APPENDIX F

Traffic Impact Analyses

APPENDIX F1

Construction Phase Transportation Analysis

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TRAFFIC MEMORANDUM

Date:	November 27, 2017 (updated February 12, 2018)	**TG:**	17155.01
To:	Ruta K. Thomas, REPA (Dudek)		
From:	Rawad Hani, PE, TE Rudy Garcia, EIT		
cc:			
Subject:	John Adams Middle School Auditorium Replacement Project Construction Phase Transportation Analysis		

The purpose of this Memorandum is to identify potential transportation-related impacts associated with the construction activities of the John Adams Middle School auditorium replacement project (proposed project) in the City of Santa Monica (City). The John Adams Middle School is a part of the Santa Monica Malibu Unified School District (SMMUSD) and the project site location and the project study area are illustrated in Figure 1.

The proposed project serves to replace the school's auditorium. This project includes demolition of structures, construction of new buildings, and upgrading infrastructure systems to include modern functionalities. The proposed project would not increase the existing number of students, nor would it add additional uses. Although the number of auditorium seats will increase from 600 to 750 seats, the typical weekday events where the auditorium is likely to be at capacity is less than 10 days per year and therefore the project would not generate new (permanent) traffic to the study area. An event traffic analysis is prepared under a separate memo that assesses opening year conditions when the auditorium is at full capacity.

As necessary, mitigation measures are identified that would offset or reduce significant but temporary construction-related impacts. The Lead Agency for the project is SMMUSD, while the City is one of the responsible agencies that would have facilities affected by potential construction-related traffic impacts.

Project Background

The auditorium is important to the function of the middle school. It is the only facility large enough to accommodate class meetings, assemblies and other educational gatherings. It is integral to the performing arts programs for performances and every day for rehearsals. The auditorium is also central to community activities.

Significant structural damage was discovered at the auditorium in the summer of 2014. The facility was closed to all use and temporary shoring was installed to support the structure. It was determined that significant improvements must be made to the building prior to occupancy. These improvements include structural repairs and replacement of the ceiling; fire/life safety improvements including a full sprinkler system; and accessibility upgrades to access restrooms and the audience areas. Modernization of the theater systems would also be needed. Figure 2 illustrates the conceptual project site plan.

Construction related activities include demolition of existing buildings, construction of new buildings, and upgrades to infrastructure and facilities. Construction activities are anticipated to begin in the 3rd quarter of 2018 and be completed during the 1st quarter of 2022.

Source: Google Maps, 09/2017.

Project Site Location and Study Area

FIGURE 1

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Source: HGA

Project Site Plan

FIGURE
2

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Analysis Methodology

This analysis focuses on the weekday AM (7:00 to 9:00 AM) peak period and the PM (4:00 to 6:00 PM) peak period. These periods represent the highest cumulative total traffic for the adjacent street system. The analysis focuses on construction traffic during which the auditorium is expected to be closed. The study intersections include all major intersections providing access to the proposed project and are the locations that are most likely to be impacted by the project. As all construction traffic is assumed to be directed via Pico Blvd, the study intersections include:

1. 16th Street & Pearl Street
2. 17th Street & Pearl Street
3. 16th Street & Pico Blvd
4. 17th Street & Pico Blvd

Congestion Management Program Locations

The Los Angeles County Congestion Management Program (CMP) requires evaluation of all CMP arterial monitoring intersections where the project adds 50 or more new peak hour trips. The nearest CMP monitoring intersection is that of Lincoln Blvd with Pico Blvd, less than one mile away from the project site. Due to the project trips generated, the location of the intersection and its distance from the project, is it unlikely that 50 peak hour trips would be added to this location. Similarly, the CMP requires CMP freeway mainline monitoring locations to be evaluated when the project would add 150 or more trips at the monitoring location. The nearest CMP freeway monitoring station is located approximately 1 mile from the project on I-10 at Lincoln Blvd. The project would not add 150 trips to this CMP freeway mainline monitoring station. Based on the trip generation and location of the project, no CMP arterial intersection or freeway mainline monitoring stations are required to be included in the analysis.

The trip generation estimates and distribution percentages (illustrated in later sections of this memo), estimate that no peak hour trips would be added to the Lincoln Blvd with Pico Blvd intersection and a maximum of 78 peak hour trips would be added to the I-10 freeway mainline. This is less than the requirements in the CMP, therefore a CMP analysis would not be required.

LOS Methodology

Per the City guidelines, the study area intersections were analyzed under the latest version of the Highway Capacity Manual (HCM) “Operations” methodology using the Synchro level of service (LOS) software program which is consistent with the HCM 2010 methodology. The HCM 2010 methodology determines the control delay a driver may experience at the intersection. If an intersection could not be analyzed using the HCM 2010 methodology because of a particular intersection configuration (e.g., U-turn movements), the HCM 2000 methodology was used.

The degree of congestion at an intersection is described by the level of service, which ranges from LOS A to LOS F, with LOS A representing free-flow conditions with little delay and LOS F representing over-saturated traffic flow throughout the peak hour. A description of the meaning of level of service is provided in Table 1. Brief descriptions of the six levels of service for signalized and unsignalized intersections based on the HCM methodology are shown in Table 2.

Table 1. Level of Service Descriptions

Level of Service	Descriptions
A	No approach phase is fully utilized by traffic, and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily, and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized and a substantial number are nearing full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.
D	This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is seldom attained no matter how great the demand.
F	This level describes forced flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially, and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, both speed and volume can drop to zero.

Source: Highway Capacity Manual, Transportation Research Board, Special Report No. 209, Washington, D.C., 2000.

Table 2. Level of Service Definitions for Intersections

Level of Service	Control Delay in Seconds (signalized)	Control Delay in Seconds (unsignalized)
A	0.0 – 10.0 seconds	0.0 – 10.0 seconds
B	10.1 – 20.0 seconds	10.1 – 15.0 seconds
C	20.1 – 35.0 seconds	15.1 – 25.0 seconds
D	35.1 – 55.0 seconds	25.1 – 35.0 seconds
E	55.1 – 80.0 seconds	35.1 – 50.0 seconds
F	80.1 seconds or greater	50.1 seconds or greater

Future Traffic Forecasts. The list of cumulative projects was provided by the City. Future traffic volumes and growth rates were determined by utilizing the methodologies outlined in the Travel Forecasting Model Trip Generation Rates report.

Significance Criteria The City of Santa Monica has adopted the following significance criteria illustrated in Table 3 to assess whether the addition of project trips would cause a significant impact on study area signalized intersections.

Table 3. City of Santa Monica Significant Impact Criteria – Arterial and Collector Intersections	
Level of Service	**Control Delay in Seconds (unsignalized)**
If LOS = A, B, or C	**SIGNIFICANT IMPACT IF:**
➔ and is a collector street intersection	Average vehicle delay increase is ≥ 15 seconds or LOS becomes D, E, or F
➔ and is an arterial street intersection	Average vehicle delay increase is ≥ 15 seconds or LOS becomes E, or F
If LOS = D	**SIGNIFICANT IMPACT IF:**
➔ and is a collector street intersection	Any net increase in average seconds of delay per vehicle
➔ and is an arterial street intersection	Average vehicle delay increase is ≥ 15 seconds or LOS becomes E, or F
If LOS = E	**SIGNIFICANT IMPACT IF:**
➔ and is a collector or arterial street intersection	Any net increase in average seconds of delay per vehicle
If LOS = F	**SIGNIFICANT IMPACT IF:**
==> and is a collector or arterial street intersection	HCM V/C ratio net increase is ≥ 0.005

However, the City's traffic guidelines do not define the criteria to determine a significant impact for unsignalized intersections. Therefore, the criteria from the City of Los Angeles Department of Transportation (LADOT) *Transportation Impact Study Guidelines (December 2016)* was used which states:
"Unsignalized intersections should be evaluated solely to determine the need for the installation of a traffic signal or other traffic control device(s), but will not be included in the impact analysis... Based on the estimated delay, if the resultant LOS is E or F in the "Future with Project" scenario, then the intersection should be evaluated for the potential installation of a new traffic signal."

The study intersections were analyzed for the following study scenarios:
1) Existing Conditions;
2) Existing Plus Construction Traffic Conditions;
3) Year 2019 Baseline Conditions;
4) Year 2019 Plus Construction Traffic Conditions;

Note that as illustrated in the following sections the fourth quarter of 2019 represents the peak of construction traffic and as such that period was chosen as the most conservative scenario for the analysis.

1. Existing Conditions

This section describes Existing conditions within the identified study area. Characteristics are provided for the roadway network, peak hour traffic volumes, traffic operations, non-motorized facilities, and transit.

Street System

Characteristics of the existing street system in the proposed project vicinity are shown in Table 4. The street classifications are as per the City's Land Use and Circulation Element. The speeds illustrated in the table are as per the Santa Monica Speed Limit Map.

All study area street have non-motorized facilities in the form of sidewalks on both sides as well as bicycle lanes or sharrows (shared between bicycles and vehicles).

Table 4. Study Area Existing Street System Summary

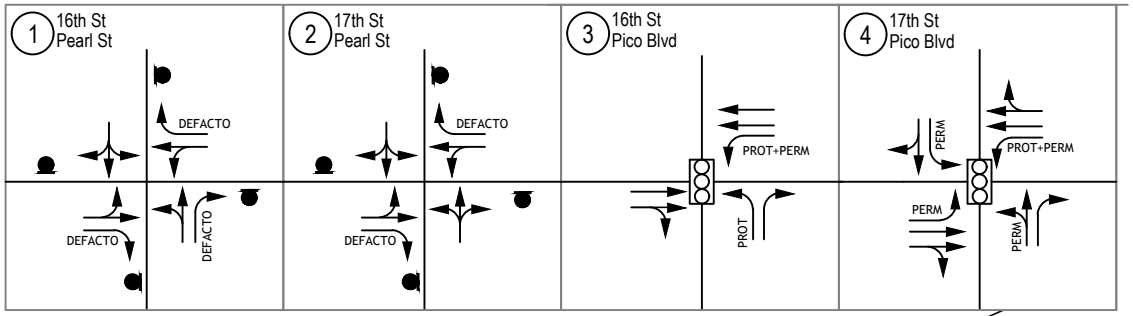
Roadway	Classification[1]	Speed Limit[2] (MPH)	Number of Lanes	Parking	Sidewalks
16th Street	Bicycle: Slow Street Transit: Local Auto: Neighborhood Street	25	NB: 1 GP + 1 Bike lane SB: 1 Sharrow	Both sides (parallel)	Yes
17th Street	Bicycle: Lane/ Path/ Bicycle Boulevard Transit: Connecting Auto: Neighborhood Street Walking: Boulevard	25	NB: 1 Sharrow SB: 1 GP + 1 Bike lane	Both sides (parallel)	Yes
Pearl Street	Bicycle: Lane/ Path/ Bicycle Boulevard Transit: Connecting Auto: Neighborhood Street	25	EB: 1 GP + 1 Bike lane WB: 1 GP + 1 Bike lane	Both sides (90 degree angled parking)	Yes
Pico Blvd	Bicycle: Auto/Transit Priority Transit: Regional Auto: Boulevard	35	EB: 1 Sharrow + 1 GP WB: 1 Sharrow + 1 GP TWLT Lane	No Parking	Yes

[1] Classification Information from City of Santa Monica 2010 Land Use and Circulation Element (Revised 7.24.15)
[2] MPH = miles per hour; Speeds are as per City of Santa Monica Speed Limit Map
[3] GP = general purpose lane, NB = northbound, SB = southbound, EB = eastbound, WB = westbound

The four study area intersections mentioned in the earlier section were determined based on the proximity to the project, the travel patterns and engineering judgement. In addition, construction traffic (from both workers and trucks) is assumed to be restricted to Pico Boulevard, 16th Street, Pearl Street, and 17th Street south of Pearl Street. Geometry and signal controls at the study area intersections are shown in Figure 3.

Transit service in the project study area is provided by the Big Blue Bus. The project area is served by the following lines:

- Route 7 at Pico Blvd and 17th Street
- Rapid 7 at Pico Blvd and 17th Street
- Route 8 at Ocean Park Blvd and 17th Street
- Route 41 – 42 at Pico Blvd and 17th Street
- Route 43 at Pico Blvd and 17th Street
- Route 44 at Ocean Park Blvd and 17th Street as well as 17th Street and Pearl Street



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- Site
- X — Study Intersection
- Lane Geometrics
- Traffic Signal
- Stop Sign

PROT	Protected Left Turn Phasing
PERM	Permitted Left Turn Phasing
SPLIT	Split Phasing
DEFACTO	Defacto Right Turn Lane
OVL	Overlapping Right Turn Phasing
FREE	Free Movement
XD	Number of lanes (divided roadway)
XU	Number of lanes (undivided roadway)

Study Area Intersection and Roadway Geometrics and Traffic Control

FIGURE 3

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These routes vary in service and frequency with all routes providing service every day except for Routes 43 and 44 which run only on weekdays with no weekend service. Bus frequencies vary during times the day with peak hour services at higher frequency. Light rail is accessible through the Metro Expo Line at 17th Street/SMC station located at Colorado Ave and 17th Street.

Traffic Volumes

Traffic counts were collected in September 2017 during a typical weekday for all study intersections and analyzed with PCE factors when applicable. Existing weekday AM and PM peak hour traffic volumes are illustrated in Figure 4 and were used to evaluate existing traffic conditions. Existing weekday AM and PM peak hour bicycle and pedestrian volumes are illustrated in Figures 5 and 6 respectively.

Intersection Operations

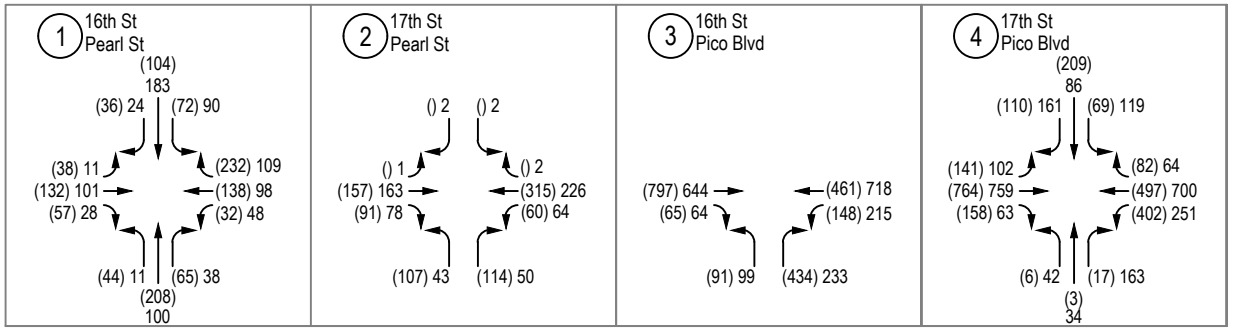
LOS analyses were prepared for the Existing conditions per the City's requirements and are shown in Table 5. Detailed LOS worksheets are provided in Appendix B.

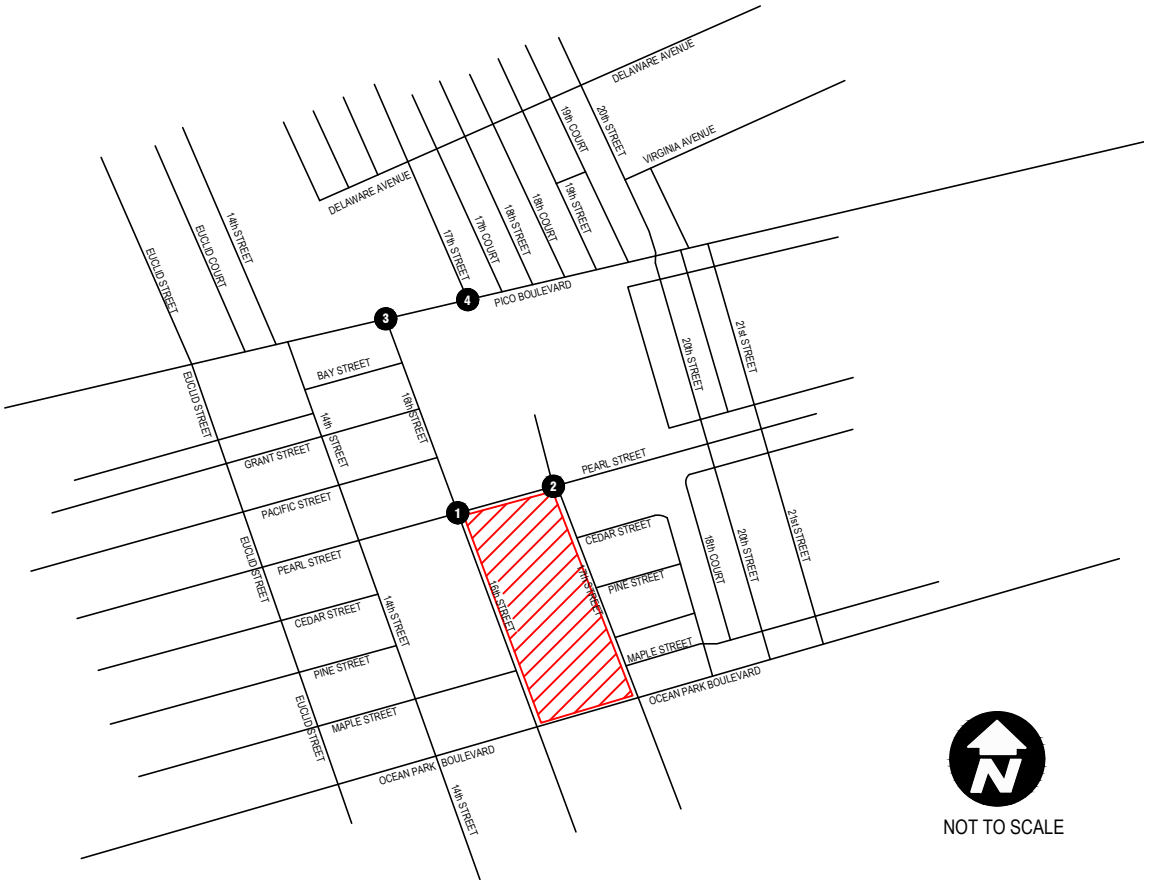
Table 5. Existing Weekday Peak Hour Intersection LOS

		AM Peak		PM Peak	
Intersection	**LOS Method**	**LOS[1]**	**Delay[2]**	**LOS[1]**	**Delay[2]**
1. 16th St/Pearl St	HCM	C	17.5	B	14.2
2. 17th St/Pearl St	HCM	B	14.1	B	10.9
3. 16th St/Pico Blvd	HCM	C	22.4	B	13.7
4. 17th St/Pico Blvd	HCM	D	43.5	C	21.4

1. Level of Service
2. Delay measured in seconds/vehicle
3. HCM = Highway Capacity Manual 2010

As shown in the table, all of the study intersections currently operate at satisfactory LOS D or better during the weekday AM and PM peak hours under Existing conditions.





NOT TO SCALE

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- Site
- X — Weekday PM Peak Hour Traffic Volumes
- (X) — Weekday AM Peak Hour Traffic Volumes
- (X) — Study Intersection

Existing Peak Hour Traffic Volumes

FIGURE 4

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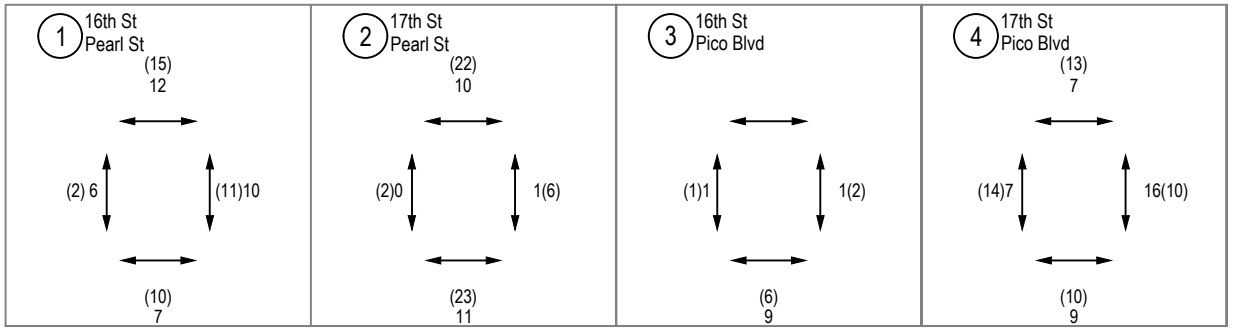

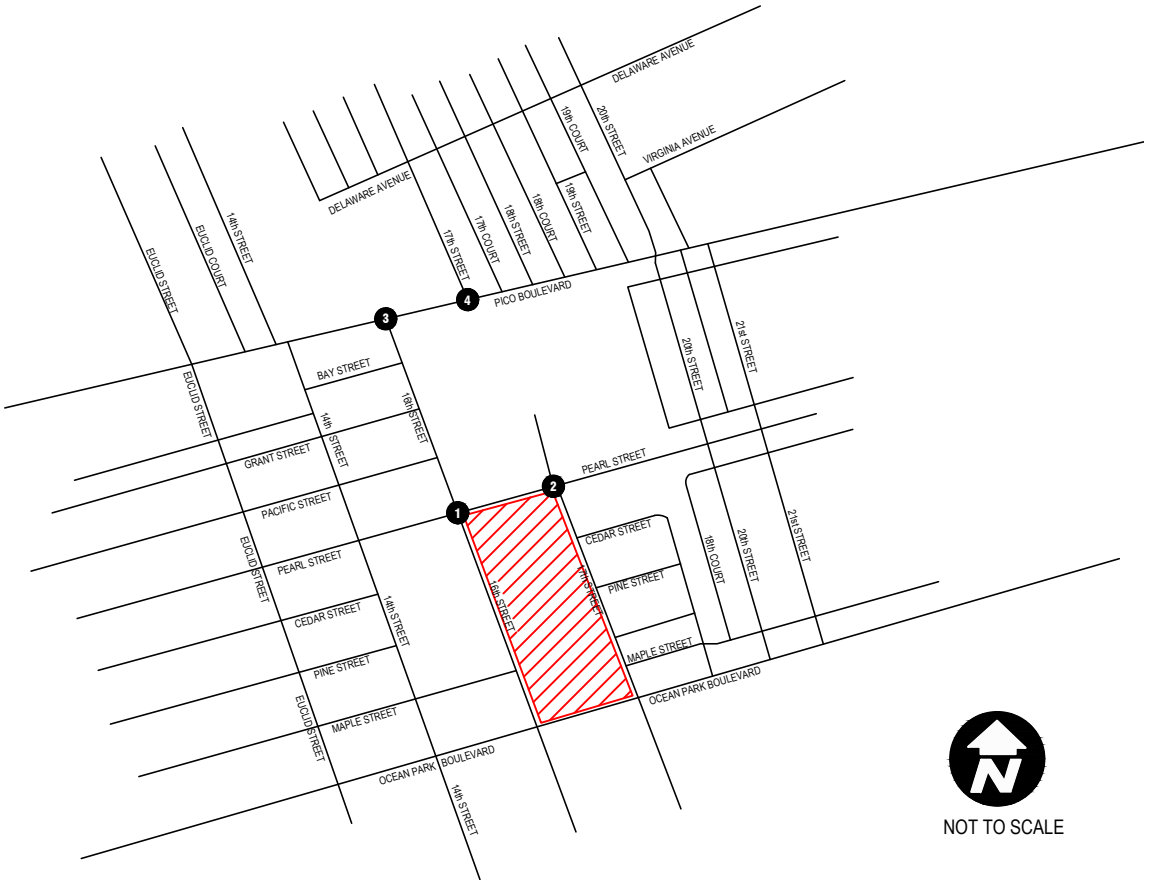

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- Site
- X — Weekday PM Peak Hour Bicycle Volumes
- (X) — Weekday AM Peak Hour Bicycle Volumes
- (X) — Study Intersection

