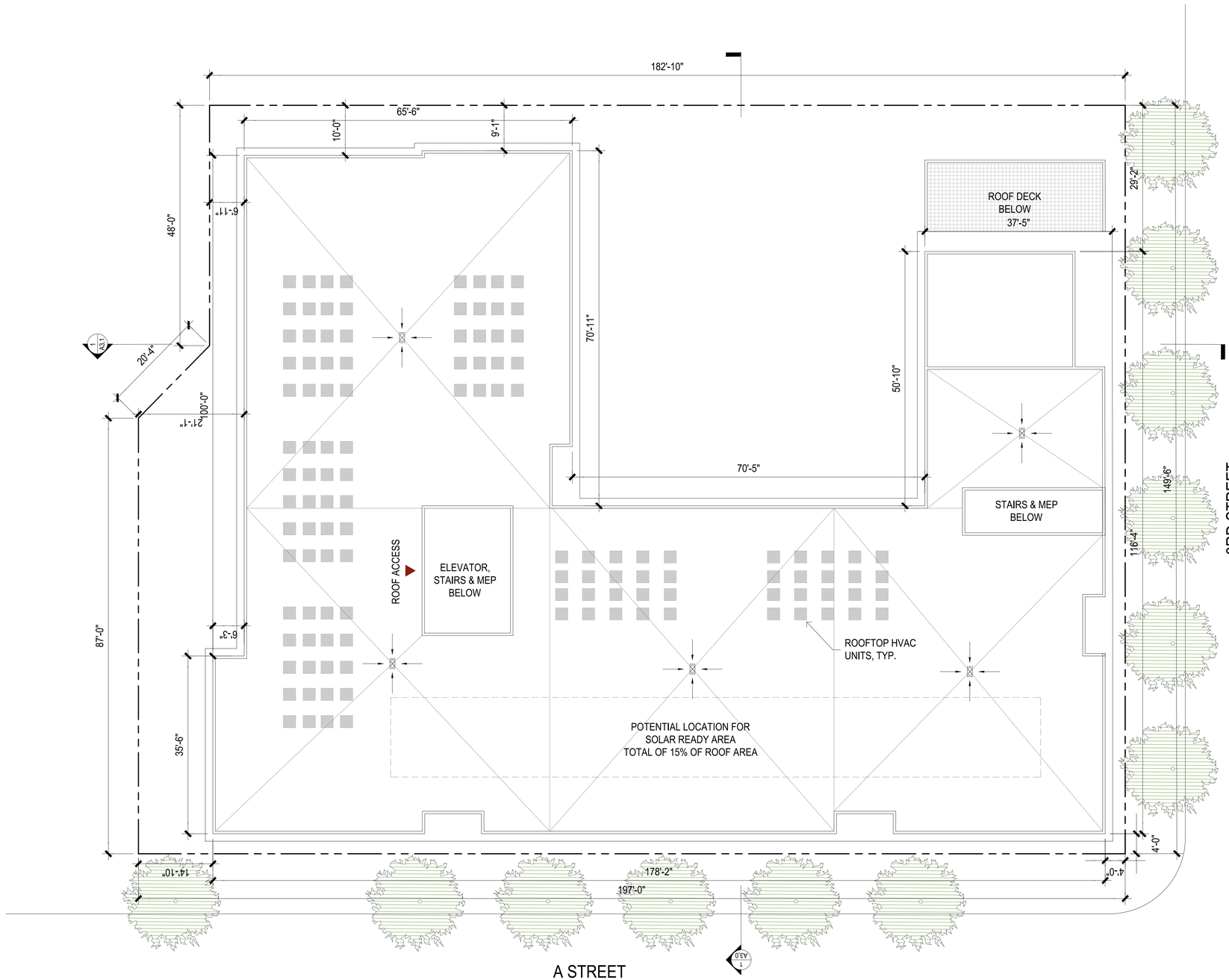
SHEET:

LEVEL 8
FLOOR PLAN

A2.8



1 - ROOF PLAN

3/32" = 1'-0" @ 24x36 3/64" = 1'-0" @ 11x17

0 4 8 16 32

N

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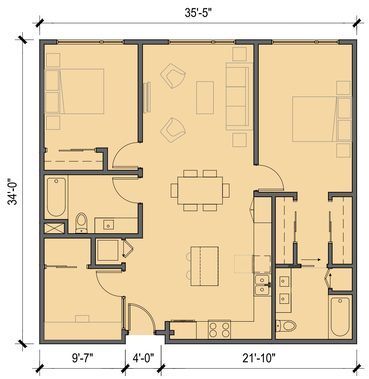
JOB: 2220

SHEET:

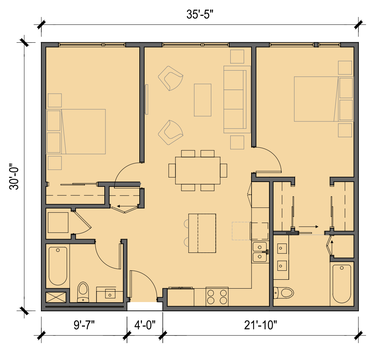
ROOF
PLAN

A2.9

B1 - 2-BEDROOM + OFFICE
1,355 SF

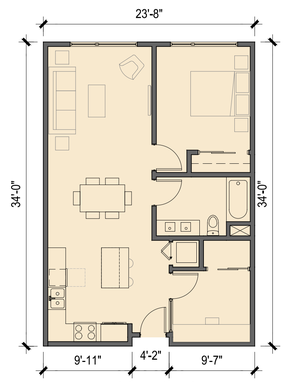


B2 - 2-BEDROOM
1,200 SF

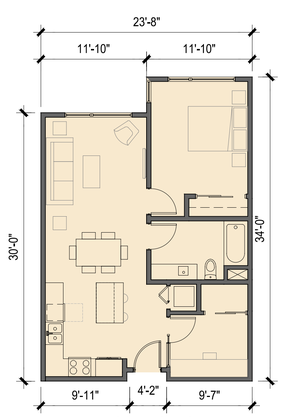


B3 - 2-BEDROOM
1,059 SF

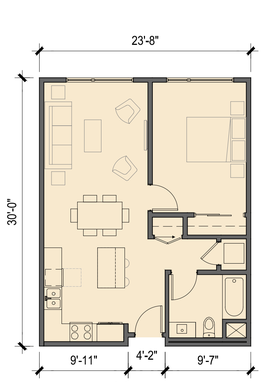
B4 - 2-BEDROOM
1,074 SF



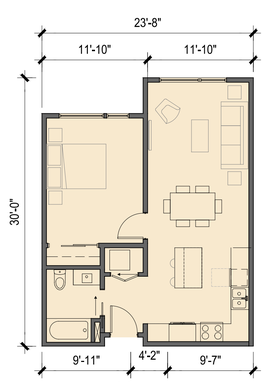
A1 - 1-BEDROOM + OFFICE
799 SF



A2 - 1-BEDROOM + OFFICE
752 SF



A3 - 1-BEDROOM
705 SF



A4 - 1-BEDROOM
660 SF

1
-

UNIT PLANS

1/8" = 1'-0" @ 24x36 1/16" = 1'-0" @ 11x17

0 2 4 8 16

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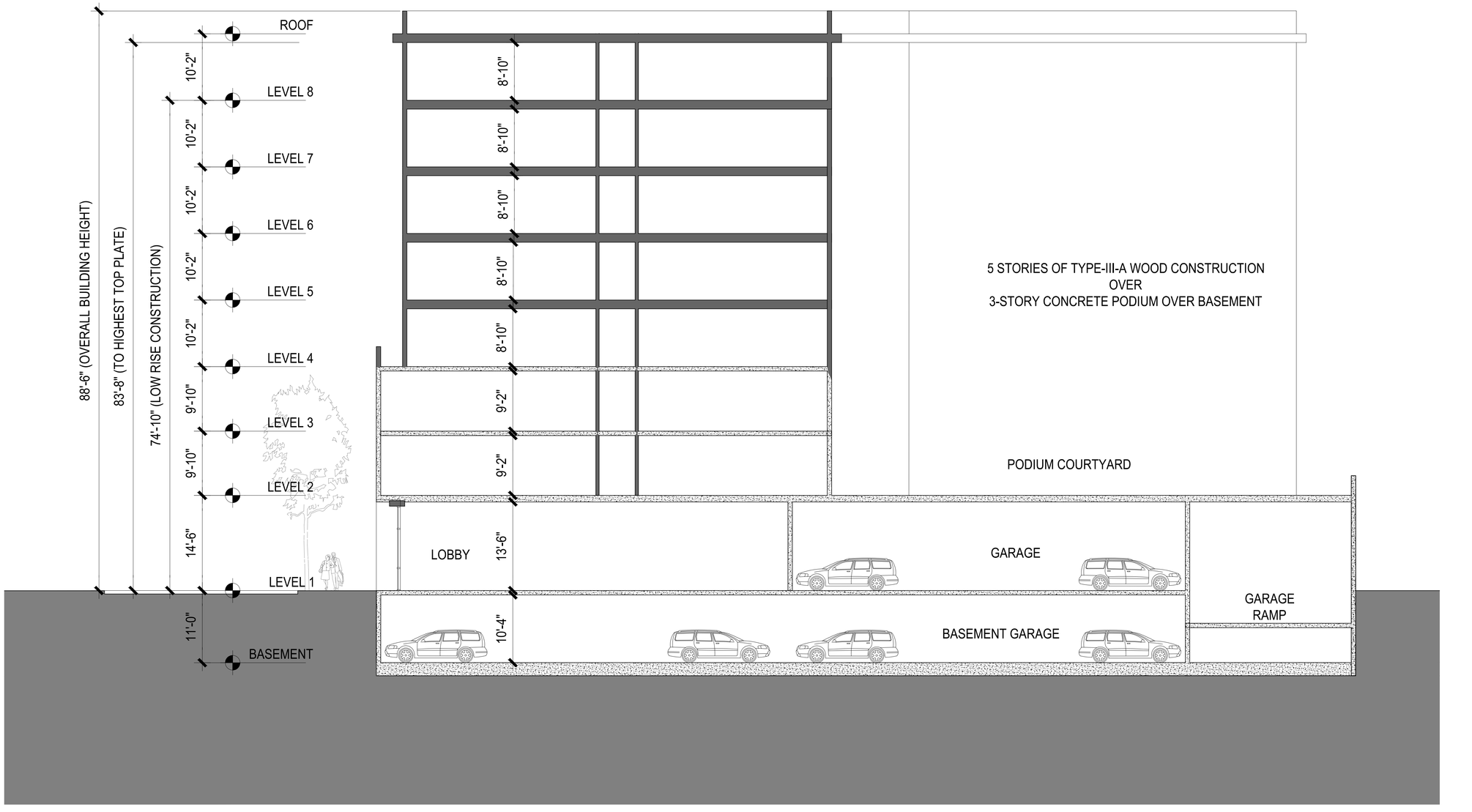
JOB: 2220

SHEET:

UNIT
PLANS

A2.10



1 - BUILDING SECTION - LOOKING NORTH

1/8" = 1'-0" @ 24x36 1/16" = 1'-0" @ 11x17

0 2 4 8 16

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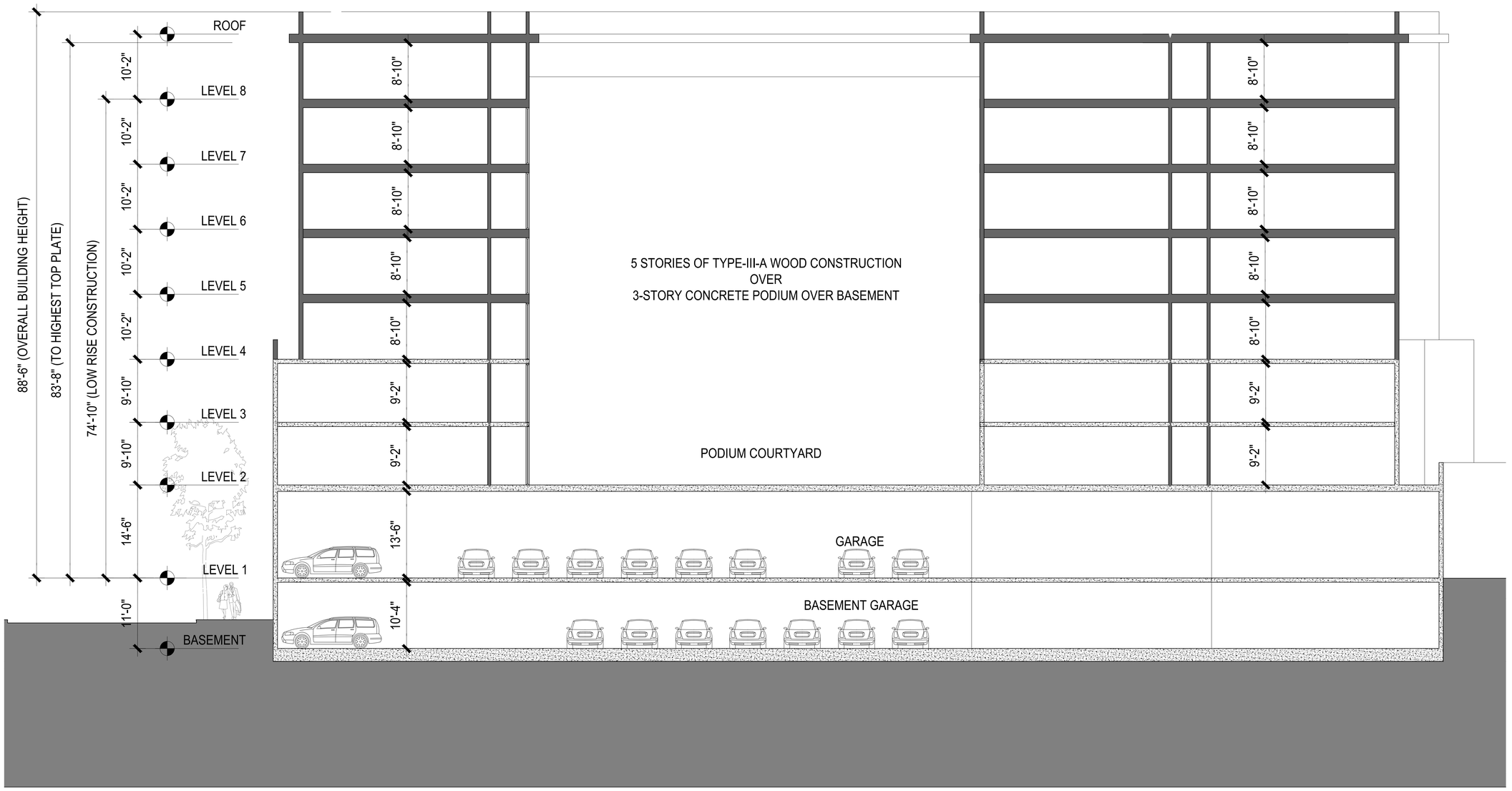
JOB: 2220

SHEET:

BUILDING
SECTION

A3.0



1 / - BUILDING SECTION - LOOKING WEST

1/8" = 1'-0" @ 24x36 1/16" = 1'-0" @ 11x17

0 2 4 8 16

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SHEET:

BUILDING SECTION

A3.1

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1
-

WEST ELEVATION

3/64"=1'-0" @ 11X17 3/32" = 1'-0" @ 24X36

0 4 8 16

JOB: 2220

SHEET:

WEST
ELEVATION

A3.2

1
-

SOUTH ELEVATION

3/64"=1'-0" @ 11X17 3/32" = 1'-0" @ 24X36

0 4 8 16

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SHEET:

SOUTH
ELEVATION

A3.3

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1
-

EAST ELEVATION

3/64"=1'-0" @ 11X17 3/32" = 1'-0" @ 24X36

0 4 8 16

JOB: 2220

SHEET:

EAST
ELEVATION

A3.4

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900 A STREET

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1
-

NORTH ELEVATION

3/64"=1'-0" @ 11X17 3/32" = 1'-0" @ 24X36

0 4 8 16

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JOB: 2220

SHEET:

NORTH
ELEVATION

A3.5

1
-

VIEW ALONG 3RD STREET - LOOKING EAST

-

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SHEET:

RENDERED
VIEWS

A3.6

1
-

VIEW AT 4TH AND A STREET - LOOKING SOUTH

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SHEET:

RENDERED
VIEWS

A3.7

1
-

VIEW ALONG A STREET - LOOKING NORTH

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SHEET:

