

Clean Transit Advancement Campus

Transportation Impact Study

July 11, 2022

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1.0 Introduction

This Transportation Impact Study (TIS) has been prepared for the purpose of analyzing transportation impacts and local traffic conditions related to the proposed San Diego Metropolitan Transit System (MTS) Bus Division 6 Facility project (project) under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Analysis of CEQA transportation conditions based on vehicle miles traveled (VMT) is included in Chapter 2. Analysis of roadway level of service (LOS) and delay is provided in Chapters 3 through 5 for the purpose of evaluating NEPA transportation impacts and local traffic conditions.

1.1 Description of the Project

MTS and SANDAG propose to construct the CTAC, a new bus maintenance and charging facility for electric buses, near the intersection of Federal Boulevard and 47th Street in the City of San Diego. The proposed project is located north of Federal Boulevard and west of 47th Street and divided in two portions that are separated by a driveway/ access road to a FedEx distribution center. The smaller portion of the project site occurs on the eastern side (east of the FedEx driveway) and is proposed for employee parking and potentially an administration building, and the larger portion occurs on the western side (west of the FedEx driveway) and is proposed for bus parking/charging, a maintenance facility building, bus washes, and an administration building. Access to the project is proposed to be located at up to four driveways along the Federal Boulevard project frontage. A new traffic signal would be installed at the western-most site driveway.

The existing nine buildings on site would be demolished and a new bus division facility would be constructed. The existing buildings consist of a variety of one- to two-story structures, some of which are occupied by industrial uses. The proposed new bus division would entail the construction of a new bus maintenance facility building, charging facilities, bus wash facilities, equipment lift facilities, storage facilities, bus parking facilities, administration and operations office buildings, employee parking, lighting improvements, security and camera improvements, stormwater improvements, utility relocations, and landscaping and irrigation improvements.

Two to four new buildings would be constructed to accommodate maintenance and service functions, administrative space, and potentially some auxiliary uses. A maintenance facility building would be constructed on the western portion of the site that would encompass approximately 155,000 square feet (sf) and would include maintenance support areas, 20 repair service bays, a body shop, a tire shop, bus wash and service areas, charging stations, storage areas, restrooms, and mechanical and electrical rooms. Administration and auxiliary use space would encompass a total of approximately 75,000 sf and would be housed in one to two buildings. The administration building(s) would include general administration areas, conference rooms and training spaces, storage, security office, changing room and locker area, restrooms, day care services, custodial room, recreation area, lounges, break/lunch room, radio dispatch,

clerk facilities, and mechanical and electrical rooms. Administration buildings would be constructed on either or both the western and eastern portions of the site, depending on final design to accommodate up to 250 buses. Additionally, an employee parking structure would be constructed on the eastern portion of the site. The new buildings would range between one to three levels, and up to two levels would be visible from Federal Boulevard due to site and area topography. The proposed facility would be designed to achieve a LEED certification and would also include rooftop solar panels.

Charging facilities would include up to approximately 250 zero emission bus (ZEB) electric chargers. The new facility would include a total of about 120 administrative offices. The number of employees at full buildout would include approximately 300 bus operators, 125 maintenance staff, and 150 administrative staff. The facility would operate seven days a week, 24 hours a day. The number and type of employees per shift would include approximately 200 bus operators, 50 management/administrative staff, and 30 maintenance staff. Approximately 500 daily bus trips would be dispatched from the new facility; however, the entire fleet would consist of electric ZEBs.

The new facility would also include asphalt or concrete surface and/or structured parking for approximately 250 buses, approximately 350 employee vehicles, and approximately 60 non-revenue vehicles (i.e., bus supervisor, relief, and maintenance vehicles). Buses would be able to park at night in employee areas and employee vehicles could utilize bus parking areas during the day. Parking facilities would encompass a total of approximately 136,000 sf.

Retaining walls would be constructed in some locations along the bus parking/charging lot. Proposed fencing would consist of a combination of block wall and/or chain link and would vary from approximately 6 to 12 feet above grade depending on whether it was near the frontage or near adjacent properties. Proposed exterior lighting would be installed along the perimeter of the facility to ensure security and would be shielded or directional to minimize spill into adjacent properties and open space.

Utilities within the project site would be relocated, as required, and stormwater improvements would be constructed. Driveways would also be relocated and modified. Changes may occur in the number of driveways or their location during later states of project implementation. The project traffic impact analysis assumes that one signalized driveway and three unsignalized driveways will be provided. Changes in the number or locations of driveways would not affect the CEQA or NEPA impacts related to the project. However, if changes are made in driveway access revisions to the traffic analysis could be made in response to changes in the driveways in order to satisfy driveway access analysis requirements requested by the City of San Diego. The project would also include irrigation and landscaping to visually enhance the streetscape.

An existing roadway easement adjacent to and west of the FedEx driveway, as well as various San Diego Gas & Electric (SDG&E) utility easements within the site, would be vacated. An existing open space easement occurs along the northern site boundary and the project would not

encroach into this easement.

For purposes of the environmental analysis of the IS/MND, construction of the project is estimated to begin in mid-2024 and take approximately 18 months to complete, for a projected opening year of 2026. Project construction would involve the demolition of approximately 113,000 sf of existing industrial buildings that would generate an estimated 16,100 tons of debris to be hauled off-site. The analysis assumes that grading would occur over most of the site and would be balanced on site. The analysis also assumes that construction activities would occur during daytime hours. Construction staging is anticipated to occur within the project site and construction access would be provided via Federal Boulevard.

1.2 Scope of TIS and Methodology

This TIS was prepared using general principles outlined in the Guidelines for Transportation Impact Studies in the San Diego Region (Institute of Transportation Engineers, 2019) with some modifications based on the project's features and location, as noted in the detailed analysis. Chapter 2 provides a vehicle miles traveled (VMT) analysis used to analyze transportation conditions related to CEQA. VMT is the new performance measure used for CEQA transportation studies as of the implementation of Senate Bill (SB) 743 on July 1, 2020. Chapters 3 through 5 provide analysis of LOS and delay. This analysis is used for environmental evaluation for NEPA and for the purpose of conducting a local traffic impact analysis as described on the San Diego regional TIS guidelines.

Table 1-1 shows LOS and delay ranges applicable to these studies. In traffic engineering methodology, roadway operations are typically rated in terms of LOS ranging from LOS A (light traffic, minimal delays) to LOS F (heavy traffic, substantial delays). Generally, the target LOS for peak-hour intersection operations is LOS D. Therefore, a LOS result of A through D is considered desirable with no need for improvements. A LOS E or F is an indication that improvements could be considered in order to achieve a desirable level of operations.

Clean Transit Advancement Campus Study Location

Figure
1-1



Clean Transit Advancement Campus Proposed Location

Figure
1-2



Table 1-1
Level of Service and Intersection Capacity

Level of Service	Control Delay (sec/veh)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10.0	≤ 10.0
B	> 10.0 and ≤ 20.0	> 10.0 and ≤ 15.0
C	> 20.0 and ≤ 35.0	> 15.0 and ≤ 25.0
D	> 35.0 and ≤ 55.0	> 25.0 and ≤ 35.0
E	> 55.0 and ≤ 80.0	> 35.0 and ≤ 50.0
F	> 80.0	> 50.0

Source: Highway Capacity Manual (6th Edition)

2.0 CEQA Transportation Analysis

As of the implementation of SB 743 on July 1, 2020, VMT is the new performance measure used in CEQA transportation studies. Analysis of VMT related to the proposed project was based on procedures included the Guidelines for Transportation Impact Studies in the San Diego Region (Institute of Transportation Engineers, 2019) with the clarifications noted below:

- ✓ This project is considered to be an employment project. For employment projects, the project VMT/employee is compared to the regional average VMT/employee. Projects that have a VMT/employee less than 85% of the regional average are presumed to have a less than significant VMT impact. For this purpose, an employment project is considered to be a land use where employees of a business or government agency are located to provide a service or produce goods. This is in comparison to residential projects where the primary purpose is to provide housing and retail projects where the primary purpose is sale of goods to the public.
- ✓ Bus trips would not be included in the consideration of VMT impacts since SB 743 applies to auto traffic.

The San Diego SB 743 VMT Maps, an online calculation tool provided by SANDAG based on the SANDAG regional travel demand model was used. Following are the results:

- ✓ The project is in Census Tract 34.01. The San Diego VMT Maps report a 2016 VMT/employee value of 15.3 for Census Tract 34.01 as shown in Appendix A. VMT/employee values for 2016 are used since this is the most recent year for which SANDAG provides a baseline VMT/employee value. The percentage or regional average is determined by dividing the VMT/employee of 15.3 for Census Tract 34.01 by the regional average VMT/employee of 18.9. The result is that the project has a VMT/employee value that is 80.9% of the regional average.

Since the project has a VMT/employee value less than 85% of the regional average, the project is considered to have a less than significant CEQA transportation impact. It should be noted that the SANDAG VMT Maps that were used in this analysis were based on Version ABM2+/RP 2021 posted on the SANDAG website on April 1, 2022.

3.0 Baseline Traffic Conditions

Project traffic conditions were evaluated based on the following scenarios:

- ✓ Existing (2021) Conditions
- ✓ Opening Year (2026) Conditions

The opening year of 2026 was selected since it was considered to be the earliest year the project could open based on the current status of the project. The conclusions of the traffic analysis are considered to be valid if the project opening is delayed beyond 2026.

Traffic conditions for the scenarios described above were analyzed for a network of five intersections near the project site as shown in Figure 3-1. The intersections were selected based on likelihood to be affected by project traffic based on the project trip generation and distribution described in Chapter 4.

Intersection capacity analysis was conducted using the Highway Capacity Manual, 6th Edition using the Synchro traffic signal timing program. Output documenting the Synchro analysis is included in Appendix C.

The remainder of this chapter provides analysis of baseline traffic conditions without the project for these two scenarios.

3.1 Existing Conditions

Existing lane geometry and traffic control in the study area is shown in Figure 3-1. Due to the ongoing COVID-19 pandemic, it was not considered practical to use 2021 traffic counts as the basis for existing traffic conditions in the study area. Instead, the following methodology was used:

Existing traffic counts were conducted in early June 2021.

- ✓ Historical 24-hour counts were obtained from 2017 for the segments of 47th Street between State Route 94 and Hilltop Drive and between Hilltop Drive and Market Street. In addition, a PM peak hour turning movement count was obtained for the intersection of 47th Street and Hilltop Drive. These same locations were counted in 2021.
- ✓ The 2017 historical count was increased by 2% per year to estimate 2022 conditions without COVID-19.

- ✓ The ratio of estimated 2021 counts to actual 2021 counts was determined for the segment of 47th Street between SR 94 and Hilltop Drive for AM peak hour, PM peak hour and daily conditions. This ratio was 1.25 for the average of the three counts.
- ✓ The ratio of estimated 2021 counts divided by actual 2021 counts was applied to all actual 2021 counts taken in the study area.
- ✓ The resulted 2021 counts were increased by growth factor of 2% to get the existing counts in 2022.

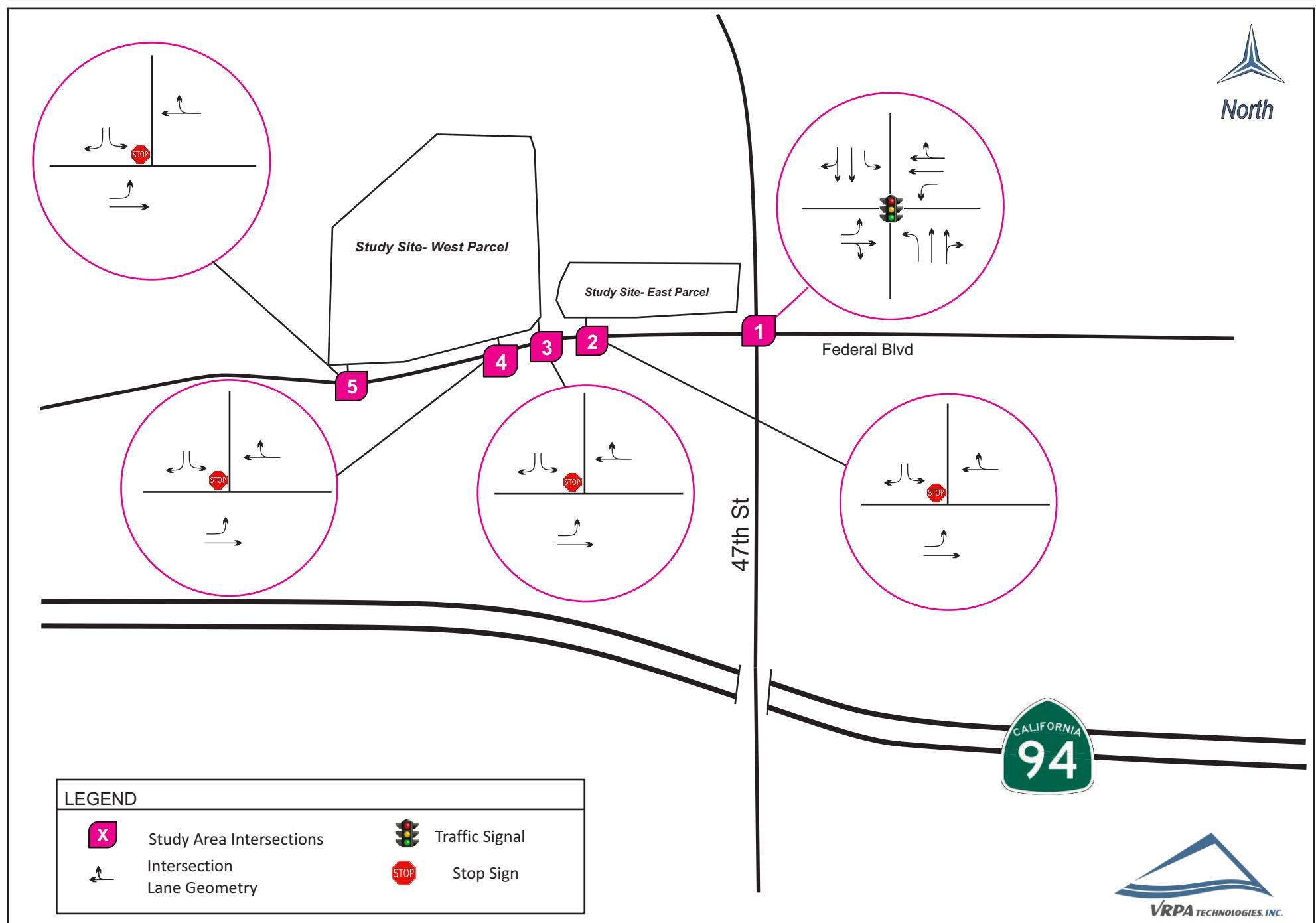
The resulting 2022 traffic conditions are shown in Figures 3-2, 3-3, and 3-4. Intersection capacity analysis results are shown in Table 3-1.

3.2 Opening Year (2026) Traffic Conditions

Traffic conditions for the opening year of 2026 were based on 2022 traffic conditions increased by a growth factor of 2% per year. The results for Average Daily Traffic (ADT) and AM and PM peak hour conditions are shown in Figures 3-5, 3-6, and 3-7. Intersection capacity analysis results are included in Table 3-1.

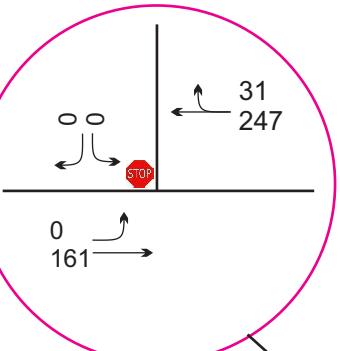
Clean Transit Advancement Campus Existing Lane Geometry

Figure
3-1



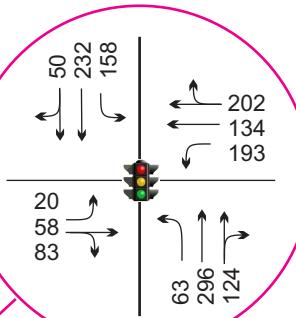
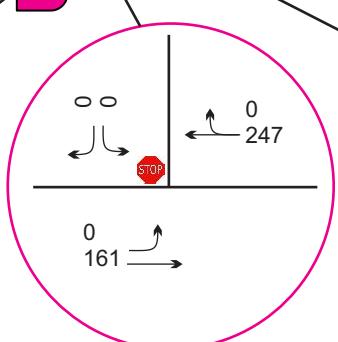
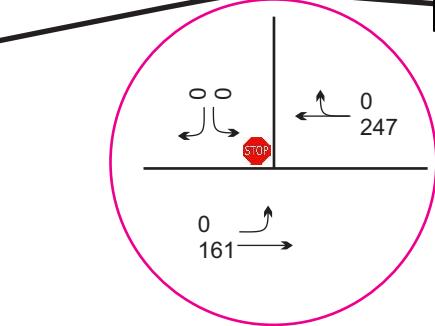
Clean Transit Advancement Campus Existing (2022) AM Peak Hour Traffic