Existing Peak Hour Bicycle Volumes

FIGURE **5**

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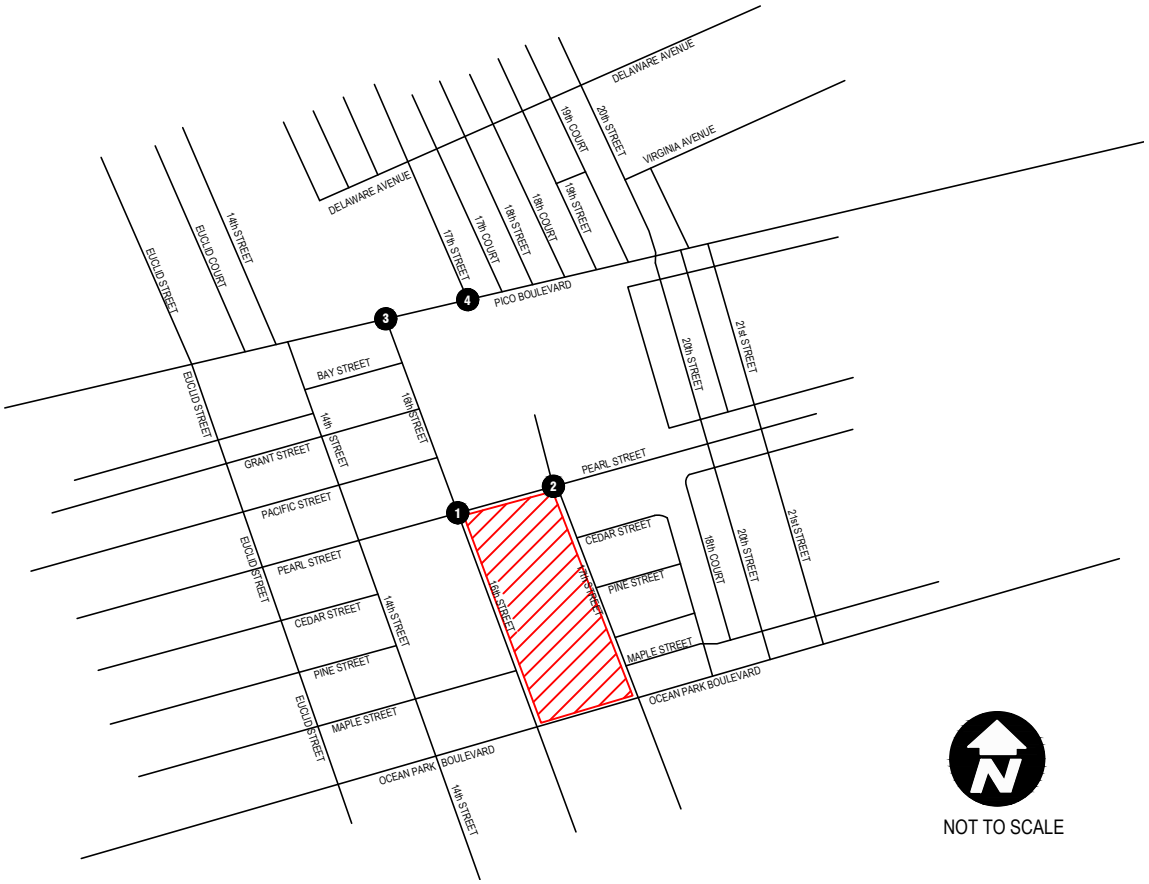
1 16th St / Pearl St	2 17th St / Pearl St	3 16th St / Pico Blvd	4 17th St / Pico Blvd
(24) 36	(286) 211		(81) 66
(11)37 — 102(64)	(128)124 — 119(181)	(8)6 — 8(6)	(158)111 — 135(240)
(30) 73	(31) 115	(61) 88	(109) 110



NOT TO SCALE

Legend

- Site
- X — Weekday PM Peak Hour Pedestrian Volumes
- (X) — Weekday AM Peak Hour Pedestrian Volumes
- (X) — Study Intersection

Existing Peak Hour Pedestrian Volumes

FIGURE 6

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2. Existing Plus Construction Traffic Conditions

This section documents project-generated traffic impacts during the peak construction phase on the surrounding transportation system and at the study intersections. The additional traffic generated by the construction activities would be temporary, and last only through the phases of construction.

Trip Generation

Trip generation for the peak construction phase was determined based on the operational construction characteristics presented in Appendix A. Additionally, it is important to note that construction hours are limited according to the Santa Monica Municipal Code (SMMC) 4.12.1.110. According to the City, construction hours are limited to 8:00 AM to 6:00 PM (Monday through Friday) and 9:00 AM to 5:00 PM on Saturday. Construction is not allowed on Sundays or holidays.

The Institute of Transportation Engineers (ITE) does not provide trip generation estimates for construction activities. Therefore, the trip generation was calculated for the sum of the Building Construction for New Auditorium Phase and the Remodel of Building J Architectural Coating Phase, which together require the highest number of workers, material delivery, hauling and construction equipment trips. There would be 58 construction workers that are assumed to arrive at the site in the AM peak hour and leave in the PM peak hour. In addition, there would be an average of 19 construction trucks per day. For purposes of this analysis, it was assumed that two haul trucks would arrive and depart the project site in the AM peak hour, and equally during the PM peak hour. These truck trips were adjusted with a Passenger-Car Equivalence (PCE) factor of 2.5 PCE. The peak construction activity trip generation estimates are shown in Table 6.

Table 6. Project Peak Construction Activity Trip Generation Estimates

			AM Peak Hour			PM Peak Hour		
Construction Trip Data	**Units**	**Daily**	**IN**	**OUT**	**TOTAL**	**IN**	**OUT**	**TOTAL**
Construction Trip Data								
Construction Workers	Worker	58						
Construction Trucks	Trucks	19						
Vehicle Trips								
Construction Workers	Trip Ends	116	58	0	58	0	58	58
Construction Trucks	Trip Ends	38	4	4	8	4	4	8
PCE Trips								
Construction Workers	PCE Trip Ends	116	58	0	58	0	58	58
Construction Trucks	PCE Trip Ends	95	10	10	20	10	10	20
TOTAL PCE TRIPS		**211**	**68**	**10**	**78**	**10**	**68**	**78**

Note: sf = square-feet
1. PCE = Passenger Car Equivalent of 2.5 was used
2. Refer to Appendix A for more details on traffic during various phases

As shown in the table, the peak construction activity of the project would generate approximately 211 daily PCE trips, 78 AM PCE peak hour trips (68 inbound and 10 outbound), and 78 PM PCE peak hour trips (10 inbound and 68 outbound).

Trip Distribution and Assignment

Project construction phase trips were distributed to the study area intersections using logical travel paths between the project and other local land uses, as well as the location of the project in relation to local and regional transportation facilities. Project truck trips were distributed using major roadways and designated truck routes in the study area. As noted previously, construction trucks and workers would be restricted to use Pico Blvd as the main route. Construction traffic would not be allowed to travel through the surrounding neighborhoods on Pearl St, 16th St, or 17th St. In addition, the project truck trip distribution considers the locations of ingress and egress at the existing school.

The same distribution was utilized for construction workers and construction truck trips as shown in Figures 7 and 8. The trip assignments for all construction traffic is shown in Figure 9. Project trips were assigned to the study area intersections by multiplying the project trip generation by the trip distribution percent at each location.

Traffic Volumes

Existing Plus Construction Traffic volumes were determined by adding the project trips to the Existing traffic volumes. Figure 10 shows the Existing Plus Construction Traffic AM and PM peak hour traffic volumes.

Intersection Operations

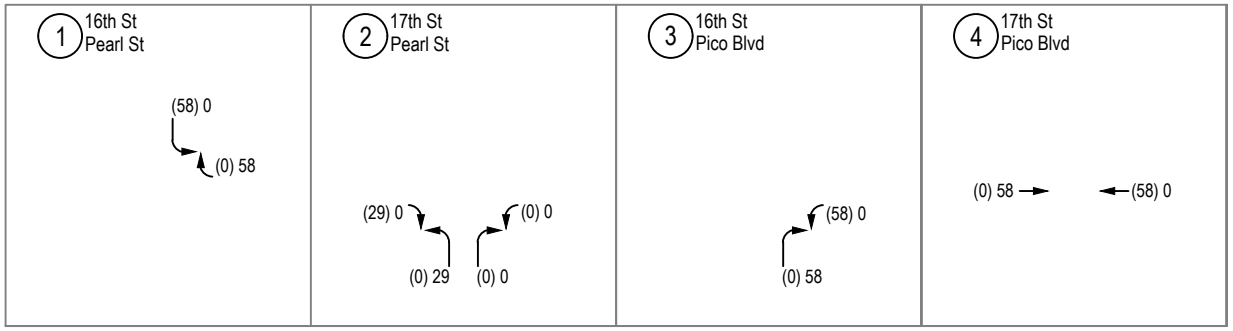
An intersection operations analysis was conducted for the study area to evaluate the Existing Plus Construction Traffic weekday AM and PM peak hour conditions with the project. Intersection operations were calculated using the LOS methodology described previously. Table 7 provides a comparison between the Existing and Existing Plus Construction Traffic operations for the weekday AM and PM peak hours. Detailed LOS worksheets are included in Appendix B.

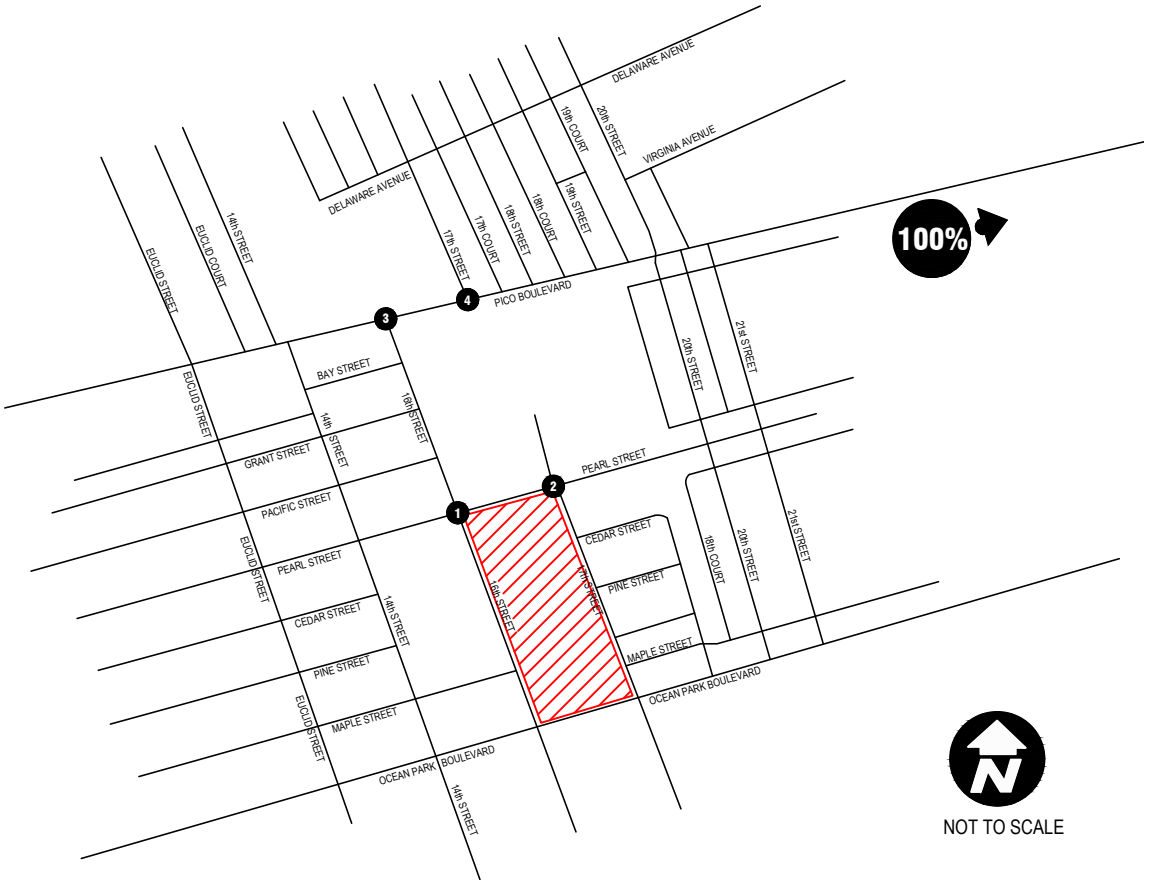
As shown in the table, all of the study intersections are forecast to continue to operate at LOS D or better during the AM and PM peak hours under the Existing Plus Construction Traffic Conditions. The project does not increase the delays per the City's significance impact criteria. Therefore, there would be no significant traffic impacts at the study area intersections with the addition of project construction traffic.

Table 7. Existing and Existing Plus Construction Traffic Peak Hour Intersection LOS

		Existing				Existing Plus Construction Traffic				Change		Impact?	
		AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
Intersection	LOS Method	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]				
1. 16th St/Pearl St	HCM	C	17.5	B	14.2	C	22.2	C	15.4	4.7	1.2	NO	NO
2. 17th St/Pearl St	HCM	B	14.1	B	10.9	C	14.3	B	11.3	0.2	0.4	NO	NO
3. 16th St/Pico Blvd	HCM	C	22.4	B	13.7	C	27.9	B	14.7	5.5	1.0	NO	NO
4. 17th St/Pico Blvd	HCM	D	43.5	C	21.4	D	43.1	C	24.7	-0.4[4]	3.3	NO	NO

1. Level of Service
2. Delay measured in seconds/vehicle
3. HCM = Highway Capacity Manual 2010
4. This decrease (in delay per vehicle) is not unusual as number of vehicles minimally increased





Construction Worker Trip Distribution and Assignment

FIGURE 7

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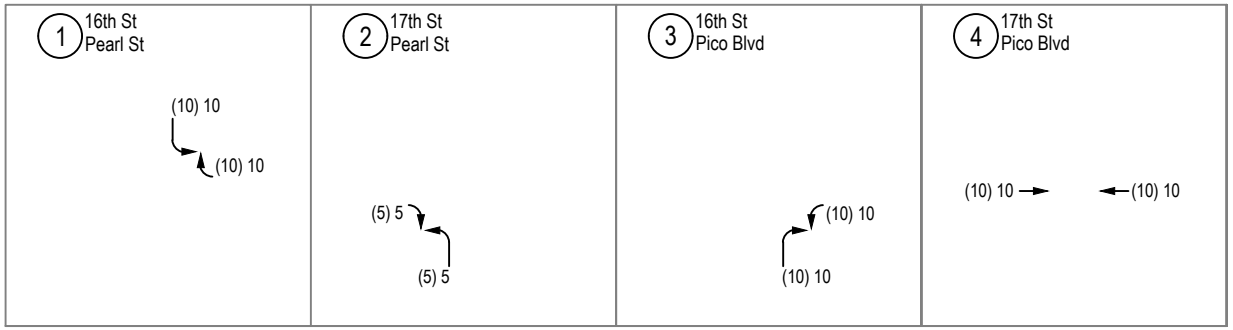

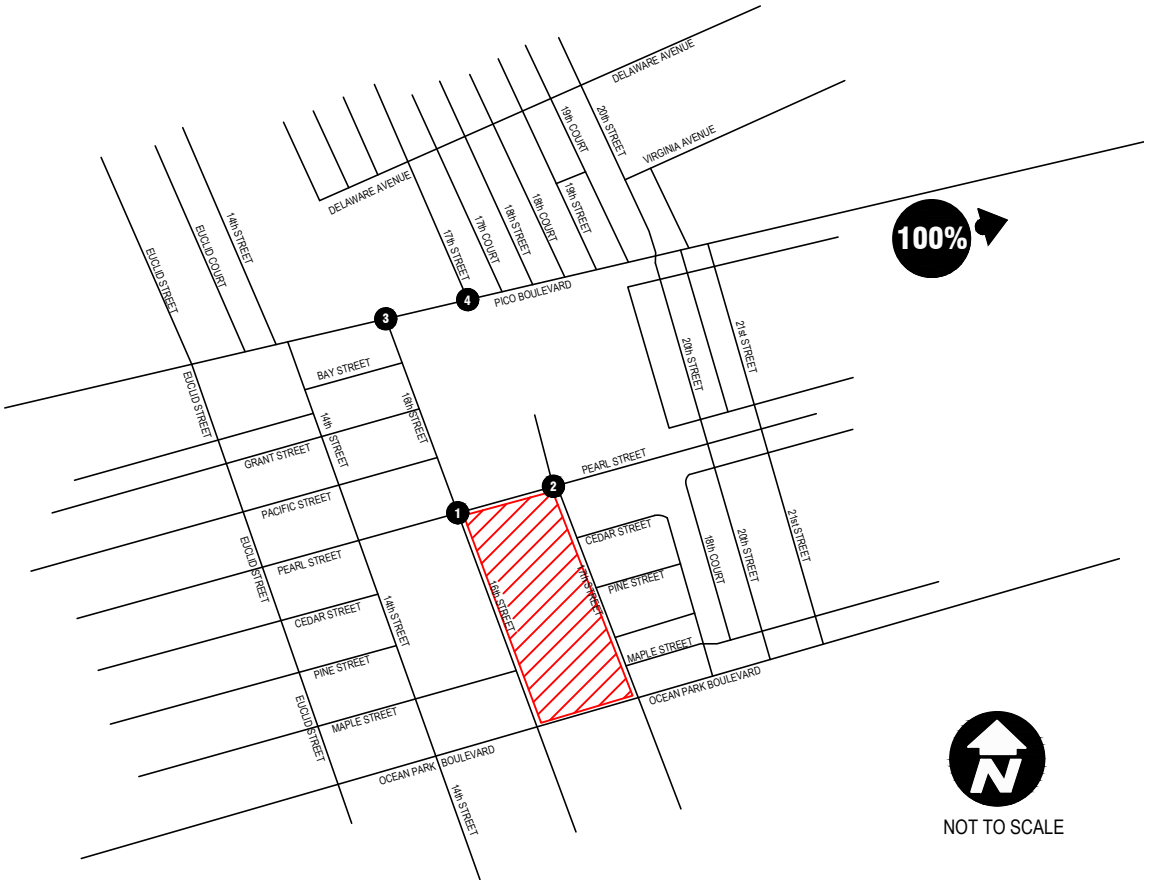

Legend

- Site
- X — Weekday PM Peak Hour Traffic Volumes
- (X) — Weekday AM Peak Hour Traffic Volumes
- X — Study Intersection
- XX% — Percentage Distribution

Construction Truck Trip Distribution and Assignment (in PCE)

FIGURE **8**

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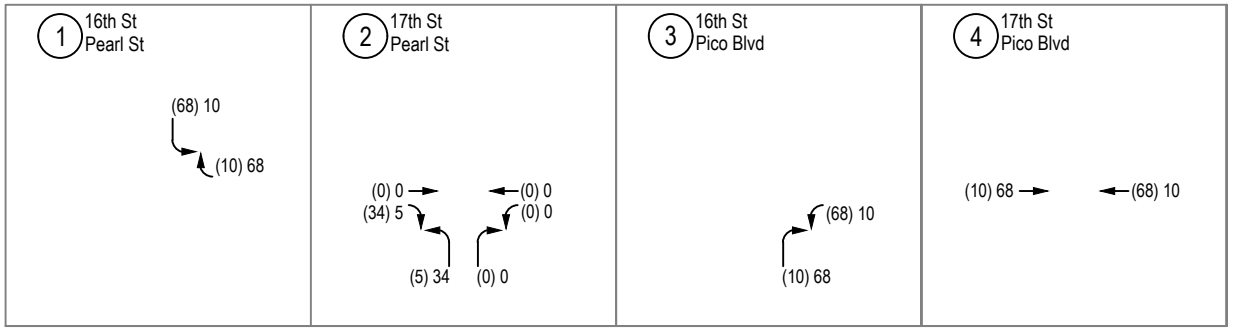

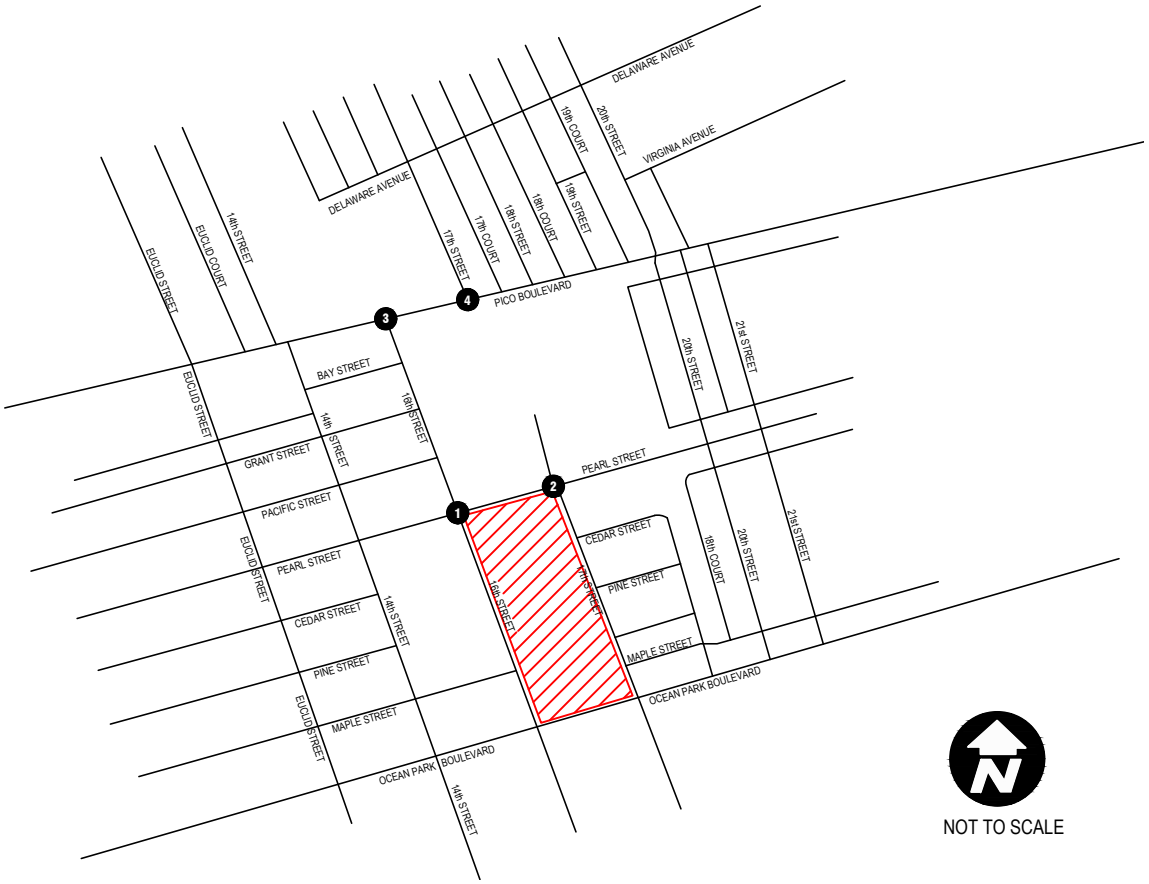

NOT TO SCALE

Legend

- Site
- X — Weekday PM Peak Hour Traffic Volumes
- (X) — Weekday AM Peak Hour Traffic Volumes
- X — Study Intersection
- XX% — Percentage Distribution