RENDERED
VIEWS

A3.8

1 - VIEW ALONG 3RD STREET - LOOKING NORTHWEST

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SHEET:

RENDERED
VIEWS

A3.9

1
-

SIDEWALK VIEW AT 3RD AND A STREET - LOOKING WEST

-

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SHEET:

RENDERED
VIEWS

A3.10

1 - SIDEWALK VIEW AT 3RD AND A STREET - LOOKING NORTHEAST

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SHEET:

RENDERED
VIEWS

A3.11

1
-

WEST ELEVATION

1/16"=1'-0" @ 11X17 1/8" = 1'-0" @ 24X36

0 4 8 16

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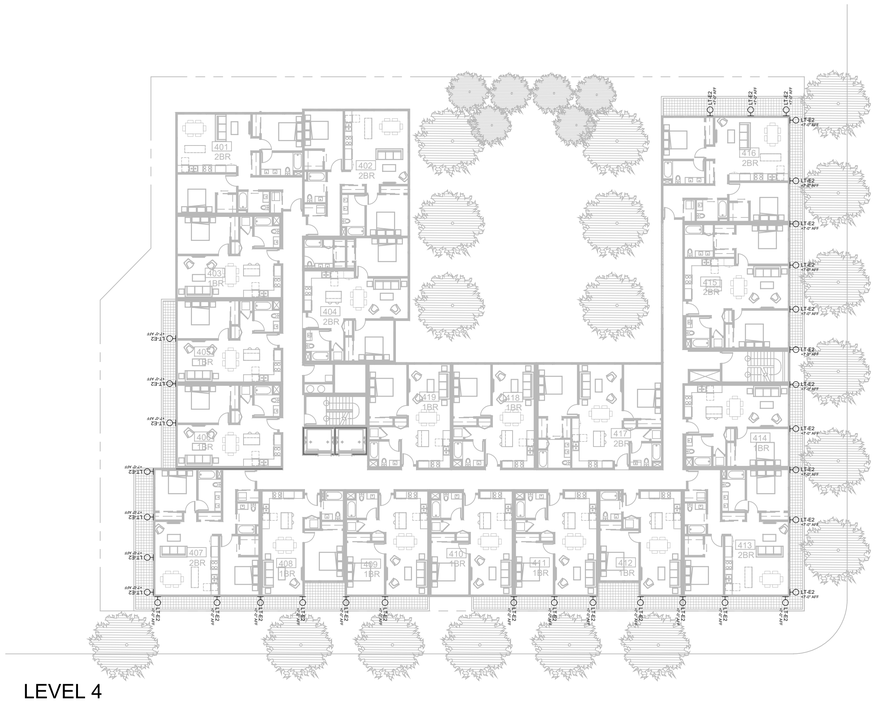
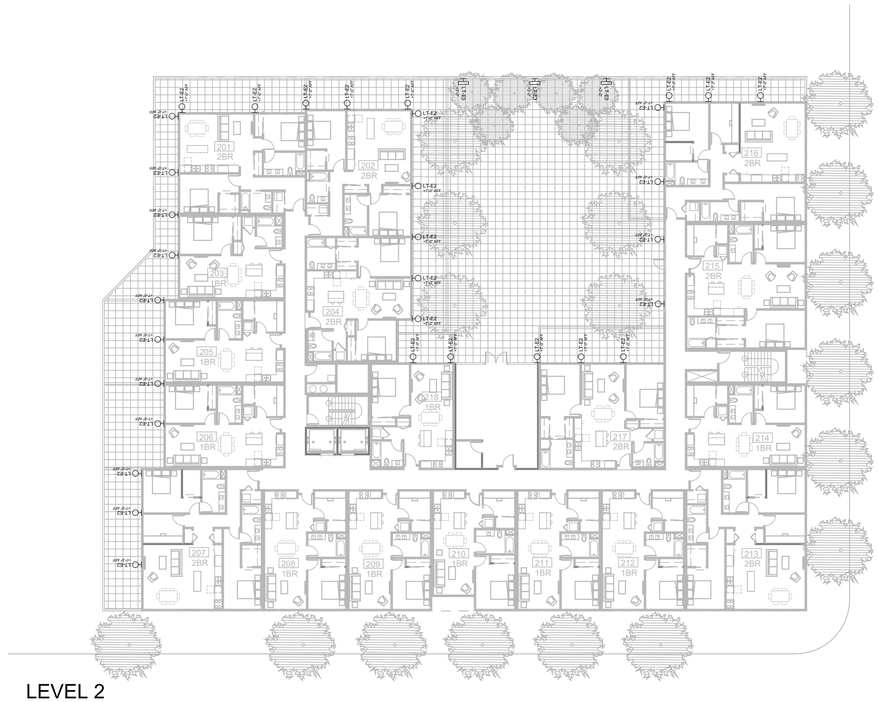
SHEET:

BUILDING
MATERIALS

MAT



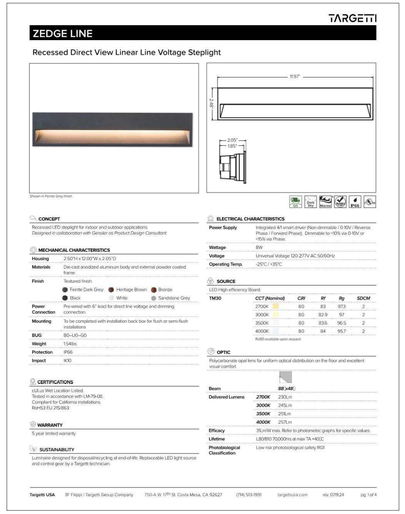
LEVEL 4



LEVEL 2

FIXTURE LT-E1

FIXTURE LT-E2



FIXTURE LT-E3

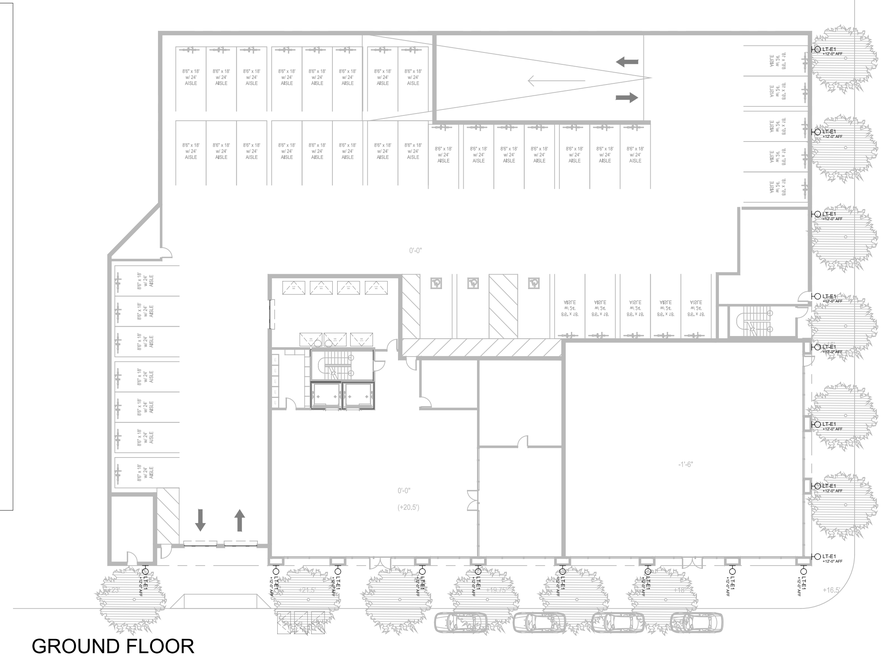
GENERAL NOTES:

1. LIGHTING FIXTURES SHALL BE APPROPRIATELY DESIGNED AND/OR SHIELDED TO CONCEAL LIGHT SOURCES FROM VIEW OFF-SITE AND AVOID SPILLOVER ONTO ADJACENT PROPERTIES.
2. THE FOOT-CANDLE INTENSITY OF LIGHTING SHOULD BE THE MINIMUM AMOUNT NECESSARY TO PROVIDE A SENSE OF SECURITY AT BUILDING ENTRYWAYS, WALKWAYS AND PARKING LOTS. IN GENERAL TERMS,ACCEPTABLE LIGHTING LEVELS WOULD PROVIDE ONE (1) FOOT-CANDLE GROUND LEVEL OVERLAP AT DOORWAYS, ONE-HALF (½)FOOT-CANDLE OVERLAP AT WALKWAYS AND PARKING LOTS, AND FALL BELOW ONE (1) FOOT-CANDLE AT THE PROPERTY LINE.

1
-

PRELIMINARY EXTERIOR LIGHTING SPECS

-



1
-

EXTERIOR LIGHTING PLANS

-

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SHEET:

EXTERIOR
LIGHTING
PLAN

LTG.1

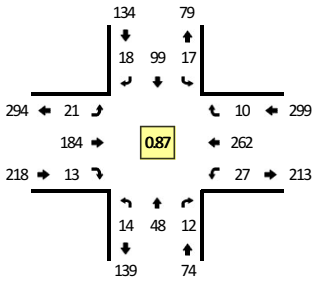
APPENDIX B | Traffic Volume Counts

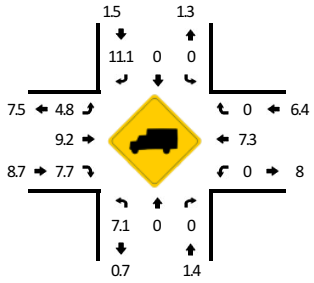
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

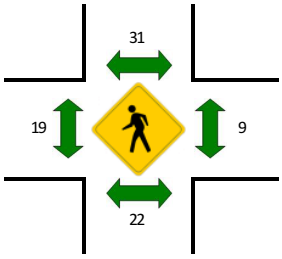
LOCATION: A St -- 4th St
CITY/STATE: San Rafael, CA

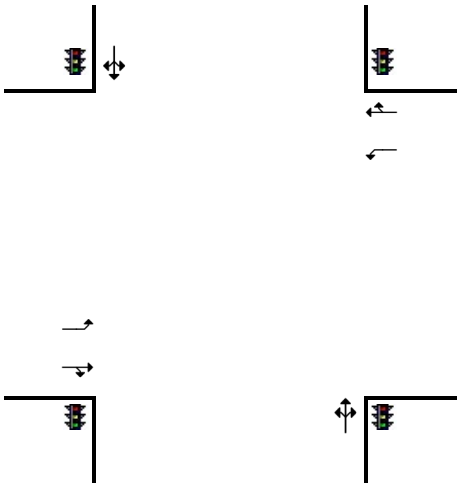
QC JOB #: 16908901
DATE: Wed, Feb 5 2025

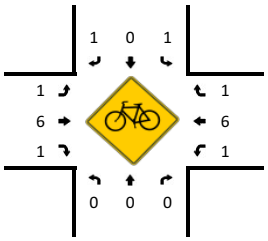
Peak-Hour: 7:50 AM -- 8:50 AM
Peak 15-Min: 7:55 AM -- 8:10 AM

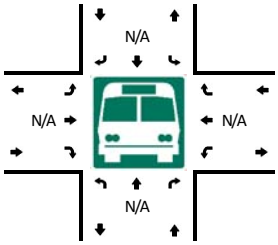


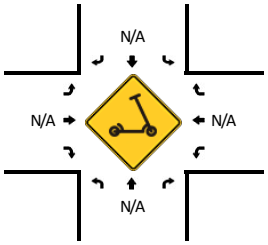












5-Min Count Period Beginning At	A St (Northbound)				A St (Southbound)				4th St (Eastbound)				4th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	2	1	0	0	1	0	0	0	8	1	0	0	5	0	0	20	
7:05 AM	1	2	2	0	1	3	0	0	2	2	1	0	2	9	0	0	25	
7:10 AM	0	0	1	0	0	0	1	0	0	9	0	0	0	9	1	0	21	
7:15 AM	0	1	1	0	0	0	0	0	1	3	1	0	0	4	0	0	11	
7:20 AM	2	4	0	0	0	0	0	0	0	10	1	0	0	8	0	0	25	
7:25 AM	1	0	2	0	0	5	0	0	0	6	0	0	0	22	0	0	36	
7:30 AM	2	6	0	0	0	1	1	0	1	13	1	0	0	8	0	0	33	
7:35 AM	0	0	1	0	1	2	0	0	4	10	3	0	0	14	0	0	35	
7:40 AM	0	2	1	0	1	5	1	0	4	9	0	0	0	8	1	0	32	
7:45 AM	4	5	2	0	0	5	0	0	1	7	0	0	0	20	0	0	44	
7:50 AM	2	6	1	0	1	4	0	0	1	21	1	0	3	19	0	0	59	
7:55 AM	0	3	1	0	6	11	0	0	5	18	0	0	3	29	1	0	77	418
8:00 AM	1	5	1	0	2	14	2	0	0	17	1	0	0	28	1	0	72	470
8:05 AM	2	4	0	0	1	11	3	0	2	11	0	0	3	22	1	0	60	505
8:10 AM	2	2	2	0	1	10	1	0	1	12	2	0	3	19	0	0	55	539
8:15 AM	0	5	3	0	2	12	2	0	2	21	3	0	1	14	1	0	66	594
8:20 AM	2	5	2	0	0	5	2	0	1	13	0	0	3	17	0	0	50	619
8:25 AM	0	3	2	0	0	5	1	0	1	12	1	0	1	19	1	0	46	629
8:30 AM	1	3	0	0	1	6	2	0	3	14	2	0	4	33	1	0	70	666
8:35 AM	0	5	0	0	3	7	3	0	1	14	2	0	3	21	3	0	62	693
8:40 AM	3	5	0	0	0	6	0	0	3	20	0	0	1	21	0	0	59	720
8:45 AM	1	2	0	0	0	8	2	0	1	11	1	0	2	20	1	0	49	725
8:50 AM	2	5	0	0	1	4	0	0	0	14	4	0	1	19	0	0	50	716
8:55 AM	0	6	1	0	0	4	0	0	1	12	1	0	1	21	0	0	47	686

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	12	48	8	0	36	144	20	0	28	184	4	0	24	316	12	0	836
Heavy Trucks	4	0	0		0	0	4		0	8	0		0	32	0		48
Buses																	
Pedestrians		16				28				8				20			72
Bicycles	0	0	0		0	0	0		4	0	0		0	4	0		8
Scooters																	

Comments:

Report generated on 2/11/2025 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

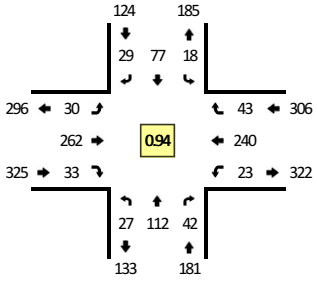
Type of peak hour being reported: Intersection Peak

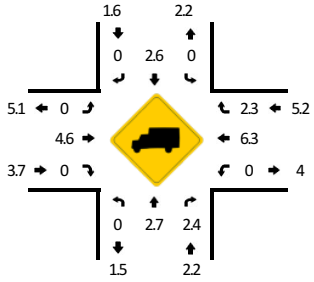
Method for determining peak hour: Total Entering Volume

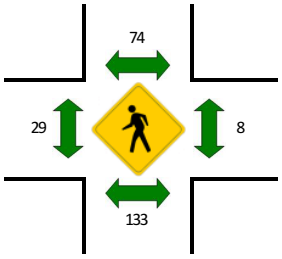
LOCATION: A St -- 4th St
CITY/STATE: San Rafael, CA

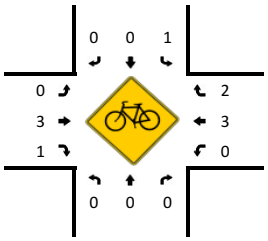
QC JOB #: 16908902
DATE: Wed, Feb 5 2025

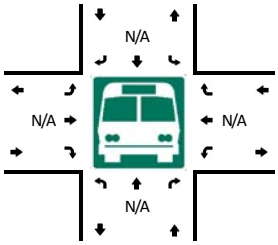
Peak-Hour: 4:10 PM -- 5:10 PM
Peak 15-Min: 4:10 PM -- 4:25 PM