Figure
3-2



Study Site- West Parcel

Study Site- East Parcel



Federal Blvd

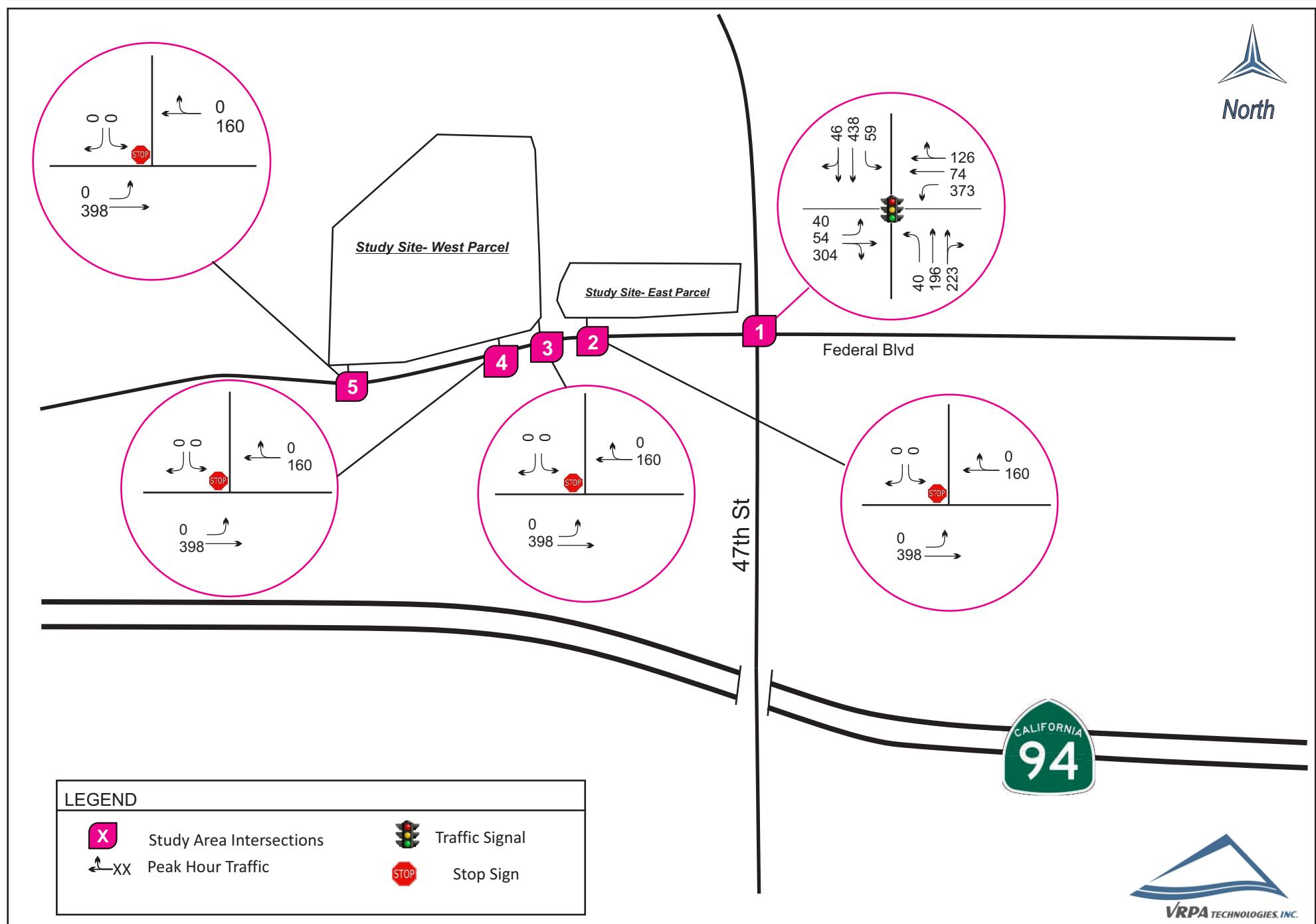
47th St



LEGEND	
	Study Area Intersections
	Traffic Signal
	Stop Sign
	XX Peak Hour Traffic

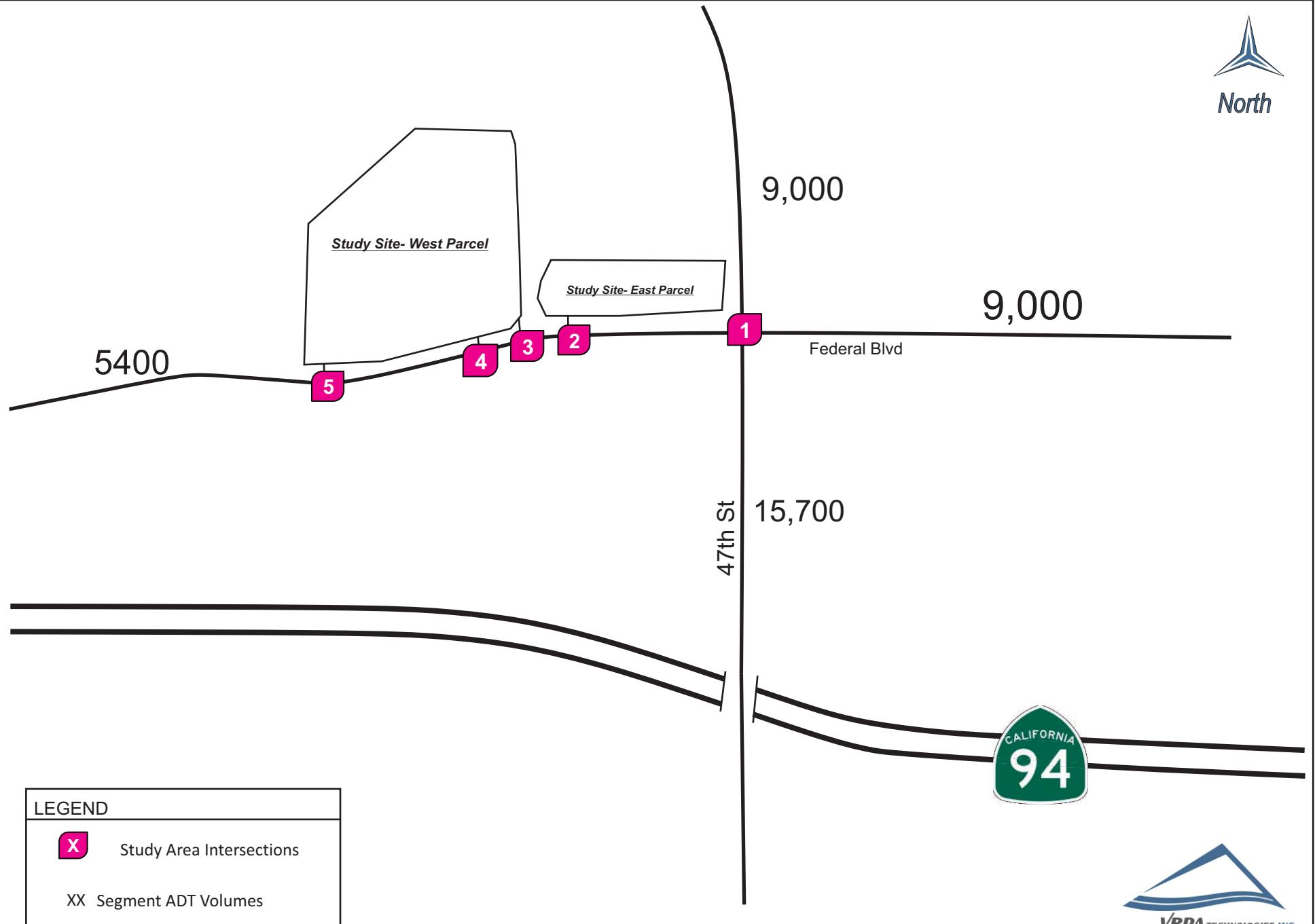
Clean Transit Advancement Campus
Existing PM (2022) Peak Hour Traffic

Figure
3-3



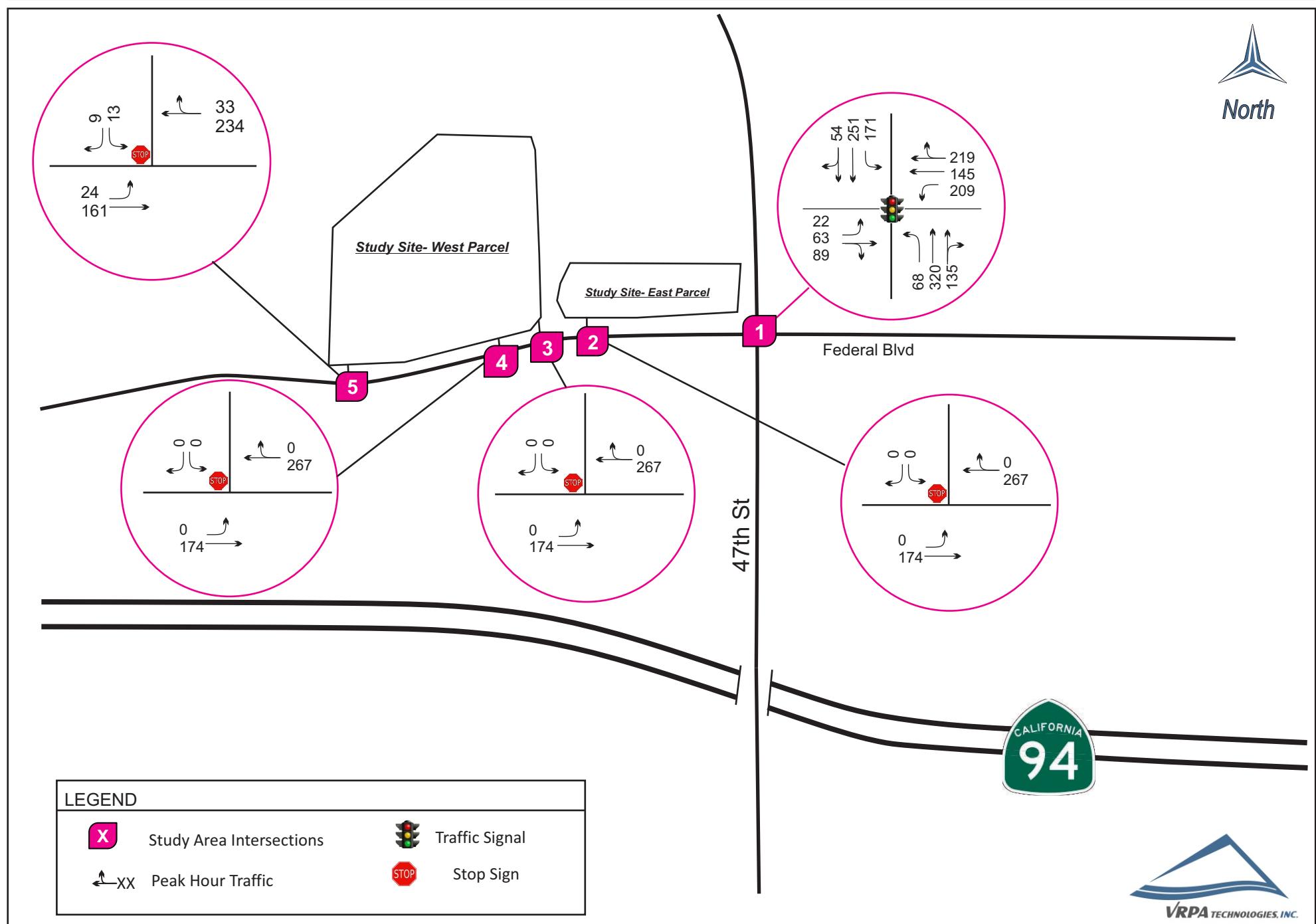
Clean Transit Advancement Campus
Existing (2022) Average Daily Traffic

Figure
3-4



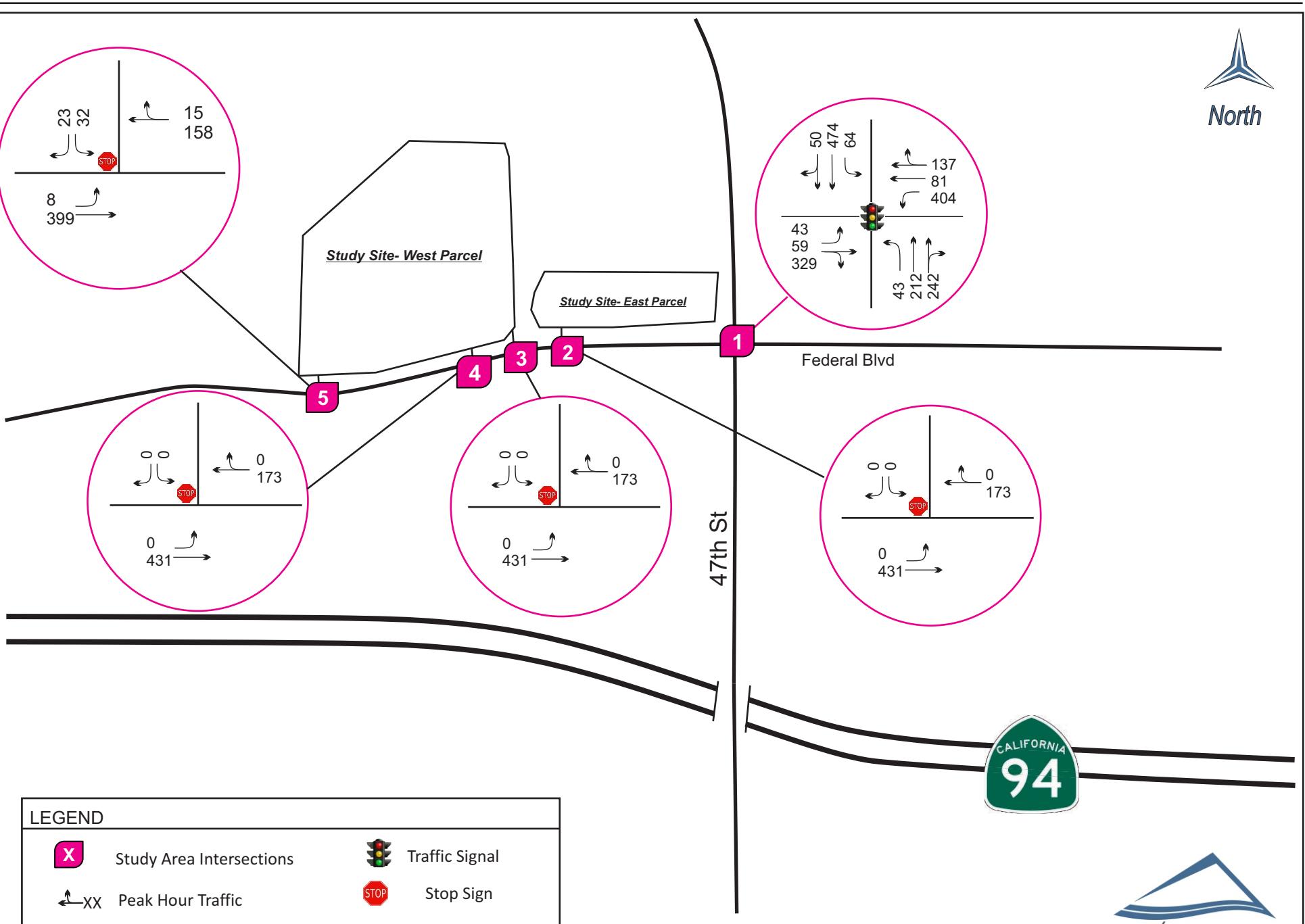
Clean Transit Advancement Campus
Opening Year 2026 Without Project AM Peak Hour Traffic

Figure
3-5



Clean Transit Advancement Campus
Opening Year 2026 Without Project PM Peak hour Traffic

Figure
3-6



Clean Transit Advancement Campus
Opening Year (2026) Average Daily Traffic

Figure
3-7

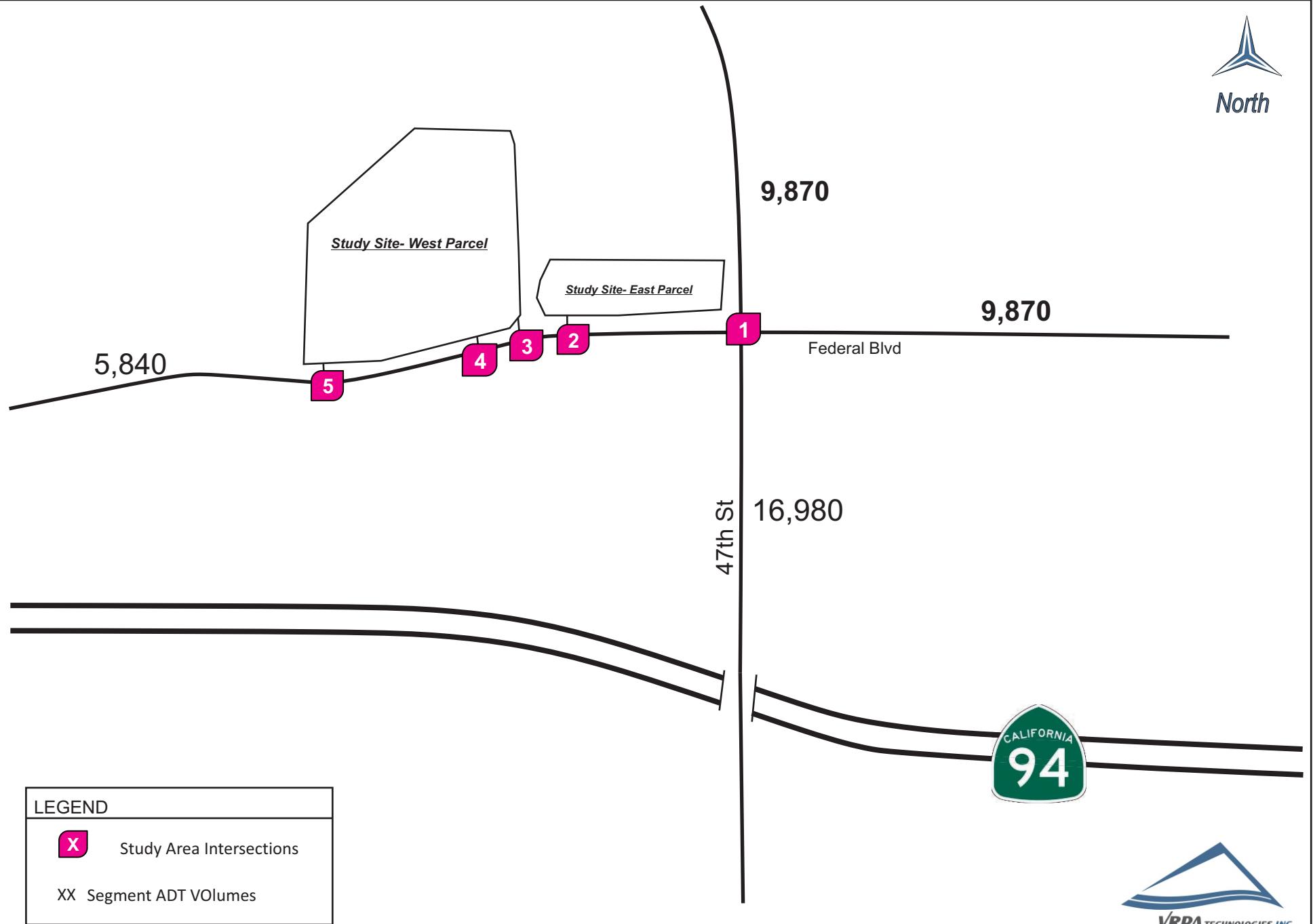


Table 3-1
Intersection Capacity Analysis
Baseline Conditions

Intersection		Traffic Control	Peak Hour	Existing (2022)	
				DELAY (a)	LOS (b)
1	Federal Blvd & 47th St	Signalized	AM	28.6	C
			PM	41.8	D
5	Federal Blvd & Driveway 1/3	Two way stop	AM	11.0	B
			PM	11.6	B

Notes:

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement

(b) LOS calculations are based on the methodology outline in the Highway Capacity Manual 6th Edition.