Total Project Trip Assignment

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FIGURE **9**

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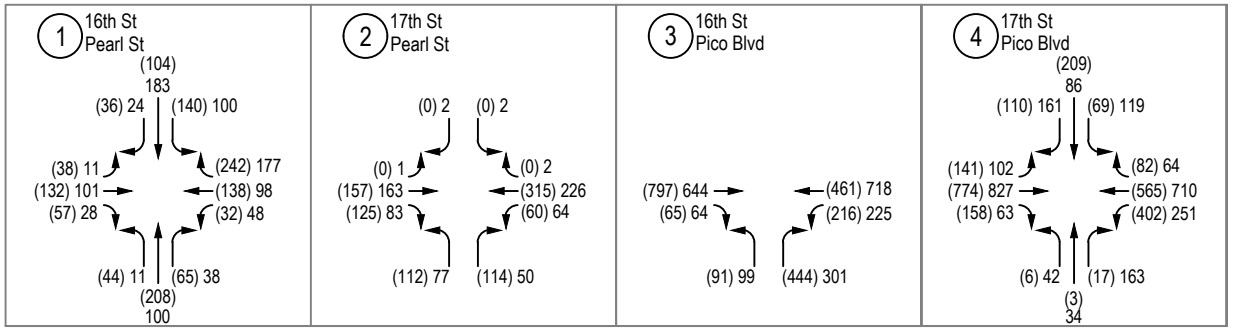

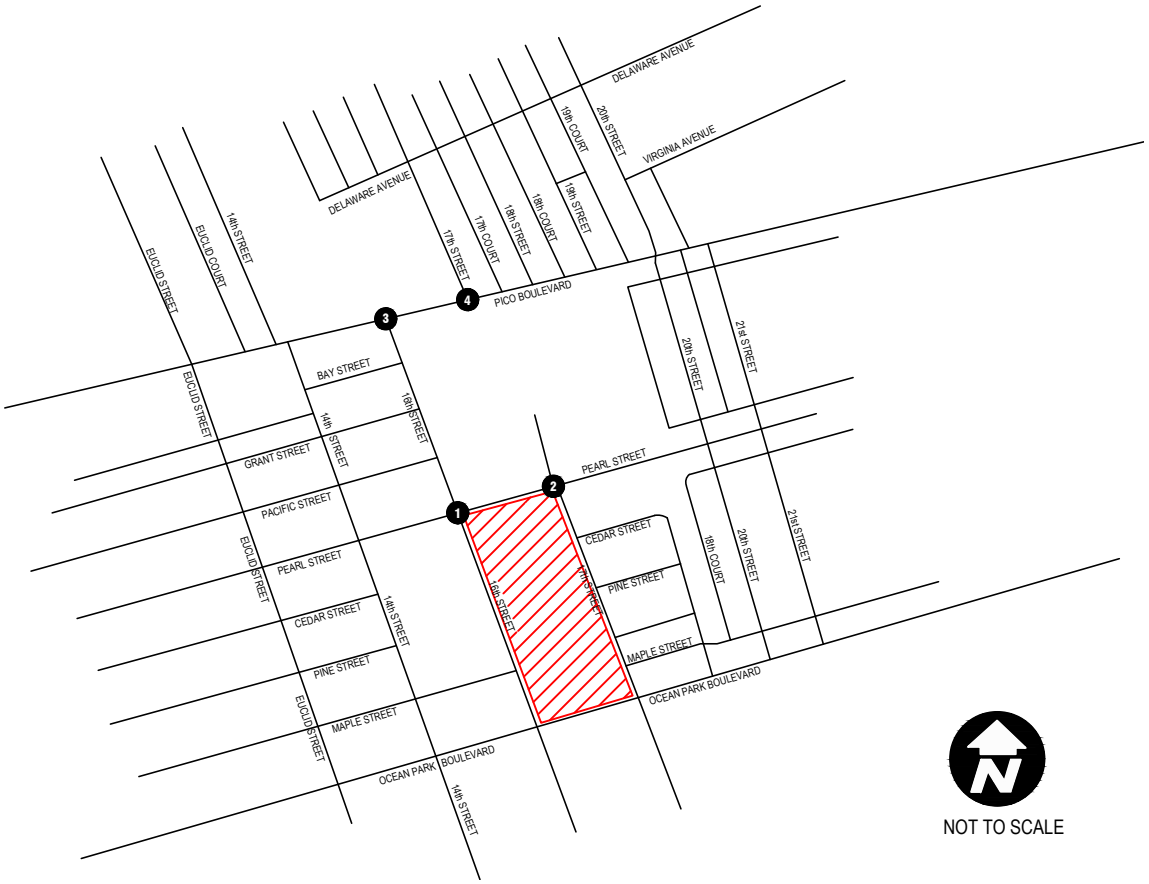

NOT TO SCALE

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- Site
- X — Weekday PM Peak Hour Traffic Volumes
- (X) — Weekday AM Peak Hour Traffic Volumes
- (X) — Study Intersection

Existing Plus Construction AM/PM Peak Hour Traffic Volumes (in PCE)

FIGURE **10**

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3. Year 2019 Baseline Conditions

This section describes Year 2019 Baseline Conditions within the identified study area. As mentioned earlier the construction activities are in full-swing and peak in 2019; and hence 2019 conditions are assessed to represent the more conservative scenario for the construction traffic impacts on the transportation system.

Traffic Volumes

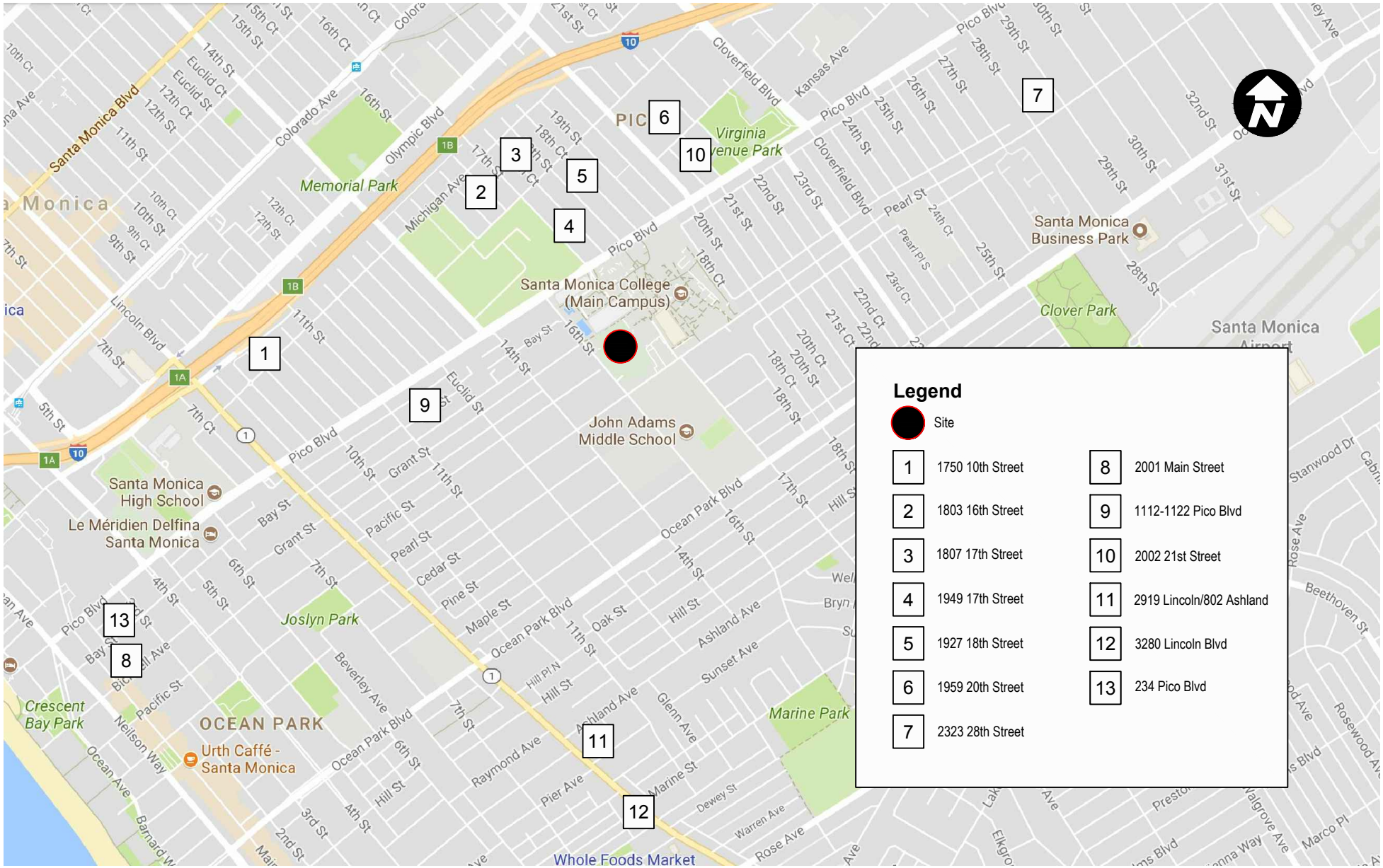
As noted in the methodology section, the 2019 baseline traffic volumes were determined by adding the existing traffic volumes as well as traffic from approved but not yet constructed projects in the vicinity of the project. The location of each cumulative project is shown in Figure 11, while the trip generation of each cumulative project is shown in Table 8. The trip rates used for calculating the cumulative projects are as per the Travel Forecasting Model Trip Generation Rates report.

Table 8. Cumulative Projects Trip Generation

				AM Peak Hour			PM Peak Hour		
Project	**No. of Units**	**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
1. 1750 10th Street (Condominium)	7	DU	45	1	2	3	2	1	3
2. 1803 16th Street (Condominium)	10	DU	65	1	3	4	3	2	5
3. 1807 17th Street (Condominium)	4	DU	26	0	1	1	1	1	2
4. 1949 17th Street (Condominium)	6	DU	39	0	2	2	2	1	3
5. 1927 18th Street (Condominium)	2	DU	13	0	0	0	1	0	1
6. 1959 20th Street (Condominium)	2	DU	12	0	0	0	1	0	1
7. 2323 28th Street (Condominium)	6	DU	39	0	2	2	2	1	3
8. 2001 Main Street (Retail)	4.15	KSF	170	5	3	8	7	5	12
9. 1112-1122 Pico Blvd (Assumed Multi-Family Residential)									
residential	28	DU	181	2	10	12	9	4	13
affordable housing	4	DU	26	0	1	1	1	0	1
Total 1112-1122 Pico Blvd			206	2	11	13	10	4	14
10. 2002 21st Street (Condominium)									
residential	4	DU	26	0	2	2	2	1	3
affordable housing	2	DU	13	0	0	0	0	1	1
Total 2002 21st Street			39	0	2	2	2	2	4
11. 2919 Lincoln/802 Ashland (Condo)	10	DU	65	1	3	4	3	1	4
12. 3280 Lincoln Blvd (assume Condos)	4	DU	26	0	1	1	1	0	1
13. 234 Pico Blvd (Assumed Condominiums)									
residential	79	DU	510	5	28	33	25	12	37
affordable housing	12	DU	77	1	4	5	3	2	5
retail	-3.914	KSF	-160	-4	-3	-7	-7	-4	-11
Total 234 Pico Blvd			427	2	29	31	21	10	31
Total Trip Generation			**1172**	**12**	**59**	**71**	**56**	**28**	**84**

Note: Trip Rates were derived from *Santa Monica Travel Demand Forecasting Model Trip Generation Rates*, Fehr and Peers, October 2011.

As shown in the table, the cumulative projects are expected to generate approximately 1,172 daily trips, 71 AM peak hour trips (12 inbound and 59 outbound), and 84 PM peak hour trips (56 inbound and 28 outbound). The Year 2019 Baseline traffic volumes are illustrated in Figure 12.



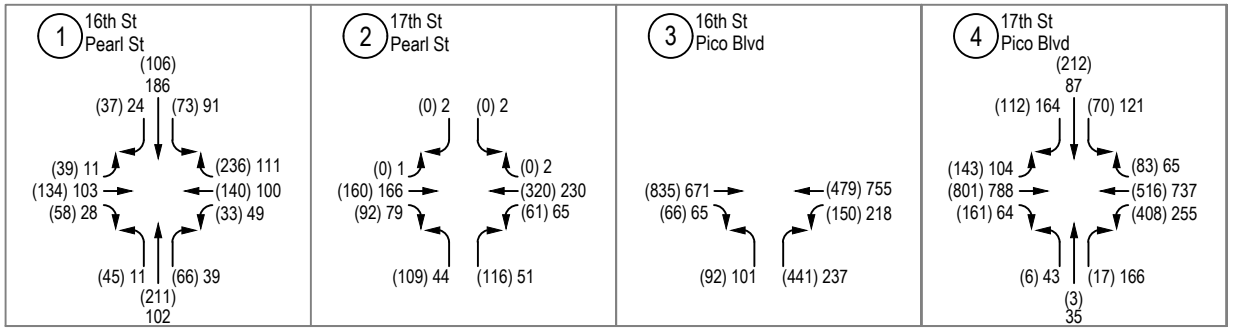
Source: City of Santa Monica, October 2017

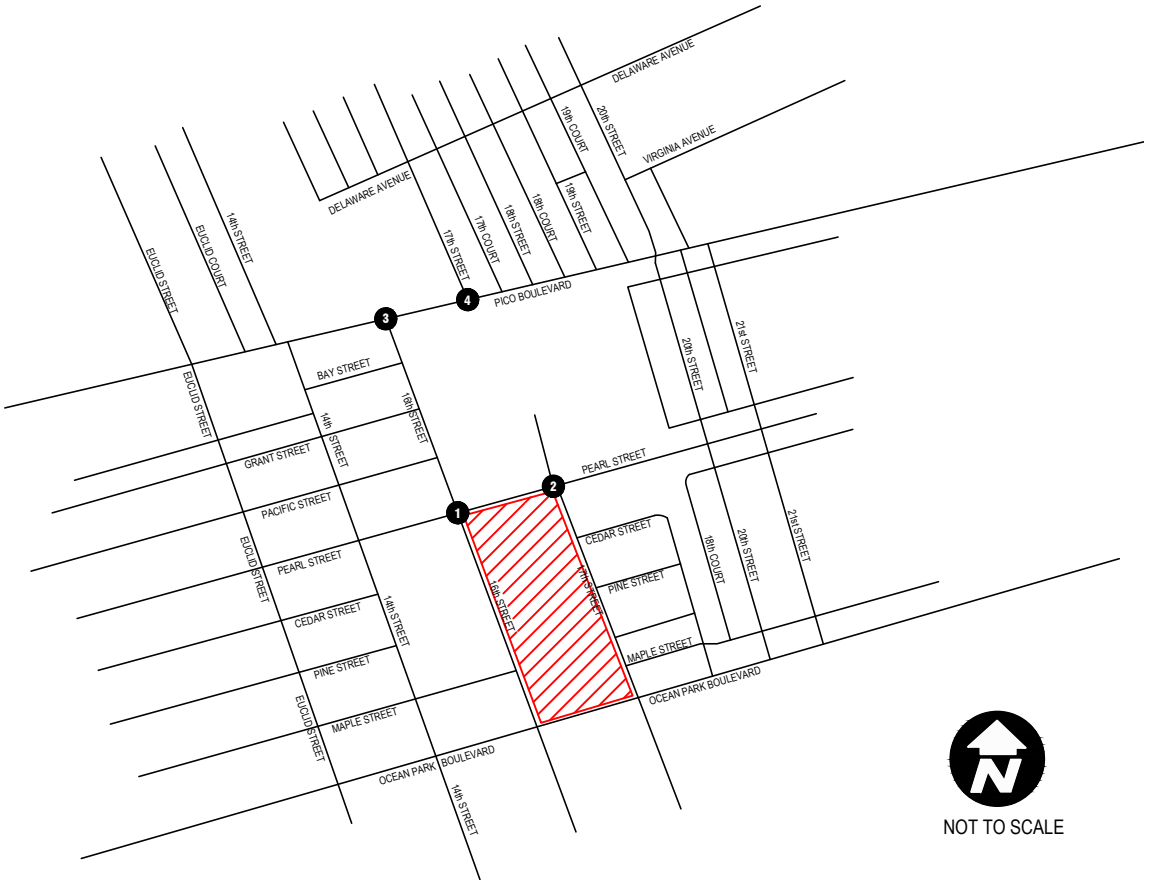
Locations of Cumulative Projects

FIGURE **11**

SMMUSD Adams Middle School

transpogroup
WHAT TRANSPORTATION CAN BE.





NOT TO SCALE

Legend

- Site
- X — Weekday PM Peak Hour Traffic Volumes
- (X) — Weekday AM Peak Hour Traffic Volumes
- (X) — Study Intersection

Year 2019 Baseline AM/PM Peak Hour Traffic Volumes

FIGURE **12**

SMMUSD Adams Middle School

transpogroup
WHAT TRANSPORTATION CAN BE.

Intersection Operations

An intersection operations analysis was conducted for the study area to evaluate the Year 2019 baseline weekday AM and PM peak hour conditions. Intersection operations were calculated using the LOS methodology described previously. The LOS analyses were prepared for the per the City requirements and are shown in Table 9. Detailed LOS worksheets are provided in Appendix B.

Table 9. Year 2019 Baseline Weekday Peak Hour Intersection LOS

		AM Peak		PM Peak	
Intersection	**LOS Method**	**LOS[1]**	**Delay[2]**	**LOS[1]**	**Delay[2]**
1. 16th St/Pearl St	HCM	C	18.2	B	14.5
2. 17th St/Pearl St	HCM	B	14.5	B	11.0
3. 16th St/Pico Blvd	HCM	C	23.1	B	13.5
4. 17th St/Pico Blvd	HCM	D	47.5	C	25.9

1. Level of Service
2. Delay measured in seconds/vehicle
3. HCM = Highway Capacity Manual 2010

As shown in the table, all of the study intersections continue to operate at LOS D or better during the weekday AM and PM peak hours under Year 2019 baseline conditions.

4. Year 2019 Plus Construction Traffic Conditions

This section describes Year 2019 Plus Construction Traffic Conditions. As mentioned earlier the construction activities are in full-swing and peak in 2019; and hence 2019 conditions are assessed to represent the more conservative scenario for the construction traffic impacts on the transportation system.

Traffic Volumes

Year 2019 plus Construction Traffic volumes were determined by adding the project trips to the Year 2019 Baseline traffic volumes. Figure 13 shows the Year 2019 Plus Construction Traffic weekday AM and PM peak hour traffic volumes.

Intersection Operations

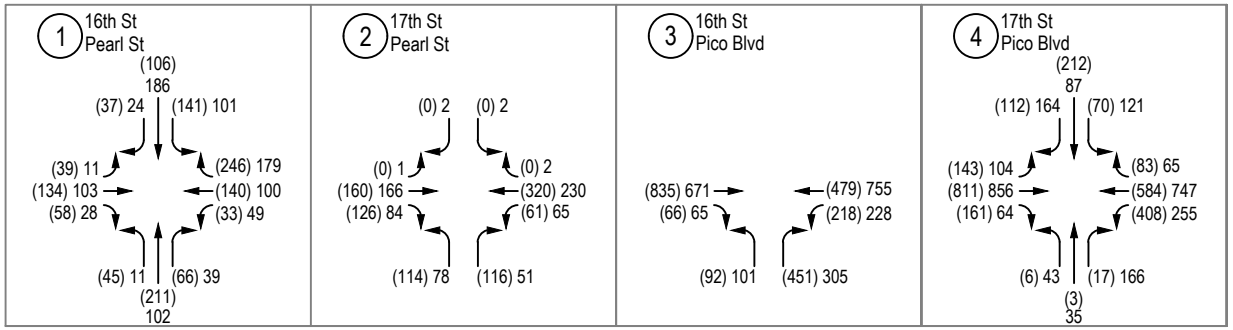
An intersection operations analysis was conducted for the study area to evaluate the Year 2019 Plus Construction Traffic weekday AM and PM peak hour conditions. Intersection operations were calculated using the LOS methodology described previously. Table 10 provides a comparison between the Year 2019 Baseline and Year 2019 Plus Construction Traffic conditions for the weekday AM and PM peak hours. Detailed LOS worksheets are included in Appendix B.

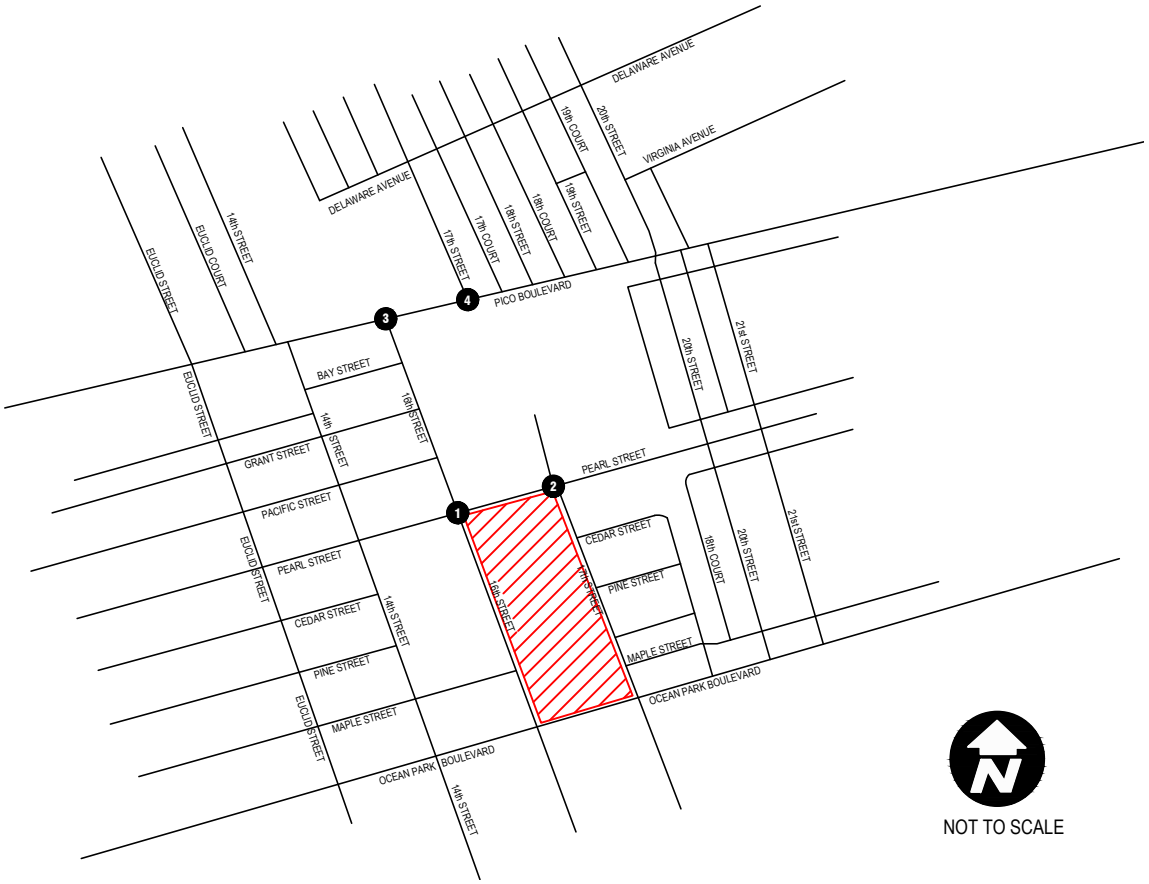
As shown in the table, all of the study intersections are forecast to continue to operate at LOS D or better during the AM and PM peak hours in the Year 2019 Plus Construction Traffic conditions. The project does not increase the delays per the City's significance impact criteria. Therefore, there would be no significant traffic impacts at the study area intersections with the addition of the project construction traffic.