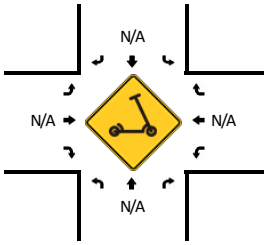












5-Min Count Period Beginning At	A St (Northbound)				A St (Southbound)				4th St (Eastbound)				4th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	7	4	0	2	3	2	0	5	25	4	0	3	18	1	0	76	
4:05 PM	1	5	4	0	0	6	3	0	3	19	3	0	3	17	1	0	65	
4:10 PM	3	11	4	0	0	6	2	0	4	22	3	0	0	24	1	0	80	
4:15 PM	1	16	3	0	7	10	2	0	0	17	5	0	3	23	2	0	89	
4:20 PM	1	9	2	0	1	8	2	0	1	26	2	0	2	18	7	0	79	
4:25 PM	4	9	1	0	1	3	5	0	4	21	1	0	3	16	6	0	74	
4:30 PM	1	5	2	0	0	6	2	0	2	29	3	0	3	18	1	0	72	
4:35 PM	1	3	0	0	4	4	3	0	4	18	3	0	0	20	5	0	65	
4:40 PM	4	12	6	0	0	8	2	0	1	22	1	0	2	7	4	0	69	
4:45 PM	4	8	2	0	1	7	1	0	4	20	5	0	1	20	3	0	76	
4:50 PM	2	9	6	0	0	10	3	0	3	26	2	0	4	25	5	0	95	
4:55 PM	2	9	6	0	1	0	1	0	2	18	2	0	1	24	3	0	69	909
5:00 PM	3	10	3	0	1	5	2	0	3	25	1	0	2	21	2	0	78	911
5:05 PM	1	11	7	0	2	10	4	0	2	18	5	0	2	24	4	0	90	936
5:10 PM	0	10	4	0	1	10	1	0	3	26	3	0	0	11	1	0	70	926
5:15 PM	4	13	6	0	1	3	1	0	2	18	7	0	2	21	1	0	79	916
5:20 PM	2	9	2	0	1	7	2	0	1	27	3	0	3	21	7	0	85	922
5:25 PM	0	8	1	0	0	1	5	0	2	22	3	0	0	26	3	0	71	919
5:30 PM	4	3	0	0	0	5	0	0	3	20	3	0	1	14	2	0	55	902
5:35 PM	2	5	4	0	2	10	1	0	4	22	1	0	3	24	1	0	79	916
5:40 PM	4	9	6	0	3	5	3	0	1	17	1	0	1	14	3	0	67	914
5:45 PM	5	5	3	0	0	6	2	0	1	19	2	0	2	19	0	0	64	902
5:50 PM	3	9	3	0	0	4	3	0	0	28	7	0	1	22	6	0	86	893
5:55 PM	2	5	1	0	1	5	2	0	2	19	1	0	4	18	0	0	60	884

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	144	36	0	32	96	24	0	20	260	40	0	20	260	40	0	992
Heavy Trucks	0	0	0		0	4	0		0	16	0		0	16	0		36
Buses																	
Pedestrians		164				104				48				16			332
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 2/11/2025 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

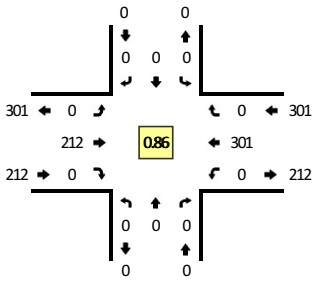
Type of peak hour being reported: Intersection Peak

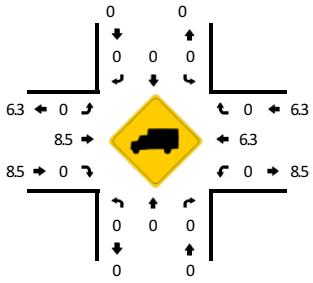
Method for determining peak hour: Total Entering Volume

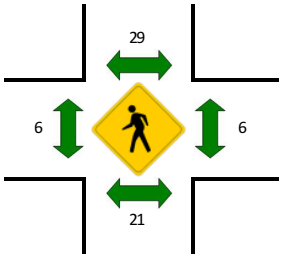
LOCATION: City Plaza -- 4th St
CITY/STATE: San Rafael, CA

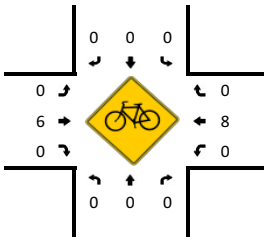
QC JOB #: 16908903
DATE: Wed, Feb 5 2025

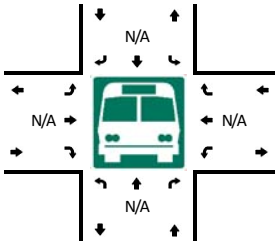
Peak-Hour: 7:50 AM -- 8:50 AM
Peak 15-Min: 7:50 AM -- 8:05 AM

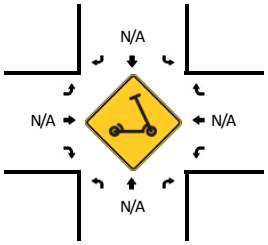












5-Min Count Period Beginning At	City Plaza (Northbound)				City Plaza (Southbound)				4th St (Eastbound)				4th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	0	9	0	0	0	6	0	0	15	
7:05 AM	0	0	0	0	0	0	0	0	0	5	0	0	0	10	0	0	15	
7:10 AM	0	0	0	0	0	0	0	0	0	10	0	0	0	11	0	0	21	
7:15 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	8	
7:20 AM	0	0	0	0	0	0	0	0	0	11	0	0	0	14	0	0	25	
7:25 AM	0	0	0	0	0	0	0	0	0	8	0	0	0	16	0	0	24	
7:30 AM	0	0	0	0	0	0	0	0	0	12	0	0	0	7	0	0	19	
7:35 AM	0	0	0	0	0	0	0	0	0	13	0	0	0	13	0	0	26	
7:40 AM	0	0	0	0	0	0	0	0	0	9	0	0	0	11	0	0	20	
7:45 AM	0	0	0	0	0	0	0	0	0	10	0	0	0	22	0	0	32	
7:50 AM	0	0	0	0	0	0	0	0	0	22	0	0	0	21	0	0	43	
7:55 AM	0	0	0	0	0	0	0	0	0	22	0	0	0	31	0	0	53	301
8:00 AM	0	0	0	0	0	0	0	0	0	24	0	0	0	30	0	0	54	340
8:05 AM	0	0	0	0	0	0	0	0	0	11	0	0	0	25	0	0	36	361
8:10 AM	0	0	0	0	0	0	0	0	0	16	0	0	0	23	0	0	39	379
8:15 AM	0	0	0	0	0	0	0	0	0	25	0	0	0	23	0	0	48	419
8:20 AM	0	0	0	0	0	0	0	0	0	16	0	0	0	13	0	0	29	423
8:25 AM	0	0	0	0	0	0	0	0	0	12	0	0	0	22	0	0	34	433
8:30 AM	0	0	0	0	0	0	0	0	0	16	0	0	0	37	0	0	53	467
8:35 AM	0	0	0	0	0	0	0	0	0	16	0	0	0	28	0	0	44	485
8:40 AM	0	0	0	0	0	0	0	0	0	21	0	0	0	21	0	0	42	507
8:45 AM	0	0	0	0	0	0	0	0	0	11	0	0	0	27	0	0	38	513
8:50 AM	0	0	0	0	0	0	0	0	0	12	0	0	0	19	0	0	31	501
8:55 AM	0	0	0	0	0	0	0	0	0	16	0	0	0	20	0	0	36	484

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	0	0	0	0	0	272	0	0	0	328	0	0	600
Heavy Trucks	0	0	0		0	0	0		0	20	0		0	28	0		48
Buses																	
Pedestrians		24				28				4				4			60
Bicycles	0	0	0		0	0	0		0	4	0		0	16	0		20
Scooters																	

Comments:

Report generated on 2/11/2025 3:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

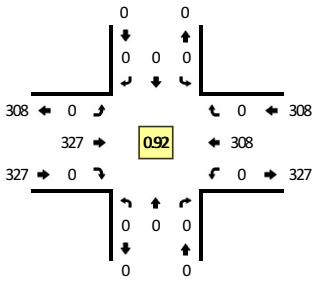
Type of peak hour being reported: Intersection Peak

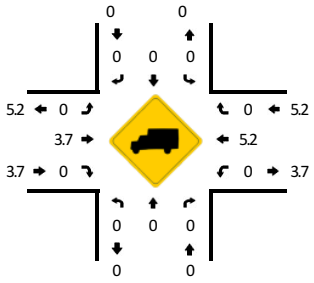
Method for determining peak hour: Total Entering Volume

LOCATION: City Plaza -- 4th St
CITY/STATE: San Rafael, CA

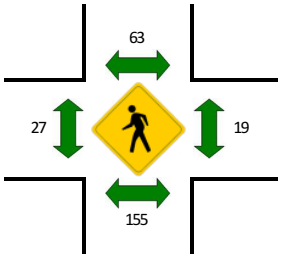
QC JOB #: 16908904
DATE: Wed, Feb 5 2025

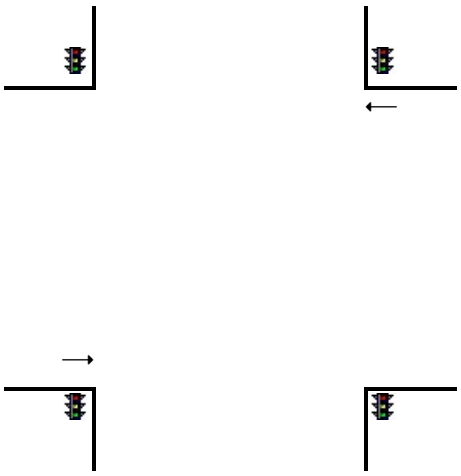
Peak-Hour: 4:10 PM -- 5:10 PM
Peak 15-Min: 4:10 PM -- 4:25 PM

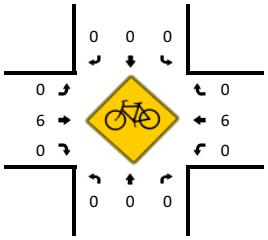


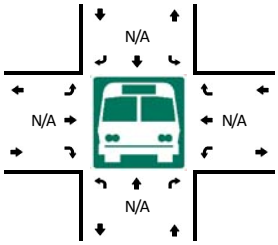


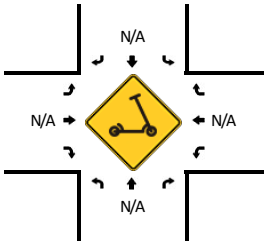
TRUE DATA TO IMPROVE MOBILITY











5-Min Count Period Beginning At	City Plaza (Northbound)				City Plaza (Southbound)				4th St (Eastbound)				4th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	0	0	0	0	0	29	0	0	0	22	0	0	51	
4:05 PM	0	0	0	0	0	0	0	0	0	24	0	0	0	20	0	0	44	
4:10 PM	0	0	0	0	0	0	0	0	0	23	0	0	0	28	0	0	51	
4:15 PM	0	0	0	0	0	0	0	0	0	27	0	0	0	31	0	0	58	
4:20 PM	0	0	0	0	0	0	0	0	0	34	0	0	0	29	0	0	63	
4:25 PM	0	0	0	0	0	0	0	0	0	21	0	0	0	19	0	0	40	
4:30 PM	0	0	0	0	0	0	0	0	0	30	0	0	0	20	0	0	50	
4:35 PM	0	0	0	0	0	0	0	0	0	28	0	0	0	27	0	0	55	
4:40 PM	0	0	0	0	0	0	0	0	0	30	0	0	0	15	0	0	45	
4:45 PM	0	0	0	0	0	0	0	0	0	22	0	0	0	27	0	0	49	
4:50 PM	0	0	0	0	0	0	0	0	0	28	0	0	0	32	0	0	60	
4:55 PM	0	0	0	0	0	0	0	0	0	28	0	0	0	27	0	0	55	621
5:00 PM	0	0	0	0	0	0	0	0	0	27	0	0	0	25	0	0	52	622
5:05 PM	0	0	0	0	0	0	0	0	0	29	0	0	0	28	0	0	57	635
5:10 PM	0	0	0	0	0	0	0	0	0	27	0	0	0	15	0	0	42	626
5:15 PM	0	0	0	0	0	0	0	0	0	24	0	0	0	26	0	0	50	618
5:20 PM	0	0	0	0	0	0	0	0	0	35	0	0	0	35	0	0	70	625
5:25 PM	0	0	0	0	0	0	0	0	0	17	0	0	0	19	0	0	36	621
5:30 PM	0	0	0	0	0	0	0	0	0	25	0	0	0	20	0	0	45	616
5:35 PM	0	0	0	0	0	0	0	0	0	27	0	0	0	26	0	0	53	614
5:40 PM	0	0	0	0	0	0	0	0	0	33	0	0	0	18	0	0	51	620
5:45 PM	0	0	0	0	0	0	0	0	0	21	0	0	0	24	0	0	45	616
5:50 PM	0	0	0	0	0	0	0	0	0	27	0	0	0	27	0	0	54	610
5:55 PM	0	0	0	0	0	0	0	0	0	24	0	0	0	21	0	0	45	600

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	0	0	0	0	0	336	0	0	0	352	0	0	688
Heavy Trucks	0	0	0		0	0	0		0	12	0		0	16	0		28
Buses																	
Pedestrians		196				52				32				32			312
Bicycles	0	0	0		0	0	0		0	12	0		0	0	0		12
Scooters																	

Comments:

Report generated on 2/11/2025 3:30 PM

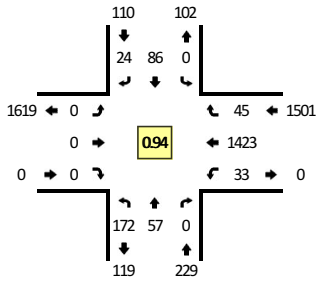
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

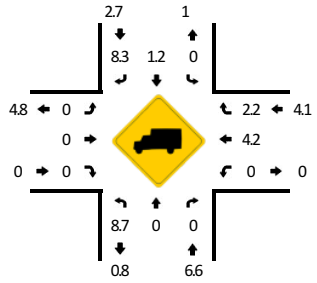
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: A St -- 3rd St
CITY/STATE: San Rafael, CA

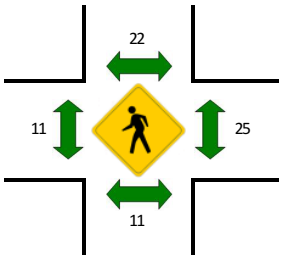
QC JOB #: 16908905
DATE: Wed, Feb 5 2025

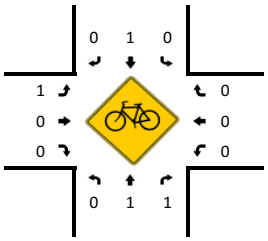
Peak-Hour: 7:55 AM -- 8:55 AM
Peak 15-Min: 8:25 AM -- 8:40 AM

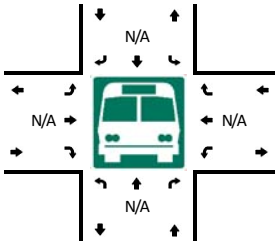


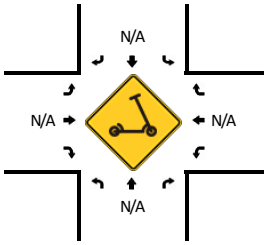


TRUE DATA TO IMPROVE MOBILITY









5-Min Count Period Beginning At	A St (Northbound)				A St (Southbound)				3rd St (Eastbound)				3rd St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	2	2	0	0	0	2	2	0	0	0	0	0	1	63	2	0	74	
7:05 AM	10	2	0	0	0	4	1	0	0	0	0	0	0	74	2	0	93	
7:10 AM	4	1	0	0	0	1	0	0	0	0	0	0	0	83	0	0	89	
7:15 AM	10	2	0	0	0	1	0	0	0	0	0	0	0	36	0	0	49	
7:20 AM	10	4	0	0	0	2	0	0	0	0	0	0	0	94	2	0	112	
7:25 AM	8	1	0	0	0	3	0	0	0	0	0	0	1	87	2	0	102	
7:30 AM	9	8	0	0	0	1	1	0	0	0	0	0	3	86	2	0	110	
7:35 AM	12	2	0	0	0	2	1	0	0	0	0	0	2	87	2	0	108	
7:40 AM	13	1	0	0	0	6	0	0	0	0	0	0	2	128	1	0	151	
7:45 AM	15	10	0	0	0	1	1	0	0	0	0	0	2	94	3	0	126	
7:50 AM	21	10	0	0	0	7	1	0	0	0	0	0	0	48	1	0	88	
7:55 AM	13	2	0	0	0	14	2	0	0	0	0	0	3	141	1	0	176	1278
8:00 AM	12	9	0	0	0	14	1	0	0	0	0	0	0	136	1	0	173	1377
8:05 AM	7	0	0	0	0	9	3	0	0	0	0	0	2	107	2	0	130	1414
8:10 AM	11	4	0	0	0	10	1	0	0	0	0	0	2	122	7	0	157	1482
8:15 AM	22	6	0	0	0	4	3	0	0	0	0	0	3	148	7	0	193	1626
8:20 AM	19	6	0	0	0	4	2	0	0	0	0	0	1	50	4	0	86	1600
8:25 AM	17	5	0	0	0	4	0	0	0	0	0	0	3	121	3	0	153	1651
8:30 AM	11	4	0	0	0	9	1	0	0	0	0	0	2	136	4	0	167	1708
8:35 AM	20	4	0	0	0	8	3	0	0	0	0	0	4	130	1	0	170	1770
8:40 AM	9	6	0	0	0	2	0	0	0	0	0	0	3	121	5	0	146	1765
8:45 AM	12	4	0	0	0	2	5	0	0	0	0	0	3	111	4	0	141	1780
8:50 AM	19	7	0	0	0	6	3	0	0	0	0	0	7	100	6	0	148	1840
8:55 AM	11	4	0	0	0	5	1	0	0	0	0	0	4	91	4	0	120	1784