4.0 Project Traffic

This chapter provides analysis of traffic expected to be generated by the project.

4.1 Project Trip Generation

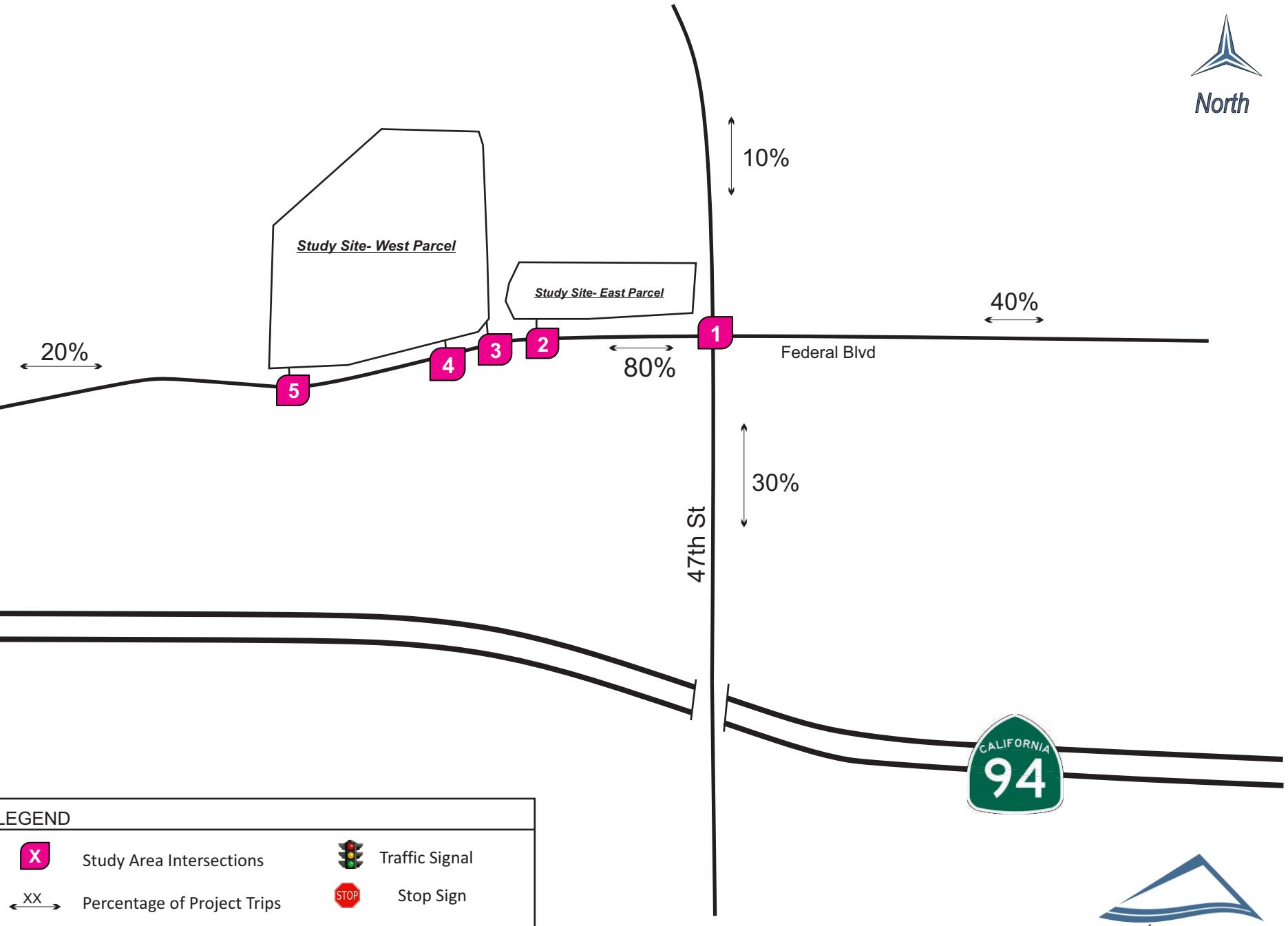
The project trip generation was estimated using the ITE Trip Generation Manual, 10th Edition. Although the City of San Diego also has a trip generation manual that would typically be used for trip generation within the City of San Diego, the most reliable project information was expressed in terms of employees and the City of San Diego trip generation manual uses thousands square feet of building area instead of employees. For comparison purposes, the trip generation for employee trips (excluding bus trips) using the City of San Diego's trip generation manual would be 1,459 per day as compared to the actual value used of 1,590 trips per day using the ITE Trip Generation Manual. Therefore, the results of the study would be similar using the City of San Diego's trip generation manual. Table 4-1 shows the resulting trip generation.

4.2 Project Traffic

Project trip distribution is shown in Figure 4-1. Expected project trips for peak hour and daily conditions is shown in Figures 4-2, 4-3, and 4-4.

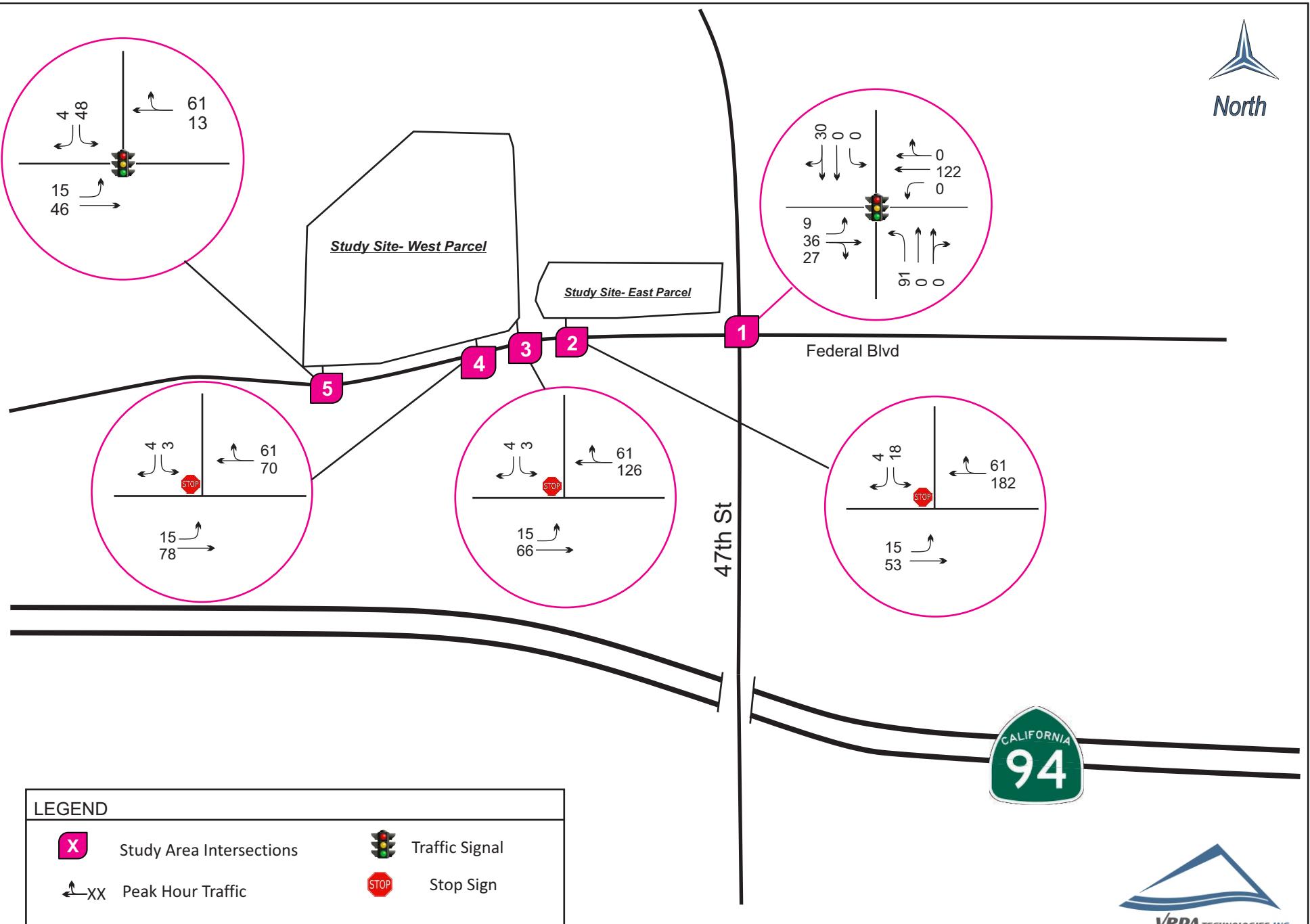
Clean Transit Advancement Campus Trip Distribution

Figure
4-1



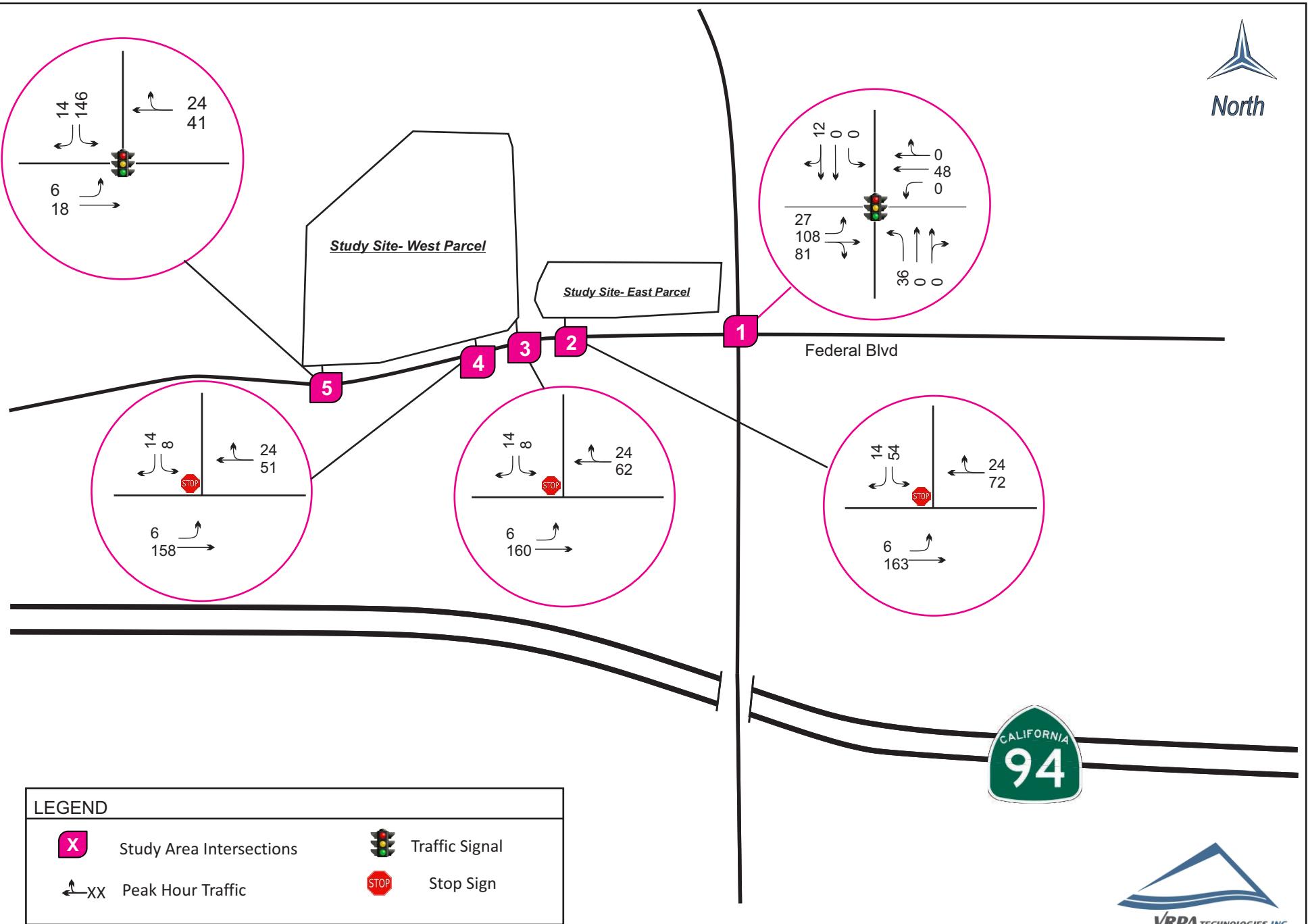
Clean Transit Advancement Campus Project AM Peak Hour Traffic

Figure
4-2



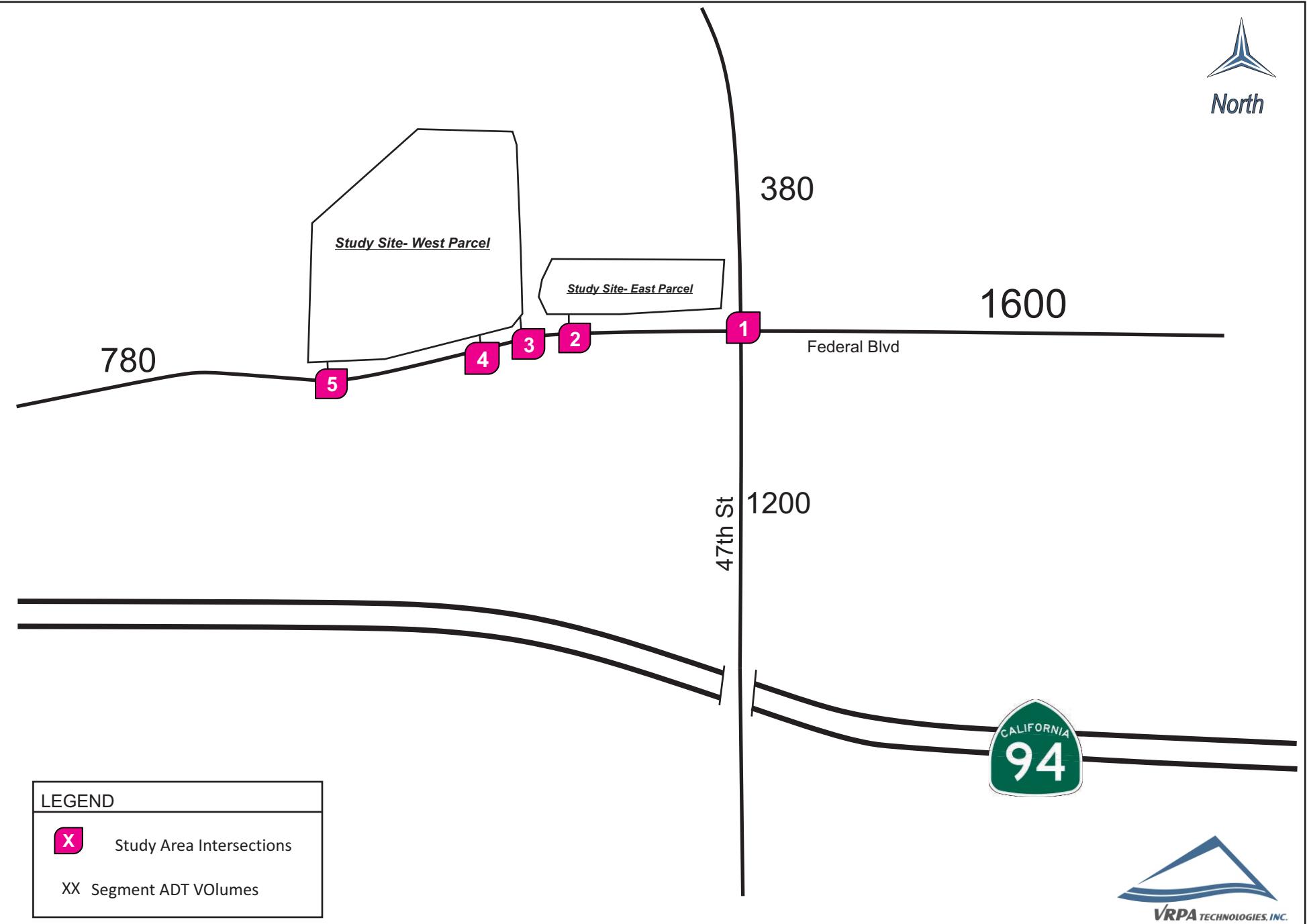
Clean Transit Advancement Campus Project PM Peak Hour Traffic

Figure
4-3



Clean Transit Advancement Campus Daily Project Traffic

Figure
4-4



5.0 Future Traffic Conditions

Future traffic conditions were evaluated by adding project traffic from Chapter 4 to baseline traffic from Chapter 3 for the Opening Year (2026) scenario.