Table 10. Year 2019 plus Construction Traffic Peak Hour Intersection LOS

		Year 2019 Baseline Conditions				Year 2019 plus Construction Traffic				Change		Impact?	
		AM Peak		PM Peak		AM Peak		PM Peak		AM	PM	AM	PM
Intersection	LOS Method	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]	LOS[1]	Delay[2]				
1. 16th St/Pearl St	HCM	C	18.2	B	14.5	C	23.2	C	15.7	5.0	1.2	NO	NO
2. 17th St/Pearl St	HCM	B	14.5	B	11.0	C	14.7	B	11.4	0.2	0.4	NO	NO
3. 16th St/Pico Blvd	HCM	C	23.1	B	13.5	C	28.1	B	14.7	5.0	1.2	NO	NO
4. 17th St/Pico Blvd	HCM	D	47.5	C	25.9	D	47.0	C	31.0	-0.5[4]	5.1	NO	NO

1. Level of Service
2. Delay measured in seconds/vehicle
3. HCM = Highway Capacity Manual 2010
4. This decrease (in delay per vehicle) is not unusual as number of vehicles minimally increased





NOT TO SCALE

Legend

- Site
- X — Weekday PM Peak Hour Traffic Volumes
- (X) — Weekday AM Peak Hour Traffic Volumes
- (X) — Study Intersection

Year 2019 Plus Construction Traffic AM/PM Peak Hour Traffic Volumes

FIGURE **13**

SMMUSD Adams Middle School

transpogroup
WHAT TRANSPORTATION CAN BE.

Pedestrian/Bicycle Access and Vehicle Circulation

The existing bicycle and pedestrian graphics are previously shown in Figures 5 and 6. As shown in these graphics, about 45 bicycles are observed to travel in the eastbound/westbound direction in the AM peak hour on Pearl Street and about 23 bicycles are observed to travel across Pico Blvd during the AM peak hour. Lower bicycle volumes are observed along 16th Street and 17th Street.

The highest number of pedestrian volumes (about 628 pedestrians) is observed crossing the intersection of 17th St/Pico Blvd in the AM peak hour, the majority of whom are Santa Monica College and John Adams Middle School students and faculty. School crossing guards are observed at the intersections surrounding the school that help pedestrians (mainly students) cross the intersections.

Construction traffic will utilize Pico Blvd, 16th Street, Pearl Street, and 17th Street towards the existing access points along 17th Street. Based on the project traffic volumes presented earlier, no mitigations are proposed to pedestrian or bicycle access.

Mitigation Measures

As noted previously, the project construction phase is not expected to impact any study area intersections. Therefore, no mitigation measures would be required for the construction phase.

Attachments: Appendix A – Trip Generation Calculations
Appendix B – LOS Worksheets
Appendix C – Traffic Counts

APPENDIX A – TRIP GENERATION CALCULATIONS

JAMS Auditorium Replacement Project

	Description	From	To	Max. Number of Daily Construction Workers	Max. Number of Daily Construction Truck	Max. Number of Daily Construction Truck	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22
							M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33	M34	M35	M36	M37	M38	M39	M40	M41	M42	M43	M44
Phase 1	Demolition for New Auditorium	6/1/18	9/1/18	8	12	24																																										
	Remodel of Building J*	6/1/19	9/1/19	12	4	8																																										
	Site Preparation for New Auditorium	8/1/19	10/1/19	8	20	40																																										
	Grading for New Auditorium	8/1/19	10/1/19	8	20	40																																										
	Trenching for New Auditorium*	8/1/19	10/1/19	8	10	20																																										
	Remodel of Building J Architectural Coating	9/1/19	12/13/19	8	4	8																																										
	Building Construction for New Auditorium	10/1/19	6/1/20	50	15	30																																										
	Architectural Coating for New Auditorium	6/1/20	12/1/20	20	8	16																																										
						0																																										
Phase 2	Site Preparation for Rehearsal Rooms	5/1/20	6/1/20	4	4	8																																										
	Grading for Rehearsal Rooms	5/1/20	6/1/20	4	10	20																																										
	Trenching for Rehearsal Rooms*	5/1/20	6/1/20	4	4	8																																										
	Building Construction for Rehearsal Rooms	5/1/20	9/1/20	12	4	8																																										
	Architectural Coating for Rehearsal Rooms	8/1/20	9/1/20	4	4	8																																										
						0																																										
Phase 3	Demolition for Music Building	8/1/20	11/1/20	8	12	24																																										
	Site Preparation for Music Building	11/1/20	1/1/21	4	6	12																																										
	Grading for Music Building	11/1/20	1/1/21	4	12	24																																										
	Trenching for Music Building*	11/1/20	1/1/21	4	4	8																																										
	Building Construction for Music Building	1/1/21	10/1/21	40	12	24																																										
	Architectural Coating for Music Building	10/1/21	2/1/22	20	6	12																																										

Peak Construction Traffic

Project Trips Generated

	AM Peak			PM Peak			
	IN	OUT	TOTAL	IN	OUT	TOTAL	Daily PCE
Workers	58	0	58	0	58	58	116
PCE Truck Trips	10	10	20	10	10	20	95
TOTAL TRIPS	**68**	**10**	**78**	**10**	**68**	**78**	**211**

Notes:
Peak Construction Period takes place in 4th quarter of 2019
Workers are assumed to arrive in the AM Peak and leave in the PM Peak
Passenger Car Equivalent - PCE = 2.5
10% of Daily Truck Trips are assumed in the AM Peak and 10% in the PM Peak

APPENDIX B – LOS WORKSHEETS

Intersection	
Intersection Delay, s/veh	17.5
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	38	132	57	0	32	138	232	0	44	208	65
Future Vol, veh/h	0	38	132	57	0	32	138	232	0	44	208	65
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	45	155	67	0	38	162	273	0	52	245	76
Number of Lanes	0	0	1	1	0	0	1	1	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	2
HCM Control Delay	15.2	16	19.8
HCM LOS	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	17%	0%	22%	0%	19%	0%	34%
Vol Thru, %	83%	0%	78%	0%	81%	0%	49%
Vol Right, %	0%	100%	0%	100%	0%	100%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	252	65	170	57	170	232	212
LT Vol	44	0	38	0	32	0	72
Through Vol	208	0	132	0	138	0	104
RT Vol	0	65	0	57	0	232	36
Lane Flow Rate	296	76	200	67	200	273	249
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.624	0.144	0.438	0.131	0.418	0.508	0.536
Departure Headway (Hd)	7.583	6.775	7.878	7.04	7.516	6.699	7.74
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	474	527	456	507	478	535	464
Service Time	5.352	4.544	5.656	4.817	5.287	4.469	5.817
HCM Lane V/C Ratio	0.624	0.144	0.439	0.132	0.418	0.51	0.537
HCM Control Delay	22.2	10.7	16.7	10.9	15.6	16.3	19.5
HCM Lane LOS	C	B	C	B	C	C	C
HCM 95th-tile Q	4.2	0.5	2.2	0.4	2	2.8	3.1

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	72	104	36
Future Vol, veh/h	0	72	104	36
Peak Hour Factor	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	85	122	42
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	19.5
HCM LOS	C

Intersection	
Intersection Delay, s/veh	14.1
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	0	157	91	0	60	315	0	0	107	0	114
Future Vol, veh/h	0	0	157	91	0	60	315	0	0	107	0	114
Peak Hour Factor	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	173	100	0	66	346	0	0	118	0	125
Number of Lanes	0	0	1	1	0	0	1	1	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	2
HCM Control Delay	9.9	18.3	11.8
HCM LOS	A	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	48%	0%	0%	16%	0%	0%
Vol Thru, %	0%	100%	0%	84%	100%	100%
Vol Right, %	52%	0%	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	221	157	91	375	0	0
LT Vol	107	0	0	60	0	0
Through Vol	0	157	0	315	0	0
RT Vol	114	0	91	0	0	0
Lane Flow Rate	243	173	100	412	0	0
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.372	0.277	0.141	0.649	0	0
Departure Headway (Hd)	5.51	5.77	5.06	5.671	5.59	6.282
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	653	623	709	639	0	0
Service Time	3.546	3.497	2.788	3.396	3.315	4.336
HCM Lane V/C Ratio	0.372	0.278	0.141	0.645	0	0
HCM Control Delay	11.8	10.7	8.6	18.3	8.3	9.3
HCM Lane LOS	B	B	A	C	N	N
HCM 95th-tile Q	1.7	1.1	0.5	4.7	0	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	0
HCM LOS	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	797	65	148	461	91	434
Future Volume (veh/h)	797	65	148	461	91	434
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	876	71	163	507	100	477
Adj No. of Lanes	2	0	1	2	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1785	145	286	1905	673	601
Arrive On Green	0.54	0.54	0.54	0.54	0.38	0.38
Sat Flow, veh/h	3409	269	590	3632	1774	1583
Grp Volume(v), veh/h	467	480	163	507	100	477
Grp Sat Flow(s),veh/h/ln	1770	1815	590	1770	1774	1583
Q Serve(g_s), s	18.1	18.1	26.2	8.4	4.1	29.3
Cycle Q Clear(g_c), s	18.1	18.1	44.3	8.4	4.1	29.3
Prop In Lane		0.15	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	953	977	286	1905	673	601
V/C Ratio(X)	0.49	0.49	0.57	0.27	0.15	0.79
Avail Cap(c_a), veh/h	1124	1153	343	2249	673	601
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	15.8	29.8	13.6	22.3	30.1
Incr Delay (d2), s/veh	0.4	0.4	1.8	0.1	0.5	10.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	9.2	4.4	4.1	2.1	14.5
LnGrp Delay(d),s/veh	16.2	16.2	31.5	13.7	22.8	40.5
LnGrp LOS	B	B	C	B	C	D
Approach Vol, veh/h	947			670	577	
Approach Delay, s/veh	16.2			18.0	37.5	
Approach LOS	B			B	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		46.0		63.4				63.4
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		41.5		69.5				69.5
Max Q Clear Time (g_c+I1), s		31.3		20.1				46.3
Green Ext Time (p_c), s		1.6		17.4				12.5

Intersection Summary	
HCM 2010 Ctrl Delay	22.4
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	764	158	402	497	82	6	3	17	69	209	110
Future Volume (veh/h)	141	764	158	402	497	82	6	3	17	69	209	110
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	155	840	174	442	546	90	7	3	19	76	230	121
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	604	2178	451	416	2270	373	51	13	284	60	206	108
Arrive On Green	0.75	0.75	0.75	0.75	0.75	0.75	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	789	2921	605	554	3044	500	0	74	1583	1384	1151	605
Grp Volume(v), veh/h	155	509	505	442	317	319	10	0	19	76	0	351
Grp Sat Flow(s),veh/h/ln	789	1770	1756	554	1770	1774	74	0	1583	1384	0	1756
Q Serve(g_s), s	9.1	12.3	12.3	77.2	6.6	6.7	0.0	0.0	1.2	0.0	0.0	21.5
Cycle Q Clear(g_c), s	15.8	12.3	12.3	89.5	6.6	6.7	21.5	0.0	1.2	21.5	0.0	21.5
Prop In Lane	1.00		0.34	1.00		0.28	0.70		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	604	1320	1310	416	1320	1323	64	0	284	60	0	315
V/C Ratio(X)	0.26	0.39	0.39	1.06	0.24	0.24	0.16	0.00	0.07	1.27	0.00	1.12
Avail Cap(c_a), veh/h	604	1320	1310	416	1320	1323	64	0	284	60	0	315
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.2	5.4	5.4	27.0	4.7	4.7	42.4	0.0	40.9	60.0	0.0	49.3
Incr Delay (d2), s/veh	0.2	0.2	0.2	61.6	0.1	0.1	5.1	0.0	0.5	203.9	0.0	85.6
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	2.0	6.0	6.0	20.9	3.2	3.2	0.4	0.0	0.6	5.4	0.0	17.9
LnGrp Delay(d),s/veh	7.4	5.6	5.6	88.5	4.8	4.8	47.5	0.0	41.4	263.9	0.0	134.9
LnGrp LOS	A	A	A	F	A	A	D		D	F		F
Approach Vol, veh/h		1169			1078			29			427	
Approach Delay, s/veh		5.9			39.1			43.5			157.8	
Approach LOS		A			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		26.0		94.0		26.0		94.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		21.5		89.5		21.5		89.5
Max Q Clear Time (g_c+I1), s		23.5		17.8		23.5		91.5
Green Ext Time (p_c), s		0.0		37.2		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	43.5
HCM 2010 LOS	D

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	11	101	28	0	48	98	109	0	11	100	38
Future Vol, veh/h	0	11	101	28	0	48	98	109	0	11	100	38
Peak Hour Factor	0.92	0.83	0.83	0.83	0.92	0.83	0.83	0.83	0.92	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	122	34	0	58	118	131	0	13	120	46
Number of Lanes	0	0	1	1	0	0	1	1	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	2
HCM Control Delay	11.4	11.7	11
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	10%	0%	10%	0%	33%	0%	30%
Vol Thru, %	90%	0%	90%	0%	67%	0%	62%
Vol Right, %	0%	100%	0%	100%	0%	100%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	111	38	112	28	146	109	297
LT Vol	11	0	11	0	48	0	90
Through Vol	100	0	101	0	98	0	183
RT Vol	0	38	0	28	0	109	24
Lane Flow Rate	134	46	135	34	176	131	358
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.247	0.075	0.256	0.057	0.328	0.212	0.624
Departure Headway (Hd)	6.637	5.873	6.818	6.053	6.703	5.822	6.275
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	538	605	524	587	533	612	573
Service Time	4.418	3.654	4.606	3.84	4.483	3.601	4.342
HCM Lane V/C Ratio	0.249	0.076	0.258	0.058	0.33	0.214	0.625
HCM Control Delay	11.6	9.1	12	9.2	12.8	10.2	19.3
HCM Lane LOS	B	A	B	A	B	B	C
HCM 95th-tile Q	1	0.2	1	0.2	1.4	0.8	4.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	90	183	24
Future Vol, veh/h	0	90	183	24
Peak Hour Factor	0.92	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	108	220	29
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	19.3
HCM LOS	C

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	1	163	78	0	64	226	2	0	43	0	50
Future Vol, veh/h	0	1	163	78	0	64	226	2	0	43	0	50
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	192	92	0	75	266	2	0	51	0	59
Number of Lanes	0	0	1	1	0	0	1	1	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	2
HCM Control Delay	9.1	12.9	9.2
HCM LOS	A	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	46%	1%	0%	22%	0%	50%
Vol Thru, %	0%	99%	0%	78%	0%	0%
Vol Right, %	54%	0%	100%	0%	100%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	93	164	78	290	2	4
LT Vol	43	1	0	64	0	2
Through Vol	0	163	0	226	0	0
RT Vol	50	0	78	0	2	2
Lane Flow Rate	109	193	92	341	2	5
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.157	0.275	0.113	0.492	0.003	0.007
Departure Headway (Hd)	5.174	5.136	4.429	5.188	4.373	5.392
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	690	697	806	693	815	658
Service Time	3.229	2.883	2.175	2.933	2.118	3.468
HCM Lane V/C Ratio	0.158	0.277	0.114	0.492	0.002	0.008
HCM Control Delay	9.2	9.8	7.7	12.9	7.1	8.5
HCM Lane LOS	A	A	A	B	A	A
HCM 95th-tile Q	0.6	1.1	0.4	2.7	0	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	2	0	2
Future Vol, veh/h	0	2	0	2
Peak Hour Factor	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	2	0	2
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	8.5
HCM LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	644	64	215	718	99	233
Future Volume (veh/h)	644	64	215	718	99	233
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	657	65	219	733	101	238
Adj No. of Lanes	2	0	1	2	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1851	183	417	2014	581	519
Arrive On Green	0.57	0.57	0.57	0.57	0.33	0.33
Sat Flow, veh/h	3347	322	728	3632	1774	1583
Grp Volume(v), veh/h	357	365	219	733	101	238
Grp Sat Flow(s),veh/h/ln	1770	1806	728	1770	1774	1583
Q Serve(g_s), s	9.5	9.5	20.2	9.8	3.5	10.3
Cycle Q Clear(g_c), s	9.5	9.5	29.7	9.8	3.5	10.3
Prop In Lane		0.18	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1007	1028	417	2014	581	519
V/C Ratio(X)	0.35	0.36	0.52	0.36	0.17	0.46
Avail Cap(c_a), veh/h	1678	1713	694	3356	581	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.1	10.1	18.2	10.2	20.9	23.1
Incr Delay (d2), s/veh	0.2	0.2	1.0	0.1	0.7	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	4.7	4.1	4.8	1.8	4.9
LnGrp Delay(d),s/veh	10.3	10.3	19.2	10.3	21.5	26.1
LnGrp LOS	B	B	B	B	C	C
Approach Vol, veh/h	722			952	339	
Approach Delay, s/veh	10.3			12.3	24.7	
Approach LOS	B			B	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		33.0		54.0				54.0
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		28.5		82.5				82.5
Max Q Clear Time (g_c+I1), s		12.3		11.5				31.7
Green Ext Time (p_c), s		1.0		19.1				17.8

Intersection Summary	
HCM 2010 Ctrl Delay	13.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	759	63	251	700	64	42	34	163	119	86	161
Future Volume (veh/h)	102	759	63	251	700	64	42	34	163	119	86	161
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	112	834	69	276	769	70	46	37	179	131	95	177
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	440	2226	184	412	2207	201	124	86	387	136	143	266
Arrive On Green	0.67	0.67	0.67	0.67	0.67	0.67	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	653	3310	274	615	3281	299	298	353	1583	1161	584	1087
Grp Volume(v), veh/h	112	446	457	276	415	424	83	0	179	131	0	272
Grp Sat Flow(s),veh/h/ln	653	1770	1814	615	1770	1810	651	0	1583	1161	0	1671
Q Serve(g_s), s	9.6	12.0	12.0	38.7	10.9	10.9	4.1	0.0	10.4	6.5	0.0	15.9
Cycle Q Clear(g_c), s	20.5	12.0	12.0	50.6	10.9	10.9	20.0	0.0	10.4	26.5	0.0	15.9
Prop In Lane	1.00		0.15	1.00		0.16	0.55		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	440	1190	1220	412	1190	1217	211	0	387	136	0	408
V/C Ratio(X)	0.25	0.37	0.37	0.67	0.35	0.35	0.39	0.00	0.46	0.96	0.00	0.67
Avail Cap(c_a), veh/h	510	1379	1414	478	1379	1411	211	0	387	136	0	408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.0	7.8	7.8	18.9	7.6	7.6	40.3	0.0	34.9	52.5	0.0	37.0
Incr Delay (d2), s/veh	0.3	0.2	0.2	2.9	0.2	0.2	5.4	0.0	3.9	67.5	0.0	8.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.9	6.0	6.9	5.4	5.5	2.6	0.0	5.0	6.4	0.0	8.3
LnGrp Delay(d),s/veh	12.3	8.0	8.0	21.8	7.8	7.8	45.7	0.0	38.8	120.0	0.0	45.3
LnGrp LOS	B	A	A	C	A	A	D		D	F		D
Approach Vol, veh/h		1015			1115			262			403	
Approach Delay, s/veh		8.4			11.2			41.0			69.6	
Approach LOS		A			B			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		31.0		77.4		31.0		77.4
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		26.5		84.5		26.5		84.5
Max Q Clear Time (g_c+I1), s		22.0		22.5		28.5		52.6
Green Ext Time (p_c), s		1.5		28.8		0.0		20.3

Intersection Summary	
HCM 2010 Ctrl Delay	21.4
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	22.2
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	38	132	57	0	32	138	242	0	44	208	65
Future Vol, veh/h	0	38	132	57	0	32	138	242	0	44	208	65
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	45	155	67	0	38	162	285	0	52	245	76
Number of Lanes	0	0	1	1	0	0	1	1	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	2
HCM Control Delay	16.9	18.5	22.8
HCM LOS	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	17%	0%	22%	0%	19%	0%	50%
Vol Thru, %	83%	0%	78%	0%	81%	0%	37%
Vol Right, %	0%	100%	0%	100%	0%	100%	13%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	252	65	170	57	170	242	280
LT Vol	44	0	38	0	32	0	140
Through Vol	208	0	132	0	138	0	104
RT Vol	0	65	0	57	0	242	36
Lane Flow Rate	296	76	200	67	200	285	329
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.667	0.155	0.472	0.143	0.449	0.574	0.741
Departure Headway (Hd)	8.101	7.289	8.501	7.657	8.075	7.253	8.103
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	448	492	424	468	446	498	448
Service Time	5.844	5.032	6.248	5.404	5.818	4.996	6.147
HCM Lane V/C Ratio	0.661	0.154	0.472	0.143	0.448	0.572	0.734
HCM Control Delay	25.7	11.4	18.7	11.7	17.3	19.4	31.1
HCM Lane LOS	D	B	C	B	C	C	D
HCM 95th-tile Q	4.8	0.5	2.5	0.5	2.3	3.6	6

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	140	104	36
Future Vol, veh/h	0	140	104	36
Peak Hour Factor	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	165	122	42
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	31.1
HCM LOS	D

Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	0	157	125	0	60	315	0	0	112	0	114
Future Vol, veh/h	0	0	157	125	0	60	315	0	0	112	0	114
Peak Hour Factor	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	173	137	0	66	346	0	0	123	0	125
Number of Lanes	0	0	1	1	0	0	1	1	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	2
HCM Control Delay	10	18.9	12.1
HCM LOS	A	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	50%	0%	0%	16%	0%	0%
Vol Thru, %	0%	100%	0%	84%	100%	100%
Vol Right, %	50%	0%	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	226	157	125	375	0	0
LT Vol	112	0	0	60	0	0
Through Vol	0	157	0	315	0	0
RT Vol	114	0	125	0	0	0
Lane Flow Rate	248	173	137	412	0	0
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.386	0.278	0.194	0.658	0	0
Departure Headway (Hd)	5.591	5.807	5.097	5.744	5.663	6.392
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	643	619	703	630	0	0
Service Time	3.629	3.539	2.829	3.471	3.39	4.451
HCM Lane V/C Ratio	0.386	0.279	0.195	0.654	0	0
HCM Control Delay	12.1	10.8	9.1	18.9	8.4	9.5
HCM Lane LOS	B	B	A	C	N	N
HCM 95th-tile Q	1.8	1.1	0.7	4.9	0	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	0
HCM LOS	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	797	65	216	461	91	444
Future Volume (veh/h)	797	65	216	461	91	444
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	876	71	237	507	100	488
Adj No. of Lanes	2	0	1	2	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2006	163	336	2141	562	502
Arrive On Green	0.60	0.60	0.60	0.60	0.32	0.32
Sat Flow, veh/h	3409	269	590	3632	1774	1583
Grp Volume(v), veh/h	467	480	237	507	100	488
Grp Sat Flow(s),veh/h/ln	1770	1815	590	1770	1774	1583
Q Serve(g_s), s	16.3	16.3	41.5	7.6	4.7	35.1
Cycle Q Clear(g_c), s	16.3	16.3	57.9	7.6	4.7	35.1
Prop In Lane		0.15	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1071	1098	336	2141	562	502
V/C Ratio(X)	0.44	0.44	0.71	0.24	0.18	0.97
Avail Cap(c_a), veh/h	1145	1174	360	2289	562	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.2	12.2	27.7	10.5	28.5	38.8
Incr Delay (d2), s/veh	0.3	0.3	5.7	0.1	0.7	33.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	8.2	7.2	3.7	2.4	20.0
LnGrp Delay(d),s/veh	12.5	12.5	33.5	10.5	29.2	72.8
LnGrp LOS	B	B	C	B	C	E
Approach Vol, veh/h	947			744	588	
Approach Delay, s/veh	12.5			17.8	65.4	
Approach LOS	B			B	E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		41.0		74.2				74.2
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		36.5		74.5				74.5
Max Q Clear Time (g_c+I1), s		37.1		18.3				59.9
Green Ext Time (p_c), s		0.0		19.9				9.8