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	192	52	0	0	0	84	16	0	0	0	0	0	36	1548	32	0	1960
Heavy Trucks	20	0	0		0	4	0		0	0	0		0	56	0		80
Buses																	
Pedestrians		20				40				16				28			104
Bicycles	0	0	0		0	4	0		0	0	0		0	0	0		4
Scooters																	

Comments:

Report generated on 2/11/2025 3:30 PM

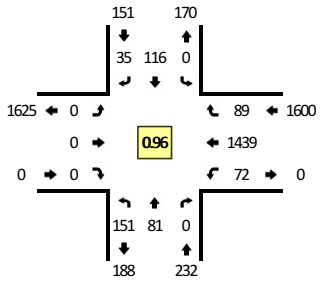
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

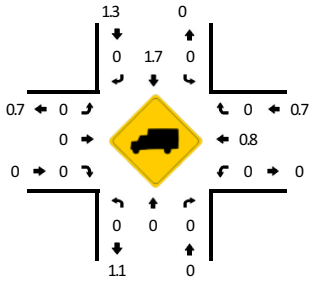
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

LOCATION: A St -- 3rd St
CITY/STATE: San Rafael, CA

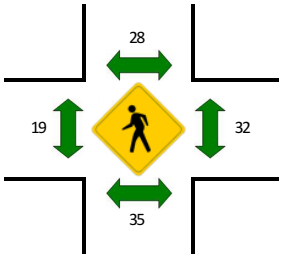
QC JOB #: 16908906
DATE: Wed, Feb 5 2025

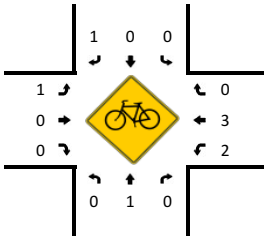
Peak-Hour: 4:50 PM -- 5:50 PM
Peak 15-Min: 5:25 PM -- 5:40 PM

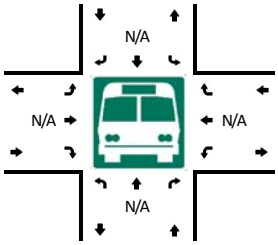


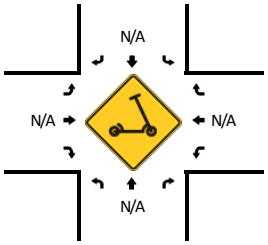


TRUE DATA TO IMPROVE MOBILITY









5-Min Count Period Beginning At	A St (Northbound)				A St (Southbound)				3rd St (Eastbound)				3rd St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	16	6	0	0	0	4	2	0	0	0	0	0	7	120	7	0	162	
4:05 PM	15	5	0	0	0	12	2	0	0	0	0	0	14	95	5	0	148	
4:10 PM	14	11	0	0	0	5	6	0	0	0	0	0	9	80	8	0	133	
4:15 PM	10	8	0	0	0	9	6	0	0	0	0	0	9	155	7	0	204	
4:20 PM	17	5	0	0	0	15	4	0	0	0	0	0	7	130	10	0	188	
4:25 PM	15	5	0	0	0	8	4	0	0	0	0	0	8	92	8	0	140	
4:30 PM	6	1	0	0	0	7	2	0	0	0	0	0	11	117	4	0	148	
4:35 PM	7	7	0	0	0	5	2	0	0	0	0	0	3	102	4	0	130	
4:40 PM	17	10	0	0	0	10	3	0	0	0	0	0	2	90	6	0	138	
4:45 PM	15	6	0	0	0	8	1	0	0	0	0	0	8	120	10	0	168	
4:50 PM	10	8	0	0	0	9	3	0	0	0	0	0	7	121	7	0	165	
4:55 PM	18	10	0	0	0	7	2	0	0	0	0	0	9	102	8	0	156	1880
5:00 PM	8	6	0	0	0	8	2	0	0	0	0	0	10	120	8	0	162	1880
5:05 PM	14	10	0	0	0	10	3	0	0	0	0	0	7	120	10	0	174	1906
5:10 PM	15	8	0	0	0	16	5	0	0	0	0	0	3	86	5	0	138	1911
5:15 PM	13	7	0	0	0	9	4	0	0	0	0	0	7	133	7	0	180	1887
5:20 PM	12	6	0	0	0	8	2	0	0	0	0	0	5	138	7	0	178	1877
5:25 PM	14	1	0	0	0	10	2	0	0	0	0	0	6	109	12	0	154	1891
5:30 PM	14	8	0	0	0	10	2	0	0	0	0	0	6	131	6	0	177	1920
5:35 PM	7	7	0	0	0	11	2	0	0	0	0	0	3	149	7	0	186	1976
5:40 PM	11	4	0	0	0	10	5	0	0	0	0	0	3	86	3	0	122	1960
5:45 PM	15	6	0	0	0	8	3	0	0	0	0	0	6	144	9	0	191	1983
5:50 PM	10	4	0	0	0	8	2	0	0	0	0	0	5	120	10	0	159	1977
5:55 PM	6	5	0	0	0	8	1	0	0	0	0	0	4	133	4	0	161	1982

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	140	64	0	0	0	124	24	0	0	0	0	0	60	1556	100	0	2068
Heavy Trucks	0	0	0		0	4	0		0	0	0		0	12	0		16
Buses																	
Pedestrians		28				12				32				28			100
Bicycles	0	0	0		0	0	0		0	0	0		4	0	0		4
Scooters																	

Comments:

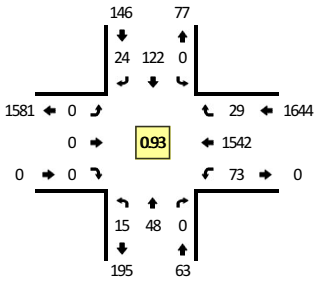
Report generated on 2/11/2025 3:30 PM

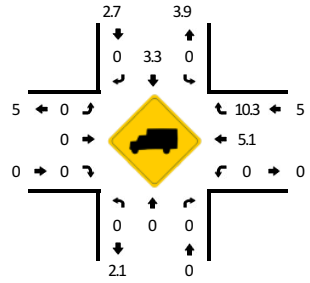
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

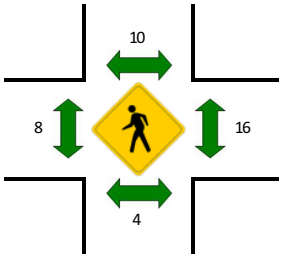
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

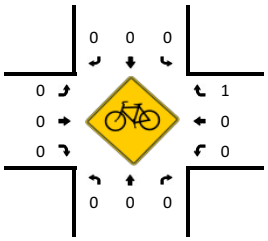
LOCATION: B St -- 3rd St | **QC JOB #:** 16908907
CITY/STATE: San Rafael, CA | **DATE:** Wed, Feb 5 2025

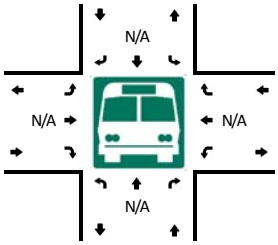
Peak-Hour: 7:55 AM -- 8:55 AM
Peak 15-Min: 8:30 AM -- 8:45 AM

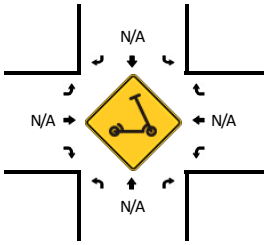












5-Min Count Period Beginning At	B St (Northbound)				B St (Southbound)				3rd St (Eastbound)				3rd St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	1	0	0	0	5	1	0	0	0	0	0	4	64	0	0	75	
7:05 AM	0	1	0	0	0	2	0	0	0	0	0	0	6	73	3	0	85	
7:10 AM	0	0	0	0	0	3	1	0	0	0	0	0	6	81	2	0	93	
7:15 AM	0	0	0	0	0	2	1	0	0	0	0	0	2	45	0	0	50	
7:20 AM	1	2	0	0	0	6	0	0	0	0	0	0	3	98	2	0	112	
7:25 AM	1	0	0	0	0	8	0	0	0	0	0	0	4	89	0	0	102	
7:30 AM	1	0	0	0	0	11	1	0	0	0	0	0	5	95	1	0	114	
7:35 AM	1	2	0	0	0	8	1	0	0	0	0	0	8	90	2	0	112	
7:40 AM	0	2	0	0	0	11	1	0	0	0	0	0	14	128	1	0	157	
7:45 AM	0	2	0	0	0	8	2	0	0	0	0	0	8	108	2	0	130	
7:50 AM	0	1	0	0	0	7	2	0	0	0	0	0	2	66	0	0	78	
7:55 AM	0	4	0	0	0	10	1	0	0	0	0	0	6	152	0	0	173	1281
8:00 AM	2	2	0	0	0	11	5	0	0	0	0	0	3	154	0	0	177	1383
8:05 AM	1	3	0	0	0	13	1	0	0	0	0	0	6	105	3	0	132	1430
8:10 AM	1	3	0	0	0	8	1	0	0	0	0	0	7	125	2	0	147	1484
8:15 AM	0	5	0	0	0	6	3	0	0	0	0	0	10	174	3	0	201	1635
8:20 AM	2	6	0	0	0	11	2	0	0	0	0	0	4	69	0	0	94	1617
8:25 AM	1	4	0	0	0	10	0	0	0	0	0	0	5	116	3	0	139	1654
8:30 AM	0	6	0	0	0	6	2	0	0	0	0	0	5	153	2	0	174	1714
8:35 AM	2	2	0	0	0	12	5	0	0	0	0	0	9	143	5	0	178	1780
8:40 AM	5	4	0	0	0	9	1	0	0	0	0	0	8	120	1	0	148	1771
8:45 AM	1	3	0	0	0	11	2	0	0	0	0	0	3	128	4	0	152	1793
8:50 AM	0	6	0	0	0	15	1	0	0	0	0	0	7	103	6	0	138	1853
8:55 AM	1	4	0	0	0	6	0	0	0	0	0	0	9	89	3	0	112	1792

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	28	48	0	0	0	108	32	0	0	0	0	0	88	1664	32	0	2000
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	88	4		92
Buses																	
Pedestrians		4				12				4				24			44
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

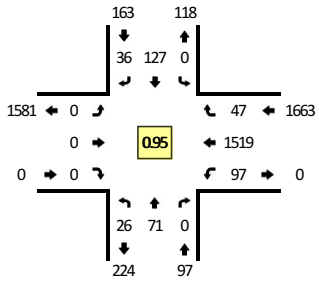
Report generated on 2/11/2025 3:30 PM | SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

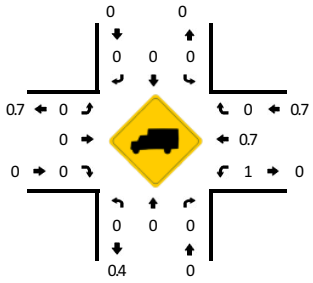
LOCATION: B St -- 3rd St
CITY/STATE: San Rafael, CA

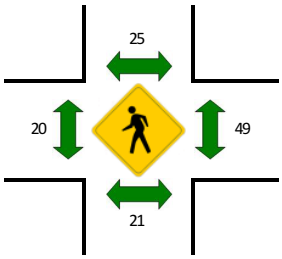
QC JOB #: 16908908
DATE: Wed, Feb 5 2025

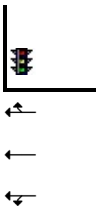
Peak-Hour: 5:00 PM -- 6:00 PM
Peak 15-Min: 5:45 PM -- 6:00 PM

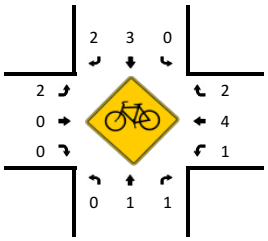


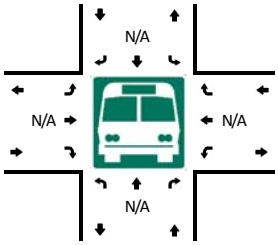
TRUE DATA TO IMPROVE MOBILITY

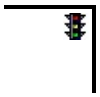


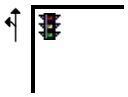


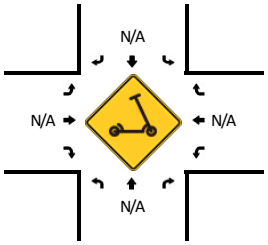












5-Min Count Period Beginning At	B St (Northbound)				B St (Southbound)				3rd St (Eastbound)				3rd St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	6	0	0	0	16	2	0	0	0	0	0	10	135	5	0	174	
4:05 PM	0	2	0	0	0	10	3	0	0	0	0	0	9	106	1	0	131	
4:10 PM	3	4	0	0	0	16	4	0	0	0	0	0	11	90	2	0	130	
4:15 PM	2	5	0	0	0	10	3	0	0	0	0	0	13	155	6	0	194	
4:20 PM	3	3	0	0	0	12	3	0	0	0	0	0	7	158	0	0	186	
4:25 PM	0	2	0	0	0	18	2	0	0	0	0	0	7	108	2	0	139	
4:30 PM	1	2	0	0	0	12	5	0	0	0	0	0	17	108	2	0	147	
4:35 PM	3	3	0	0	0	10	1	0	0	0	0	0	8	110	1	0	136	
4:40 PM	3	10	0	0	0	7	4	0	0	0	0	0	4	106	4	0	138	
4:45 PM	2	9	0	0	0	12	2	0	0	0	0	0	10	131	1	0	167	
4:50 PM	2	1	0	0	0	9	4	0	0	0	0	0	11	119	3	0	149	
4:55 PM	3	4	0	0	0	10	5	0	0	0	0	0	17	113	2	0	154	1845
5:00 PM	3	3	0	0	0	12	3	0	0	0	0	0	9	120	3	0	153	1824
5:05 PM	2	3	0	0	0	16	0	0	0	0	0	0	9	135	4	0	169	1862
5:10 PM	3	11	0	0	0	18	3	0	0	0	0	0	9	85	2	0	131	1863
5:15 PM	2	8	0	0	0	8	3	0	0	0	0	0	8	142	3	0	174	1843
5:20 PM	1	6	0	0	0	9	3	0	0	0	0	0	13	140	3	0	175	1832
5:25 PM	1	5	0	0	0	17	4	0	0	0	0	0	3	116	5	0	151	1844
5:30 PM	1	4	0	0	0	2	4	0	0	0	0	0	10	131	5	0	157	1854
5:35 PM	1	5	0	0	0	9	7	0	0	0	0	0	12	142	7	0	183	1901
5:40 PM	3	7	0	0	0	11	1	0	0	0	0	0	4	94	5	0	125	1888
5:45 PM	2	3	0	0	0	7	3	0	0	0	0	0	8	152	3	0	178	1899
5:50 PM	4	5	0	0	0	8	1	0	0	0	0	0	5	127	3	0	153	1903
5:55 PM	3	11	0	0	0	10	4	0	0	0	0	0	7	135	4	0	174	1923