5.1 Opening Year (2026) Traffic Conditions With Project

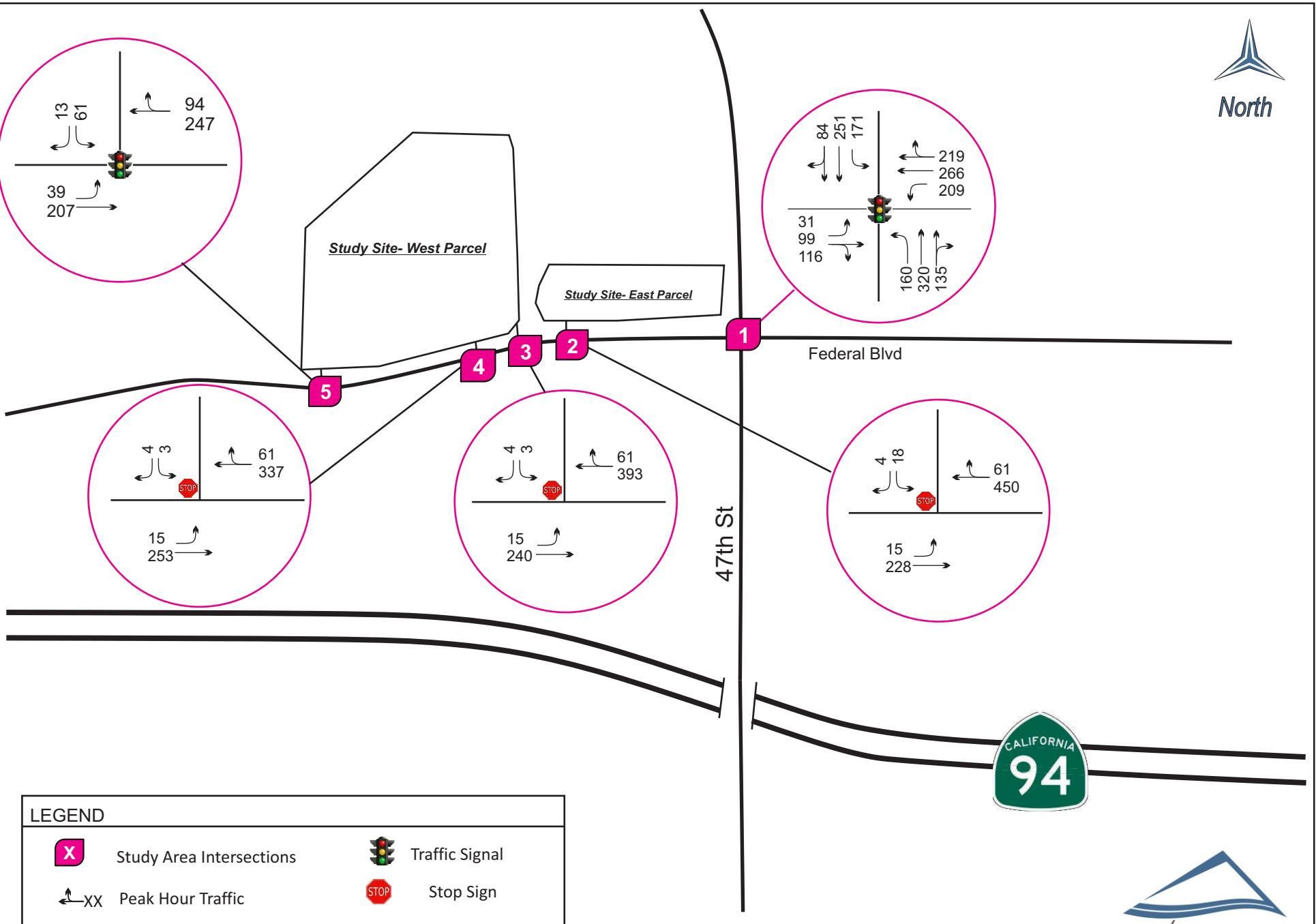
Traffic conditions for the opening year peak hours and daily traffic count of 2026 with the addition of project are shown in Figures 5-1, 5-2, and 5-3. Intersection capacity analysis results are included in Table 5-1.

It should be noted that separate right turn lanes were assumed to exist on the northbound, eastbound and westbound approaches at the Federal Boulevard/47th Street intersection. This was done to reflect the width of these approaches which allows right turns to move separately from through movements during heavy traffic conditions. These approaches are considered to operate with “de facto” right turn lanes in their current condition. No changes in lane geometry are considered to be needed and there are no plans to restripe the intersections to change the approached to include designated right turn lanes.

The Opening Year With Project scenario includes heavier traffic conditions than the previous scenarios and an overlapping right turn phase (i.e. a right turn arrow) was assumed for the eastbound movement at the Federal Boulevard/47th Street intersection. Based on the traffic levels in this scenario, this improvement would be needed to maintain level of service D or better conditions in the PM peak hour. The installation of a right turn phase could be accomplished through modification of the traffic signal equipment without making changes to the roadway.

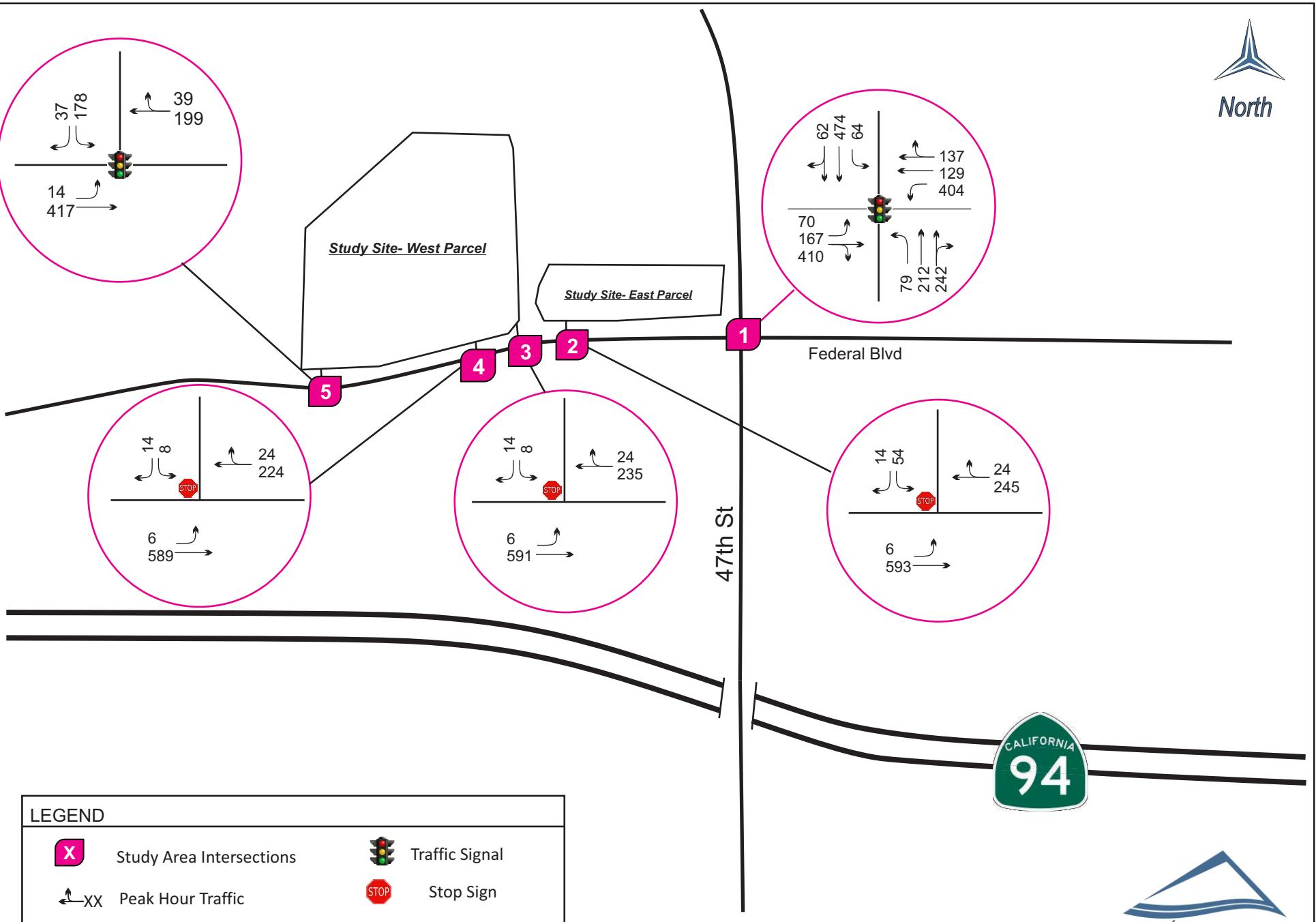
Clean Transit Advancement Campus
Opening Year 2026 With Project AM Peak Hour Traffic

Figure
5-1



Clean Transit Advancement Campus
Opening Year 2026 With Project PM Peak Hour Traffic Counts

Figure
5-2



Clean Transit Advancement Campus
Opening Year (2026) Average Daily Traffic With Project

Figure
5-3

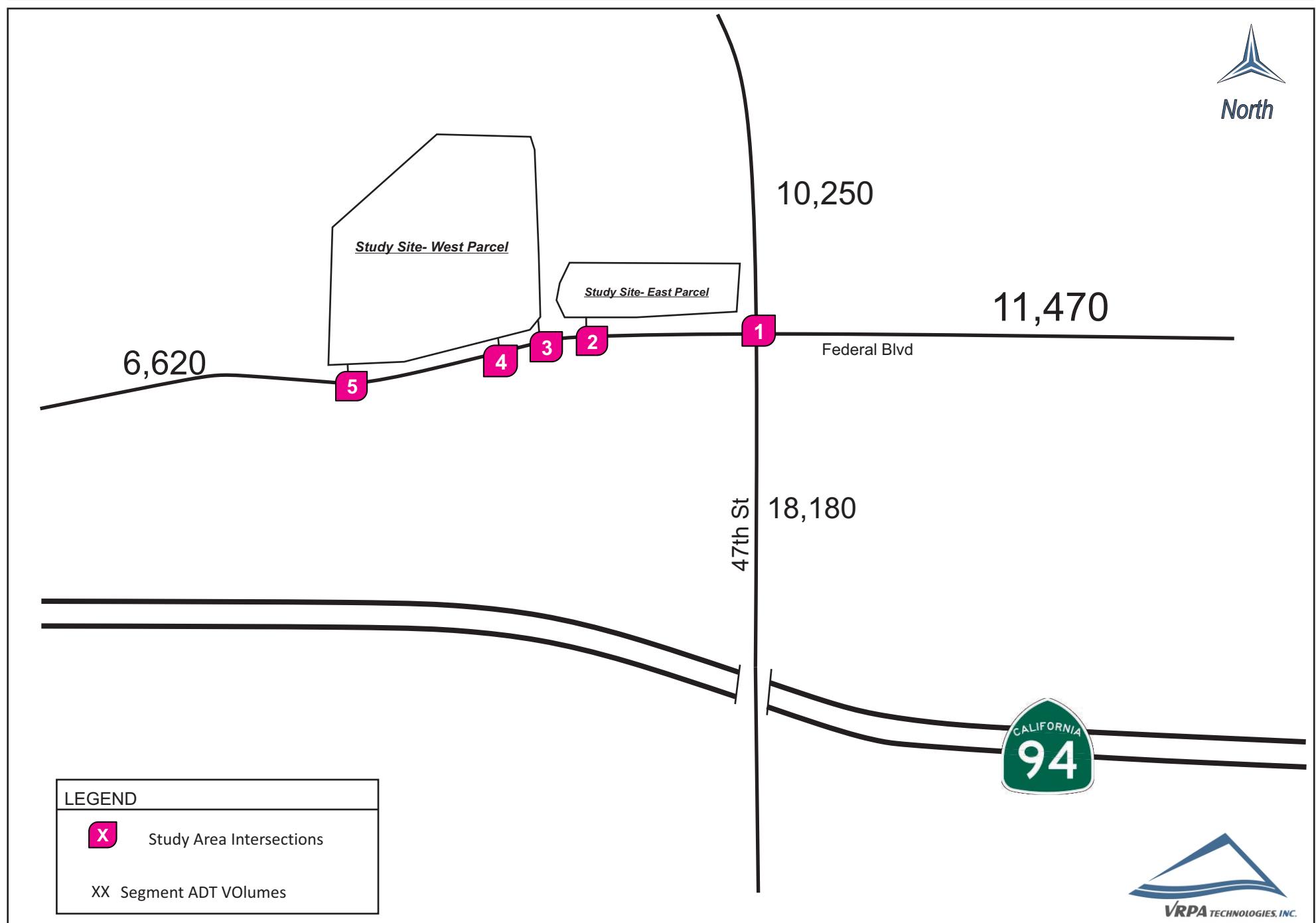


Table 5-1
Intersection Capacity Analysis
Future with Project- Peak Hour Intersection LOS

Intersection		Traffic Control	Peak Hour	Opening Year (2026) Without Project		Opening Year (2026) With Project	
				DELAY (a)	LOS (b)	DELAY (a)	LOS (b)
1	Federal Blvd & 47th St	Signalized	AM	30	C	28.0	C
			PM	48	D	54.4	D
2	Federal Blvd & Driveway 1/1	Two way stop	AM			15.2	C
			PM			18.2	C
3	Federal Blvd & Driveway 3/3	Two way stop	AM			12.6	B
			PM			11.8	B
4	Federal Blvd & Driveway 2/3	Two way stop	AM			12.1	B
			PM			12.4	B
5	Federal Blvd & Driveway 1/3	Two way stop/Signalized	AM	11.2	B	12.2	B
			PM	12	B	12.1	B

Notes:

(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement

(b) LOS calculations are based on the methodology outline in the Highway Capacity Manual 6th Edition.

(c) Right Turn for Federal Blvd and 47th St has been coded as separate left, through and right turn in Synchro

(d) Federal Blvd & Driveway 1/3(Intersection 5) has been coded as two way stop for Without Project Condition and Signalized for With Project Condition.

6.0 Conclusions and Recommendations

Following are conclusions and recommendations based on the analysis included in the previous five chapters:

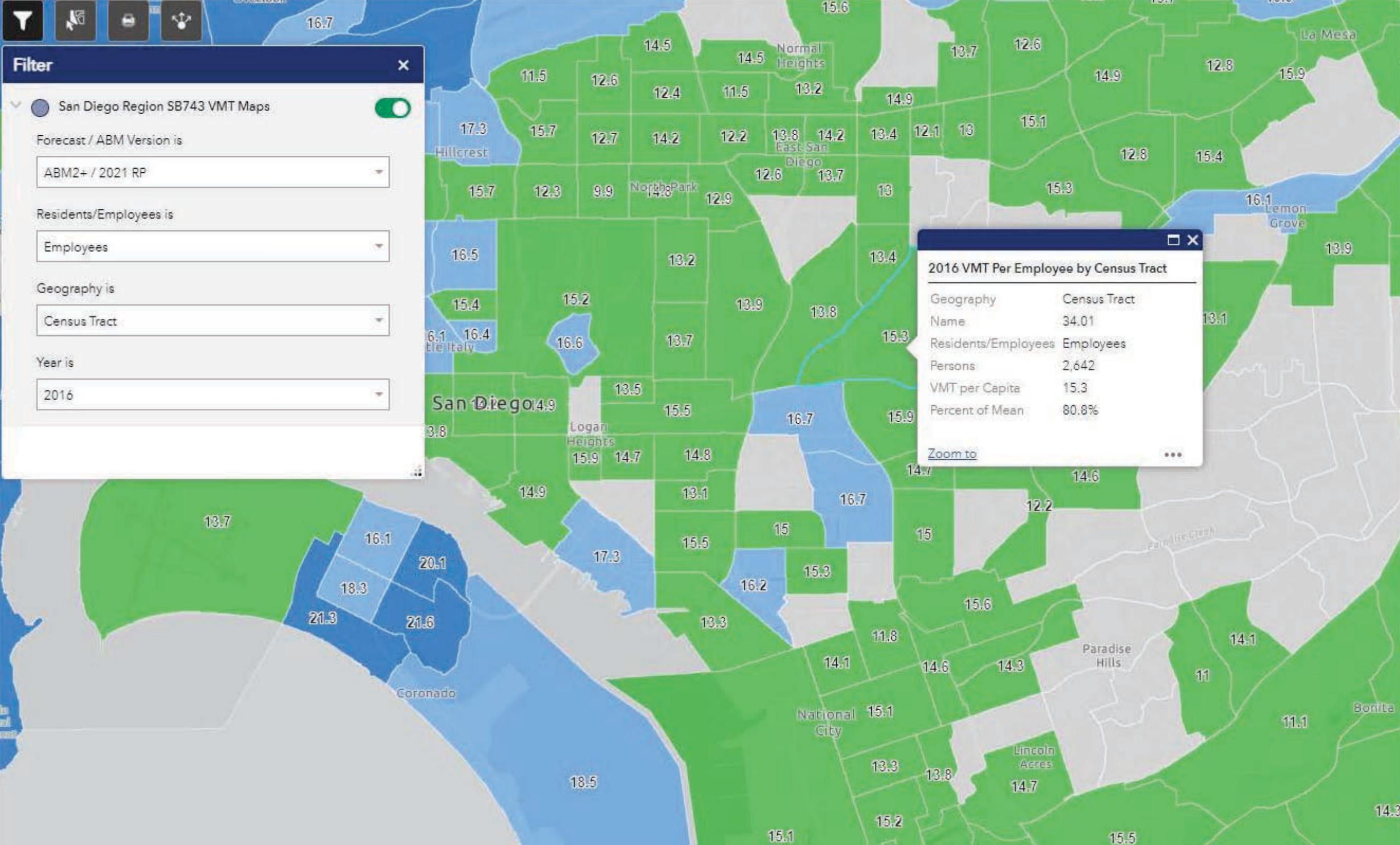
- ✓ Based on the VMT analysis included in Chapter 2, the project has a less than significant CEQA transportation impact.
- ✓ Based on the analysis included in Chapters 3 through 5, there are no locations where level of service E or F are expected at any study area intersection with the assumed signal modification to include an eastbound right turn arrow overlap phase at Federal Boulevard and 47th Street. This modification will need to be coordinated with the City of San Diego. Traffic conditions with the project are expected to be adequate and no off-site improvements are expected to be needed other than the traffic signal that is proposed as part of the project and the signal modification at Federal Boulevard and 47th Street. The roadway network has been designed for peak traffic conditions and the traffic levels associated with the project can be accommodated without exceeding the capacity of the roadway system.