Intersection Summary	
HCM 2010 Ctrl Delay	27.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	774	158	402	565	82	6	3	17	69	209	110
Future Volume (veh/h)	141	774	158	402	565	82	6	3	17	69	209	110
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	155	851	174	442	621	90	7	3	19	76	230	121
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	562	2184	446	412	2315	335	51	13	284	60	206	108
Arrive On Green	0.75	0.75	0.75	0.75	0.75	0.75	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	736	2928	599	548	3104	449	0	74	1583	1384	1151	605
Grp Volume(v), veh/h	155	514	511	442	354	357	10	0	19	76	0	351
Grp Sat Flow(s),veh/h/ln	736	1770	1757	548	1770	1783	74	0	1583	1384	0	1756
Q Serve(g_s), s	10.2	12.5	12.5	77.0	7.6	7.6	0.0	0.0	1.2	0.0	0.0	21.5
Cycle Q Clear(g_c), s	17.8	12.5	12.5	89.5	7.6	7.6	21.5	0.0	1.2	21.5	0.0	21.5
Prop In Lane	1.00		0.34	1.00		0.25	0.70		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	562	1320	1311	412	1320	1330	64	0	284	60	0	315
V/C Ratio(X)	0.28	0.39	0.39	1.07	0.27	0.27	0.16	0.00	0.07	1.27	0.00	1.12
Avail Cap(c_a), veh/h	562	1320	1311	412	1320	1330	64	0	284	60	0	315
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.7	5.5	5.5	27.1	4.8	4.8	42.4	0.0	40.9	60.0	0.0	49.3
Incr Delay (d2), s/veh	0.3	0.2	0.2	65.5	0.1	0.1	5.1	0.0	0.5	203.9	0.0	85.6
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	2.1	6.1	6.0	21.1	3.7	3.7	0.4	0.0	0.6	5.4	0.0	17.9
LnGrp Delay(d),s/veh	7.9	5.7	5.7	92.6	5.0	5.0	47.5	0.0	41.4	263.9	0.0	134.9
LnGrp LOS	A	A	A	F	A	A	D		D	F		F
Approach Vol, veh/h		1180			1153			29			427	
Approach Delay, s/veh		6.0			38.5			43.5			157.8	
Approach LOS		A			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		26.0		94.0		26.0		94.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		21.5		89.5		21.5		89.5
Max Q Clear Time (g_c+I1), s		23.5		19.8		23.5		91.5
Green Ext Time (p_c), s		0.0		39.1		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	43.1
HCM 2010 LOS	D

Intersection	
Intersection Delay, s/veh	15.4
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	11	101	28	0	48	98	177	0	11	100	38
Future Vol, veh/h	0	11	101	28	0	48	98	177	0	11	100	38
Peak Hour Factor	0.92	0.83	0.83	0.83	0.92	0.83	0.83	0.83	0.92	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	122	34	0	58	118	213	0	13	120	46
Number of Lanes	0	0	1	1	0	0	1	1	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	2
HCM Control Delay	11.9	12.5	11.5
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	10%	0%	10%	0%	33%	0%	33%
Vol Thru, %	90%	0%	90%	0%	67%	0%	60%
Vol Right, %	0%	100%	0%	100%	0%	100%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	111	38	112	28	146	177	307
LT Vol	11	0	11	0	48	0	100
Through Vol	100	0	101	0	98	0	183
RT Vol	0	38	0	28	0	177	24
Lane Flow Rate	134	46	135	34	176	213	370
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.261	0.08	0.268	0.06	0.338	0.357	0.667
Departure Headway (Hd)	7.02	6.263	7.163	6.394	6.914	6.031	6.601
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	512	574	503	562	522	599	551
Service Time	4.747	3.981	4.884	4.116	4.616	3.733	4.601
HCM Lane V/C Ratio	0.262	0.08	0.268	0.06	0.337	0.356	0.672
HCM Control Delay	12.2	9.5	12.5	9.5	13.1	12	21.8
HCM Lane LOS	B	A	B	A	B	B	C
HCM 95th-tile Q	1	0.3	1.1	0.2	1.5	1.6	4.9

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	100	183	24
Future Vol, veh/h	0	100	183	24
Peak Hour Factor	0.92	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	120	220	29
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	21.8
HCM LOS	C

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	1	163	83	0	64	226	2	0	77	0	50
Future Vol, veh/h	0	1	163	83	0	64	226	2	0	77	0	50
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	192	98	0	75	266	2	0	91	0	59
Number of Lanes	0	0	1	1	0	0	1	1	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	2
HCM Control Delay	9.4	13.5	9.9
HCM LOS	A	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	61%	1%	0%	22%	0%	50%
Vol Thru, %	0%	99%	0%	78%	0%	0%
Vol Right, %	39%	0%	100%	0%	100%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	127	164	83	290	2	4
LT Vol	77	1	0	64	0	2
Through Vol	0	163	0	226	0	0
RT Vol	50	0	83	0	2	2
Lane Flow Rate	149	193	98	341	2	5
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.221	0.283	0.124	0.505	0.003	0.007
Departure Headway (Hd)	5.321	5.275	4.567	5.324	4.508	5.609
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	669	677	778	672	787	642
Service Time	3.391	3.043	2.334	3.09	2.273	3.609
HCM Lane V/C Ratio	0.223	0.285	0.126	0.507	0.003	0.008
HCM Control Delay	9.9	10.1	8	13.5	7.3	8.6
HCM Lane LOS	A	B	A	B	A	A
HCM 95th-tile Q	0.8	1.2	0.4	2.9	0	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	2	0	2
Future Vol, veh/h	0	2	0	2
Peak Hour Factor	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	2	0	2
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	8.6
HCM LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	644	64	225	718	99	301
Future Volume (veh/h)	644	64	225	718	99	301
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	657	65	230	733	101	307
Adj No. of Lanes	2	0	1	2	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1876	185	423	2040	571	510
Arrive On Green	0.58	0.58	0.58	0.58	0.32	0.32
Sat Flow, veh/h	3347	322	728	3632	1774	1583
Grp Volume(v), veh/h	357	365	230	733	101	307
Grp Sat Flow(s),veh/h/ln	1770	1806	728	1770	1774	1583
Q Serve(g_s), s	9.5	9.5	21.7	9.8	3.6	14.4
Cycle Q Clear(g_c), s	9.5	9.5	31.2	9.8	3.6	14.4
Prop In Lane		0.18	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1020	1041	423	2040	571	510
V/C Ratio(X)	0.35	0.35	0.54	0.36	0.18	0.60
Avail Cap(c_a), veh/h	1649	1683	681	3297	571	510
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.9	10.0	18.2	10.0	21.6	25.3
Incr Delay (d2), s/veh	0.2	0.2	1.1	0.1	0.7	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	4.7	4.5	4.8	1.9	7.0
LnGrp Delay(d),s/veh	10.2	10.2	19.3	10.1	22.3	30.5
LnGrp LOS	B	B	B	B	C	C
Approach Vol, veh/h	722			963	408	
Approach Delay, s/veh	10.2			12.3	28.4	
Approach LOS	B			B	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		33.0		55.5				55.5
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		28.5		82.5				82.5
Max Q Clear Time (g_c+I1), s		16.4		11.5				33.2
Green Ext Time (p_c), s		1.1		19.3				17.8

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	827	63	251	710	64	42	34	163	119	86	161
Future Volume (veh/h)	102	827	63	251	710	64	42	34	163	119	86	161
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	112	909	69	276	780	70	46	37	179	131	95	177
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	445	2292	174	390	2259	203	112	77	369	116	136	254
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	646	3335	253	573	3286	295	270	330	1583	1161	584	1087
Grp Volume(v), veh/h	112	482	496	276	420	430	83	0	179	131	0	272
Grp Sat Flow(s),veh/h/ln	646	1770	1818	573	1770	1811	600	0	1583	1161	0	1671
Q Serve(g_s), s	9.8	13.3	13.3	45.4	11.0	11.1	4.5	0.0	11.1	5.1	0.0	16.9
Cycle Q Clear(g_c), s	20.8	13.3	13.3	58.7	11.0	11.1	21.4	0.0	11.1	26.5	0.0	16.9
Prop In Lane	1.00		0.14	1.00		0.16	0.55		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	445	1216	1250	390	1216	1245	189	0	369	116	0	390
V/C Ratio(X)	0.25	0.40	0.40	0.71	0.35	0.35	0.44	0.00	0.48	1.13	0.00	0.70
Avail Cap(c_a), veh/h	481	1317	1353	422	1317	1347	189	0	369	116	0	390
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.5	7.6	7.6	20.2	7.3	7.3	43.8	0.0	37.6	55.6	0.0	39.9
Incr Delay (d2), s/veh	0.3	0.2	0.2	4.9	0.2	0.2	7.2	0.0	4.5	123.8	0.0	9.9
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	1.8	6.5	6.7	7.7	5.4	5.6	2.9	0.0	5.3	7.6	0.0	8.9
LnGrp Delay(d),s/veh	11.8	7.8	7.8	25.2	7.4	7.4	51.1	0.0	42.1	179.5	0.0	49.8
LnGrp LOS	B	A	A	C	A	A	D		D	F		D
Approach Vol, veh/h		1090			1126			262			403	
Approach Delay, s/veh		8.2			11.8			45.0			91.9	
Approach LOS		A			B			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		31.0		82.6		31.0		82.6
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		26.5		84.5		26.5		84.5
Max Q Clear Time (g_c+I1), s		23.4		22.8		28.5		60.7
Green Ext Time (p_c), s		1.1		31.3		0.0		17.4

Intersection Summary	
HCM 2010 Ctrl Delay	24.7
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	18.2
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	39	134	58	0	33	140	236	0	45	211	66
Future Vol, veh/h	0	39	134	58	0	33	140	236	0	45	211	66
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	46	158	68	0	39	165	278	0	53	248	78
Number of Lanes	0	0	1	1	0	0	1	1	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	2
HCM Control Delay	15.6	16.5	20.7
HCM LOS	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	18%	0%	23%	0%	19%	0%	34%
Vol Thru, %	82%	0%	77%	0%	81%	0%	49%
Vol Right, %	0%	100%	0%	100%	0%	100%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	256	66	173	58	173	236	216
LT Vol	45	0	39	0	33	0	73
Through Vol	211	0	134	0	140	0	106
RT Vol	0	66	0	58	0	236	37
Lane Flow Rate	301	78	204	68	204	278	254
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.641	0.148	0.45	0.135	0.43	0.523	0.552
Departure Headway (Hd)	7.658	6.85	7.966	7.126	7.597	6.778	7.822
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	470	521	450	500	472	530	460
Service Time	5.434	4.625	5.75	4.909	5.372	4.552	5.905
HCM Lane V/C Ratio	0.64	0.15	0.453	0.136	0.432	0.525	0.552
HCM Control Delay	23.2	10.8	17.2	11	16	16.8	20.2
HCM Lane LOS	C	B	C	B	C	C	C
HCM 95th-tile Q	4.4	0.5	2.3	0.5	2.1	3	3.3

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	73	106	37
Future Vol, veh/h	0	73	106	37
Peak Hour Factor	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	86	125	44
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	20.2
HCM LOS	C

Intersection	
Intersection Delay, s/veh	14.5
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	0	160	92	0	61	320	0	0	109	0	116
Future Vol, veh/h	0	0	160	92	0	61	320	0	0	109	0	116
Peak Hour Factor	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	176	101	0	67	352	0	0	120	0	127
Number of Lanes	0	0	1	1	0	0	1	1	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	2
HCM Control Delay	10	18.9	12
HCM LOS	A	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	48%	0%	0%	16%	0%	0%
Vol Thru, %	0%	100%	0%	84%	100%	100%
Vol Right, %	52%	0%	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	225	160	92	381	0	0
LT Vol	109	0	0	61	0	0
Through Vol	0	160	0	320	0	0
RT Vol	116	0	92	0	0	0
Lane Flow Rate	247	176	101	419	0	0
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.381	0.283	0.143	0.662	0	0
Departure Headway (Hd)	5.544	5.8	5.09	5.696	5.615	6.334
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	650	621	705	636	0	0
Service Time	3.578	3.53	2.82	3.422	3.341	4.388
HCM Lane V/C Ratio	0.38	0.283	0.143	0.659	0	0
HCM Control Delay	12	10.8	8.7	18.9	8.3	9.4
HCM Lane LOS	B	B	A	C	N	N
HCM 95th-tile Q	1.8	1.2	0.5	5	0	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	0
HCM LOS	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	835	66	150	479	92	441
Future Volume (veh/h)	835	66	150	479	92	441
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	918	73	165	526	101	485
Adj No. of Lanes	2	0	1	2	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1842	146	282	1963	647	577
Arrive On Green	0.55	0.55	0.55	0.55	0.36	0.36
Sat Flow, veh/h	3415	264	566	3632	1774	1583
Grp Volume(v), veh/h	489	502	165	526	101	485
Grp Sat Flow(s),veh/h/ln	1770	1816	566	1770	1774	1583
Q Serve(g_s), s	18.9	18.9	28.2	8.6	4.3	31.2
Cycle Q Clear(g_c), s	18.9	18.9	47.1	8.6	4.3	31.2
Prop In Lane		0.15	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	981	1007	282	1963	647	577
V/C Ratio(X)	0.50	0.50	0.58	0.27	0.16	0.84
Avail Cap(c_a), veh/h	1123	1152	327	2245	647	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.2	15.2	29.7	12.9	23.8	32.4
Incr Delay (d2), s/veh	0.4	0.4	2.0	0.1	0.5	13.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	9.6	4.6	4.2	2.2	15.8
LnGrp Delay(d),s/veh	15.6	15.6	31.7	13.0	24.3	46.1
LnGrp LOS	B	B	C	B	C	D
Approach Vol, veh/h	991			691	586	
Approach Delay, s/veh	15.6			17.5	42.4	
Approach LOS	B			B	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		45.0		66.1				66.1
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		40.5		70.5				70.5
Max Q Clear Time (g_c+I1), s		33.2		20.9				49.1
Green Ext Time (p_c), s		1.4		18.7				12.6

Intersection Summary	
HCM 2010 Ctrl Delay	23.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	801	161	408	516	83	6	3	17	70	212	112
Future Volume (veh/h)	143	801	161	408	516	83	6	3	17	70	212	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	157	880	177	448	567	91	7	3	19	77	233	123
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	591	2191	441	399	2280	365	51	13	284	60	206	109
Arrive On Green	0.75	0.75	0.75	0.75	0.75	0.75	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	773	2937	591	532	3057	489	0	74	1583	1384	1149	607
Grp Volume(v), veh/h	157	530	527	448	328	330	10	0	19	77	0	356
Grp Sat Flow(s),veh/h/ln	773	1770	1759	532	1770	1776	74	0	1583	1384	0	1756
Q Serve(g_s), s	9.6	13.0	13.1	76.4	6.9	7.0	0.0	0.0	1.2	0.0	0.0	21.5
Cycle Q Clear(g_c), s	16.5	13.0	13.1	89.5	6.9	7.0	21.5	0.0	1.2	21.5	0.0	21.5
Prop In Lane	1.00		0.34	1.00		0.28	0.70		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	591	1320	1312	399	1320	1325	64	0	284	60	0	315
V/C Ratio(X)	0.27	0.40	0.40	1.12	0.25	0.25	0.16	0.00	0.07	1.28	0.00	1.13
Avail Cap(c_a), veh/h	591	1320	1312	399	1320	1325	64	0	284	60	0	315
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.3	5.5	5.5	27.5	4.8	4.8	42.4	0.0	40.9	60.0	0.0	49.3
Incr Delay (d2), s/veh	0.2	0.2	0.2	83.1	0.1	0.1	5.1	0.0	0.5	210.0	0.0	91.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	6.4	6.4	22.4	3.4	3.4	0.4	0.0	0.6	5.5	0.0	18.4
LnGrp Delay(d),s/veh	7.6	5.7	5.7	110.6	4.9	4.9	47.5	0.0	41.4	270.0	0.0	140.5
LnGrp LOS	A	A	A	F	A	A	D		D	F		F
Approach Vol, veh/h		1214			1106			29			433	
Approach Delay, s/veh		6.0			47.7			43.5			163.5	
Approach LOS		A			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		26.0		94.0		26.0		94.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		21.5		89.5		21.5		89.5
Max Q Clear Time (g_c+I1), s		23.5		18.5		23.5		91.5
Green Ext Time (p_c), s		0.0		39.8		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	47.5
HCM 2010 LOS	D

Intersection	
Intersection Delay, s/veh	14.5
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	11	103	28	0	49	100	111	0	11	102	39
Future Vol, veh/h	0	11	103	28	0	49	100	111	0	11	102	39
Peak Hour Factor	0.92	0.83	0.83	0.83	0.92	0.83	0.83	0.83	0.92	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	124	34	0	59	120	134	0	13	123	47
Number of Lanes	0	0	1	1	0	0	1	1	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	2
HCM Control Delay	11.5	11.8	11.1
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	10%	0%	10%	0%	33%	0%	30%
Vol Thru, %	90%	0%	90%	0%	67%	0%	62%
Vol Right, %	0%	100%	0%	100%	0%	100%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	113	39	114	28	149	111	301
LT Vol	11	0	11	0	49	0	91
Through Vol	102	0	103	0	100	0	186
RT Vol	0	39	0	28	0	111	24
Lane Flow Rate	136	47	137	34	180	134	363
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.253	0.077	0.262	0.057	0.337	0.218	0.636
Departure Headway (Hd)	6.686	5.923	6.871	6.106	6.75	5.868	6.318
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	534	600	519	582	530	607	569
Service Time	4.469	3.706	4.66	3.894	4.527	3.644	4.384
HCM Lane V/C Ratio	0.255	0.078	0.264	0.058	0.34	0.221	0.638
HCM Control Delay	11.7	9.2	12.1	9.3	13	10.3	19.9
HCM Lane LOS	B	A	B	A	B	B	C
HCM 95th-tile Q	1	0.2	1	0.2	1.5	0.8	4.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	91	186	24
Future Vol, veh/h	0	91	186	24
Peak Hour Factor	0.92	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	110	224	29
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	19.9
HCM LOS	C

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	1	166	79	0	65	230	2	0	44	0	51
Future Vol, veh/h	0	1	166	79	0	65	230	2	0	44	0	51
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	195	93	0	76	271	2	0	52	0	60
Number of Lanes	0	0	1	1	0	0	1	1	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	2
HCM Control Delay	9.2	13.1	9.3
HCM LOS	A	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	46%	1%	0%	22%	0%	50%
Vol Thru, %	0%	99%	0%	78%	0%	0%
Vol Right, %	54%	0%	100%	0%	100%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	95	167	79	295	2	4
LT Vol	44	1	0	65	0	2
Through Vol	0	166	0	230	0	0
RT Vol	51	0	79	0	2	2
Lane Flow Rate	112	196	93	347	2	5
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.161	0.281	0.115	0.501	0.003	0.007
Departure Headway (Hd)	5.2	5.149	4.441	5.199	4.385	5.422
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	686	696	803	691	812	654
Service Time	3.256	2.898	2.19	2.948	2.132	3.502
HCM Lane V/C Ratio	0.163	0.282	0.116	0.502	0.002	0.008
HCM Control Delay	9.3	9.9	7.8	13.1	7.1	8.5
HCM Lane LOS	A	A	A	B	A	A
HCM 95th-tile Q	0.6	1.2	0.4	2.8	0	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	2	0	2
Future Vol, veh/h	0	2	0	2
Peak Hour Factor	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	2	0	2
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	8.5
HCM LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	671	65	218	755	101	237
Future Volume (veh/h)	671	65	218	755	101	237
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	685	66	222	770	103	242
Adj No. of Lanes	2	0	1	2	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1915	184	420	2078	552	493
Arrive On Green	0.59	0.59	0.59	0.59	0.31	0.31
Sat Flow, veh/h	3356	314	709	3632	1774	1583
Grp Volume(v), veh/h	371	380	222	770	103	242
Grp Sat Flow(s),veh/h/ln	1770	1807	709	1770	1774	1583
Q Serve(g_s), s	9.7	9.7	21.1	10.1	3.8	11.0
Cycle Q Clear(g_c), s	9.7	9.7	30.8	10.1	3.8	11.0
Prop In Lane		0.17	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1039	1061	420	2078	552	493
V/C Ratio(X)	0.36	0.36	0.53	0.37	0.19	0.49
Avail Cap(c_a), veh/h	1672	1707	673	3343	552	493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.5	9.5	17.6	9.6	22.3	24.8
Incr Delay (d2), s/veh	0.2	0.2	1.0	0.1	0.7	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	4.8	4.2	5.0	1.9	5.2
LnGrp Delay(d),s/veh	9.7	9.7	18.6	9.7	23.0	28.2
LnGrp LOS	A	A	B	A	C	C
Approach Vol, veh/h	751			992	345	
Approach Delay, s/veh	9.7			11.7	26.7	
Approach LOS	A			B	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		32.0		56.4				56.4
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		27.5		83.5				83.5
Max Q Clear Time (g_c+I1), s		13.0		11.7				32.8
Green Ext Time (p_c), s		1.0		20.7				19.1

Intersection Summary	
HCM 2010 Ctrl Delay	13.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	788	64	255	737	65	43	35	166	121	87	164
Future Volume (veh/h)	104	788	64	255	737	65	43	35	166	121	87	164
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	114	866	70	280	810	71	47	38	182	133	96	180
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	433	2281	184	409	2264	198	109	75	366	109	134	252
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	627	3317	268	596	3293	289	253	323	1583	1156	581	1089
Grp Volume(v), veh/h	114	462	474	280	435	446	85	0	182	133	0	276
Grp Sat Flow(s),veh/h/ln	627	1770	1815	596	1770	1812	576	0	1583	1156	0	1670
Q Serve(g_s), s	10.2	12.2	12.2	41.4	11.3	11.3	4.5	0.0	11.0	4.2	0.0	16.8
Cycle Q Clear(g_c), s	21.4	12.2	12.2	53.6	11.3	11.3	21.3	0.0	11.0	25.5	0.0	16.8
Prop In Lane	1.00		0.15	1.00		0.16	0.55		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	433	1217	1248	409	1217	1246	184	0	366	109	0	386
V/C Ratio(X)	0.26	0.38	0.38	0.68	0.36	0.36	0.46	0.00	0.50	1.22	0.00	0.72
Avail Cap(c_a), veh/h	487	1370	1405	461	1370	1402	184	0	366	109	0	386
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.6	7.3	7.3	18.6	7.1	7.1	43.1	0.0	36.9	54.4	0.0	39.1
Incr Delay (d2), s/veh	0.3	0.2	0.2	3.6	0.2	0.2	8.2	0.0	4.8	155.7	0.0	10.8
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	1.8	6.0	6.1	7.2	5.5	5.6	2.9	0.0	5.3	8.0	0.0	8.9
LnGrp Delay(d),s/veh	11.9	7.5	7.5	22.2	7.3	7.3	51.3	0.0	41.7	210.1	0.0	50.0
LnGrp LOS	B	A	A	C	A	A	D		D	F		D
Approach Vol, veh/h		1050			1161			267			409	
Approach Delay, s/veh		8.0			10.9			44.7			102.0	
Approach LOS		A			B			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		30.0		80.5		30.0		80.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		25.5		85.5		25.5		85.5
Max Q Clear Time (g_c+I1), s		23.3		23.4		27.5		55.6
Green Ext Time (p_c), s		0.8		31.1		0.0		20.4