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	36	76	0	0	0	100	32	0	0	0	0	0	80	1656	40	0	2020
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	4	0		4
Buses																	
Pedestrians		28				48				12				52			140
Bicycles	0	0	0		0	4	0		0	0	0		0	0	0		4
Scooters																	

Comments:

Report generated on 2/11/2025 3:30 PM

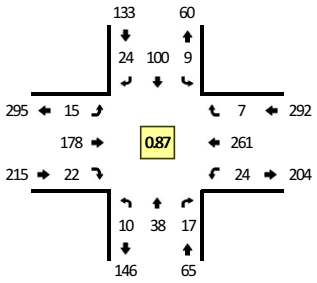
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

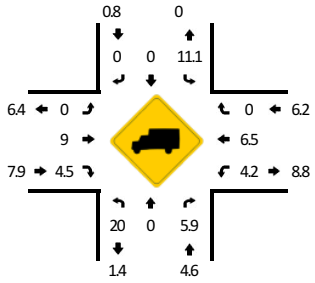
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

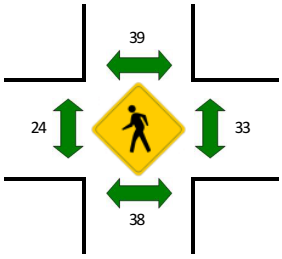
LOCATION: B St -- 4th St
CITY/STATE: San Rafael, CA

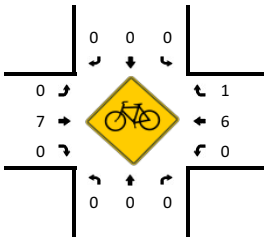
QC JOB #: 16908909
DATE: Wed, Feb 12 2025

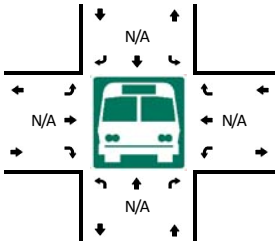
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:35 AM -- 8:50 AM

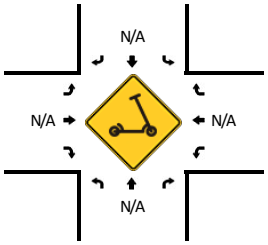












5-Min Count Period Beginning At	B St (Northbound)				B St (Southbound)				4th St (Eastbound)				4th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	1	0	0	0	3	2	0	0	4	0	0	0	7	2	0	19	
7:05 AM	1	1	0	0	2	3	0	0	0	6	1	0	0	5	1	0	20	
7:10 AM	0	2	2	0	0	1	0	0	1	6	0	0	1	9	0	0	22	
7:15 AM	0	1	0	0	0	4	0	0	0	8	1	0	3	5	1	0	23	
7:20 AM	1	1	3	0	1	2	4	0	0	5	1	0	1	15	0	0	34	
7:25 AM	0	1	0	0	3	2	2	0	2	6	1	0	1	23	2	0	43	
7:30 AM	1	0	0	0	2	8	0	0	0	14	3	0	1	13	0	0	42	
7:35 AM	0	1	0	0	2	5	0	0	1	14	1	0	3	17	1	0	45	
7:40 AM	0	0	1	0	0	7	1	0	0	15	1	0	1	13	0	0	39	
7:45 AM	1	1	1	0	2	5	2	0	0	11	2	0	2	11	0	0	38	
7:50 AM	1	2	0	0	2	6	5	0	0	10	0	0	4	12	0	0	42	
7:55 AM	0	2	0	0	0	7	3	0	1	15	1	0	2	24	1	0	56	423
8:00 AM	1	4	2	0	0	7	2	0	0	10	1	0	1	29	1	0	58	462
8:05 AM	2	0	0	0	0	5	0	0	1	16	2	0	1	22	0	0	49	491
8:10 AM	1	5	3	0	0	6	2	0	1	7	2	0	6	27	1	0	61	530
8:15 AM	1	5	1	0	3	9	0	0	2	14	2	0	2	18	1	0	58	565
8:20 AM	0	6	0	0	2	7	0	0	1	13	0	0	1	11	0	0	41	572
8:25 AM	0	2	2	0	0	9	4	0	1	16	1	0	2	22	2	0	61	590
8:30 AM	0	1	3	0	0	8	5	0	0	10	3	0	1	23	1	0	55	603
8:35 AM	1	2	1	0	0	10	4	0	1	17	4	0	2	34	0	0	76	634
8:40 AM	0	6	1	0	0	10	2	0	5	18	5	0	0	18	0	0	65	660
8:45 AM	3	4	2	0	1	10	2	0	0	17	2	0	0	20	0	0	61	683
8:50 AM	1	3	0	0	1	11	1	0	2	16	0	0	3	21	0	0	59	700
8:55 AM	0	0	2	0	2	8	2	0	1	24	0	0	5	16	1	0	61	705

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	16	48	16	0	4	120	32	0	24	208	44	0	8	288	0	0	808
Heavy Trucks	0	0	0		0	0	0		0	20	4		0	16	0		40
Buses																	
Pedestrians		68				44				32				52			196
Bicycles	0	0	0		0	0	0		0	8	0		0	4	0		12
Scooters																	

Comments:

Report generated on 2/13/2025 3:16 PM

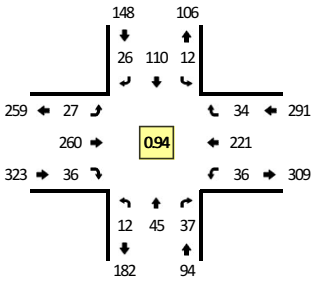
SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

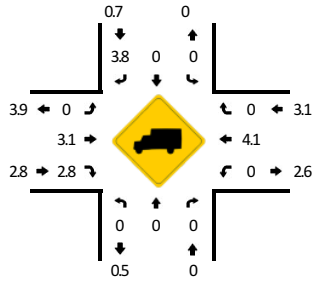
Type of peak hour being reported: Intersection Peak | Method for determining peak hour: Total Entering Volume

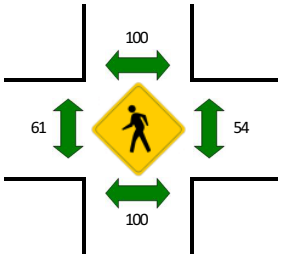
LOCATION: B St -- 4th St
CITY/STATE: San Rafael, CA

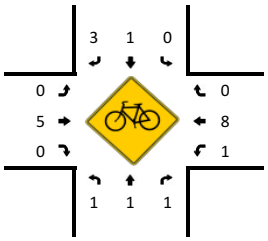
QC JOB #: 16908910
DATE: Wed, Feb 12 2025

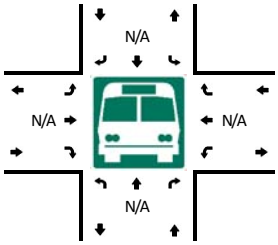
Peak-Hour: 4:55 PM -- 5:55 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

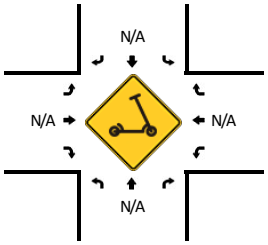












5-Min Count Period Beginning At	B St (Northbound)				B St (Southbound)				4th St (Eastbound)				4th St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	2	2	5	0	0	10	1	0	1	27	6	0	2	22	5	0	83	
4:05 PM	2	2	6	0	1	11	0	0	4	24	3	0	3	10	2	0	68	
4:10 PM	2	2	3	0	0	10	3	0	3	19	5	0	3	23	5	0	78	
4:15 PM	4	4	2	0	1	10	2	0	2	24	3	0	1	25	3	0	81	
4:20 PM	1	7	0	0	1	13	3	0	1	19	6	0	5	17	3	0	76	
4:25 PM	2	2	3	0	2	7	2	0	0	21	1	0	2	18	2	0	62	
4:30 PM	0	3	4	0	0	9	1	0	2	22	2	0	2	18	2	0	65	
4:35 PM	0	3	1	0	1	8	1	0	0	13	4	0	2	15	1	2	51	
4:40 PM	0	3	2	0	0	9	1	0	5	24	2	0	3	18	1	0	68	
4:45 PM	4	1	3	0	0	6	1	0	2	20	3	0	5	21	1	0	67	
4:50 PM	0	2	5	0	1	3	2	0	0	16	3	0	1	18	3	0	54	
4:55 PM	1	2	2	0	3	11	3	0	1	19	6	0	4	20	3	0	75	828
5:00 PM	0	2	3	0	1	15	2	0	2	19	2	0	3	23	2	0	74	819
5:05 PM	1	3	2	0	0	6	1	0	3	25	2	0	1	13	2	0	59	810
5:10 PM	0	2	2	0	1	9	1	0	1	16	5	0	0	22	1	0	60	792
5:15 PM	1	5	8	0	2	14	3	0	1	23	4	0	3	21	2	0	87	798
5:20 PM	0	4	5	0	0	9	2	0	2	16	3	0	4	15	3	0	63	785
5:25 PM	1	5	1	0	0	7	3	0	6	29	1	0	0	22	3	0	78	801
5:30 PM	2	5	4	0	1	6	5	0	3	19	3	0	8	15	5	0	76	812
5:35 PM	2	3	2	0	1	4	1	0	3	24	3	0	2	11	4	0	60	821
5:40 PM	3	5	0	0	1	8	2	0	3	25	1	0	4	18	2	0	72	825
5:45 PM	1	4	3	0	1	11	2	0	0	23	3	0	2	19	3	0	72	830
5:50 PM	0	5	5	0	1	10	1	0	2	22	3	0	5	22	4	0	80	856
5:55 PM	0	3	2	0	1	3	1	0	4	20	2	0	2	18	4	0	60	841

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	56	56	0	8	120	32	0	36	272	32	0	28	232	32	0	912
Heavy Trucks	0	0	0		0	0	0		0	16	0		0	8	0		24
Buses																	
Pedestrians		92				120				48				60			320
Bicycles	4	0	0		0	4	0		0	4	0		0	0	0		12
Scooters																	

Comments:

Report generated on 2/13/2025 3:16 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

APPENDIX C | Existing Conditions Synchro Reports

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	184	13	27	262	10	14	48	12	18	99	17
Future Volume (vph)	21	184	13	27	262	10	14	48	12	18	99	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6		4.6	4.6			4.6			4.6	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		0.98	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.98			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	1844		1760	1766			1797			1812	
Flt Permitted	0.53	1.00		0.61	1.00			0.94			0.96	
Satd. Flow (perm)	993	1844		1133	1766			1713			1757	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	24	211	15	31	301	11	16	55	14	21	114	20
RTOR Reduction (vph)	0	3	0	0	2	0	0	9	0	0	7	0
Lane Group Flow (vph)	24	223	0	31	310	0	0	76	0	0	148	0
Confl. Peds. (#/hr)				22		31	19		9	9		19
Confl. Bikes (#/hr)						1			7			6
Heavy Vehicles (%)	2%	2%	2%	0%	7%	0%	7%	0%	0%	0%	0%	11%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	40.4	40.4		40.4	40.4			25.4			25.4	
Effective Green, g (s)	40.4	40.4		40.4	40.4			25.4			25.4	
Actuated g/C Ratio	0.54	0.54		0.54	0.54			0.34			0.34	
Clearance Time (s)	4.6	4.6		4.6	4.6			4.6			4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			2.0			2.0	
Lane Grp Cap (vph)	534	993		610	951			580			595	
v/s Ratio Prot		0.12			c0.18							
v/s Ratio Perm	0.02			0.03				0.04			c0.08	
v/c Ratio	0.04	0.22		0.05	0.33			0.13			0.25	
Uniform Delay, d1	8.2	9.1		8.2	9.7			17.2			17.9	
Progression Factor	0.60	0.55		0.74	0.64			1.00			1.00	
Incremental Delay, d2	0.2	0.5		0.2	0.9			0.5			1.0	
Delay (s)	5.1	5.5		6.2	7.1			17.6			18.9	
Level of Service	A	A		A	A			B			B	
Approach Delay (s/veh)		5.4			7.0			17.6			18.9	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.2
Intersection Capacity Utilization	50.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	212	0	0	301	0	0
Future Volume (vph)	212	0	0	301	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6			4.6		
Lane Util. Factor	1.00			1.00		
Frpb, ped/bikes	1.00			1.00		
Flpb, ped/bikes	1.00			1.00		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	1743			1792		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	1743			1792		
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.92	0.92
Adj. Flow (vph)	247	0	0	350	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	247	0	0	350	0	0
Confl. Peds. (#/hr)		21	21		6	6
Heavy Vehicles (%)	9%	9%	6%	6%	0%	0%
Turn Type	NA			NA		
Protected Phases	2			2		
Permitted Phases						
Actuated Green, G (s)	45.4			45.4		
Effective Green, g (s)	45.4			45.4		
Actuated g/C Ratio	0.61			0.61		
Clearance Time (s)	4.6			4.6		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	1055			1084		
v/s Ratio Prot	0.14			c0.20		
v/s Ratio Perm						
v/c Ratio	0.23			0.32		
Uniform Delay, d1	6.8			7.3		
Progression Factor	0.44			1.00		
Incremental Delay, d2	0.5			0.8		
Delay (s)	3.5			8.0		
Level of Service	A			A		
Approach Delay (s/veh)	3.5			8.0	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	33	1423	45	172	57	0	0	86	24
Future Volume (vph)	0	0	0	33	1423	45	172	57	0	0	86	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.6		4.5	4.6			4.6	
Lane Util. Factor					0.91		1.00	1.00			1.00	
Frpb, ped/bikes					1.00		1.00	1.00			0.99	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					1.00		1.00	1.00			0.97	
Flt Protected					1.00		0.95	1.00			1.00	
Satd. Flow (prot)					5046		1770	1863			1797	
Flt Permitted					1.00		0.95	1.00			1.00	
Satd. Flow (perm)					5046		1770	1863			1797	
Peak-hour factor, PHF	0.92	0.92	0.92	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	35	1514	48	183	61	0	0	91	26
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	0	0	0	1594	0	183	61	0	0	106	0
Confl. Peds. (#/hr)	22		11	11		22	11		25	25		11
Confl. Bikes (#/hr)			1			1			1			
Turn Type				Perm	NA		Prot	NA			NA	
Protected Phases					6		3	8			4	
Permitted Phases				6								
Actuated Green, G (s)					45.4		7.5	35.4			23.4	
Effective Green, g (s)					45.4		7.5	35.4			23.4	
Actuated g/C Ratio					0.50		0.08	0.39			0.26	
Clearance Time (s)					4.6		4.5	4.6			4.6	
Vehicle Extension (s)					3.0		5.0	2.0			2.0	
Lane Grp Cap (vph)					2545		147	732			467	
v/s Ratio Prot							c0.10	0.03			c0.06	
v/s Ratio Perm					0.32							
v/c Ratio					0.63		1.24	0.08			0.23	
Uniform Delay, d1					16.2		41.3	17.1			26.2	
Progression Factor					1.00		1.00	1.00			1.00	
Incremental Delay, d2					1.2		154.6	0.2			1.1	
Delay (s)					17.3		195.8	17.3			27.3	
Level of Service					B		F	B			C	
Approach Delay (s/veh)		0.0			17.3			151.2			27.3	
Approach LOS		A			B			F			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	34.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.7
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	73	1542	29	15	48	0	0	122	24
Future Volume (vph)	0	0	0	73	1542	29	15	48	0	0	122	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.91			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			1.00	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					1.00			1.00			0.98	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					5055			1838			1814	
Flt Permitted					1.00			0.93			1.00	
Satd. Flow (perm)					5055			1720			1814	
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	78	1658	31	16	52	0	0	131	26
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	0	0	0	1765	0	0	68	0	0	149	0
Confl. Peds. (#/hr)				4		10	8		16	16		8
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			4			4	
Permitted Phases				2			4					
Actuated Green, G (s)					55.0			25.0			25.0	
Effective Green, g (s)					55.0			25.0			25.0	
Actuated g/C Ratio					0.61			0.28			0.28	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					3089			477			503	
v/s Ratio Prot											c0.08	
v/s Ratio Perm					0.35			0.04				
v/c Ratio					0.57			0.14			0.30	
Uniform Delay, d1					10.5			24.4			25.6	
Progression Factor					0.25			1.00			1.00	
Incremental Delay, d2					0.6			0.6			1.5	
Delay (s)					3.2			25.1			27.1	
Level of Service					A			C			C	
Approach Delay (s/veh)		0.0			3.2			25.1			27.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	5.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	178	22	24	261	7	10	38	17	9	100	24
Future Volume (vph)	15	178	22	24	261	7	10	38	17	9	100	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6		4.6	4.6			5.1			5.1	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes		0.99		1.00	1.00			0.98			0.99	
Flpb, ped/bikes		1.00		0.96	1.00			1.00			1.00	
Frt		0.99		1.00	1.00			0.96			0.98	
Flt Protected		1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)		1813		1707	1852			1734			1784	
Flt Permitted		0.97		0.61	1.00			0.96			0.99	
Satd. Flow (perm)		1769		1099	1852			1675			1763	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	17	205	25	28	300	8	11	44	20	10	115	28
RTOR Reduction (vph)	0	6	0	0	1	0	0	13	0	0	11	0
Lane Group Flow (vph)	0	241	0	28	307	0	0	62	0	0	142	0
Confl. Peds. (#/hr)	39		38	38		39	24		33	33		24
Confl. Bikes (#/hr)			1						7			
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		40.4		40.4	40.4			24.9			24.9	
Effective Green, g (s)		40.4		40.4	40.4			24.9			24.9	
Actuated g/C Ratio		0.54		0.54	0.54			0.33			0.33	
Clearance Time (s)		4.6		4.6	4.6			5.1			5.1	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		952		591	997			556			585	
v/s Ratio Prot					c0.17							
v/s Ratio Perm		0.14		0.03				0.04			c0.08	
v/c Ratio		0.25		0.05	0.31			0.11			0.24	
Uniform Delay, d1		9.2		8.2	9.6			17.4			18.2	
Progression Factor		1.00		0.65	0.57			1.00			1.00	
Incremental Delay, d2		0.6		0.1	0.8			0.4			1.0	
Delay (s)		9.9		5.5	6.3			17.8			19.2	
Level of Service		A		A	A			B			B	
Approach Delay (s/veh)		9.9			6.2			17.8			19.2	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.7
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