Appendix

(July 11,2022)

Appendix - A

SANDAG VMT Plots



Appendix - B

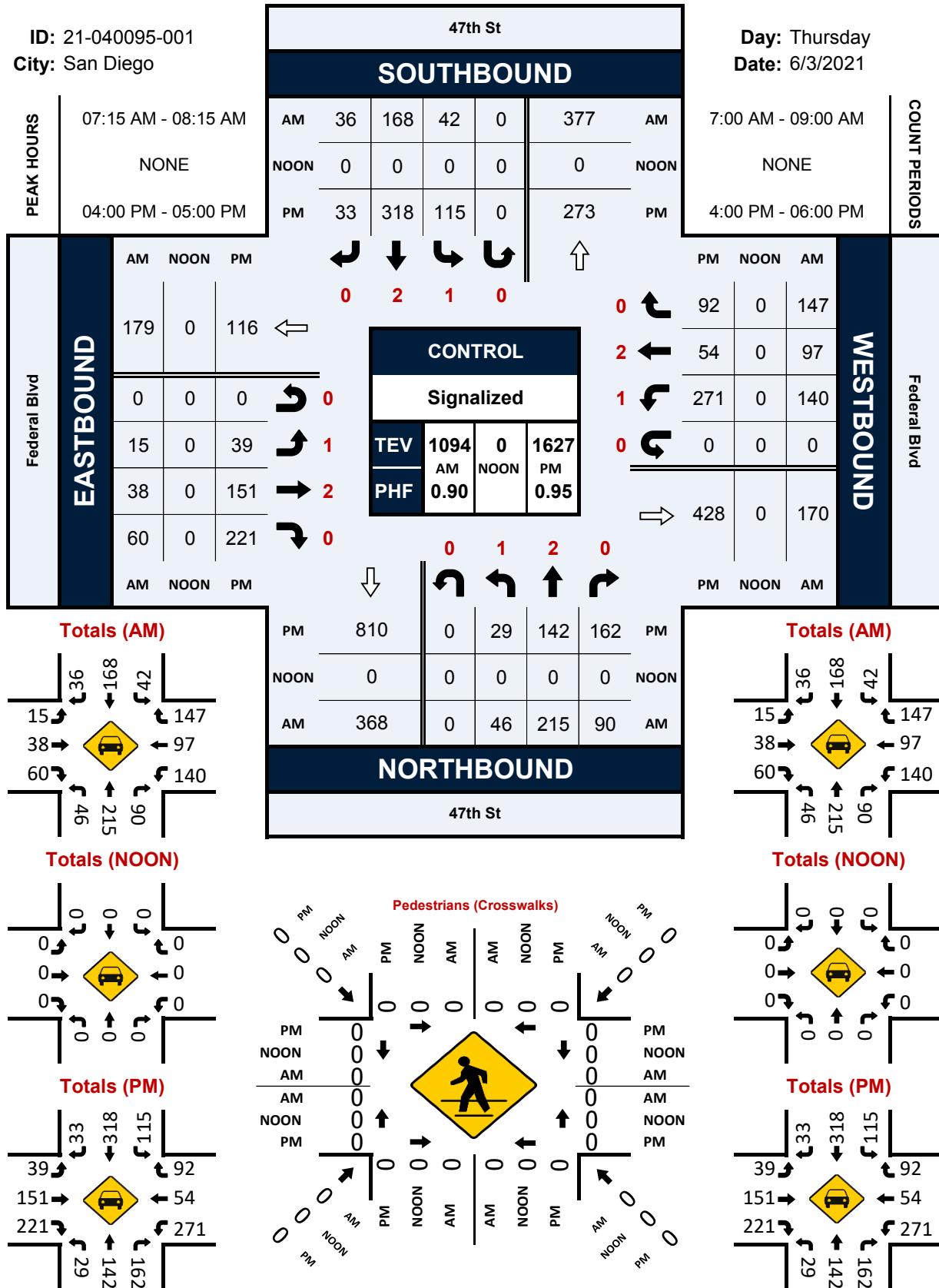
Traffic Counts

47th St & Federal Blvd

Peak Hour Turning Movement Count

ID: 21-040095-001
City: San Diego

Day: Thursday
Date: 6/3/2021

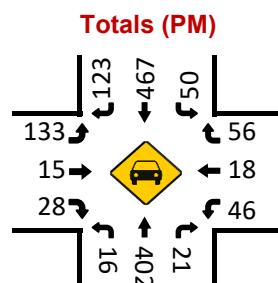
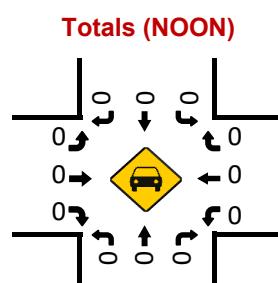
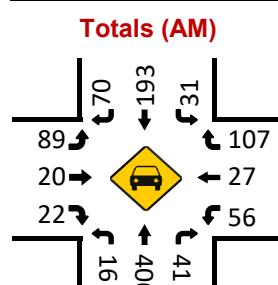


47th St & Hilltop Dr

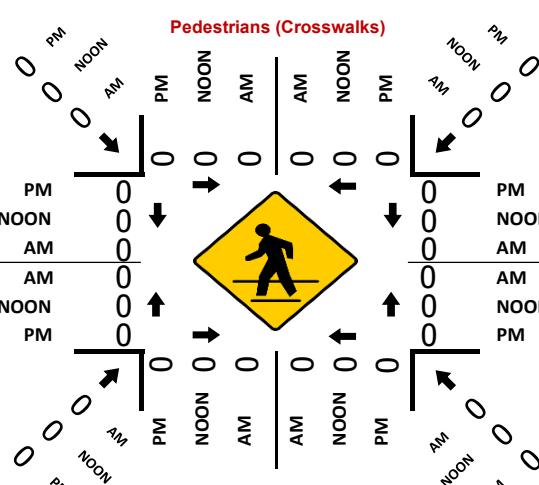
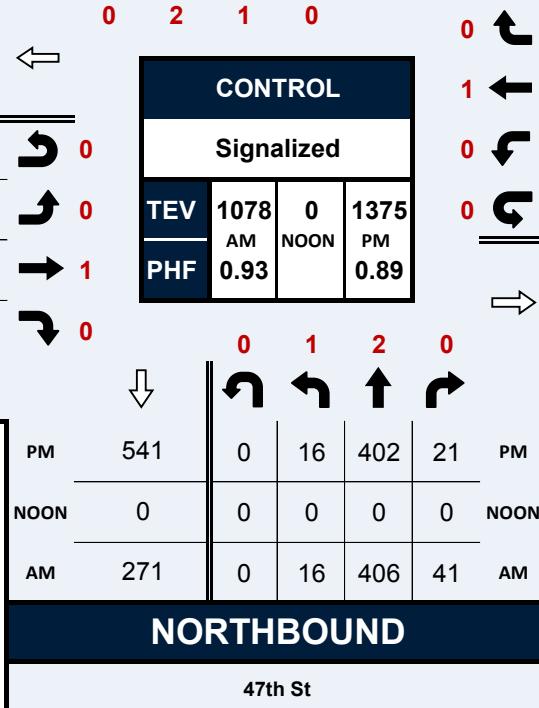
ID: 21-040095-002
City: San Diego

PEAK HOURS	07:15 AM - 08:15 AM NONE 04:00 PM - 05:00 PM
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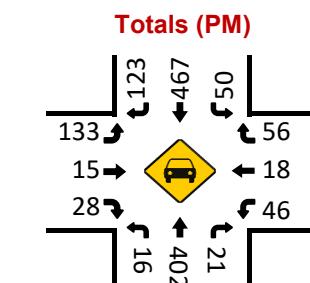
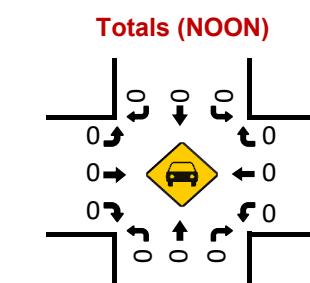
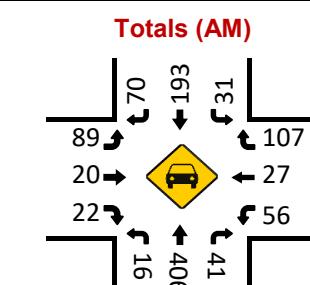
	AM	NOON	PM
Hilltop Dr	113	0	15
EASTBOUND	0	0	0
	89	0	13
	20	0	15
	22	0	28
	AM	NOON	PM



SOUTHBOUND					
AM	70	193	31	0	602 AM
NOON	0	0	0	0	0 NOON
PM	123	467	50	0	591 PM



Day: Thursday			Date: 6/3/2021	COUNT PERIODS
7:00 AM - 09:00 AM			NONE	
4:00 PM - 06:00 PM				
PM	NOON	AM		
56	0	107		
18	0	27		
46	0	56		
0	0	0		
			WESTBOUND	Hilltop Dr
86	0	92		
PM	NOON	AM		



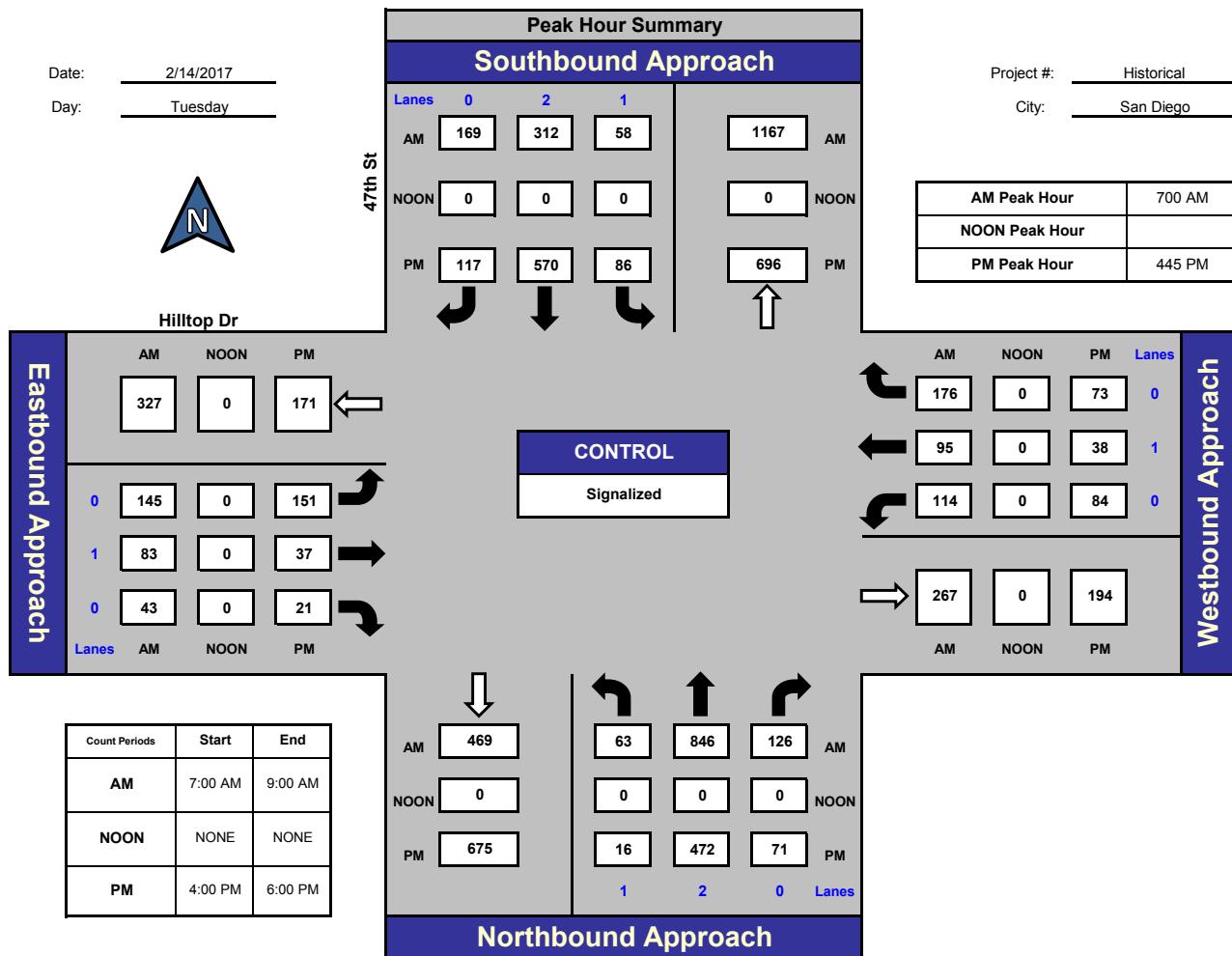
ITM Peak Hour Summary

Prepared by:



National Data & Surveying Services

47th St and Hilltop Dr , San Diego



Total Ins & Outs

			North Leg		
			AM	NOON	PM
AM	539	1167			
NOON	0	0			
PM	773	696			
			East Leg		
			AM	NOON	PM
AM	385	0	195		
NOON	267	0	194		
PM	598	0	380		
			West Leg		
			AM	NOON	PM
AM	469	1035			
NOON	0	0			
PM	675	559			
			South Leg		
			AM	NOON	PM

Total Volume Per Leg

North Leg			AM		
			NOON		
			PM		
AM	1706				
NOON	0				
PM	1469				
			East Leg		
			AM	NOON	PM
AM	652	0	389		
NOON	1504				
PM	0				
			West Leg		
			AM	NOON	PM
AM	598	0	380		
NOON	1234				
PM	0				
			South Leg		
			AM	NOON	PM

VOLUME

47th St Bet. SR-94 EB Ramps & Hilltop Dr

Day: Thursday
Date: 6/3/2021

City: San Diego
Project #: CA21_040096_001

DAILY TOTALS				NB	SB	EB	WB					Total
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
00:00	13	19			32	12:00	106	82				188
00:15	19	7			26	12:15	106	113				219
00:30	15	15			30	12:30	97	81				178
00:45	8	55	5	46	13 101	12:45	114	423	99	375		213 798
01:00	6	6			12	13:00	125	85				210
01:15	10	4			14	13:15	117	92				209
01:30	17	8			25	13:30	116	92				208
01:45	5	38	5	23	10 61	13:45	109	467	103	372		212 839
02:00	13	3			16	14:00	141	86				227
02:15	4	9			13	14:15	149	120				269
02:30	3	2			5	14:30	165	154				319
02:45	4	24	5	19	9 43	14:45	158	613	132	492		290 1105
03:00	6	5			11	15:00	147	117				264
03:15	9	4			13	15:15	132	139				271
03:30	13	9			22	15:30	127	158				285
03:45	10	38	4	22	14 60	15:45	127	533	152	566		279 1099
04:00	13	3			16	16:00	175	167				342
04:15	16	2			18	16:15	141	171				312
04:30	22	10			32	16:30	155	169				324
04:45	17	68	5	20	22 88	16:45	118	589	143	650		261 1239
05:00	23	11			34	17:00	142	132				274
05:15	39	16			55	17:15	138	138				276
05:30	60	21			81	17:30	143	149				292
05:45	84	206	33	81	117 287	17:45	120	543	112	531		232 1074
06:00	67	13			80	18:00	122	129				251
06:15	89	37			126	18:15	97	109				206
06:30	87	38			125	18:30	127	88				215
06:45	100	343	38	126	138 469	18:45	87	433	92	418		179 851
07:00	105	49			154	19:00	97	68				165
07:15	143	77			220	19:15	103	77				180
07:30	170	68			238	19:30	81	85				166
07:45	162	580	84	278	246 858	19:45	85	366	72	302		157 668
08:00	119	69			188	20:00	85	68				153
08:15	131	78			209	20:15	103	67				170
08:30	126	98			224	20:30	63	49				112
08:45	142	518	93	338	235 856	20:45	57	308	63	247		120 555
09:00	124	73			197	21:00	71	55				126
09:15	96	78			174	21:15	53	45				98
09:30	97	85			182	21:30	48	46				94
09:45	96	413	71	307	167 720	21:45	48	220	32	178		80 398
10:00	95	67			162	22:00	40	34				74
10:15	113	69			182	22:15	40	37				77
10:30	99	63			162	22:30	39	27				66
10:45	103	410	69	268	172 678	22:45	31	150	28	126		59 276
11:00	108	76			184	23:00	18	27				45
11:15	110	76			186	23:15	31	19				50
11:30	92	80			172	23:30	23	23				46
11:45	114	424	64	296	178 720	23:45	19	91	11	80		30 171
TOTALS	3117				4941	TOTALS	4736					9073
SPLIT %	63.1%				35.3%	SPLIT %	52.2%					64.7%

DAILY TOTALS				NB	SB	EB	WB					Total
AM Peak Hour	07:15	08:15		07:15	PM Peak Hour	14:15	15:45					15:45
AM Pk Volume	594	342		892	PM Pk Volume	619	659					1257
Pk Hr Factor	0.874	0.872		0.907	Pk Hr Factor	0.938	0.963					0.919
7 - 9 Volume	1098	616	0	0	1714	4 - 6 Volume	1132	1181	0	0		2313
7 - 9 Peak Hour	07:15	08:00		07:15	4 - 6 Peak Hour	16:00	16:00					16:00
7 - 9 Pk Volume	594	338	0	0	892	4 - 6 Pk Volume	589	650	0	0		1239
Pk Hr Factor	0.874	0.862	0.000	0.000	0.907	Pk Hr Factor	0.841	0.950	0.000	0.000		0.906