Intersection Summary	
HCM 2010 Ctrl Delay	25.9
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	23.2
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	39	134	58	0	33	140	246	0	45	211	66
Future Vol, veh/h	0	39	134	58	0	33	140	246	0	45	211	66
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	46	158	68	0	39	165	289	0	53	248	78
Number of Lanes	0	0	1	1	0	0	1	1	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	2
HCM Control Delay	17.4	19.2	23.8
HCM LOS	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	18%	0%	23%	0%	19%	0%	50%
Vol Thru, %	82%	0%	77%	0%	81%	0%	37%
Vol Right, %	0%	100%	0%	100%	0%	100%	13%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	256	66	173	58	173	246	284
LT Vol	45	0	39	0	33	0	141
Through Vol	211	0	134	0	140	0	106
RT Vol	0	66	0	58	0	246	37
Lane Flow Rate	301	78	204	68	204	289	334
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.685	0.159	0.486	0.147	0.462	0.59	0.76
Departure Headway (Hd)	8.191	7.377	8.599	7.753	8.165	7.341	8.194
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	443	486	419	463	442	492	441
Service Time	5.937	5.123	6.349	5.503	5.913	5.089	6.241
HCM Lane V/C Ratio	0.679	0.16	0.487	0.147	0.462	0.587	0.757
HCM Control Delay	27	11.5	19.3	11.8	17.8	20.2	33
HCM Lane LOS	D	B	C	B	C	C	D
HCM 95th-tile Q	5	0.6	2.6	0.5	2.4	3.8	6.4

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	141	106	37
Future Vol, veh/h	0	141	106	37
Peak Hour Factor	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	166	125	44
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	33
HCM LOS	D

Intersection	
Intersection Delay, s/veh	14.7
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	0	160	126	0	61	320	0	0	114	0	116
Future Vol, veh/h	0	0	160	126	0	61	320	0	0	114	0	116
Peak Hour Factor	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	176	138	0	67	352	0	0	125	0	127
Number of Lanes	0	0	1	1	0	0	1	1	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	2
HCM Control Delay	10.1	19.5	12.3
HCM LOS	B	C	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	50%	0%	0%	16%	0%	0%
Vol Thru, %	0%	100%	0%	84%	100%	100%
Vol Right, %	50%	0%	100%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	230	160	126	381	0	0
LT Vol	114	0	0	61	0	0
Through Vol	0	160	0	320	0	0
RT Vol	116	0	126	0	0	0
Lane Flow Rate	253	176	138	419	0	0
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.395	0.285	0.197	0.671	0	0
Departure Headway (Hd)	5.624	5.838	5.128	5.77	5.689	6.444
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	639	615	699	628	0	0
Service Time	3.663	3.572	2.862	3.5	3.419	4.506
HCM Lane V/C Ratio	0.396	0.286	0.197	0.667	0	0
HCM Control Delay	12.3	10.9	9.1	19.5	8.4	9.5
HCM Lane LOS	B	B	A	C	N	N
HCM 95th-tile Q	1.9	1.2	0.7	5.1	0	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

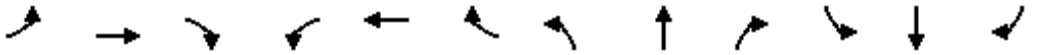
Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	0	0	0
Future Vol, veh/h	0	0	0	0
Peak Hour Factor	0.92	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	0	0	0
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	0
HCM LOS	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	835	66	218	479	92	451
Future Volume (veh/h)	835	66	218	479	92	451
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	918	73	240	526	101	496
Adj No. of Lanes	2	0	1	2	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1951	155	303	2079	599	534
Arrive On Green	0.59	0.59	0.59	0.59	0.34	0.34
Sat Flow, veh/h	3415	264	566	3632	1774	1583
Grp Volume(v), veh/h	489	502	240	526	101	496
Grp Sat Flow(s),veh/h/ln	1770	1816	566	1770	1774	1583
Q Serve(g_s), s	18.9	18.9	50.4	8.6	4.8	36.3
Cycle Q Clear(g_c), s	18.9	18.9	69.3	8.6	4.8	36.3
Prop In Lane		0.15	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1040	1067	303	2079	599	534
V/C Ratio(X)	0.47	0.47	0.79	0.25	0.17	0.93
Avail Cap(c_a), veh/h	1040	1067	303	2079	599	534
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.1	14.1	33.9	12.0	27.9	38.3
Incr Delay (d2), s/veh	0.3	0.3	13.3	0.1	0.6	24.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	9.6	9.0	4.2	2.5	19.5
LnGrp Delay(d),s/veh	14.4	14.4	47.1	12.1	28.5	63.0
LnGrp LOS	B	B	D	B	C	E
Approach Vol, veh/h	991			766	597	
Approach Delay, s/veh	14.4			23.0	57.2	
Approach LOS	B			C	E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		45.0		75.0				75.0
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		40.5		70.5				70.5
Max Q Clear Time (g_c+I1), s		38.3		20.9				71.3
Green Ext Time (p_c), s		0.6		20.7				0.0

Intersection Summary	
HCM 2010 Ctrl Delay	28.1
HCM 2010 LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	811	161	408	584	83	6	3	17	70	212	112
Future Volume (veh/h)	143	811	161	408	584	83	6	3	17	70	212	112
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	157	891	177	448	642	91	7	3	19	77	233	123
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	550	2196	436	394	2322	329	51	13	284	60	206	109
Arrive On Green	0.75	0.75	0.75	0.75	0.75	0.75	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	721	2944	585	526	3114	441	0	74	1583	1384	1149	607
Grp Volume(v), veh/h	157	535	533	448	364	369	10	0	19	77	0	356
Grp Sat Flow(s),veh/h/ln	721	1770	1760	526	1770	1785	74	0	1583	1384	0	1756
Q Serve(g_s), s	10.7	13.2	13.2	76.3	7.9	7.9	0.0	0.0	1.2	0.0	0.0	21.5
Cycle Q Clear(g_c), s	18.6	13.2	13.2	89.5	7.9	7.9	21.5	0.0	1.2	21.5	0.0	21.5
Prop In Lane	1.00		0.33	1.00		0.25	0.70		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	550	1320	1312	394	1320	1331	64	0	284	60	0	315
V/C Ratio(X)	0.29	0.41	0.41	1.14	0.28	0.28	0.16	0.00	0.07	1.28	0.00	1.13
Avail Cap(c_a), veh/h	550	1320	1312	394	1320	1331	64	0	284	60	0	315
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.9	5.6	5.6	27.7	4.9	4.9	42.4	0.0	40.9	60.0	0.0	49.3
Incr Delay (d2), s/veh	0.3	0.2	0.2	87.8	0.1	0.1	5.1	0.0	0.5	210.0	0.0	91.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	6.5	6.4	22.7	3.9	3.9	0.4	0.0	0.6	5.5	0.0	18.4
LnGrp Delay(d),s/veh	8.2	5.8	5.8	115.4	5.0	5.0	47.5	0.0	41.4	270.0	0.0	140.5
LnGrp LOS	A	A	A	F	A	A	D		D	F		F
Approach Vol, veh/h		1225			1181			29			433	
Approach Delay, s/veh		6.1			46.9			43.5			163.5	
Approach LOS		A			D			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		26.0		94.0		26.0		94.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		21.5		89.5		21.5		89.5
Max Q Clear Time (g_c+I1), s		23.5		20.6		23.5		91.5
Green Ext Time (p_c), s		0.0		41.5		0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	47.0
HCM 2010 LOS	D

Intersection	
Intersection Delay, s/veh	15.7
Intersection LOS	C

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	11	103	28	0	49	100	179	0	11	102	39
Future Vol, veh/h	0	11	103	28	0	49	100	179	0	11	102	39
Peak Hour Factor	0.92	0.83	0.83	0.83	0.92	0.83	0.83	0.83	0.92	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	13	124	34	0	59	120	216	0	13	123	47
Number of Lanes	0	0	1	1	0	0	1	1	0	0	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	2	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	2	1	2
HCM Control Delay	12.1	12.7	11.7
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	10%	0%	10%	0%	33%	0%	32%
Vol Thru, %	90%	0%	90%	0%	67%	0%	60%
Vol Right, %	0%	100%	0%	100%	0%	100%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	113	39	114	28	149	179	311
LT Vol	11	0	11	0	49	0	101
Through Vol	102	0	103	0	100	0	186
RT Vol	0	39	0	28	0	179	24
Lane Flow Rate	136	47	137	34	180	216	375
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.268	0.082	0.276	0.06	0.347	0.364	0.68
Departure Headway (Hd)	7.074	6.308	7.223	6.455	6.967	6.083	6.648
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	509	569	499	557	519	595	547
Service Time	4.803	4.037	4.943	4.174	4.667	3.783	4.648
HCM Lane V/C Ratio	0.267	0.083	0.275	0.061	0.347	0.363	0.686
HCM Control Delay	12.4	9.6	12.7	9.6	13.3	12.2	22.6
HCM Lane LOS	B	A	B	A	B	B	C
HCM 95th-tile Q	1.1	0.3	1.1	0.2	1.5	1.7	5.2

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	101	186	24
Future Vol, veh/h	0	101	186	24
Peak Hour Factor	0.92	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	122	224	29
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	2
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	22.6
HCM LOS	C

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations												
Traffic Vol, veh/h	0	1	166	84	0	65	230	2	0	78	0	51
Future Vol, veh/h	0	1	166	84	0	65	230	2	0	78	0	51
Peak Hour Factor	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	195	99	0	76	271	2	0	92	0	60
Number of Lanes	0	0	1	1	0	0	1	1	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	2	2	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	2
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	2
HCM Control Delay	9.5	13.7	10
HCM LOS	A	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	60%	1%	0%	22%	0%	50%
Vol Thru, %	0%	99%	0%	78%	0%	0%
Vol Right, %	40%	0%	100%	0%	100%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	129	167	84	295	2	4
LT Vol	78	1	0	65	0	2
Through Vol	0	166	0	230	0	0
RT Vol	51	0	84	0	2	2
Lane Flow Rate	152	196	99	347	2	5
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.225	0.289	0.126	0.515	0.003	0.007
Departure Headway (Hd)	5.344	5.291	4.582	5.338	4.522	5.645
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	666	674	776	670	785	638
Service Time	3.418	3.059	2.35	3.105	2.288	3.645
HCM Lane V/C Ratio	0.228	0.291	0.128	0.518	0.003	0.008
HCM Control Delay	10	10.2	8	13.7	7.3	8.7
HCM Lane LOS	A	B	A	B	A	A
HCM 95th-tile Q	0.9	1.2	0.4	3	0	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Vol, veh/h	0	2	0	2
Future Vol, veh/h	0	2	0	2
Peak Hour Factor	0.92	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	2	0	2
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	2
Conflicting Approach Right	EB
Conflicting Lanes Right	2
HCM Control Delay	8.7
HCM LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	671	65	228	755	101	305
Future Volume (veh/h)	671	65	228	755	101	305
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	685	66	233	770	103	311
Adj No. of Lanes	2	0	1	2	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1939	187	425	2104	542	484
Arrive On Green	0.59	0.59	0.59	0.59	0.31	0.31
Sat Flow, veh/h	3356	314	709	3632	1774	1583
Grp Volume(v), veh/h	371	380	233	770	103	311
Grp Sat Flow(s),veh/h/ln	1770	1807	709	1770	1774	1583
Q Serve(g_s), s	9.7	9.7	22.6	10.1	3.9	15.3
Cycle Q Clear(g_c), s	9.7	9.7	32.4	10.1	3.9	15.3
Prop In Lane		0.17	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1052	1074	425	2104	542	484
V/C Ratio(X)	0.35	0.35	0.55	0.37	0.19	0.64
Avail Cap(c_a), veh/h	1642	1677	661	3284	542	484
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.4	9.4	17.7	9.5	23.0	27.0
Incr Delay (d2), s/veh	0.2	0.2	1.1	0.1	0.8	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	4.9	4.5	5.0	2.0	7.5
LnGrp Delay(d),s/veh	9.6	9.6	18.8	9.6	23.8	33.4
LnGrp LOS	A	A	B	A	C	C
Approach Vol, veh/h	751			1003	414	
Approach Delay, s/veh	9.6			11.7	31.0	
Approach LOS	A			B	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		32.0		58.0				58.0
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		27.5		83.5				83.5
Max Q Clear Time (g_c+I1), s		17.3		11.7				34.4
Green Ext Time (p_c), s		1.0		21.0				19.1

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	856	64	255	747	65	43	35	166	121	87	164
Future Volume (veh/h)	104	856	64	255	747	65	43	35	166	121	87	164
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	114	941	70	280	821	71	47	38	182	133	96	180
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	436	2340	174	386	2310	200	98	66	350	91	129	241
Arrive On Green	0.70	0.70	0.70	0.70	0.70	0.70	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	621	3340	248	555	3297	285	226	301	1583	1156	581	1089
Grp Volume(v), veh/h	114	499	512	280	441	451	85	0	182	133	0	276
Grp Sat Flow(s),veh/h/ln	621	1770	1819	555	1770	1812	526	0	1583	1156	0	1670
Q Serve(g_s), s	10.3	13.5	13.5	48.9	11.4	11.4	4.9	0.0	11.7	2.9	0.0	17.8
Cycle Q Clear(g_c), s	21.8	13.5	13.5	62.4	11.4	11.4	22.6	0.0	11.7	25.5	0.0	17.8
Prop In Lane	1.00		0.14	1.00		0.16	0.55		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	436	1240	1275	386	1240	1270	165	0	350	91	0	370
V/C Ratio(X)	0.26	0.40	0.40	0.72	0.36	0.36	0.52	0.00	0.52	1.46	0.00	0.75
Avail Cap(c_a), veh/h	461	1313	1349	409	1313	1344	165	0	350	91	0	370
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.2	7.2	7.2	20.2	6.9	6.9	46.5	0.0	39.5	57.2	0.0	41.9
Incr Delay (d2), s/veh	0.3	0.2	0.2	5.9	0.2	0.2	11.1	0.0	5.4	256.4	0.0	12.9
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	1.8	6.6	6.8	8.1	5.6	5.7	3.2	0.0	5.6	9.4	0.0	9.5
LnGrp Delay(d),s/veh	11.5	7.4	7.4	26.1	7.0	7.0	57.5	0.0	44.9	313.5	0.0	54.8
LnGrp LOS	B	A	A	C	A	A	E		D	F		D
Approach Vol, veh/h		1125			1172			267			409	
Approach Delay, s/veh		7.8			11.6			48.9			138.9	
Approach LOS		A			B			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		30.0		85.3		30.0		85.3
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		25.5		85.5		25.5		85.5
Max Q Clear Time (g_c+I1), s		24.6		23.8		27.5		64.4
Green Ext Time (p_c), s		0.3		33.6		0.0		16.4

Intersection Summary	
HCM 2010 Ctrl Delay	31.0
HCM 2010 LOS	C

APPENDIX C – TRAFFIC COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

T517

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

DATE: Tue, Sep 12, 17 TUESDAY

LOCATION: Santa Monica
NORTH & SOUTH: 16th
EAST & WEST: Pearl

PROJECT #: SC1437
LOCATION #: 1
CONTROL: STOP ALL

NOTES:

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

Add U-Turns to Left Turns

Add Bike Left Turns to Left Turns

		NORTHBOUND 16th			SOUTHBOUND 16th			EASTBOUND Pearl			WESTBOUND Pearl			
	LANES:	NL 0	NT 2	NR 0	SL 0	ST 1	SR 0	EL 0	ET 2	ER 0	WL 0	WT 2	WR 0	TOTAL
AM	7:30 AM	5	54	15	19	20	6	8	18	7	5	23	67	247
	7:45 AM	8	59	15	18	20	10	8	38	9	10	41	70	306
	8:00 AM	19	51	17	21	38	9	12	41	25	10	40	56	339
	8:15 AM	12	44	18	14	26	11	10	35	16	7	34	39	266
	8:30 AM	7	35	9	5	6	5	9	16	1	5	30	30	158
	8:45 AM	6	30	6	11	7	2	4	20	2	5	15	23	131
	9:00 AM	5	26	5	17	11	7	2	14	1	6	21	53	168
	9:15 AM	2	31	10	18	24	2	7	16	4	8	22	68	212
	VOLUMES	64	330	95	123	152	52	60	198	65	56	226	406	1,827
	APPROACH %	13%	67%	19%	38%	46%	16%	19%	61%	20%	8%	33%	59%	
	APP/DEPART	489	/	795	327	/	272	323	/	416	688	/	344	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	44	208	65	72	104	36	38	132	57	32	138	232	1,158
	APPROACH %	14%	66%	21%	34%	49%	17%	17%	58%	25%	8%	34%	58%	
	PEAK HR FACTOR		0.911			0.779			0.728			0.831		0.854
	APP/DEPART	317	/	477	212	/	192	227	/	270	402	/	219	0
PM	5:00 PM	6	36	12	16	46	7	4	33	11	14	31	38	254
	5:15 PM	1	24	11	28	55	5	2	28	10	13	25	18	220
	5:30 PM	3	22	8	22	33	3	1	19	5	9	17	28	170
	5:45 PM	1	18	7	24	49	9	4	21	2	12	25	25	197
	6:00 PM	0	14	10	24	21	12	4	21	3	16	30	34	189
	6:15 PM	3	22	9	19	35	4	2	20	2	8	27	40	191
	6:30 PM	2	29	9	27	32	10	3	16	1	12	19	49	209
	6:45 PM	1	24	9	16	35	8	4	15	4	11	21	35	183
	VOLUMES	17	189	75	176	306	58	24	173	38	95	195	267	1,613
	APPROACH %	6%	67%	27%	33%	57%	11%	10%	74%	16%	17%	35%	48%	
	APP/DEPART	281	/	482	540	/	437	235	/	424	557	/	270	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	11	100	38	90	183	24	11	101	28	48	98	109	841
	APPROACH %	7%	67%	26%	30%	62%	8%	8%	72%	20%	19%	38%	43%	
	PEAK HR FACTOR		0.690			0.844			0.729			0.768		0.828
	APP/DEPART	149	/	221	297	/	258	140	/	229	255	/	133	0

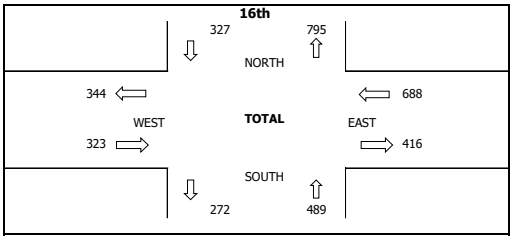
VEHICLE U-TURNS

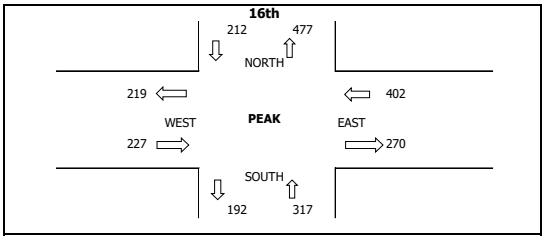
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	1	0	1
0	1	2	1	4
0	0	0	0	0
0	1	0	0	1
0	0	0	1	1
0	0	0	1	1
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	2	0	2	4

BIKE LEFT TURNS

NL	SL	EL	WL	TTL
0	0	1	0	1
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	1	0	0	1
0	1	0	0	1
0	0	0	0	0
0	2	0	0	2
0	5	1	0	6
0	0	1	0	1
0	0	0	1	1
0	3	0	0	3
0	1	0	2	3
0	0	1	0	1
0	1	0	1	2
0	0	0	0	0
0	5	2	4	11

AM





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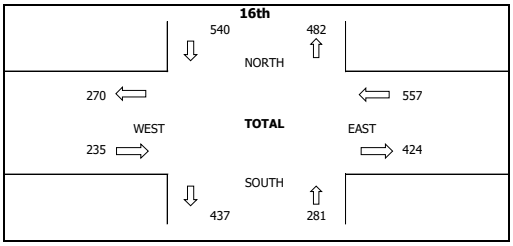
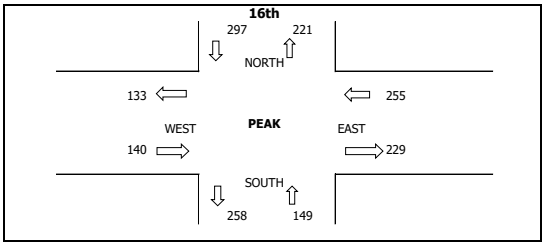




PEDESTRIAN & BIKE STUDY

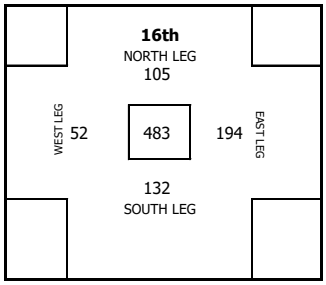
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

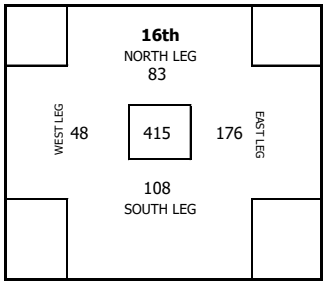
DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1437
9/12/17	NORTH/SOUTH:	16th	LOCATION #:	1
TUESDAY	EAST/WEST:	Pearl	CONTROL:	STOP ALL

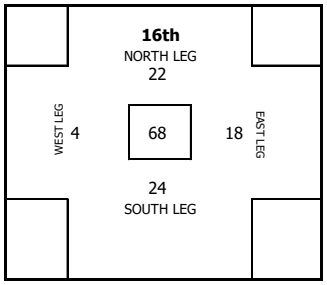
AM PM MD OTHER OTHER — ▲ N ◄ W E ► S ▼

	START TIME PERIOD	HOUR TOTAL	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
			N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
AM	7:30 AM	286	12	10	18	4	44	11	6	16	3	36	1	4	2	1	8
	7:45 AM	242	22	29	38	9	98	14	25	36	9	84	8	4	2	0	14
	8:00 AM	144	8	21	38	15	82	4	20	33	15	72	4	1	5	0	10
	8:15 AM	62	9	23	19	11	62	7	22	17	10	56	2	1	2	1	6
	8:30 AM	197	7	8	8	6	29	6	6	7	5	24	1	2	1	1	5
	8:45 AM	168	12	10	8	3	33	9	5	5	3	22	3	5	3	0	11
	9:00 AM	135	8	7	21	0	36	6	5	20	0	31	2	2	1	0	5
	9:15 AM	99	27	24	44	4	99	26	19	42	3	90	1	5	2	1	9
	TOTAL		105	132	194	52	483	83	108	176	48	415	22	24	18	4	68
PM	5:00 PM	164	10	11	23	3	47	7	8	20	3	38	3	3	3	0	9
	5:15 PM	117	11	11	24	4	50	7	9	19	3	38	4	2	5	1	12
	5:30 PM	67	7	4	14	4	29	5	3	13	2	23	2	1	1	2	6
	5:45 PM	38	8	11	13	6	38	5	10	12	3	30	3	1	1	3	8
	6:00 PM	172	8	11	19	6	44	5	8	19	6	38	3	3	0	0	6
	6:15 PM	128	7	10	25	5	47	7	10	24	5	46	0	0	1	0	1
	6:30 PM	81	12	9	21	6	48	11	6	20	5	42	1	3	1	1	6
	6:45 PM	33	9	9	11	4	33	6	7	11	4	28	3	2	0	0	5
	TOTAL		72	76	150	38	336	53	61	138	31	283	19	15	12	7	53