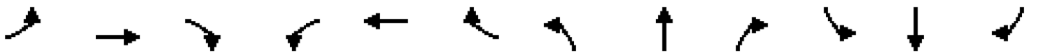
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	262	33	23	240	43	27	112	42	18	77	29
Future Volume (vph)	30	262	33	23	240	43	27	112	42	18	77	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6		4.6	4.6			4.6			4.6	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.98			0.99			0.98	
Flpb, ped/bikes	0.93	1.00		0.88	1.00			0.99			1.00	
Frt	1.00	0.98		1.00	0.98			0.97			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1648	1786		1587	1718			1782			1752	
Flt Permitted	0.52	1.00		0.51	1.00			0.95			0.94	
Satd. Flow (perm)	905	1786		851	1718			1698			1668	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	34	301	38	26	276	49	31	129	48	21	89	33
RTOR Reduction (vph)	0	6	0	0	8	0	0	15	0	0	15	0
Lane Group Flow (vph)	34	333	0	26	317	0	0	193	0	0	128	0
Confl. Peds. (#/hr)	74		133	133		74	29		8	8		29
Confl. Bikes (#/hr)									7			3
Heavy Vehicles (%)	2%	2%	2%	0%	7%	0%	7%	0%	0%	0%	0%	11%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	40.4	40.4		40.4	40.4			25.4			25.4	
Effective Green, g (s)	40.4	40.4		40.4	40.4			25.4			25.4	
Actuated g/C Ratio	0.54	0.54		0.54	0.54			0.34			0.34	
Clearance Time (s)	4.6	4.6		4.6	4.6			4.6			4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			2.0			2.0	
Lane Grp Cap (vph)	487	962		458	925			575			564	
v/s Ratio Prot		c0.19			0.18							
v/s Ratio Perm	0.04			0.03				c0.11			0.08	
v/c Ratio	0.07	0.35		0.06	0.34			0.34			0.23	
Uniform Delay, d1	8.3	9.8		8.2	9.8			18.5			17.8	
Progression Factor	0.61	0.52		0.16	0.22			1.00			1.00	
Incremental Delay, d2	0.3	0.9		0.2	1.0			1.6			0.9	
Delay (s)	5.4	6.1		1.6	3.1			20.1			18.7	
Level of Service	A	A		A	A			C			B	
Approach Delay (s/veh)		6.0			3.0			20.1			18.7	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.2
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	327	0	0	308	0	0
Future Volume (vph)	327	0	0	308	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6			4.6		
Lane Util. Factor	1.00			1.00		
Frpb, ped/bikes	1.00			1.00		
Flpb, ped/bikes	1.00			1.00		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	1863			1863		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	1863			1863		
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.92	0.92
Adj. Flow (vph)	380	0	0	358	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	380	0	0	358	0	0
Confl. Peds. (#/hr)		19	27			
Turn Type	NA			NA		
Protected Phases	2			2		
Permitted Phases						
Actuated Green, G (s)	45.4			45.4		
Effective Green, g (s)	45.4			45.4		
Actuated g/C Ratio	0.61			0.61		
Clearance Time (s)	4.6			4.6		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	1127			1127		
v/s Ratio Prot	c0.20			0.19		
v/s Ratio Perm						
v/c Ratio	0.34			0.32		
Uniform Delay, d1	7.3			7.2		
Progression Factor	0.68			1.00		
Incremental Delay, d2	0.8			0.7		
Delay (s)	5.8			8.0		
Level of Service	A			A		
Approach Delay (s/veh)	5.8			8.0	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	6.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	21.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	72	1439	89	151	81	0	0	116	35
Future Volume (vph)	0	0	0	72	1439	89	151	81	0	0	116	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.6		4.5	4.6			4.6	
Lane Util. Factor					0.91		1.00	1.00			1.00	
Frpb, ped/bikes					1.00		1.00	1.00			0.99	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					0.99		1.00	1.00			0.97	
Flt Protected					1.00		0.95	1.00			1.00	
Satd. Flow (prot)					4999		1770	1863			1789	
Flt Permitted					1.00		0.95	1.00			1.00	
Satd. Flow (perm)					4999		1770	1863			1789	
Peak-hour factor, PHF	0.92	0.92	0.92	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	77	1531	95	161	86	0	0	123	37
RTOR Reduction (vph)	0	0	0	0	7	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	0	0	0	1696	0	161	86	0	0	148	0
Confl. Peds. (#/hr)	22		11	35		28	19		32	32		19
Confl. Bikes (#/hr)			1			2						3
Turn Type				Perm	NA		Prot	NA			NA	
Protected Phases					6		3	8			4	
Permitted Phases				6								
Actuated Green, G (s)					45.4		7.5	35.4			23.4	
Effective Green, g (s)					45.4		7.5	35.4			23.4	
Actuated g/C Ratio					0.50		0.08	0.39			0.26	
Clearance Time (s)					4.6		4.5	4.6			4.6	
Vehicle Extension (s)					3.0		5.0	2.0			2.0	
Lane Grp Cap (vph)					2521		147	732			465	
v/s Ratio Prot							c0.09	0.05			c0.08	
v/s Ratio Perm					0.34							
v/c Ratio					0.67		1.10	0.12			0.32	
Uniform Delay, d1					16.7		41.3	17.4			26.9	
Progression Factor					1.00		1.00	1.00			1.00	
Incremental Delay, d2					1.5		102.0	0.3			1.8	
Delay (s)					18.2		143.3	17.7			28.7	
Level of Service					B		F	B			C	
Approach Delay (s/veh)		0.0			18.2			99.5			28.7	
Approach LOS		A			B			F			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.7
Intersection Capacity Utilization	71.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	97	1519	47	26	71	0	0	127	36
Future Volume (vph)	0	0	0	97	1519	47	26	71	0	0	127	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.91			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					1.00			0.99			1.00	
Frt					1.00			1.00			0.97	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					5026			1829			1791	
Flt Permitted					1.00			0.90			1.00	
Satd. Flow (perm)					5026			1659			1791	
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	104	1633	51	28	76	0	0	137	39
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	0	0	0	1785	0	0	104	0	0	164	0
Confl. Peds. (#/hr)				21		25	20		49	49		20
Confl. Bikes (#/hr)						3						3
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			4			4	
Permitted Phases				2			4					
Actuated Green, G (s)					55.0			25.0			25.0	
Effective Green, g (s)					55.0			25.0			25.0	
Actuated g/C Ratio					0.61			0.28			0.28	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					3071			460			497	
v/s Ratio Prot											c0.09	
v/s Ratio Perm					0.36			0.06				
v/c Ratio					0.58			0.23			0.33	
Uniform Delay, d1					10.6			25.0			25.8	
Progression Factor					0.13			1.00			1.00	
Incremental Delay, d2					0.6			1.1			1.8	
Delay (s)					1.9			26.2			27.6	
Level of Service					A			C			C	
Approach Delay (s/veh)		0.0			1.9			26.2			27.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	260	36	36	221	34	12	45	37	12	110	26
Future Volume (vph)	27	260	36	36	221	34	12	45	37	12	110	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6		4.6	4.6			5.1			5.1	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes		0.98		1.00	0.98			0.95			0.98	
Flpb, ped/bikes		0.99		0.93	1.00			0.99			0.99	
Frt		0.99		1.00	0.98			0.95			0.98	
Flt Protected		1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)		1782		1638	1787			1653			1756	
Flt Permitted		0.96		0.52	1.00			0.96			0.98	
Satd. Flow (perm)		1718		893	1787			1595			1723	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	31	299	41	41	254	39	14	52	43	14	126	30
RTOR Reduction (vph)	0	6	0	0	7	0	0	29	0	0	10	0
Lane Group Flow (vph)	0	365	0	41	286	0	0	80	0	0	160	0
Confl. Peds. (#/hr)	100		100	100		100	61		54	54		61
Confl. Bikes (#/hr)			2			1			5			9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		40.4		40.4	40.4			24.9			24.9	
Effective Green, g (s)		40.4		40.4	40.4			24.9			24.9	
Actuated g/C Ratio		0.54		0.54	0.54			0.33			0.33	
Clearance Time (s)		4.6		4.6	4.6			5.1			5.1	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		925		481	962			529			572	
v/s Ratio Prot					0.16							
v/s Ratio Perm		c0.21		0.05				0.05			c0.09	
v/c Ratio		0.39		0.09	0.30			0.15			0.28	
Uniform Delay, d1		10.1		8.4	9.5			17.6			18.4	
Progression Factor		1.00		0.72	0.66			1.00			1.00	
Incremental Delay, d2		1.3		0.3	0.8			0.6			1.2	
Delay (s)		11.4		6.4	7.0			18.2			19.7	
Level of Service		B		A	A			B			B	
Approach Delay (s/veh)		11.4			6.9			18.2			19.7	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.7
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX D | Existing Plus Project Conditions Synchro Reports

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	184	14	29	262	10	19	48	21	18	99	17
Future Volume (vph)	21	184	14	29	262	10	19	48	21	18	99	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6		4.6	4.6			4.6			4.6	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.99	
Flpb, ped/bikes	1.00	1.00		0.98	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.97			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	1843		1760	1766			1766			1812	
Flt Permitted	0.53	1.00		0.61	1.00			0.93			0.96	
Satd. Flow (perm)	993	1843		1132	1766			1659			1753	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	24	211	16	33	301	11	22	55	24	21	114	20
RTOR Reduction (vph)	0	4	0	0	2	0	0	15	0	0	7	0
Lane Group Flow (vph)	24	223	0	33	310	0	0	86	0	0	148	0
Confl. Peds. (#/hr)				22		31	19		9	9		19
Confl. Bikes (#/hr)						1			7			6
Heavy Vehicles (%)	2%	2%	2%	0%	7%	0%	7%	0%	0%	0%	0%	11%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	40.4	40.4		40.4	40.4			25.4			25.4	
Effective Green, g (s)	40.4	40.4		40.4	40.4			25.4			25.4	
Actuated g/C Ratio	0.54	0.54		0.54	0.54			0.34			0.34	
Clearance Time (s)	4.6	4.6		4.6	4.6			4.6			4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			2.0			2.0	
Lane Grp Cap (vph)	534	992		609	951			561			593	
v/s Ratio Prot		0.12			c0.18							
v/s Ratio Perm	0.02			0.03				0.05			c0.08	
v/c Ratio	0.04	0.23		0.05	0.33			0.15			0.25	
Uniform Delay, d1	8.2	9.1		8.2	9.7			17.3			17.9	
Progression Factor	0.60	0.55		0.74	0.64			1.00			1.00	
Incremental Delay, d2	0.2	0.5		0.2	0.9			0.6			1.0	
Delay (s)	5.1	5.5		6.2	7.1			17.9			18.9	
Level of Service	A	A		A	A			B			B	
Approach Delay (s/veh)		5.5			7.0			17.9			18.9	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.2
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑		
Traffic Volume (vph)	221	0	0	303	0	0
Future Volume (vph)	221	0	0	303	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6			4.6		
Lane Util. Factor	1.00			1.00		
Frpb, ped/bikes	1.00			1.00		
Flpb, ped/bikes	1.00			1.00		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	1743			1792		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	1743			1792		
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.92	0.92
Adj. Flow (vph)	257	0	0	352	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	257	0	0	352	0	0
Confl. Peds. (#/hr)		21	21		6	6
Heavy Vehicles (%)	9%	9%	6%	6%	0%	0%
Turn Type	NA			NA		
Protected Phases	2			2		
Permitted Phases						
Actuated Green, G (s)	45.4			45.4		
Effective Green, g (s)	45.4			45.4		
Actuated g/C Ratio	0.61			0.61		
Clearance Time (s)	4.6			4.6		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	1055			1084		
v/s Ratio Prot	0.15			c0.20		
v/s Ratio Perm						
v/c Ratio	0.24			0.32		
Uniform Delay, d1	6.9			7.3		
Progression Factor	0.50			1.00		
Incremental Delay, d2	0.5			0.8		
Delay (s)	4.0			8.1		
Level of Service	A			A		
Approach Delay (s/veh)	4.0			8.1	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	6.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	28.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	33	1423	49	172	59	0	0	104	26
Future Volume (vph)	0	0	0	33	1423	49	172	59	0	0	104	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.6		4.5	4.6			4.6	
Lane Util. Factor					0.91		1.00	1.00			1.00	
Frpb, ped/bikes					1.00		1.00	1.00			0.99	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					1.00		1.00	1.00			0.97	
Flt Protected					1.00		0.95	1.00			1.00	
Satd. Flow (prot)					5044		1770	1863			1803	
Flt Permitted					1.00		0.95	1.00			1.00	
Satd. Flow (perm)					5044		1770	1863			1803	
Peak-hour factor, PHF	0.92	0.92	0.92	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	35	1514	52	183	63	0	0	111	28
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	10	0
Lane Group Flow (vph)	0	0	0	0	1597	0	183	63	0	0	129	0
Confl. Peds. (#/hr)	22		11	11		22	11		25	25		11
Confl. Bikes (#/hr)			1			1			1			
Turn Type				Perm	NA		Prot	NA			NA	
Protected Phases					6		3	8			4	
Permitted Phases				6								
Actuated Green, G (s)					45.4		7.5	35.4			23.4	
Effective Green, g (s)					45.4		7.5	35.4			23.4	
Actuated g/C Ratio					0.50		0.08	0.39			0.26	
Clearance Time (s)					4.6		4.5	4.6			4.6	
Vehicle Extension (s)					3.0		5.0	2.0			2.0	
Lane Grp Cap (vph)					2544		147	732			468	
v/s Ratio Prot							c0.10	0.03			c0.07	
v/s Ratio Perm					0.32							
v/c Ratio					0.63		1.24	0.09			0.27	
Uniform Delay, d1					16.2		41.3	17.1			26.5	
Progression Factor					1.00		1.00	1.00			1.00	
Incremental Delay, d2					1.2		154.6	0.2			1.5	
Delay (s)					17.4		195.8	17.4			28.0	
Level of Service					B		F	B			C	
Approach Delay (s/veh)		0.0			17.4			150.1			28.0	
Approach LOS		A			B			F			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	34.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.7
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	73	1544	29	15	48	0	0	122	24
Future Volume (vph)	0	0	0	73	1544	29	15	48	0	0	122	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.91			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			1.00	
Flpb, ped/bikes					1.00			1.00			1.00	
Frt					1.00			1.00			0.98	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					5055			1838			1814	
Flt Permitted					1.00			0.93			1.00	
Satd. Flow (perm)					5055			1720			1814	
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	78	1660	31	16	52	0	0	131	26
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	0	0	0	1767	0	0	68	0	0	149	0
Confl. Peds. (#/hr)				4		10	8		16	16		8
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			4			4	
Permitted Phases				2			4					
Actuated Green, G (s)					55.0			25.0			25.0	
Effective Green, g (s)					55.0			25.0			25.0	
Actuated g/C Ratio					0.61			0.28			0.28	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					3089			477			503	
v/s Ratio Prot											c0.08	
v/s Ratio Perm					0.35			0.04				
v/c Ratio					0.57			0.14			0.30	
Uniform Delay, d1					10.5			24.4			25.6	
Progression Factor					0.26			1.00			1.00	
Incremental Delay, d2					0.6			0.6			1.5	
Delay (s)					3.3			25.1			27.1	
Level of Service					A			C			C	
Approach Delay (s/veh)		0.0			3.3			25.1			27.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	178	22	24	263	10	10	38	17	10	100	24
Future Volume (vph)	15	178	22	24	263	10	10	38	17	10	100	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6		4.6	4.6			5.1			5.1	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes		0.99		1.00	1.00			0.98			0.99	
Flpb, ped/bikes		1.00		0.96	1.00			1.00			1.00	
Frt		0.99		1.00	0.99			0.96			0.98	
Flt Protected		1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)		1813		1707	1848			1734			1783	
Flt Permitted		0.97		0.61	1.00			0.96			0.98	
Satd. Flow (perm)		1769		1099	1848			1675			1760	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	17	205	25	28	302	11	11	44	20	11	115	28
RTOR Reduction (vph)	0	6	0	0	2	0	0	13	0	0	11	0
Lane Group Flow (vph)	0	241	0	28	311	0	0	62	0	0	143	0
Confl. Peds. (#/hr)	39		38	38		39	24		33	33		24
Confl. Bikes (#/hr)			1						7			
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		40.4		40.4	40.4			24.9			24.9	
Effective Green, g (s)		40.4		40.4	40.4			24.9			24.9	
Actuated g/C Ratio		0.54		0.54	0.54			0.33			0.33	
Clearance Time (s)		4.6		4.6	4.6			5.1			5.1	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		952		591	995			556			584	
v/s Ratio Prot					c0.17							
v/s Ratio Perm		0.14		0.03				0.04			c0.08	
v/c Ratio		0.25		0.05	0.31			0.11			0.25	
Uniform Delay, d1		9.2		8.2	9.6			17.4			18.2	
Progression Factor		1.00		0.66	0.59			1.00			1.00	
Incremental Delay, d2		0.6		0.1	0.8			0.4			1.0	
Delay (s)		9.9		5.6	6.4			17.8			19.2	
Level of Service		A		A	A			B			B	
Approach Delay (s/veh)		9.9			6.3			17.8			19.2	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.7
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