VOLUME

47th St Bet. Hilltop Dr & Market St

Day: Thursday
Date: 6/3/2021

City: San Diego
Project #: CA21_040096_002

DAILY TOTALS				NB 5,948	SB 5,045	EB 0	WB 0	Total 10,993			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	Total
00:00	12	13			25	12:00	78	71			149
00:15	20	6			26	12:15	79	78			157
00:30	13	5			18	12:30	75	63			138
00:45	8	53	6	30	14	12:45	84	316	72	284	156 600
01:00	6	2			8	13:00	91	70			161
01:15	8	2			10	13:15	101	75			176
01:30	10	3			13	13:30	99	83			182
01:45	8	32	3	10	11	13:45	102	393	76	304	178 697
02:00	13	3			16	14:00	112	75			187
02:15	3	4			7	14:15	119	106			225
02:30	2	2			4	14:30	125	134			259
02:45	4	22	4	13	8	14:45	116	472	112	427	228 899
03:00	5	6			11	15:00	116	100			216
03:15	8	2			10	15:15	78	121			199
03:30	8	4			12	15:30	97	124			221
03:45	6	27	3	15	9	15:45	106	397	116	461	222 858
04:00	10	4			14	16:00	124	138			262
04:15	10	4			14	16:15	111	139			250
04:30	13	6			19	16:30	117	132			249
04:45	13	46	6	20	19	16:45	97	449	123	532	220 981
05:00	13	8			21	17:00	99	122			221
05:15	28	14			42	17:15	100	131			231
05:30	35	21			56	17:30	120	116			236
05:45	52	128	30	73	82	17:45	88	407	109	478	197 885
06:00	62	19			81	18:00	94	82			176
06:15	54	29			83	18:15	77	83			160
06:30	60	35			95	18:30	82	74			156
06:45	86	262	46	129	132	18:45	76	329	71	310	147 639
07:00	84	36			120	19:00	75	64			139
07:15	106	71			177	19:15	71	59			130
07:30	111	80			191	19:30	67	63			130
07:45	136	437	74	261	210	19:45	66	279	57	243	123 522
08:00	94	54			148	20:00	55	61			116
08:15	89	75			164	20:15	76	48			124
08:30	88	69			157	20:30	49	34			83
08:45	107	378	66	264	173	20:45	51	231	43	186	94 417
09:00	106	56			162	21:00	52	57			109
09:15	63	67			130	21:15	35	31			66
09:30	76	68			144	21:30	37	29			66
09:45	85	330	68	259	153	21:45	34	158	22	139	56 297
10:00	65	53			118	22:00	33	30			63
10:15	93	61			154	22:15	31	19			50
10:30	58	51			109	22:30	32	20			52
10:45	77	293	55	220	132	22:45	22	118	19	88	41 206
11:00	80	59			139	23:00	16	16			32
11:15	81	63			144	23:15	17	9			26
11:30	71	64			135	23:30	21	12			33
11:45	90	322	63	249	153	23:45	15	69	13	50	28 119
TOTALS	2330				3873	TOTALS	3618				7120
SPLIT %	60.2%				35.2%	SPLIT %	50.8%				64.8%
DAILY TOTALS				NB 5,948	SB 5,045	EB 0	WB 0	Total 10,993			
AM Peak Hour	07:15	07:30		07:15	PM Peak Hour	14:15	16:00			15:45	
AM Pk Volume	447	283		726	PM Pk Volume	476	532			983	
Pk Hr Factor	0.822	0.884		0.864	Pk Hr Factor	0.952	0.957			0.938	
7 - 9 Volume	815	525	0	0	1340	4 - 6 Volume	856	1010	0	0	1866
7 - 9 Peak Hour	07:15	07:30		07:15	4 - 6 Peak Hour	16:00	16:00			16:00	
7 - 9 Pk Volume	447	283	0	0	726	4 - 6 Pk Volume	449	532	0	0	981
Pk Hr Factor	0.822	0.884	0.000	0.000	0.864	Pk Hr Factor	0.905	0.957	0.000	0.000	0.936

VOLUME

47th St Bet. SR-94 EB Ramps & Hilltop Dr

Day: Tuesday
Date: 2/14/2017

City: San Diego
Project #: Historical

DAILY TOTALS				NB 9,787	SB 7,478	EB 0	WB 0	Total 17,265			
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
0:00	12	8			20	12:00	152	91			243
0:15	9	11			20	12:15	132	95			227
0:30	9	7			16	12:30	111	88			199
0:45	8	38	5	31	69	12:45	110	505	101	375	211 880
1:00	8	4			12	13:00	99	95			194
1:15	8	4			12	13:15	133	102			235
1:30	8	5			13	13:30	150	104			254
1:45	10	34	4	17	51	13:45	146	528	102	403	248 931
2:00	3	3			6	14:00	124	109			233
2:15	6	6			12	14:15	126	130			256
2:30	6	2			8	14:30	157	140			297
2:45	5	20	3	14	34	14:45	187	594	158	537	345 1131
3:00	6	2			8	15:00	178	181			359
3:15	5	1			6	15:15	186	142			328
3:30	18	3			21	15:30	190	186			376
3:45	14	43	2	8	51	15:45	177	731	186	695	363 1426
4:00	6	1			7	16:00	199	172			371
4:15	10	6			16	16:15	196	179			375
4:30	21	7			28	16:30	189	173			362
4:45	29	66	10	24	90	16:45	206	790	184	708	390 1498
5:00	25	9			34	17:00	180	218			398
5:15	47	10			57	17:15	173	193			366
5:30	70	19			89	17:30	189	209			398
5:45	95	237	23	61	298	17:45	183	725	185	805	368 1530
6:00	106	36			142	18:00	148	172			320
6:15	128	50			178	18:15	120	127			247
6:30	188	62			250	18:30	121	127			248
6:45	239	661	101	249	910	18:45	111	500	94	520	205 1020
7:00	254	139			393	19:00	98	91			189
7:15	333	178			511	19:15	99	86			185
7:30	320	176			496	19:30	84	67			151
7:45	272	1179	150	643	1822	19:45	107	388	64	308	171 696
8:00	231	155			386	20:00	60	58			118
8:15	180	122			302	20:15	65	55			120
8:30	173	127			300	20:30	61	45			106
8:45	166	750	117	521	1271	20:45	68	254	45	203	113 457
9:00	108	74			182	21:00	58	55			113
9:15	114	79			193	21:15	58	57			115
9:30	116	66			182	21:30	38	33			71
9:45	106	444	79	298	742	21:45	38	192	34	179	72 371
10:00	113	89			202	22:00	32	34			66
10:15	108	72			180	22:15	42	36			78
10:30	114	100			214	22:30	29	34			63
10:45	112	447	65	326	773	22:45	33	136	15	119	48 255
11:00	92	96			188	23:00	18	28			46
11:15	108	85			193	23:15	24	14			38
11:30	115	89			204	23:30	16	20			36
11:45	129	444	92	362	806	23:45	23	81	10	72	33 153
TOTALS	4363	2554			6917	TOTALS	5424	4924			10348
SPLIT %	63.1%	36.9%			40.1%	SPLIT %	52.4%	47.6%			59.9%

DAILY TOTALS				NB 9,787	SB 7,478	EB 0	WB 0	Total 17,265
AM Peak Hour	7:00	7:15		7:00	PM Peak Hour	16:00	17:00	16:45
AM Pk Volume	1179	659		1822	PM Pk Volume	790	805	1552
Pk Hr Factor	0.885	0.926		0.891	Pk Hr Factor	0.959	0.923	0.975
7 - 9 Volume	1929	1164	0	3093	4 - 6 Volume	1515	1513	3028
7 - 9 Peak Hour	7:00	7:15		7:00	4 - 6 Peak Hour	16:00	17:00	16:45
7 - 9 Pk Volume	1179	659	0	1822	4 - 6 Pk Volume	790	805	1552
Pk Hr Factor	0.885	0.926	0.000	0.891	Pk Hr Factor	0.959	0.923	0.975

VOLUME

47th St Bet. Hilltop Dr & Market St

Day: Tuesday
Date: 2/14/2017

City: San Diego
Project #: Historical

DAILY TOTALS				NB	SB	EB	WB					Total
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL	
0:00	8	8			16	12:00	119	62			181	
0:15	9	8			17	12:15	112	78			190	
0:30	5	4			9	12:30	85	60			145	
0:45	7	29	3	23	10	12:45	88	404	86	286	174 690	
1:00	4	4			8	13:00	85	79			164	
1:15	7	2			9	13:15	103	77			180	
1:30	5	5			10	13:30	111	91			202	
1:45	5	21	2	13	7	13:45	109	408	80	327	189 735	
2:00	3	5			8	14:00	94	76			170	
2:15	5	4			9	14:15	116	96			212	
2:30	4	1			5	14:30	128	135			263	
2:45	7	19	4	14	11	14:45	153	491	127	434	280 925	
3:00	4	2			6	15:00	158	151			309	
3:15	3	2			5	15:15	140	117			257	
3:30	11	4			15	15:30	142	156			298	
3:45	14	32	2	10	16	15:45	124	564	150	574	274 1138	
4:00	4	2			6	16:00	149	138			287	
4:15	8	4			12	16:15	147	153			300	
4:30	12	12			24	16:30	168	144			312	
4:45	22	46	11	29	33	16:45	155	619	150	585	305 1204	
5:00	16	10			26	17:00	143	183			326	
5:15	30	11			41	17:15	138	181			319	
5:30	40	17			57	17:30	145	182			327	
5:45	70	156	20	58	90	17:45	135	561	133	679	268 1240	
6:00	76	31			107	18:00	104	138			242	
6:15	111	44			155	18:15	84	102			186	
6:30	144	59			203	18:30	92	103			195	
6:45	202	533	83	217	285	18:45	72	352	76	419	148 771	
7:00	240	125			365	19:00	74	62			136	
7:15	229	162			391	19:15	70	66			136	
7:30	248	143			391	19:30	73	58			131	
7:45	252	969	104	534	356	19:45	85	302	52	238	137 540	
8:00	216	104			320	20:00	51	44			95	
8:15	160	98			258	20:15	51	40			91	
8:30	130	88			218	20:30	44	33			77	
8:45	115	621	90	380	205	20:45	54	200	38	155	92 355	
9:00	80	64			144	21:00	50	42			92	
9:15	84	61			145	21:15	48	45			93	
9:30	87	57			144	21:30	30	25			55	
9:45	81	332	56	238	137	21:45	32	160	20	132	52 292	
10:00	81	72			153	22:00	29	29			58	
10:15	65	51			116	22:15	33	21			54	
10:30	84	74			158	22:30	30	22			52	
10:45	79	309	49	246	128	22:45	20	112	8	80	28 192	
11:00	77	68			145	23:00	16	19			35	
11:15	79	70			149	23:15	20	10			30	
11:30	91	72			163	23:30	12	14			26	
11:45	102	349	66	276	168	23:45	18	66	13	56	31 122	
TOTALS	3416				5454	TOTALS	4239				8204	
SPLIT %	62.6%				39.9%	SPLIT %	51.7%				60.1%	

DAILY TOTALS				NB	SB	EB	WB					Total
AM Peak Hour	7:00	7:00		7:00	PM Peak Hour	16:00	16:45					16:45
AM Pk Volume	969	534		1503	PM Pk Volume	619	696					1277
Pk Hr Factor	0.961	0.824		0.961	Pk Hr Factor	0.921	0.951					0.976
7 - 9 Volume	1590	914	0	0	2504	4 - 6 Volume	1180	1264	0	0		2444
7 - 9 Peak Hour	7:00	7:00		7:00	4 - 6 Peak Hour	16:00	16:45					16:45
7 - 9 Pk Volume	969	534	0	0	1503	4 - 6 Pk Volume	619	696	0	0		1277
Pk Hr Factor	0.961	0.824	0.000	0.000	0.961	Pk Hr Factor	0.921	0.951	0.000	0.000		0.976

City of San Diego

<u>Primary Street</u>	<u>1st Cross Street</u>	<u>2nd Cross Street</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
35TH ST	FLORENCE ST	LOGAN AVE	7500	7500 N	7500 N	6400	6400 N
35TH ST	LOGAN AVE	NATIONAL AVE	5700	5700 N	5700 N	5300	5300 N
38TH ST	IMPERIAL AVE	OCEAN VIEW BLVD	1600 N	1600 N	1600 N	1400	1400 N
38TH ST	OCEAN VIEW BLVD	NATIONAL AVE	4300 N	4300 N	4300 N	4300	4300 N
38TH ST/ACACIA ST	NATIONAL AVE	VESTA ST	4900 N				
40TH ST	OCEAN VIEW BLVD	IMPERIAL AVE	4700 N	4700 N	4700 N	3300	3300 N
43RD ST	MEADE AVE	EL CAJON BLVD	7500	7500 N	7500 N	7400	7400 N
43RD ST	EL CAJON BLVD	ORANGE AVE	6000	6000 N	6000 N	6100	6100 N
43RD ST	ORANGE AVE	UNIVERSITY AVE	5600 N	5600 N	3300	3300 N	3300 N
43RD ST	UNIVERSITY AVE	WIGHTMAN ST	5200 N	5200 N	5300	5500	5500 N
43RD ST	WIGHTMAN ST	FAIRMOUNT AVE	3400 N	3200	3200 N	3200 N	3800
43RD ST	LOGAN AVE	NATIONAL AVE	11400 N				
43RD ST	NATIONAL AVE	I-805 RAMPS	15400 N	15400 N	15400 N	15500	15500 N
43RD ST	I-805 RAMPS	DELTA ST	14700 N	14700 N	14700 N	15200	15200 N
45TH ST	OCEAN VIEW BLVD	LOGAN AVE	3000 N	3000 N	3000 N	2100	2100 N
			11200 N	11200 N	11200 N	13600	
47TH ST	HILLTOP DR	MARKET ST	11200 N	9700	12300	12300 N	10400
47TH ST	MARKET ST	IMPERIAL AVE	10300 N	10400	10000	10000 N	10700
47TH ST	IMPERIAL AVE	OCEAN VIEW BLVD	11100 N	12000	12000 N	12000 N	13000
47TH ST	OCEAN VIEW BLVD	LOGAN AVE	11100 N	11100 N	11100 N	9900	9900 N
47TH ST	LOGAN AVE	INTERSTATE 805	8800 N	9500	9500 N	9500 N	10700
51ST ST/ROSWELL ST	MARKET ST	KELTON RD	2500 N	2400	2400 N	2400 N	2000
54TH ST	MONTEZUMA RD	BAJA DR	3600 N	3600 N	3200	3200 N	3200 N
54TH ST	BAJA DR	COLLWOOD BLVD	2900 N	2900 N	2500	2500 N	2500 N
54TH ST	COLLWOOD BLVD	EL CAJON BLVD	22900 N	21300	21600	21600 N	23000
54TH ST	EL CAJON BLVD	ORANGE AVE	21900 N	21100	21100 N	22300	23100
54TH ST	ORANGE AVE	UNIVERSITY AVE	21200 N	25200	25200 N	25200 N	30400
54TH ST	UNIVERSITY AVE	CHOLLAS PKWY	18100 N	19500	19500 N	19000	18400
54TH ST	CHOLLAS PKWY	STREAMVIEW DR	18800	18800 N	18800 N	21200	21200 N
54TH ST	STREAMVIEW DR	REDWOOD ST	23000 N	23000 N	23000 N	21200	21200 N
54TH ST	REDWOOD ST	COLLEGE GROVE DR	21300	19900	21300	21300 N	22700
54TH ST	COLLEGE GROVE DR	EUCLID AVE	19300 N	19300 N	19300 N	21700	21700 N

N = Link not counted in that year. Previous year's count carried forward.

E = No actual count. ADT was estimated by the reporting jurisdiction.

City of San Diego

<u>Primary Street</u>	<u>1st Cross Street</u>	<u>2nd Cross Street</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
FAIRMOUNT AVE	MONTEZUMA RD	ALDINE DR	35600 N				
FAIRMOUNT AVE	ALDINE DR	MEADE AVE	16800 N				
FAIRMOUNT AVE	MEADE AVE	EL CAJON BLVD	7300 N	7900	7900 N	7900 N	7400
FAIRMOUNT AVE	EL CAJON BLVD	ORANGE AVE	12800 N	11100	10700	10700 N	11400
FAIRMOUNT AVE	ORANGE AVE	UNIVERSITY AVE	11900 N	11900 N	12400	12400 N	12400 N
FAIRMOUNT AVE	UNIVERSITY AVE	WIGHTMAN ST	14400 N	14400 N	13500	13500 N	13500 N
FAIRMOUNT AVE	WIGHTMAN ST	THORN ST	13100 N	14100	13100	13100 N	11100
FAIRMOUNT AVE	THORN ST	POPLAR ST	17900 N	17900 N	18200	18200 N	18200 N
FAIRMOUNT AVE	POPLAR ST	HOME AVE	17700 N	17700 N	19200	17500	19000
FAIRMOUNT AVE/47TH ST	HOME AVE	FEDERAL BLVD	9800 N	9800 N	6300	11000	11000 N
FAMOSA BLVD	NIMITZ BLVD	VALETA ST	7400 N	7400 N	7700	7700 N	10000
FANUEL ST	ALTA LA JOLLA DR	TURQUOISE ST	6500 N	5900	5900 N	5900 N	3600
FANUEL ST	TURQUOISE ST	LORING ST	3000 N	3000 N	3000 N	3000	3000 N
FANUEL ST	LORING ST	GARNET AVE	3900 N	3900 N	3900 N	3800	3500
FANUEL ST	GARNET AVE	GRAND AVE	6700 N	6700	5500	5500 N	5500 N
FANUEL ST	GRAND AVE	PACIFIC BEACH DR	4000 N	4000 N	4000 N	4000	3900
FASHION VALLEY RD	HOTEL CIRCLE NORTH	FRIARS RD	10700 N				
FATHER JUNIPERO SERRA TR	MISSION GORGE RD	MISSION GORGE RD	2300 N	2300 N	2300 N	3100	3100 N
FAY AVE	PROSPECT ST	PEARL ST	4300 N				
FAY AVE	PEARL ST	WEST MUIRLANDS DR	8900 N	8900 N	8900 N	8300	7300
FAY AVE	WEST MUIRLANDS DR	NAUTILUS ST	7500 N				
			3100	3100 N	3100 N	3100 N	N
FEDERAL BLVD	47TH ST	EUCLID AVE	10300 N	10500	10500 N	10500 N	9200
FEDERAL/BAYVIEW HTS	EUCLID AVE	ROUTE 94	10000 N	8000	8000 N	8000 N	8600
FEDERAL BLVD (RT94 RAMP)	ROUTE 94	60TH ST	18600	18600 N	18600 N	18600 N	18600 N
FEDERAL BLVD	60TH ST	MALLARD ST	17200	17200 N	17200 N	17200 N	17200 N
FEDERAL BLVD	MALLARD ST	MACARTHUR DR	11000 N	10900	10900 N	10900 N	9700
FELSPAR ST	FANUEL ST	INGRAHAM ST	4400 N	4400 N	4400 N	3300	3300 N
FERN ST	JUNIPER ST	GRAPE ST	7400 N	7400 N	7300	7300 N	7300 N
FERN ST	GRAPE ST	A ST	8900 N	8100	8600	8600 N	9100
FIELD ST	COWLEY WY	FAIRFIELD ST	7900 N				
FLANDERS DR	MIRA MESA BLVD	CAMINO SANTA FE	6400 N	7500	7500 N	7500 N	7600

N = Link not counted in that year. Previous year's count carried forward.