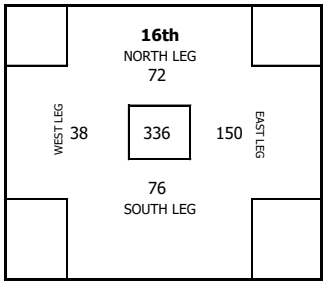
AM

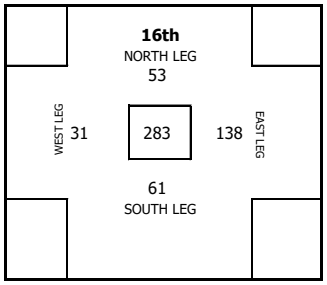


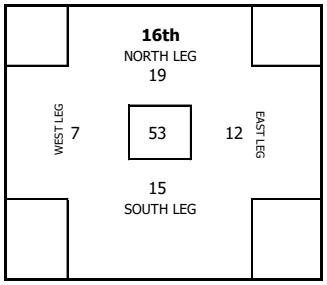




PM



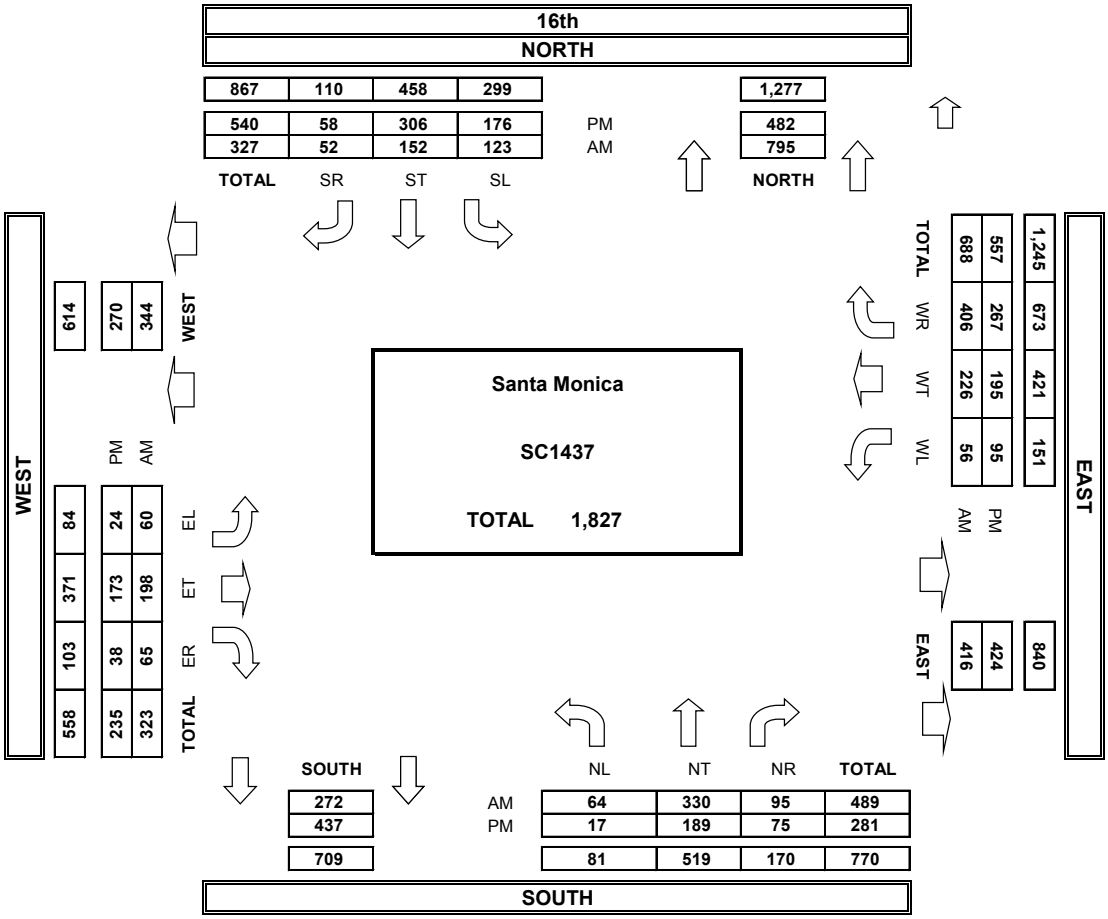


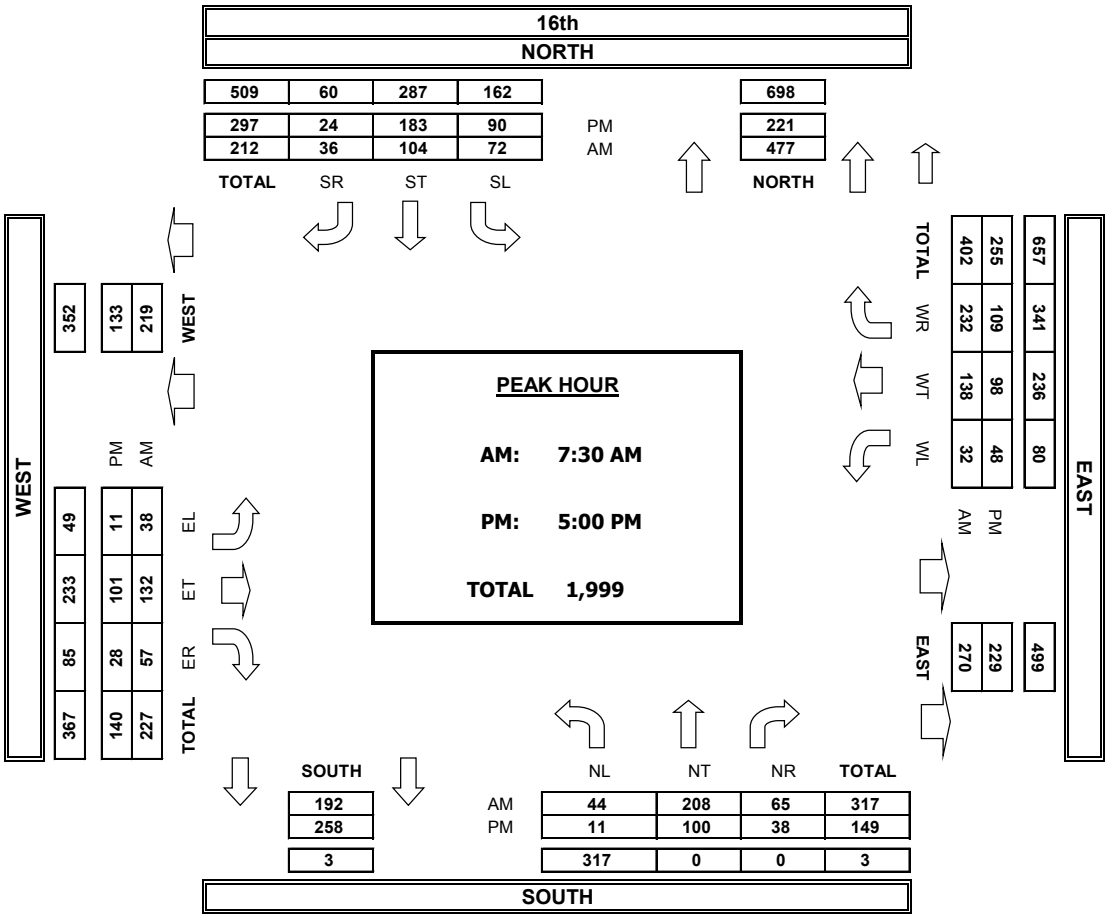


PEAK HOURS																	
7:30 AM	**AM**	51	83	113	39	286	36	73	102	37	248	15	10	11	2	38
5:00 PM	**PM**	36	37	74	17	164	24	30	64	11	129	12	7	10	6	35

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T517

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

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1437
Tue, Sep 12, 17	NORTH & SOUTH:	17th	LOCATION #:	2
TUESDAY	EAST & WEST:	Pearl	CONTROL:	STOP ALL

NOTES:

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

Add U-Turns to Left Turns

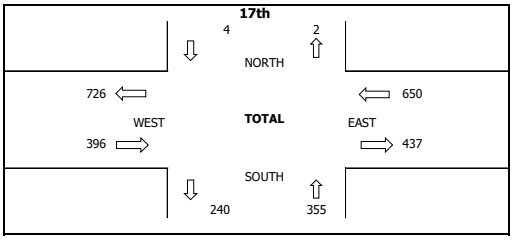
Add Bike Left Turns to Left Turns

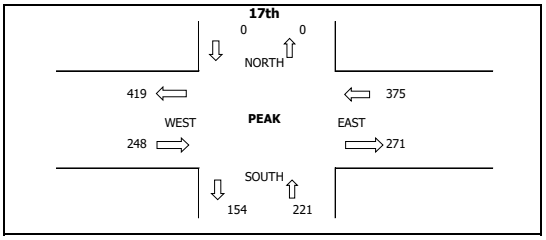
		NORTHBOUND 17th			SOUTHBOUND 17th			EASTBOUND Pearl			WESTBOUND Pearl			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 2	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:30 AM	28	0	17	0	0	0	0	21	18	14	90	0	188
	7:45 AM	32	0	30	0	0	0	0	43	19	12	87	0	223
	8:00 AM	28	0	34	0	0	0	0	43	28	19	81	0	233
	8:15 AM	19	0	33	0	0	0	0	50	26	15	57	0	200
	8:30 AM	18	0	20	0	0	0	0	20	14	7	51	0	130
	8:45 AM	6	0	12	2	0	1	1	24	7	6	38	1	98
	9:00 AM	21	0	21	1	0	0	1	26	10	9	69	1	159
	9:15 AM	20	0	16	0	0	0	0	24	21	12	81	0	174
	VOLUMES	172	0	183	3	0	1	2	251	143	94	554	2	1,405
	APPROACH %	48%	0%	52%	75%	0%	25%	1%	63%	36%	14%	85%	0%	
	APP/DEPART	355	/	2	4	/	240	396	/	437	650	/	726	0
	BEGIN PEAK HR	7:30 AM												
	VOLUMES	107	0	114	0	0	0	0	157	91	60	315	0	844
	APPROACH %	48%	0%	52%	0%	0%	0%	0%	63%	37%	16%	84%	0%	
	PEAK HR FACTOR		0.891			0.000			0.816			0.901		0.906
	APP/DEPART	221	/	0	0	/	154	248	/	271	375	/	419	0
PM	5:00 PM	13	0	15	1	0	0	0	48	21	16	70	1	185
	5:15 PM	12	0	10	1	0	2	0	45	24	18	53	0	165
	5:30 PM	7	0	16	0	0	0	0	38	19	13	51	0	144
	5:45 PM	11	0	9	0	0	0	1	32	14	17	52	1	137
	6:00 PM	16	0	10	1	0	0	1	34	18	17	67	0	164
	6:15 PM	11	0	15	0	0	0	2	26	15	13	65	0	147
	6:30 PM	12	0	15	0	0	0	1	36	22	29	62	0	177
	6:45 PM	13	0	11	0	0	0	0	27	16	13	55	0	135
	VOLUMES	95	0	101	3	0	2	5	286	149	136	475	2	1,254
	APPROACH %	48%	0%	52%	60%	0%	40%	1%	65%	34%	22%	77%	0%	
	APP/DEPART	196	/	2	5	/	283	440	/	392	613	/	577	0
	BEGIN PEAK HR	5:00 PM												
	VOLUMES	43	0	50	2	0	2	1	163	78	64	226	2	631
	APPROACH %	46%	0%	54%	50%	0%	50%	0%	67%	32%	22%	77%	1%	
	PEAK HR FACTOR		0.830			0.333			0.877			0.839		0.853
	APP/DEPART	93	/	2	4	/	140	242	/	217	292	/	272	0

VEHICLE U-TURNS					
	NB 0	SB 0	EB 0	WB 0	TTL
	3	0	0	0	3
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	1	0	1
	0	0	1	0	1
	0	0	0	0	0
	3	0	2	0	5
	0	0	0	0	0
	0	0	0	0	0
	0	0	1	0	1
	0	0	1	0	1
	0	0	2	0	2
	0	0	1	0	1
	0	0	0	0	0
	0	0	5	2	7

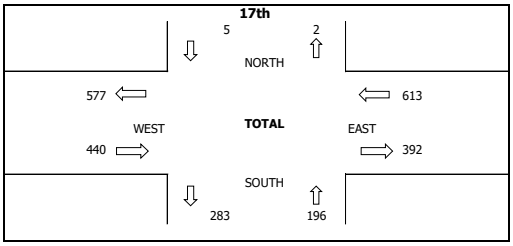
BIKE LEFT TURNS					
	NL 0	SL 0	EL 0	WL 0	TTL
	2	0	0	0	2
	1	0	0	2	3
	4	0	0	5	9
	0	0	0	3	3
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	7	0	0	10	17
	1	0	0	1	2
	0	0	0	1	1
	0	0	0	1	1
	0	0	0	0	0
	0	0	0	1	1
	0	0	0	2	2
	0	0	0	1	1
	6	0	0	0	6
	7	0	0	7	14

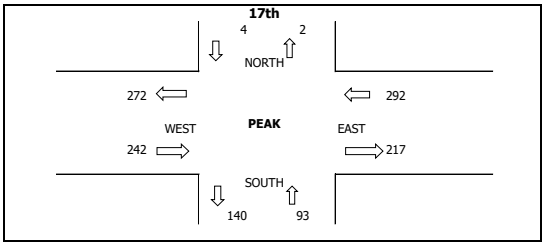
AM





PM





PEDESTRIAN & BIKE STUDY

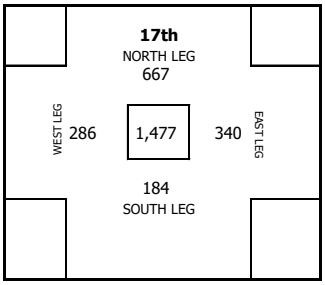
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

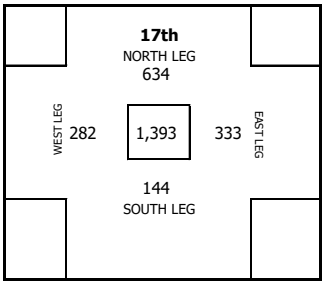
DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1437
9/12/17	NORTH/SOUTH:	17th	LOCATION #:	2
TUESDAY	EAST/WEST:	Pearl	CONTROL:	STOP ALL

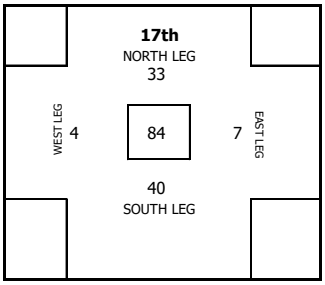
AM / PM / MD / OTHER / OTHER — ◄ W — ▲ N S ▼ — E ►

	START TIME PERIOD	HOUR TOTAL	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
			N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
AM	7:30 AM	763	75	9	40	36	160	71	9	40	36	156	4	0	0	0	4
	7:45 AM	603	132	24	60	30	246	122	15	59	29	225	10	9	1	1	21
	8:00 AM	357	64	87	37	53	241	60	76	34	52	222	4	11	3	1	19
	8:15 AM	116	37	18	50	11	116	33	15	48	11	107	4	3	2	0	9
	8:30 AM	714	19	8	17	17	61	18	6	17	17	58	1	2	0	0	3
	8:45 AM	653	16	12	19	19	66	14	7	19	19	59	2	5	0	0	7
	9:00 AM	587	61	6	51	33	151	58	4	51	32	145	3	2	0	1	6
	9:15 AM	436	263	20	66	87	436	258	12	65	86	421	5	8	1	1	15
	TOTAL		667	184	340	286	1,477	634	144	333	282	1,393	33	40	7	4	84
PM	5:00 PM	507	84	12	24	46	166	82	8	23	46	159	2	4	1	0	7
	5:15 PM	341	50	12	39	22	123	49	11	39	22	121	1	1	0	0	2
	5:30 PM	218	36	9	34	28	107	33	5	34	28	100	3	4	0	0	7
	5:45 PM	111	51	9	23	28	111	47	7	23	28	105	4	2	0	0	6
	6:00 PM	464	60	16	24	17	117	52	12	24	17	105	8	4	0	0	12
	6:15 PM	347	52	13	13	22	100	52	11	12	22	97	0	2	1	0	3
	6:30 PM	247	95	10	32	31	168	91	6	32	30	159	4	4	0	1	9
	6:45 PM	79	29	14	16	20	79	27	11	16	19	73	2	3	0	1	6
	TOTAL		457	95	205	214	971	433	71	203	212	919	24	24	2	2	52

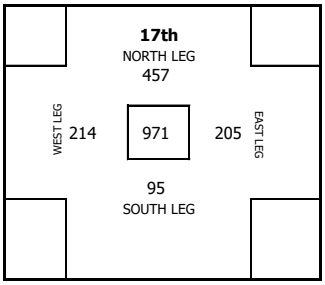
AM

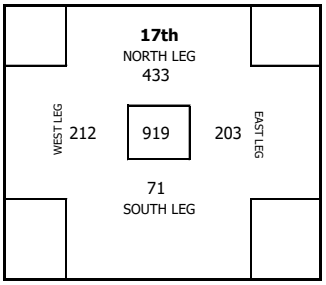


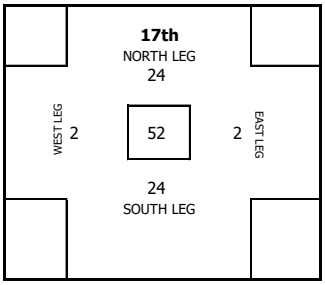




PM



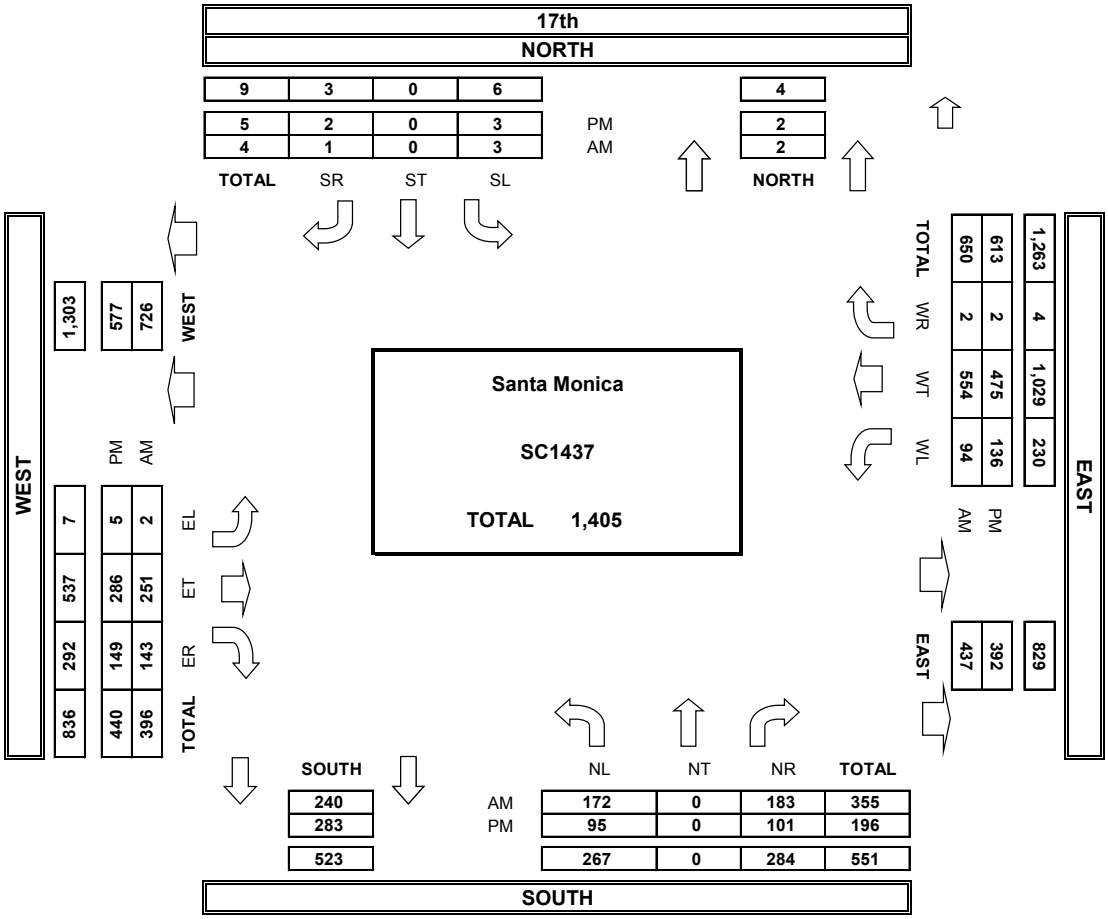


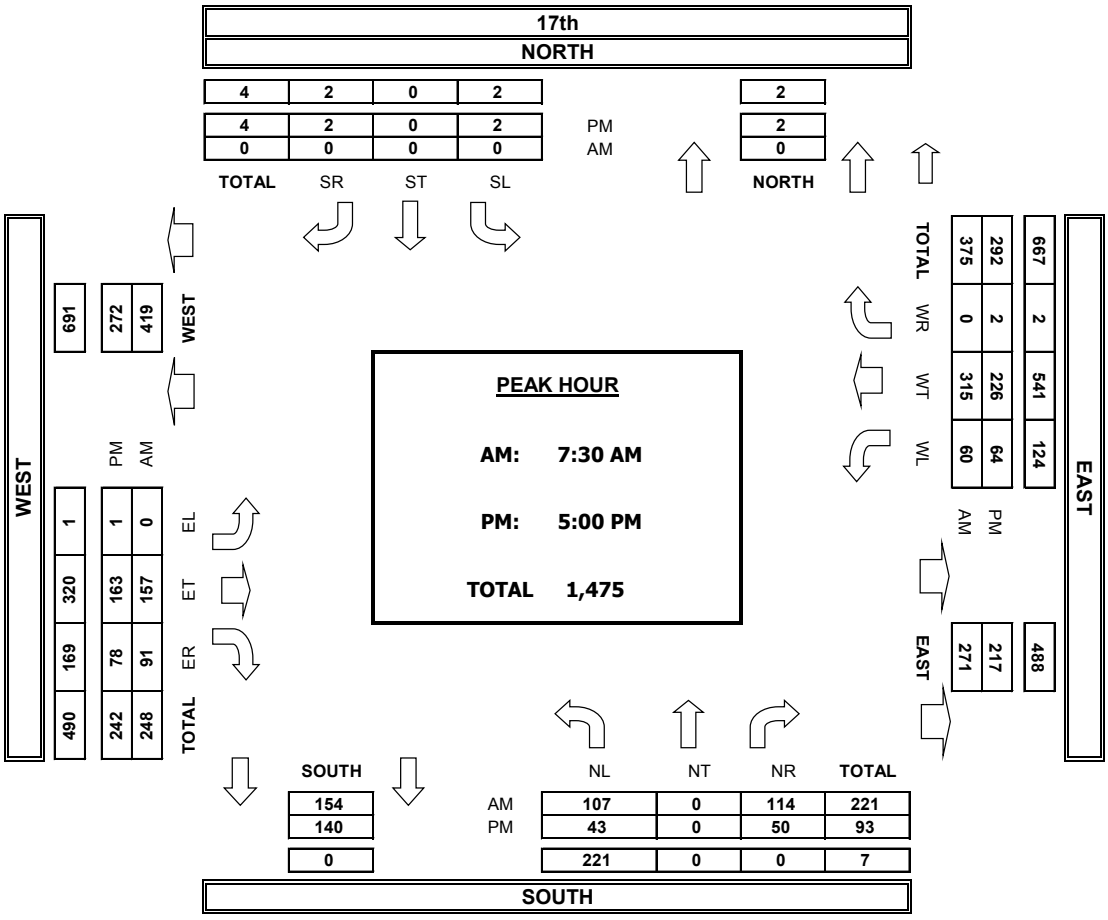


PEAK HOURS																	
7:30 AM	**AM**	308	138	187	130	763	286	115	181	128	710	22	23	6	2	53
5:00 PM	**PM**	221	42	120	124	507	211	31	119	124	485	10	11	1	0	22