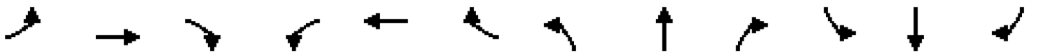
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	262	37	30	240	43	29	112	45	18	77	29
Future Volume (vph)	30	262	37	30	240	43	29	112	45	18	77	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6		4.6	4.6			4.6			4.6	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.98			0.99			0.98	
Flpb, ped/bikes	0.93	1.00		0.88	1.00			0.99			1.00	
Frt	1.00	0.98		1.00	0.98			0.97			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1648	1777		1590	1718			1777			1752	
Flt Permitted	0.52	1.00		0.51	1.00			0.94			0.94	
Satd. Flow (perm)	905	1777		845	1718			1688			1667	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	34	301	43	34	276	49	33	129	52	21	89	33
RTOR Reduction (vph)	0	7	0	0	8	0	0	15	0	0	15	0
Lane Group Flow (vph)	34	337	0	34	317	0	0	199	0	0	128	0
Confl. Peds. (#/hr)	74		133	133		74	29		8	8		29
Confl. Bikes (#/hr)									7			3
Heavy Vehicles (%)	2%	2%	2%	0%	7%	0%	7%	0%	0%	0%	0%	11%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)	40.4	40.4		40.4	40.4			25.4			25.4	
Effective Green, g (s)	40.4	40.4		40.4	40.4			25.4			25.4	
Actuated g/C Ratio	0.54	0.54		0.54	0.54			0.34			0.34	
Clearance Time (s)	4.6	4.6		4.6	4.6			4.6			4.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			2.0			2.0	
Lane Grp Cap (vph)	487	957		455	925			571			564	
v/s Ratio Prot		c0.19			0.18							
v/s Ratio Perm	0.04			0.04				c0.12			0.08	
v/c Ratio	0.07	0.35		0.07	0.34			0.35			0.23	
Uniform Delay, d1	8.3	9.8		8.3	9.8			18.6			17.8	
Progression Factor	0.62	0.52		0.16	0.21			1.00			1.00	
Incremental Delay, d2	0.3	1.0		0.3	1.0			1.7			0.9	
Delay (s)	5.4	6.1		1.7	3.0			20.3			18.7	
Level of Service	A	A		A	A			C			B	
Approach Delay (s/veh)		6.1			2.9			20.3			18.7	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.2
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	330	0	0	315	0	0
Future Volume (vph)	330	0	0	315	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6			4.6		
Lane Util. Factor	1.00			1.00		
Frpb, ped/bikes	1.00			1.00		
Flpb, ped/bikes	1.00			1.00		
Frt	1.00			1.00		
Flt Protected	1.00			1.00		
Satd. Flow (prot)	1827			1810		
Flt Permitted	1.00			1.00		
Satd. Flow (perm)	1827			1810		
Peak-hour factor, PHF	0.86	0.86	0.86	0.86	0.92	0.92
Adj. Flow (vph)	384	0	0	366	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	384	0	0	366	0	0
Confl. Peds. (#/hr)		155	155		27	19
Heavy Vehicles (%)	4%	4%	5%	5%	0%	0%
Turn Type	NA			NA		
Protected Phases	2			2		
Permitted Phases						
Actuated Green, G (s)	45.4			45.4		
Effective Green, g (s)	45.4			45.4		
Actuated g/C Ratio	0.61			0.61		
Clearance Time (s)	4.6			4.6		
Vehicle Extension (s)	3.0			3.0		
Lane Grp Cap (vph)	1105			1095		
v/s Ratio Prot	c0.21			0.20		
v/s Ratio Perm						
v/c Ratio	0.35			0.33		
Uniform Delay, d1	7.4			7.3		
Progression Factor	0.68			1.00		
Incremental Delay, d2	0.8			0.8		
Delay (s)	5.8			8.1		
Level of Service	A			A		
Approach Delay (s/veh)	5.8			8.1	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.6
Intersection Capacity Utilization	32.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	72	1439	101	151	87	0	0	122	36
Future Volume (vph)	0	0	0	72	1439	101	151	87	0	0	122	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.6		4.5	4.6			4.6	
Lane Util. Factor					0.91		1.00	1.00			1.00	
Frpb, ped/bikes					1.00		1.00	1.00			0.99	
Flpb, ped/bikes					1.00		1.00	1.00			1.00	
Frt					0.99		1.00	1.00			0.97	
Flt Protected					1.00		0.95	1.00			1.00	
Satd. Flow (prot)					4992		1770	1863			1791	
Flt Permitted					1.00		0.95	1.00			1.00	
Satd. Flow (perm)					4992		1770	1863			1791	
Peak-hour factor, PHF	0.92	0.92	0.92	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	77	1531	107	161	93	0	0	130	38
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	0	0	0	1707	0	161	93	0	0	156	0
Confl. Peds. (#/hr)	22		11	35		28	19		32	32		19
Confl. Bikes (#/hr)			1			2						3
Turn Type				Perm	NA		Prot	NA			NA	
Protected Phases					6		3	8			4	
Permitted Phases				6								
Actuated Green, G (s)					45.4		7.5	35.4			23.4	
Effective Green, g (s)					45.4		7.5	35.4			23.4	
Actuated g/C Ratio					0.50		0.08	0.39			0.26	
Clearance Time (s)					4.6		4.5	4.6			4.6	
Vehicle Extension (s)					3.0		5.0	2.0			2.0	
Lane Grp Cap (vph)					2518		147	732			465	
v/s Ratio Prot							c0.09	0.05			c0.09	
v/s Ratio Perm					0.34							
v/c Ratio					0.68		1.10	0.13			0.34	
Uniform Delay, d1					16.8		41.3	17.4			27.0	
Progression Factor					1.00		1.00	1.00			1.00	
Incremental Delay, d2					1.5		102.0	0.4			1.9	
Delay (s)					18.3		143.3	17.8			28.9	
Level of Service					B		F	B			C	
Approach Delay (s/veh)		0.0			18.3			97.3			28.9	
Approach LOS		A			B			F			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.7
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	97	1520	47	26	71	0	0	127	36
Future Volume (vph)	0	0	0	97	1520	47	26	71	0	0	127	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					5.0			5.0			5.0	
Lane Util. Factor					0.91			1.00			1.00	
Frpb, ped/bikes					1.00			1.00			0.99	
Flpb, ped/bikes					1.00			0.99			1.00	
Frt					1.00			1.00			0.97	
Flt Protected					1.00			0.99			1.00	
Satd. Flow (prot)					5026			1829			1791	
Flt Permitted					1.00			0.90			1.00	
Satd. Flow (perm)					5026			1659			1791	
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	104	1634	51	28	76	0	0	137	39
RTOR Reduction (vph)	0	0	0	0	4	0	0	0	0	0	12	0
Lane Group Flow (vph)	0	0	0	0	1786	0	0	104	0	0	164	0
Confl. Peds. (#/hr)				21		25	20		49	49		20
Confl. Bikes (#/hr)						3						3
Turn Type				Perm	NA		Perm	NA			NA	
Protected Phases					2			4			4	
Permitted Phases				2			4					
Actuated Green, G (s)					55.0			25.0			25.0	
Effective Green, g (s)					55.0			25.0			25.0	
Actuated g/C Ratio					0.61			0.28			0.28	
Clearance Time (s)					5.0			5.0			5.0	
Vehicle Extension (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					3071			460			497	
v/s Ratio Prot											c0.09	
v/s Ratio Perm					0.36			0.06				
v/c Ratio					0.58			0.23			0.33	
Uniform Delay, d1					10.6			25.0			25.8	
Progression Factor					0.13			1.00			1.00	
Incremental Delay, d2					0.6			1.1			1.8	
Delay (s)					1.9			26.2			27.6	
Level of Service					A			C			C	
Approach Delay (s/veh)		0.0			1.9			26.2			27.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

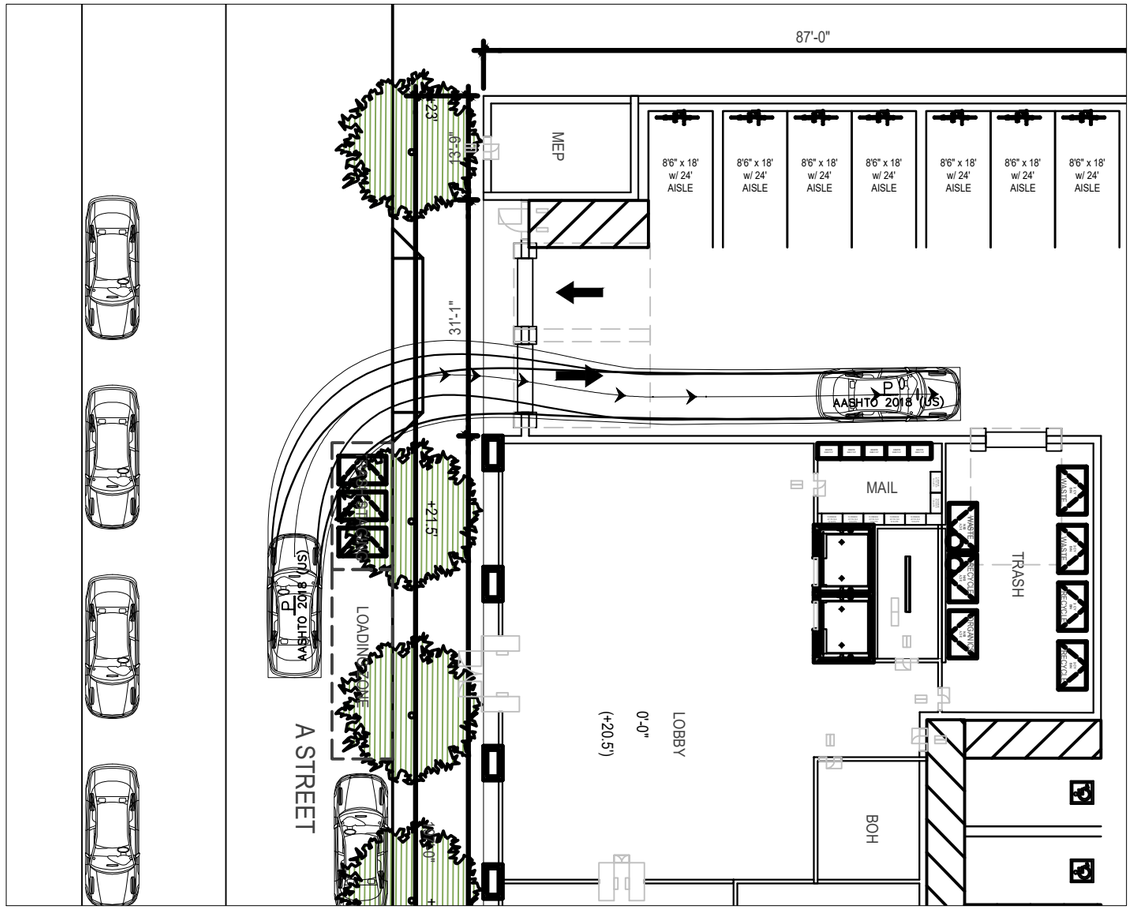
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	261	36	36	222	35	12	45	37	12	110	26
Future Volume (vph)	27	261	36	36	222	35	12	45	37	12	110	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.6		4.6	4.6			5.1			5.1	
Lane Util. Factor		1.00		1.00	1.00			1.00			1.00	
Frpb, ped/bikes		0.98		1.00	0.98			0.95			0.98	
Flpb, ped/bikes		0.99		0.93	1.00			0.99			0.99	
Frt		0.99		1.00	0.98			0.95			0.98	
Flt Protected		1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)		1782		1639	1786			1653			1756	
Flt Permitted		0.96		0.52	1.00			0.96			0.98	
Satd. Flow (perm)		1718		891	1786			1595			1723	
Peak-hour factor, PHF	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Adj. Flow (vph)	31	300	41	41	255	40	14	52	43	14	126	30
RTOR Reduction (vph)	0	6	0	0	7	0	0	29	0	0	10	0
Lane Group Flow (vph)	0	366	0	41	288	0	0	80	0	0	160	0
Confl. Peds. (#/hr)	100		100	100		100	61		54	54		61
Confl. Bikes (#/hr)			2			1			5			9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		40.4		40.4	40.4			24.9			24.9	
Effective Green, g (s)		40.4		40.4	40.4			24.9			24.9	
Actuated g/C Ratio		0.54		0.54	0.54			0.33			0.33	
Clearance Time (s)		4.6		4.6	4.6			5.1			5.1	
Vehicle Extension (s)		3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)		925		479	962			529			572	
v/s Ratio Prot					0.16							
v/s Ratio Perm		c0.21		0.05				0.05			c0.09	
v/c Ratio		0.40		0.09	0.30			0.15			0.28	
Uniform Delay, d1		10.1		8.4	9.5			17.6			18.4	
Progression Factor		1.00		0.72	0.66			1.00			1.00	
Incremental Delay, d2		1.3		0.3	0.8			0.6			1.2	
Delay (s)		11.4		6.4	7.1			18.2			19.7	
Level of Service		B		A	A			B			B	
Approach Delay (s/veh)		11.4			7.0			18.2			19.7	
Approach LOS		B			A			B			B	