E = No actual count. ADT was estimated by the reporting jurisdiction.

Appendix - C

Synchro Analysis

Existing Traffic Counts(2022)

AM Peak hour

HCM 6th Signalized Intersection Summary

1: 47th Street & Federal Boulevard

04/28/2022

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑ ↗	↑ ↘	↗ ↙	↑ ↗	↑ ↘	↗ ↙	↑ ↗	↑ ↘	↗ ↙	↑ ↗	↑ ↘	↗ ↙
Traffic Volume (veh/h)	20	58	83	193	134	202	63	296	124	158	232	50
Future Volume (veh/h)	20	58	83	193	134	202	63	296	124	158	232	50
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	22	63	90	210	146	220	68	322	135	172	252	54
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	51	177	150	255	714	318	101	1369	611	213	1310	276
Arrive On Green	0.03	0.10	0.10	0.14	0.20	0.20	0.06	0.39	0.39	0.12	0.45	0.45
Sat Flow, veh/h	1767	1856	1572	1767	3526	1572	1767	3526	1572	1767	2898	610
Grp Volume(v), veh/h	22	63	90	210	146	220	68	322	135	172	152	154
Grp Sat Flow(s), veh/h/ln	1767	1856	1572	1767	1763	1572	1767	1763	1572	1767	1763	1746
Q Serve(g_s), s	1.0	2.7	4.6	9.7	2.9	10.9	3.2	5.2	4.8	8.0	4.3	4.5
Cycle Q Clear(g_c), s	1.0	2.7	4.6	9.7	2.9	10.9	3.2	5.2	4.8	8.0	4.3	4.5
Prop In Lane	1.00			1.00	1.00		1.00	1.00		1.00	1.00	0.35
Lane Grp Cap(c), veh/h	51	177	150	255	714	318	101	1369	611	213	797	789
V/C Ratio(X)	0.43	0.36	0.60	0.82	0.20	0.69	0.68	0.24	0.22	0.81	0.19	0.20
Avail Cap(c_a), veh/h	152	513	435	567	1804	805	230	1369	611	483	797	789
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	35.5	36.4	34.9	27.8	31.0	38.8	17.3	17.2	35.9	13.8	13.8
Incr Delay (d2), s/veh	5.7	1.2	3.8	6.6	0.1	2.7	7.7	0.4	0.8	7.0	0.5	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.5	1.2	1.9	4.5	1.2	4.2	1.5	2.0	1.8	3.7	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.8	36.7	40.2	41.5	28.0	33.7	46.5	17.7	18.0	43.0	14.3	14.4
LnGrp LOS	D	D	D	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		175			576			525			478	
Approach Delay, s/veh		39.6			35.1			21.5			24.6	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.2	37.7	17.2	13.8	9.9	43.0	8.2	22.8				
Change Period (Y+Rc), s	5.1	5.1	5.1	5.8	5.1	5.1	5.8	* 5.8				
Max Green Setting (Gmax), s	22.9	25.9	26.9	23.2	10.9	37.9	7.2	* 43				
Max Q Clear Time (g_c+l1), s	10.0	7.2	11.7	6.6	5.2	6.5	3.0	12.9				
Green Ext Time (p_c), s	0.4	2.3	0.5	0.5	0.1	1.8	0.0	1.7				
Intersection Summary												
HCM 6th Ctrl Delay				28.6								
HCM 6th LOS				C								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Vol, veh/h	0	161	247	0	0	0
Future Vol, veh/h	0	161	247	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	175	268	0	0	0

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	268	0	-	0	443	268
Stage 1	-	-	-	-	268	-
Stage 2	-	-	-	-	175	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1296	-	-	-	572	771
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	855	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1296	-	-	-	572	771
Mov Cap-2 Maneuver	-	-	-	-	572	-
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	855	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS		A	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1296	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↓	↑	↑	↑
Traffic Vol, veh/h	0	158	242	0	0	0
Future Vol, veh/h	0	158	242	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	172	263	0	0	0

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	263	0	-	0	435	263
Stage 1	-	-	-	-	263	-
Stage 2	-	-	-	-	172	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1301	-	-	-	578	776
Stage 1	-	-	-	-	781	-
Stage 2	-	-	-	-	858	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1301	-	-	-	578	776
Mov Cap-2 Maneuver	-	-	-	-	578	-
Stage 1	-	-	-	-	781	-
Stage 2	-	-	-	-	858	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS		A	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1301	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↓	↑	↑	↑
Traffic Vol, veh/h	0	158	252	0	0	0
Future Vol, veh/h	0	158	252	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	172	274	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	274	0	-
Stage 1	-	-	274
Stage 2	-	-	172
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1289	-	-
Stage 1	-	-	772
Stage 2	-	-	858
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1289	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	772
Stage 2	-	-	858

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS		A	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1289	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗	↘		
Traffic Vol, veh/h	22	149	216	31	12	8
Future Vol, veh/h	22	149	216	31	12	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	162	235	34	13	9

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	269	0	-	0	462	252
Stage 1	-	-	-	-	252	-
Stage 2	-	-	-	-	210	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1295	-	-	-	558	787
Stage 1	-	-	-	-	790	-
Stage 2	-	-	-	-	825	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1295	-	-	-	547	787
Mov Cap-2 Maneuver	-	-	-	-	547	-
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	825	-

Approach	EB	WB	SB
HCM Control Delay, s	1	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1295	-	-	-	623
HCM Lane V/C Ratio	0.018	-	-	-	0.035
HCM Control Delay (s)	7.8	-	-	-	11
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Existing Traffic Counts(2022)

PM Peak hour

HCM 6th Signalized Intersection Summary

1: 47th Street & Federal Boulevard

04/28/2022

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑	↑	↑↑	
Traffic Volume (veh/h)	40	54	304	373	74	126	40	196	223	59	438	46
Future Volume (veh/h)	40	54	304	373	74	126	40	196	223	59	438	46
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	43	59	330	405	80	137	43	213	242	64	476	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	73	431	365	443	1534	684	73	926	413	87	871	91
Arrive On Green	0.04	0.23	0.23	0.25	0.44	0.44	0.04	0.26	0.26	0.05	0.27	0.27
Sat Flow, veh/h	1767	1856	1572	1767	3526	1572	1767	3526	1572	1767	3221	337
Grp Volume(v), veh/h	43	59	330	405	80	137	43	213	242	64	260	266
Grp Sat Flow(s), veh/h/ln	1767	1856	1572	1767	1763	1572	1767	1763	1572	1767	1763	1795
Q Serve(g_s), s	2.5	2.6	21.0	22.9	1.3	5.5	2.5	4.9	13.8	3.7	13.0	13.1
Cycle Q Clear(g_c), s	2.5	2.6	21.0	22.9	1.3	5.5	2.5	4.9	13.8	3.7	13.0	13.1
Prop In Lane	1.00			1.00			1.00	1.00		1.00	1.00	0.19
Lane Grp Cap(c), veh/h	73	431	365	443	1534	684	73	926	413	87	477	485
V/C Ratio(X)	0.59	0.14	0.90	0.91	0.05	0.20	0.59	0.23	0.59	0.74	0.54	0.55
Avail Cap(c_a), veh/h	124	563	477	583	1985	886	103	926	413	122	477	485
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	31.3	38.3	37.4	16.8	18.0	48.4	29.7	33.0	48.2	32.1	32.1
Incr Delay (d2), s/veh	7.4	0.1	17.1	15.9	0.0	0.1	7.4	0.6	6.0	13.5	4.4	4.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	1.2	1.1	9.6	11.6	0.5	2.0	1.2	2.1	5.8	1.9	6.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	55.8	31.4	55.4	53.3	16.8	18.1	55.8	30.3	39.0	61.7	36.5	36.5
LnGrp LOS	E	C	E	D	B	B	E	C	D	E	D	D
Approach Vol, veh/h		432			622			498			590	
Approach Delay, s/veh		52.2			40.9			36.7			39.3	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.1	32.1	30.9	29.7	9.3	32.9	10.0	50.5				
Change Period (Y+Rc), s	5.1	5.1	5.1	5.8	5.1	5.1	5.8	* 5.8				
Max Green Setting (Gmax), s	7.1	26.7	33.9	31.2	6.0	27.8	7.2	* 58				
Max Q Clear Time (g_c+l1), s	5.7	15.8	24.9	23.0	4.5	15.1	4.5	7.5				
Green Ext Time (p_c), s	0.0	1.6	0.9	0.9	0.0	2.5	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay		41.8										
HCM 6th LOS			D									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↓	↑	↑	↑
Traffic Vol, veh/h	0	390	157	0	0	0
Future Vol, veh/h	0	390	157	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	424	171	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	171	0	-
Stage 1	-	-	171
Stage 2	-	-	424
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1406	-	-
Stage 1	-	-	859
Stage 2	-	-	660
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1406	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	859
Stage 2	-	-	660

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS		A	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1406	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↓	↑	↑	↑
Traffic Vol, veh/h	0	390	160	0	0	0
Future Vol, veh/h	0	390	160	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	424	174	0	0	0

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	174	0	-	0	598	174
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	424	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1403	-	-	-	465	869
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	660	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1403	-	-	-	465	869
Mov Cap-2 Maneuver	-	-	-	-	465	-
Stage 1	-	-	-	-	856	-
Stage 2	-	-	-	-	660	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS		A	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1403	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↗	↖	↗	↖
Traffic Vol, veh/h	0	398	157	0	0	0
Future Vol, veh/h	0	398	157	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	433	171	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	171	0	-
Stage 1	-	-	171
Stage 2	-	-	433
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1406	-	-
Stage 1	-	-	859
Stage 2	-	-	654
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1406	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	859
Stage 2	-	-	654

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS		A	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1406	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

Intersection

Int Delay, s/veh 1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗	↖	↗	↖
Traffic Vol, veh/h	7	368	146	14	30	21
Future Vol, veh/h	7	368	146	14	30	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	400	159	15	33	23

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	174	0	-
Stage 1	-	-	167
Stage 2	-	-	416
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1403	-	-
Stage 1	-	-	863
Stage 2	-	-	666
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1403	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	858
Stage 2	-	-	666

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1403	-	-	-	472	877
HCM Lane V/C Ratio	0.005	-	-	-	0.069	0.026
HCM Control Delay (s)	7.6	-	-	-	13.2	9.2
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0.1

**Opening Year 202* Traffic
Counts (Without Project)**

AM Peak hour

HCM 6th Signalized Intersection Summary

1: 47th Street & Federal Boulevard

04/28/2022

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	99	116	209	266	219	160	320	135	171	251	84
Future Volume (veh/h)	31	99	116	209	266	219	160	320	135	171	251	84
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	34	108	126	227	289	238	174	348	147	186	273	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	71	194	359	277	746	333	218	1169	521	231	886	289
Arrive On Green	0.04	0.10	0.10	0.16	0.21	0.21	0.12	0.33	0.33	0.13	0.34	0.34
Sat Flow, veh/h	1767	1856	1572	1767	3526	1572	1767	3526	1572	1767	2613	852
Grp Volume(v), veh/h	34	108	126	227	289	238	174	348	147	186	182	182
Grp Sat Flow(s), veh/h/ln	1767	1856	1572	1767	1763	1572	1767	1763	1572	1767	1763	1702
Q Serve(g_s), s	1.4	4.2	5.1	9.5	5.4	10.7	7.3	5.6	5.3	7.8	5.8	6.0
Cycle Q Clear(g_c), s	1.4	4.2	5.1	9.5	5.4	10.7	7.3	5.6	5.3	7.8	5.8	6.0
Prop In Lane	1.00			1.00	1.00		1.00	1.00		1.00	1.00	0.50
Lane Grp Cap(c), veh/h	71	194	359	277	746	333	218	1169	521	231	598	577
V/C Ratio(X)	0.48	0.56	0.35	0.82	0.39	0.71	0.80	0.30	0.28	0.80	0.30	0.31
Avail Cap(c_a), veh/h	167	564	672	646	2026	904	507	1169	521	530	598	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.9	32.5	24.7	31.2	25.8	28.0	32.6	18.9	18.8	32.2	18.6	18.7
Incr Delay (d2), s/veh	4.9	2.5	0.6	6.0	0.3	2.9	6.6	0.7	1.4	6.4	1.3	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.7	1.9	1.9	4.3	2.2	4.1	3.4	2.2	2.0	3.6	2.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.7	35.0	25.3	37.2	26.2	30.8	39.1	19.6	20.2	38.6	19.9	20.1
LnGrp LOS	D	C	C	D	C	C	D	B	C	D	B	C
Approach Vol, veh/h		268				754			669			550
Approach Delay, s/veh		31.2				31.0			24.8			26.3
Approach LOS		C				C			C			C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.1	30.4	17.1	13.8	14.5	31.0	8.9	22.0				
Change Period (Y+Rc), s	5.1	5.1	5.1	5.8	5.1	5.1	5.8	* 5.8				
Max Green Setting (Gmax), s	22.9	24.9	27.9	23.2	21.9	25.9	7.2	* 44				
Max Q Clear Time (g_c+l1), s	9.8	7.6	11.5	7.1	9.3	8.0	3.4	12.7				
Green Ext Time (p_c), s	0.4	2.5	0.6	0.8	0.4	1.9	0.0	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			28.0									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗	↖	↖	↗
Traffic Vol, veh/h	15	228	450	61	18	4
Future Vol, veh/h	15	228	450	61	18	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	248	489	66	20	4

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	555	0	-
Stage 1	-	-	-
Stage 2	-	-	280
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1015	-	-
Stage 1	-	-	595
Stage 2	-	-	767
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1015	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	585
Stage 2	-	-	767

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	15.2
HCM LOS		C	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1015	-	-	-	347	555
HCM Lane V/C Ratio	0.016	-	-	-	0.056	0.008
HCM Control Delay (s)	8.6	-	-	-	16	11.5
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗	↖	↖	↗
Traffic Vol, veh/h	15	240	393	61	3	4
Future Vol, veh/h	15	240	393	61	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	261	427	66	3	4

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	493	0	-	0	753	460
Stage 1	-	-	-	-	460	-
Stage 2	-	-	-	-	293	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1071	-	-	-	377	601
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	757	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1071	-	-	-	371	601
Mov Cap-2 Maneuver	-	-	-	-	371	-
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	757	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	12.6
HCM LOS		B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1071	-	-	-	371	601
HCM Lane V/C Ratio	0.015	-	-	-	0.009	0.007
HCM Control Delay (s)	8.4	-	-	-	14.8	11
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0	-	-	-	0	0

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗	↖	↖	↗
Traffic Vol, veh/h	15	253	337	61	3	4
Future Vol, veh/h	15	253	337	61	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	275	366	66	3	4

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	432	0	-	0	706	399
Stage 1	-	-	-	-	399	-
Stage 2	-	-	-	-	307	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1128	-	-	-	402	651
Stage 1	-	-	-	-	678	-
Stage 2	-	-	-	-	746	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1128	-	-	-	396	651
Mov Cap-2 Maneuver	-	-	-	-	396	-
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	746	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	12.1
HCM LOS		B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1128	-	-	-	396	651
HCM Lane V/C Ratio	0.014	-	-	-	0.008	0.007
HCM Control Delay (s)	8.2	-	-	-	14.2	10.6
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0	-	-	-	0	0

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑ ↗	↑ ↗	↗ ↗	↗ ↗	↗ ↗	↗ ↗
Traffic Vol, veh/h	39	207	247	94	61	13
Future Vol, veh/h	39	207	247	94	61	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	225	268	102	66	14

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	370	0	-	0	628	319
Stage 1	-	-	-	-	319	-
Stage 2	-	-	-	-	309	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1189	-	-	-	447	722
Stage 1	-	-	-	-	737	-
Stage 2	-	-	-	-	745	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1189	-	-	-	431	722
Mov Cap-2 Maneuver	-	-	-	-	431	-
Stage 1	-	-	-	-	711	-
Stage 2	-	-	-	-	745	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1189	-	-	-	431	722
HCM Lane V/C Ratio	0.036	-	-	-	0.154	0.02
HCM Control Delay (s)	8.1	-	-	-	14.9	10.1
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5	0.1