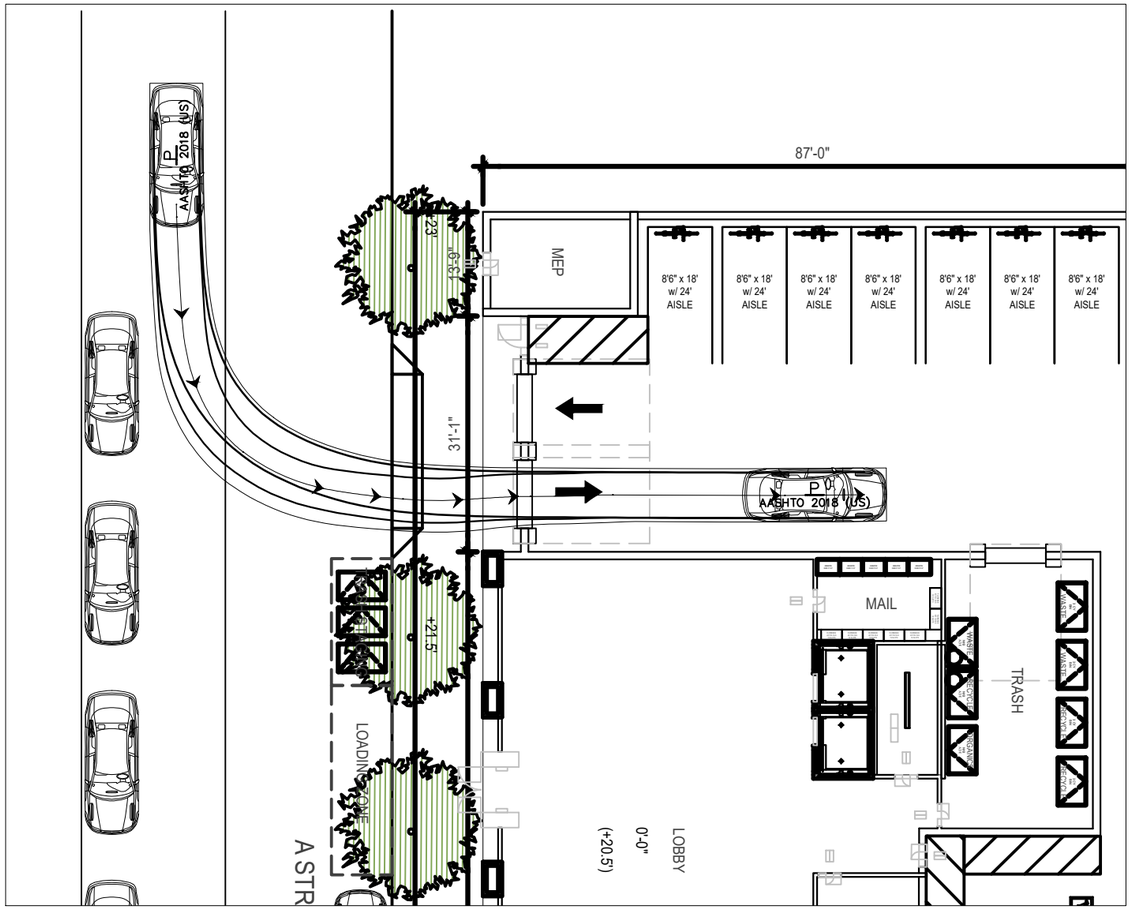
Intersection Summary			
HCM 2000 Control Delay (s/veh)	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.7
Intersection Capacity Utilization	64.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

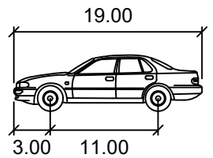
APPENDIX E | Turning Radii Diagrams

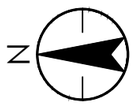


NORTHBOUND RIGHT-TURN INTO PROJECT DRIVEWAY



SOUTHBOUND LEFT-TURN INTO PROJECT DRIVEWAY





P

	feet
Width	: 7.00
Track	: 6.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.6

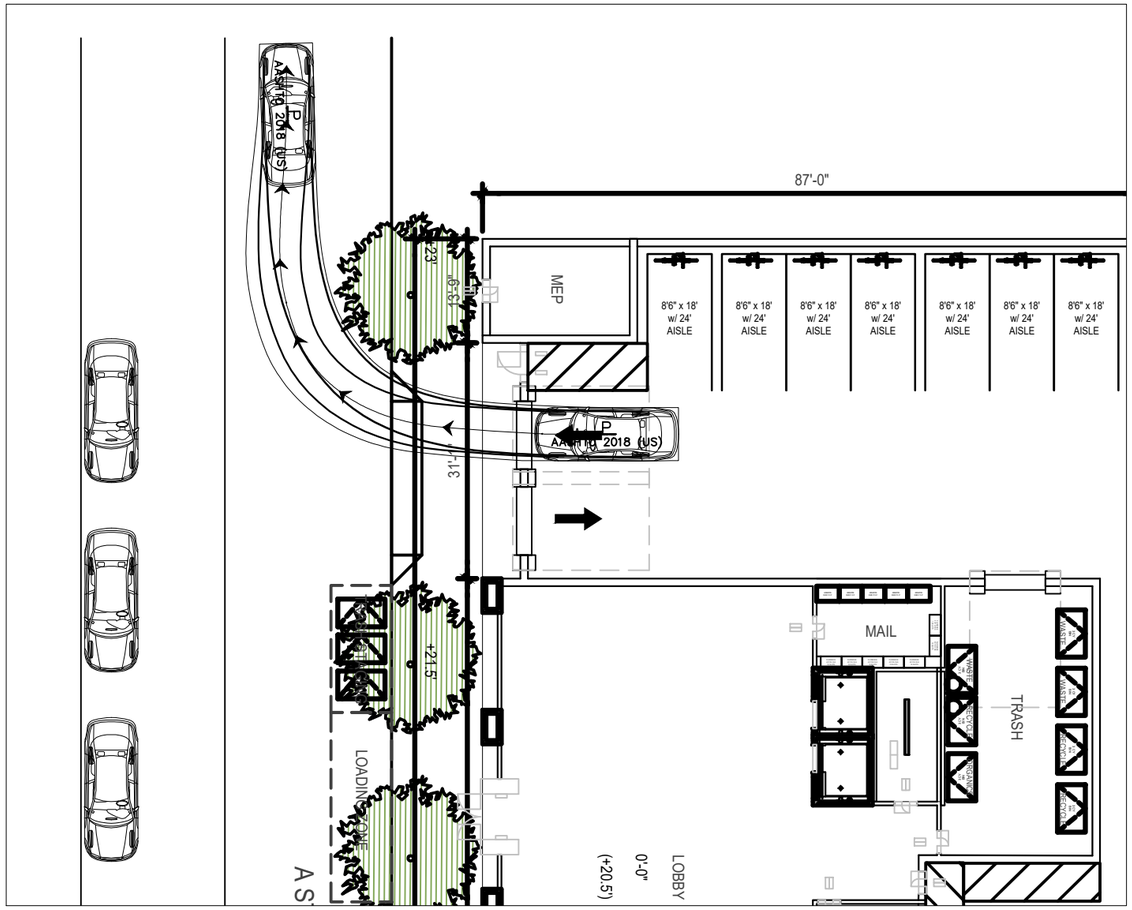
ADVANCED MOBILITY GROUP
3003 OAK ROAD, SUITE 100
WALNUT CREEK, CA 94597

DESIGNED					
DRAWN					
CHECKED					
DATE MAR 2025					
SCALE	NO.	REVISION	BY	APP.	

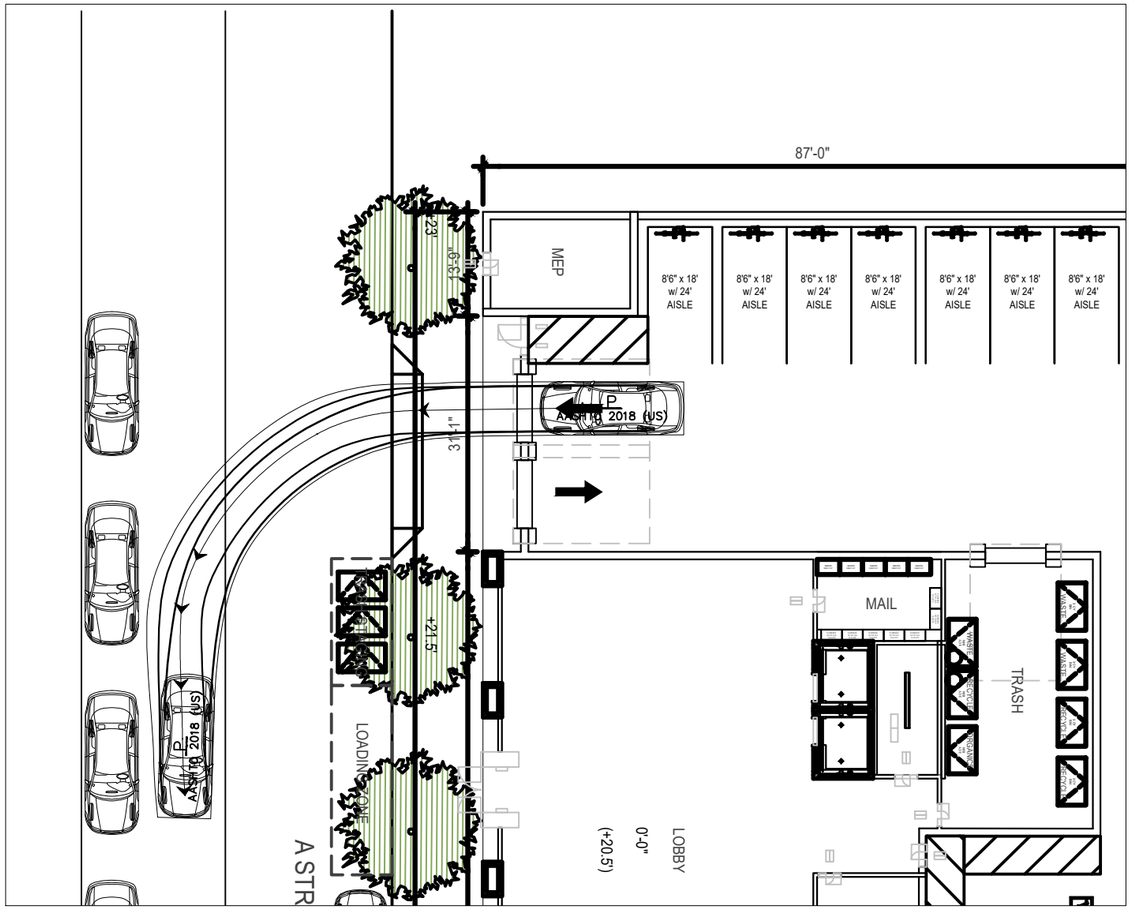
900 A STREET APARTMENTS
PASSENGER VEHICLE TURN TEMPLATES
INGRESS AT PROJECT DRIVEWAY

CITY OF SAN RAFAEL
CALIFORNIA

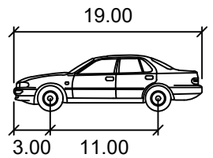
PJ NO.
SHEET 1 OF 2
DWG. TT-1



WESTBOUND RIGHT-TURN OUT OF PROJECT DRIVEWAY



WESTBOUND LEFT-TURN OUT OF PROJECT DRIVEWAY



P

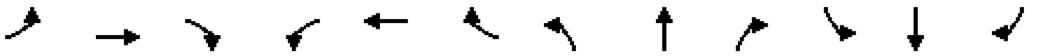
	feet
Width	: 7.00
Track	: 6.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.6

ADVANCED MOBILITY GROUP 3003 OAK ROAD, SUITE 100 WALNUT CREEK, CA 94597	DESIGNED						900 A STREET APARTMENTS PASSENGER VEHICLE TURN TEMPLATES EGRESS AT PROJECT DRIVEWAY	CITY OF SAN RAFAEL CALIFORNIA	PJ NO.
	DRAWN								SHEET 2 OF 2
	CHECKED								DWG. TT-2
	DATE MAR 2025								
	SCALE	NO.	REVISION	BY	APP.				

APPENDIX F | 95th Percentile Queue Length Synchro Reports

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	184	14	29	262	10	19	48	21	18	99	17
Future Volume (vph)	21	184	14	29	262	10	19	48	21	18	99	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	45		0	40		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		365			349			355			325	
Travel Time (s)		10.0			9.5			9.7			8.9	
Confl. Peds. (#/hr)				22		31	19		9	9		19
Confl. Bikes (#/hr)						1			7			6
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	0%	7%	0%	7%	0%	0%	0%	0%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	227	0	33	312	0	0	101	0	0	155	0
v/c Ratio	0.04	0.23		0.05	0.33			0.18			0.26	
Control Delay (s/veh)	5.2	5.5		6.4	7.2			14.7			18.1	
Queue Delay	0.0	0.0		0.0	0.2			0.0			0.0	
Total Delay (s/veh)	5.2	5.5		6.4	7.4			14.7			18.1	
Queue Length 50th (ft)	3	24		4	30			25			47	
Queue Length 95th (ft)	8	38		10	47			56			87	
Internal Link Dist (ft)		285			269			275			245	
Turn Bay Length (ft)	45			40								
Base Capacity (vph)	534	995		609	953			577			601	
Starvation Cap Reductn	0	0		0	195			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.04	0.23		0.05	0.41			0.18			0.26	

Intersection Summary	
Area Type:	Other



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	33	1423	49	172	59	0	0	104	26
Future Volume (vph)	0	0	0	33	1423	49	172	59	0	0	104	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		363			222			308			355	
Travel Time (s)		8.3			5.0			8.4			9.7	
Confl. Peds. (#/hr)	22		11	11		22	11		25	25		11
Confl. Bikes (#/hr)			1			1			1			
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
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%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1601	0	183	63	0	0	139	0
v/c Ratio					0.63		1.24	0.09			0.29	
Control Delay (s/veh)					17.5		191.9	17.7			25.9	
Queue Delay					0.1		0.0	0.0			0.0	
Total Delay (s/veh)					17.5		191.9	17.7			25.9	
Queue Length 50th (ft)					228		~131	22			57	
Queue Length 95th (ft)					277		#261	48			107	
Internal Link Dist (ft)		283			142			228			275	
Turn Bay Length (ft)												
Base Capacity (vph)					2547		147	732			479	
Starvation Cap Reductn					0		0	0			0	
Spillback Cap Reductn					98		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					0.65		1.24	0.09			0.29	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	262	37	30	240	43	29	112	45	18	77	29
Future Volume (vph)	30	262	37	30	240	43	29	112	45	18	77	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	45		0	40		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		365			349			355			325	
Travel Time (s)		10.0			9.5			9.7			8.9	
Confl. Peds. (#/hr)	74		133	133		74	29		8	8		29
Confl. Bikes (#/hr)									7			3
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	0%	7%	0%	7%	0%	0%	0%	0%	11%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	344	0	34	325	0	0	214	0	0	143	0
v/c Ratio	0.07	0.36		0.07	0.35			0.37			0.25	
Control Delay (s/veh)	5.6	6.1		1.7	3.0			18.8			16.4	
Queue Delay	0.0	0.2		0.0	0.2			0.0			0.0	
Total Delay (s/veh)	5.6	6.3		1.7	3.2			18.8			16.4	
Queue Length 50th (ft)	4	37		1	0			65			40	
Queue Length 95th (ft)	m10	56		2	0			115			77	
Internal Link Dist (ft)		285			269			275			245	
Turn Bay Length (ft)	45			40								
Base Capacity (vph)	487	963		455	933			586			579	
Starvation Cap Reductn	0	177		0	171			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.07	0.44		0.07	0.43			0.37			0.25	

Intersection Summary	
Area Type:	Other

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	72	1439	101	151	87	0	0	122	36
Future Volume (vph)	0	0	0	72	1439	101	151	87	0	0	122	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	1		0	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		363			222			308			355	
Travel Time (s)		8.3			5.0			8.4			9.7	
Confl. Peds. (#/hr)	22		11	35		28	19		32	32		19
Confl. Bikes (#/hr)			1			2						3
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
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%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1715	0	161	93	0	0	168	0
v/c Ratio					0.68		1.10	0.13			0.35	
Control Delay (s/veh)					18.3		143.4	18.1			27.0	
Queue Delay					0.0		0.0	0.0			0.0	
Total Delay (s/veh)					18.3		143.4	18.1			27.0	
Queue Length 50th (ft)					253		~104	33			70	
Queue Length 95th (ft)					305		#227	65			127	
Internal Link Dist (ft)		283			142			228			275	
Turn Bay Length (ft)												
Base Capacity (vph)					2528		147	732			477	
Starvation Cap Reductn					0		0	0			0	
Spillback Cap Reductn					0		0	0			0	
Storage Cap Reductn					0		0	0			0	
Reduced v/c Ratio					0.68		1.10	0.13			0.35	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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