**Opening Year 202* Traffic
Counts (Without Project)
PM Peak hour**

HCM 6th Signalized Intersection Summary

1: 47th Street & Federal Boulevard

04/28/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑	↑	↑↑	
Traffic Volume (veh/h)	70	167	410	404	129	137	79	212	242	64	474	62
Future Volume (veh/h)	70	167	410	404	129	137	79	212	242	64	474	62
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No			No		No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	76	182	446	439	140	149	86	230	263	70	515	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	97	376	417	471	1439	642	110	1042	465	89	892	116
Arrive On Green	0.06	0.20	0.20	0.27	0.41	0.41	0.06	0.30	0.30	0.05	0.28	0.28
Sat Flow, veh/h	1767	1856	1572	1767	3526	1572	1767	3526	1572	1767	3138	407
Grp Volume(v), veh/h	76	182	446	439	140	149	86	230	263	70	288	294
Grp Sat Flow(s), veh/h/ln	1767	1856	1572	1767	1763	1572	1767	1763	1572	1767	1763	1782
Q Serve(g_s), s	4.9	9.9	23.2	27.7	2.8	7.1	5.5	5.6	16.2	4.5	16.0	16.1
Cycle Q Clear(g_c), s	4.9	9.9	23.2	27.7	2.8	7.1	5.5	5.6	16.2	4.5	16.0	16.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	97	376	417	471	1439	642	110	1042	465	89	501	506
V/C Ratio(X)	0.78	0.48	1.07	0.93	0.10	0.23	0.78	0.22	0.57	0.78	0.58	0.58
Avail Cap(c_a), veh/h	184	376	417	549	1443	643	246	1042	465	117	501	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	40.3	42.0	40.9	20.9	22.1	52.9	30.4	34.1	53.7	35.0	35.1
Incr Delay (d2), s/veh	12.7	1.0	64.3	21.2	0.0	0.2	11.5	0.5	4.9	21.8	4.8	4.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	2.4	4.5	18.9	14.6	1.1	2.6	2.8	2.4	6.7	2.5	7.4	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	66.1	41.3	106.3	62.2	20.9	22.3	64.4	30.9	39.0	75.4	39.8	39.9
LnGrp LOS	E	D	F	E	C	C	E	C	D	E	D	D
Approach Vol, veh/h	704				728			579			652	
Approach Delay, s/veh	85.1				46.1			39.5			43.7	
Approach LOS	F				D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	38.9	35.6	29.0	12.2	37.6	12.1	52.5				
Change Period (Y+Rc), s	5.1	5.1	5.1	5.8	5.1	5.1	5.8	* 5.8				
Max Green Setting (Gmax), s	7.6	33.8	35.5	23.2	15.9	25.5	11.9	* 47				
Max Q Clear Time (g_c+l1), s	6.5	18.2	29.7	25.2	7.5	18.1	6.9	9.1				
Green Ext Time (p_c), s	0.0	2.1	0.8	0.0	0.1	2.0	0.1	1.4				
Intersection Summary												
HCM 6th Ctrl Delay				54.4								
HCM 6th LOS				D								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑ ↗ ↘ ↗ ↗ ↗					
Traffic Vol, veh/h	0	593	245	24	54	14
Future Vol, veh/h	0	593	245	24	54	14
Conflicting Peds, #/hr	6	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	645	266	26	59	15

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	298	0	-	0	930	285
Stage 1	-	-	-	-	285	-
Stage 2	-	-	-	-	645	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1263	-	-	-	297	754
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	522	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1256	-	-	-	293	750
Mov Cap-2 Maneuver	-	-	-	-	293	-
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	519	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1256	-	-	-	293	750
HCM Lane V/C Ratio	-	-	-	-	0.2	0.02
HCM Control Delay (s)	0	-	-	-	20.3	9.9
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0	-	-	-	0.7	0.1

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Vol, veh/h	6	591	173	0	8	14
Future Vol, veh/h	6	591	173	0	8	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	642	188	0	9	15

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	188	0	-
Stage 1	-	-	188
Stage 2	-	-	656
Critical Hdwy	4.12	-	-
6.42	-	-	6.22
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	-
3.518	-	-	3.318
Pot Cap-1 Maneuver	1386	-	-
Stage 1	-	-	844
Stage 2	-	-	516
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1386	-	-
332	-	-	854
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	840
Stage 2	-	-	516

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1386	-	-	-	332	854
HCM Lane V/C Ratio	0.005	-	-	-	0.026	0.018
HCM Control Delay (s)	7.6	-	-	-	16.1	9.3
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↓	↑	↑	↑
Traffic Vol, veh/h	6	589	224	24	8	14
Future Vol, veh/h	6	589	224	24	8	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	640	243	26	9	15

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	269	0	-	0	910	256
Stage 1	-	-	-	-	256	-
Stage 2	-	-	-	-	654	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1295	-	-	-	305	783
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	517	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1295	-	-	-	303	783
Mov Cap-2 Maneuver	-	-	-	-	303	-
Stage 1	-	-	-	-	783	-
Stage 2	-	-	-	-	517	-

Approach

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1295	-	-	-	303	783
HCM Lane V/C Ratio	0.005	-	-	-	0.029	0.019
HCM Control Delay (s)	7.8	-	-	-	17.2	9.7
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1

Intersection

Int Delay, s/veh 5.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗	↖	↖	↗
Traffic Vol, veh/h	14	417	199	39	178	37
Future Vol, veh/h	14	417	199	39	178	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	453	216	42	193	40

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	258	0	-	0	720	237
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	483	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1307	-	-	-	395	802
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	620	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1307	-	-	-	391	802
Mov Cap-2 Maneuver	-	-	-	-	391	-
Stage 1	-	-	-	-	793	-
Stage 2	-	-	-	-	620	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	20.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1307	-	-	-	391	802
HCM Lane V/C Ratio	0.012	-	-	-	0.495	0.05
HCM Control Delay (s)	7.8	-	-	-	22.9	9.7
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0	-	-	-	2.7	0.2

**Opening Year 202* Traffic
Counts (With Project)
AM Peak hour**

HCM 6th Signalized Intersection Summary

1: 47th Street & Federal Boulevard

04/28/2022

Movement	EBL	EBT	EBC	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	99	116	209	266	219	160	320	135	171	251	84
Future Volume (veh/h)	31	99	116	209	266	219	160	320	135	171	251	84
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00		1.00	1.00		1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	34	108	126	227	289	238	174	348	147	186	273	91
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	71	194	359	277	746	333	218	1169	521	231	886	289
Arrive On Green	0.04	0.10	0.10	0.16	0.21	0.21	0.12	0.33	0.33	0.13	0.34	0.34
Sat Flow, veh/h	1767	1856	1572	1767	3526	1572	1767	3526	1572	1767	2613	852
Grp Volume(v), veh/h	34	108	126	227	289	238	174	348	147	186	182	182
Grp Sat Flow(s), veh/h/ln	1767	1856	1572	1767	1763	1572	1767	1763	1572	1767	1763	1702
Q Serve(g_s), s	1.4	4.2	5.1	9.5	5.4	10.7	7.3	5.6	5.3	7.8	5.8	6.0
Cycle Q Clear(g_c), s	1.4	4.2	5.1	9.5	5.4	10.7	7.3	5.6	5.3	7.8	5.8	6.0
Prop In Lane	1.00			1.00	1.00		1.00	1.00		1.00	1.00	0.50
Lane Grp Cap(c), veh/h	71	194	359	277	746	333	218	1169	521	231	598	577
V/C Ratio(X)	0.48	0.56	0.35	0.82	0.39	0.71	0.80	0.30	0.28	0.80	0.30	0.31
Avail Cap(c_a), veh/h	167	564	672	646	2026	904	507	1169	521	530	598	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.9	32.5	24.7	31.2	25.8	28.0	32.6	18.9	18.8	32.2	18.6	18.7
Incr Delay (d2), s/veh	4.9	2.5	0.6	6.0	0.3	2.9	6.6	0.7	1.4	6.4	1.3	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	0.7	1.9	1.9	4.3	2.2	4.1	3.4	2.2	2.0	3.6	2.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.7	35.0	25.3	37.2	26.2	30.8	39.1	19.6	20.2	38.6	19.9	20.1
LnGrp LOS	D	C	C	D	C	C	D	B	C	D	B	C
Approach Vol, veh/h		268				754			669			550
Approach Delay, s/veh		31.2				31.0			24.8			26.3
Approach LOS		C				C			C			C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.1	30.4	17.1	13.8	14.5	31.0	8.9	22.0				
Change Period (Y+Rc), s	5.1	5.1	5.1	5.8	5.1	5.1	5.8	* 5.8				
Max Green Setting (Gmax), s	22.9	24.9	27.9	23.2	21.9	25.9	7.2	* 44				
Max Q Clear Time (g_c+l1), s	9.8	7.6	11.5	7.1	9.3	8.0	3.4	12.7				
Green Ext Time (p_c), s	0.4	2.5	0.6	0.8	0.4	1.9	0.0	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			28.0									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗	↖	↖	↗
Traffic Vol, veh/h	15	228	450	61	18	4
Future Vol, veh/h	15	228	450	61	18	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	248	489	66	20	4

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	555	0	-
Stage 1	-	-	522
Stage 2	-	-	280
Critical Hdwy	4.12	-	6.42 6.22
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518 3.318
Pot Cap-1 Maneuver	1015	-	353 555
Stage 1	-	-	595
Stage 2	-	-	767
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1015	-	347 555
Mov Cap-2 Maneuver	-	-	347
Stage 1	-	-	585
Stage 2	-	-	767

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	15.2
HCM LOS		C	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1015	-	-	-	347	555
HCM Lane V/C Ratio	0.016	-	-	-	0.056	0.008
HCM Control Delay (s)	8.6	-	-	-	16	11.5
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗	↖	↖	↗
Traffic Vol, veh/h	15	240	393	61	3	4
Future Vol, veh/h	15	240	393	61	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	261	427	66	3	4

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	493	0	-	0	753	460
Stage 1	-	-	-	-	460	-
Stage 2	-	-	-	-	293	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1071	-	-	-	377	601
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	757	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1071	-	-	-	371	601
Mov Cap-2 Maneuver	-	-	-	-	371	-
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	757	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1071	-	-	-	371	601
HCM Lane V/C Ratio	0.015	-	-	-	0.009	0.007
HCM Control Delay (s)	8.4	-	-	-	14.8	11
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0	-	-	-	0	0

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗	↖	↖	↗
Traffic Vol, veh/h	15	253	337	61	3	4
Future Vol, veh/h	15	253	337	61	3	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	275	366	66	3	4

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	432	0	-	0	706	399
Stage 1	-	-	-	-	399	-
Stage 2	-	-	-	-	307	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1128	-	-	-	402	651
Stage 1	-	-	-	-	678	-
Stage 2	-	-	-	-	746	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1128	-	-	-	396	651
Mov Cap-2 Maneuver	-	-	-	-	396	-
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	746	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	12.1
HCM LOS		B	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1128	-	-	-	396	651
HCM Lane V/C Ratio	0.014	-	-	-	0.008	0.007
HCM Control Delay (s)	8.2	-	-	-	14.2	10.6
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0	-	-	-	0	0

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑ ↗	↑ ↗	↗ ↗	↗ ↗	↗ ↗	↗ ↗
Traffic Vol, veh/h	39	207	247	94	61	13
Future Vol, veh/h	39	207	247	94	61	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	225	268	102	66	14

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	370	0	-	0	628	319
Stage 1	-	-	-	-	319	-
Stage 2	-	-	-	-	309	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1189	-	-	-	447	722
Stage 1	-	-	-	-	737	-
Stage 2	-	-	-	-	745	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1189	-	-	-	431	722
Mov Cap-2 Maneuver	-	-	-	-	431	-
Stage 1	-	-	-	-	711	-
Stage 2	-	-	-	-	745	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1189	-	-	-	431	722
HCM Lane V/C Ratio	0.036	-	-	-	0.154	0.02
HCM Control Delay (s)	8.1	-	-	-	14.9	10.1
HCM Lane LOS	A	-	-	-	B	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5	0.1

**Opening Year 202* Traffic
Counts (With Project)
PM Peak hour**

HCM 6th Signalized Intersection Summary

1: 47th Street & Federal Boulevard

04/28/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↑	↑	↑	↑	↑↑	↑	↑	↑↑	↑	↑	↑↑	
Traffic Volume (veh/h)	70	167	410	404	129	137	79	212	242	64	474	62
Future Volume (veh/h)	70	167	410	404	129	137	79	212	242	64	474	62
Initial Q (Q _b), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No			No		No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	76	182	446	439	140	149	86	230	263	70	515	67
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	97	376	417	471	1439	642	110	1042	465	89	892	116
Arrive On Green	0.06	0.20	0.20	0.27	0.41	0.41	0.06	0.30	0.30	0.05	0.28	0.28
Sat Flow, veh/h	1767	1856	1572	1767	3526	1572	1767	3526	1572	1767	3138	407
Grp Volume(v), veh/h	76	182	446	439	140	149	86	230	263	70	288	294
Grp Sat Flow(s), veh/h/ln	1767	1856	1572	1767	1763	1572	1767	1763	1572	1767	1763	1782
Q Serve(g_s), s	4.9	9.9	23.2	27.7	2.8	7.1	5.5	5.6	16.2	4.5	16.0	16.1
Cycle Q Clear(g_c), s	4.9	9.9	23.2	27.7	2.8	7.1	5.5	5.6	16.2	4.5	16.0	16.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	97	376	417	471	1439	642	110	1042	465	89	501	506
V/C Ratio(X)	0.78	0.48	1.07	0.93	0.10	0.23	0.78	0.22	0.57	0.78	0.58	0.58
Avail Cap(c_a), veh/h	184	376	417	549	1443	643	246	1042	465	117	501	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	40.3	42.0	40.9	20.9	22.1	52.9	30.4	34.1	53.7	35.0	35.1
Incr Delay (d2), s/veh	12.7	1.0	64.3	21.2	0.0	0.2	11.5	0.5	4.9	21.8	4.8	4.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	2.4	4.5	18.9	14.6	1.1	2.6	2.8	2.4	6.7	2.5	7.4	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	66.1	41.3	106.3	62.2	20.9	22.3	64.4	30.9	39.0	75.4	39.8	39.9
LnGrp LOS	E	D	F	E	C	C	E	C	D	E	D	D
Approach Vol, veh/h	704				728			579			652	
Approach Delay, s/veh	85.1				46.1			39.5			43.7	
Approach LOS	F				D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	38.9	35.6	29.0	12.2	37.6	12.1	52.5				
Change Period (Y+Rc), s	5.1	5.1	5.1	5.8	5.1	5.1	5.8	* 5.8				
Max Green Setting (Gmax), s	7.6	33.8	35.5	23.2	15.9	25.5	11.9	* 47				
Max Q Clear Time (g_c+l1), s	6.5	18.2	29.7	25.2	7.5	18.1	6.9	9.1				
Green Ext Time (p_c), s	0.0	2.1	0.8	0.0	0.1	2.0	0.1	1.4				
Intersection Summary												
HCM 6th Ctrl Delay				54.4								
HCM 6th LOS				D								
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑ ↗ ↘ ↗ ↗ ↗					
Traffic Vol, veh/h	0	593	245	24	54	14
Future Vol, veh/h	0	593	245	24	54	14
Conflicting Peds, #/hr	6	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	645	266	26	59	15

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	298	0	-	0	930	285
Stage 1	-	-	-	-	285	-
Stage 2	-	-	-	-	645	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1263	-	-	-	297	754
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	522	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1256	-	-	-	293	750
Mov Cap-2 Maneuver	-	-	-	-	293	-
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	519	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1256	-	-	-	293	750
HCM Lane V/C Ratio	-	-	-	-	0.2	0.02
HCM Control Delay (s)	0	-	-	-	20.3	9.9
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0	-	-	-	0.7	0.1

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Traffic Vol, veh/h	6	591	173	0	8	14
Future Vol, veh/h	6	591	173	0	8	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	642	188	0	9	15

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	188	0	-
Stage 1	-	-	188
Stage 2	-	-	656
Critical Hdwy	4.12	-	-
6.42	-	-	6.22
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	-
3.518	-	-	3.318
Pot Cap-1 Maneuver	1386	-	-
Stage 1	-	-	844
Stage 2	-	-	516
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1386	-	-
332	-	-	854
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	840
Stage 2	-	-	516

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1386	-	-	-	332	854
HCM Lane V/C Ratio	0.005	-	-	-	0.026	0.018
HCM Control Delay (s)	7.6	-	-	-	16.1	9.3
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↑	↑	↓	↑	↑	↑
Traffic Vol, veh/h	6	589	224	24	8	14
Future Vol, veh/h	6	589	224	24	8	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	640	243	26	9	15

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	269	0	-	0	910	256
Stage 1	-	-	-	-	256	-
Stage 2	-	-	-	-	654	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1295	-	-	-	305	783
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	517	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1295	-	-	-	303	783
Mov Cap-2 Maneuver	-	-	-	-	303	-
Stage 1	-	-	-	-	783	-
Stage 2	-	-	-	-	517	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1295	-	-	-	303	783
HCM Lane V/C Ratio	0.005	-	-	-	0.029	0.019
HCM Control Delay (s)	7.8	-	-	-	17.2	9.7
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0.1

Intersection

Int Delay, s/veh 5.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗	↖	↖	↗
Traffic Vol, veh/h	14	417	199	39	178	37
Future Vol, veh/h	14	417	199	39	178	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	453	216	42	193	40

Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	258	0	-	0	720	237
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	483	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1307	-	-	-	395	802
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	620	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1307	-	-	-	391	802
Mov Cap-2 Maneuver	-	-	-	-	391	-
Stage 1	-	-	-	-	793	-
Stage 2	-	-	-	-	620	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	20.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1307	-	-	-	391	802
HCM Lane V/C Ratio	0.012	-	-	-	0.495	0.05
HCM Control Delay (s)	7.8	-	-	-	22.9	9.7
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0	-	-	-	2.7	0.2