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T517

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

DATE: Tue, Sep 12, 17 TUESDAY

LOCATION: Santa Monica
NORTH & SOUTH: 16th
EAST & WEST: Pico

PROJECT #: SC1437
LOCATION #: 3
CONTROL: SIGNAL

NOTES:

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

Add U-Turns to Left Turns

Add Bike Left Turns to Left Turns

		NORTHBOUND 16th			SOUTHBOUND 16th			EASTBOUND Pico			WESTBOUND Pico			
	LANES:	NL 1	NT X	NR 1	SL X	ST X	SR X	EL X	ET 2	ER 0	WL 1	WT 2	WR X	TOTAL
AM	7:30 AM	18	0	114	0	0	0	0	170	13	35	74	0	424
	7:45 AM	28	0	131	0	0	0	0	186	17	37	82	0	481
	8:00 AM	22	0	102	0	0	0	0	205	24	45	150	0	548
	8:15 AM	23	0	87	0	0	0	0	236	11	31	155	0	543
	8:30 AM	15	0	62	0	0	0	0	179	1	19	139	0	415
	8:45 AM	11	0	58	0	0	0	0	177	3	20	143	0	412
	9:00 AM	14	0	77	0	0	0	0	147	6	28	138	0	410
	9:15 AM	19	0	113	0	0	0	0	145	12	31	138	0	458
	VOLUMES	150	0	744	0	0	0	0	1,445	87	246	1,019	0	3,697
	APPROACH %	17%	0%	83%	0%	0%	0%	0%	94%	6%	19%	80%	0%	
	APP/DEPART	894	/	0	0	/	333	1,537	/	2,190	1,266	/	1,174	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	91	0	434	0	0	0	0	797	65	148	461	0	2,000
	APPROACH %	17%	0%	83%	0%	0%	0%	0%	92%	8%	24%	76%	0%	
	PEAK HR FACTOR		0.825			0.000			0.872			0.778		0.907
	APP/DEPART	525	/	0	0	/	213	865	/	1,232	610	/	555	0
PM	5:00 PM	38	0	78	0	0	0	0	160	15	42	166	0	499
	5:15 PM	19	0	58	0	0	0	0	163	23	67	176	0	506
	5:30 PM	21	0	51	0	0	0	0	166	13	50	187	0	488
	5:45 PM	21	0	46	0	0	0	0	155	13	56	189	0	480
	6:00 PM	24	0	55	0	0	0	0	141	13	43	184	0	460
	6:15 PM	19	0	67	0	0	0	0	164	16	45	158	0	469
	6:30 PM	29	0	76	0	0	0	0	151	14	54	195	0	519
	6:45 PM	33	0	77	0	0	0	0	150	14	45	176	0	495
	VOLUMES	204	0	508	0	0	0	0	1,250	121	402	1,431	0	3,919
	APPROACH %	29%	0%	71%	0%	0%	0%	0%	91%	9%	22%	78%	0%	
	APP/DEPART	712	/	0	0	/	523	1,374	/	1,758	1,833	/	1,638	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	99	0	233	0	0	0	0	644	64	215	718	0	1,975
	APPROACH %	30%	0%	70%	0%	0%	0%	0%	91%	9%	23%	77%	0%	
	PEAK HR FACTOR		0.716			0.000			0.954			0.952		0.976
	APP/DEPART	332	/	0	0	/	279	710	/	877	933	/	819	0

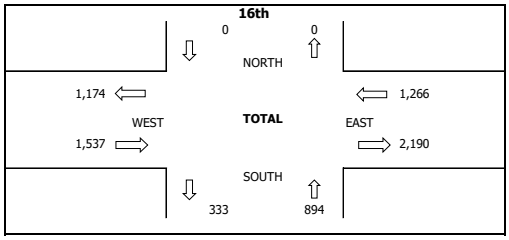
VEHICLE U-TURNS

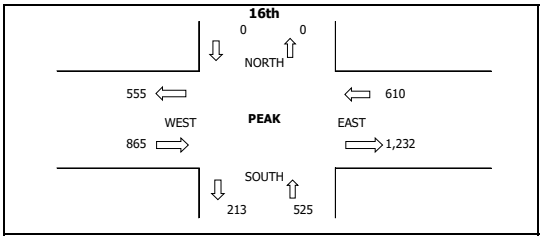
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	2	1	3
0	0	1	0	1
0	0	1	0	1
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	5	1	6
0	0	1	0	1
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	3	0	3

BIKE LEFT TURNS

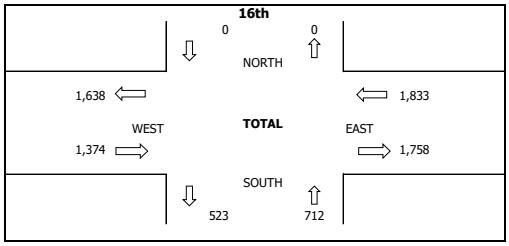
NL	SL	EL	WL	TTL
2	0	0	0	2
0	0	0	0	0
2	0	0	0	2
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	0	0
2	0	0	0	2
6	0	0	2	8
2	0	0	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	1
2	0	0	0	2
5	0	0	6	11

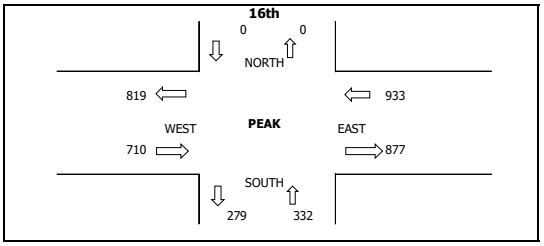
AM





PM





PEDESTRIAN & BIKE STUDY

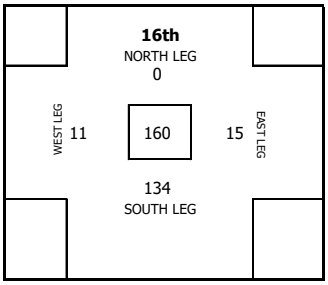
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

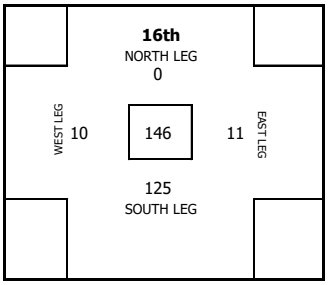
DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1437
9/12/17	NORTH/SOUTH:	16th	LOCATION #:	3
TUESDAY	EAST/WEST:	Pico	CONTROL:	SIGNAL

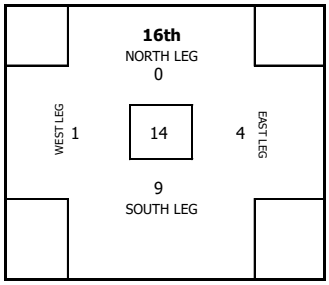
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

	START TIME PERIOD	HOUR TOTAL	PEDESTRIAN + BIKE CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	PEDESTRIAN CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	BICYCLE CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
AM	7:30 AM	84	0	16	0	5	21	0	14	0	5	19	0	2	0	0	2
	7:45 AM	63	0	19	4	2	25	0	17	3	2	22	0	2	1	0	3
	8:00 AM	38	0	22	3	0	25	0	22	2	0	24	0	0	1	0	1
	8:15 AM	13	0	10	1	2	13	0	8	1	1	10	0	2	0	1	3
	8:30 AM	76	0	10	3	1	14	0	10	3	1	14	0	0	0	0	0
	8:45 AM	62	0	7	1	0	8	0	5	1	0	6	0	2	0	0	2
	9:00 AM	54	0	21	1	0	22	0	21	0	0	21	0	0	1	0	1
	9:15 AM	32	0	29	2	1	32	0	28	1	1	30	0	1	1	0	2
	TOTAL		0	134	15	11	160	0	125	11	10	146	0	9	4	1	14
PM	5:00 PM	113	0	31	4	2	37	0	30	3	2	35	0	1	1	0	2
	5:15 PM	76	0	32	1	2	35	0	29	1	2	32	0	3	0	0	3
	5:30 PM	41	0	20	1	3	24	0	16	1	2	19	0	4	0	1	5
	5:45 PM	17	0	14	3	0	17	0	13	3	0	16	0	1	0	0	1
	6:00 PM	103	0	9	2	2	13	0	8	2	2	12	0	1	0	0	1
	6:15 PM	90	0	24	2	1	27	0	23	2	1	26	0	1	0	0	1
	6:30 PM	63	0	32	3	3	38	0	31	3	2	36	0	1	0	1	2
	6:45 PM	25	0	21	0	4	25	0	19	0	4	23	0	2	0	0	2
	TOTAL		0	183	16	17	216	0	169	15	15	199	0	14	1	2	17

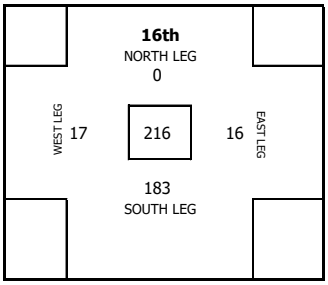
AM

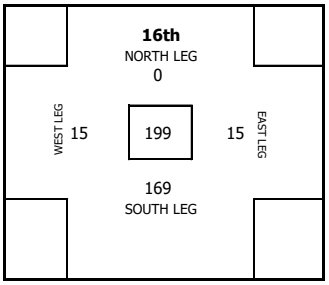


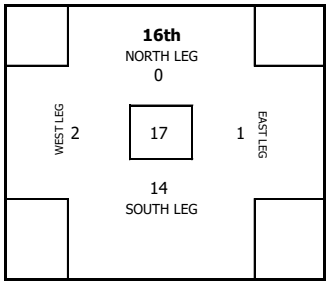




PM



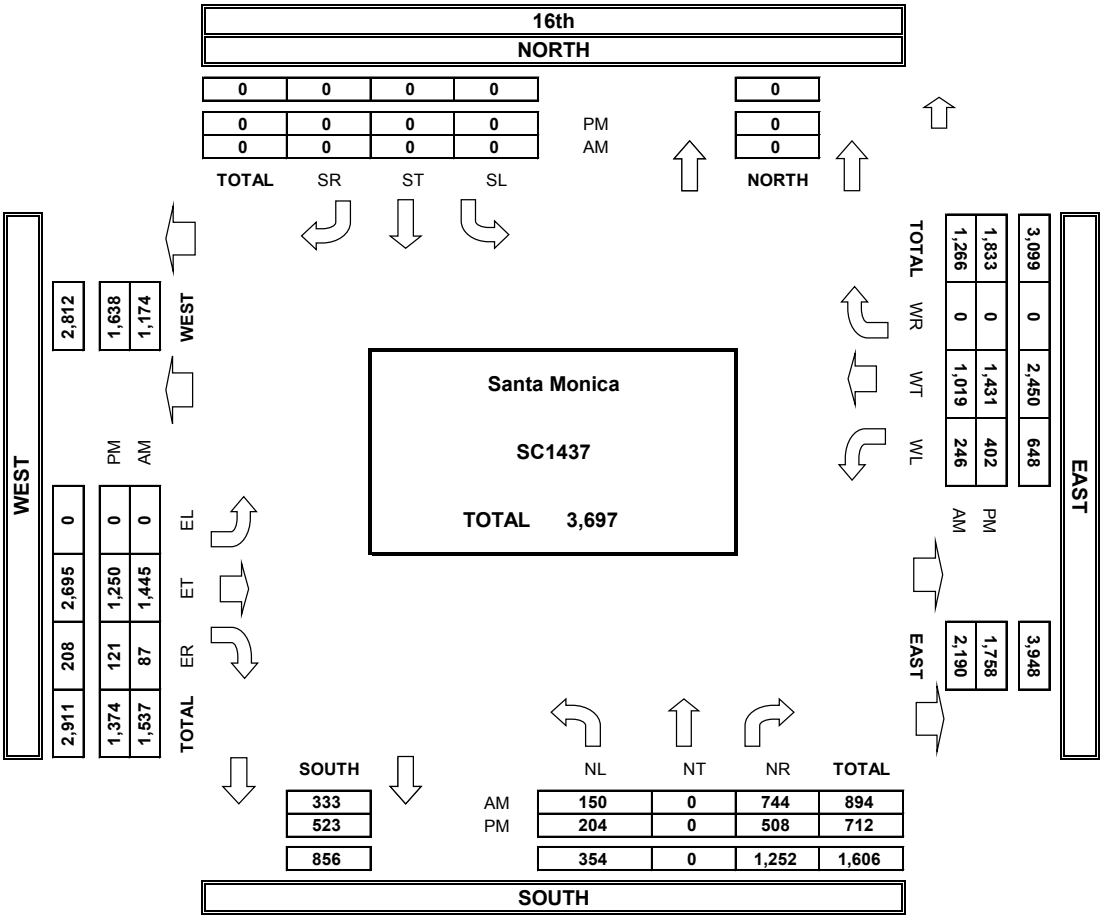


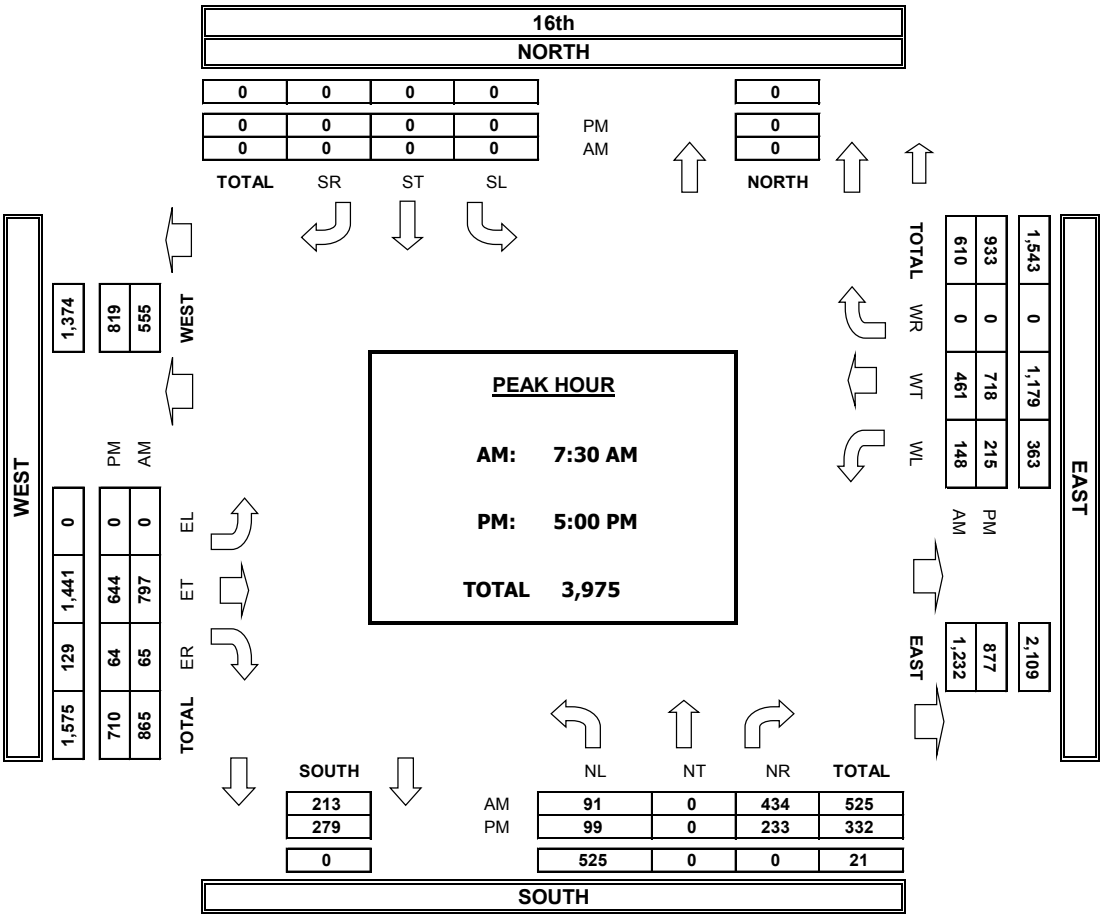


PEAK HOURS																	
7:30 AM	AM	0	67	8	9	84		0	61	6	8	75		0	6	2	1	9
5:00 PM	PM	0	97	9	7	113		0	88	8	6	102		0	9	1	1	11

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

T517

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1437
Tue, Sep 12, 17	NORTH & SOUTH:	17th	LOCATION #:	4
TUESDAY	EAST & WEST:	Pico	CONTROL:	SIGNAL

NOTES:

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

Add U-Turns to Left Turns

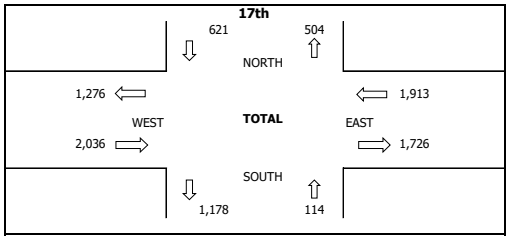
Add Bike Left Turns to Left Turns

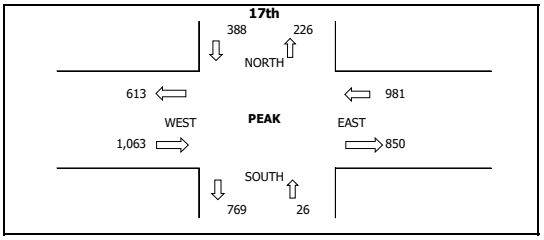
		NORTHBOUND 17th			SOUTHBOUND 17th			EASTBOUND Pico			WESTBOUND Pico			
	LANES:	NL 0.5	NT 0.5	NR 1	SL 1	ST 0.5	SR 0.5	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:30 AM	3	2	3	18	80	20	21	145	53	112	88	17	562
	7:45 AM	0	0	4	16	72	24	31	181	47	109	93	15	592
	8:00 AM	2	1	5	19	36	36	38	210	38	106	160	21	672
	8:15 AM	1	0	5	16	21	30	51	228	20	75	156	29	632
	8:30 AM	1	0	2	14	13	21	34	182	27	57	142	30	523
	8:45 AM	2	2	3	18	8	22	38	175	17	64	134	31	514
	9:00 AM	8	2	11	22	15	25	22	181	37	63	136	46	568
	9:15 AM	14	8	35	24	22	29	29	205	26	64	130	35	621
	VOLUMES	31	15	68	147	267	207	264	1,507	265	650	1,039	224	4,684
	APPROACH %	27%	13%	60%	24%	43%	33%	13%	74%	13%	34%	54%	12%	
	APP/DEPART	114	/	504	621	/	1,178	2,036	/	1,726	1,913	/	1,276	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	6	3	17	69	209	110	141	764	158	402	497	82	2,458
	APPROACH %	23%	12%	65%	18%	54%	28%	13%	72%	15%	41%	51%	8%	
	PEAK HR FACTOR		0.813			0.822			0.889			0.855		0.914
	APP/DEPART	26	/	226	388	/	769	1,063	/	850	981	/	613	0
PM	5:00 PM	15	16	50	32	11	36	23	194	10	48	161	16	612
	5:15 PM	25	10	51	31	12	59	47	194	10	28	162	18	647
	5:30 PM	5	3	20	34	15	56	37	174	12	35	172	23	586
	5:45 PM	9	8	26	24	16	61	22	166	10	55	181	27	605
	6:00 PM	12	6	33	28	11	39	26	176	13	43	177	18	582
	6:15 PM	8	6	27	19	25	34	18	170	24	75	164	10	580
	6:30 PM	9	11	51	38	21	51	24	191	13	81	190	19	699
	6:45 PM	13	11	52	34	29	37	34	222	13	52	169	17	683
	VOLUMES	96	71	310	240	140	373	231	1,487	105	417	1,376	148	4,994
	APPROACH %	20%	15%	65%	32%	19%	50%	13%	82%	6%	21%	71%	8%	
	APP/DEPART	477	/	450	753	/	658	1,823	/	2,041	1,941	/	1,845	0
	BEGIN PEAK HR		6:00 PM											
	VOLUMES	42	34	163	119	86	161	102	759	63	251	700	64	2,544
	APPROACH %	18%	14%	68%	33%	23%	44%	11%	82%	7%	25%	69%	6%	
	PEAK HR FACTOR		0.786			0.832			0.859			0.875		0.910
	APP/DEPART	239	/	200	366	/	399	924	/	1,042	1,015	/	903	0

VEHICLE U-TURNS					
	NB	SB	EB	WB	TTL
	0	0	0	0	
AM	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	2	2
	1	0	0	2	3
	0	1	0	1	2
	1	1	0	5	7
PM	0	0	0	0	0
	0	0	0	1	1
	0	0	0	1	1
	0	0	0	1	1
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	1	1
	0	0	0	4	4

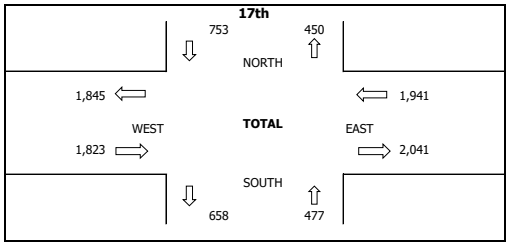
BIKE LEFT TURNS					
	NL	SL	EL	WL	TTL
	0	0	0	0	
AM	0	3	0	0	3
	0	0	0	0	0
	0	1	0	0	1
	0	0	1	0	1
	0	0	0	0	0
	0	1	2	0	3
	0	0	1	0	1
	0	0	0	0	0
	0	5	4	0	9
PM	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	1
	0	3	0	0	3
	0	2	0	0	2
	0	0	0	0	0
	0	0	0	0	0
	0	0	2	0	2
	0	6	2	0	8

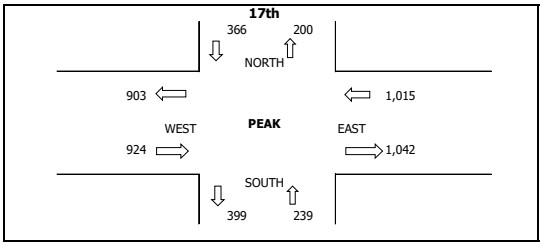
AM





PM





PEDESTRIAN & BIKE STUDY

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

DATE: 9/12/17 TUESDAY

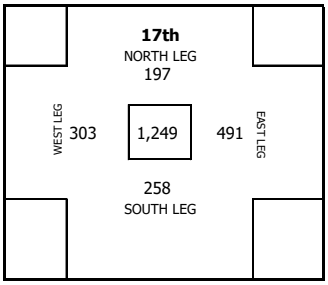
LOCATION: Santa Monica
NORTH/SOUTH: 17th
EAST/WEST: Pico

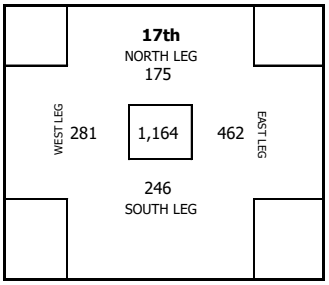
PROJECT #: SC1437
LOCATION #: 4
CONTROL: SIGNAL

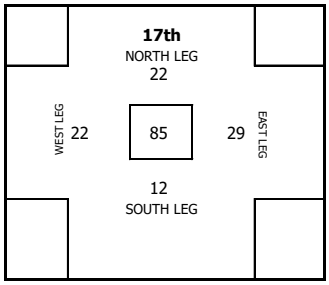
AM PM MD OTHER OTHER — ▲ N ◄ W E ► S ▼

	START TIME PERIOD	HOUR TOTAL	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
			N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
AM	7:30 AM	635	19	30	47	41	137	16	30	47	38	131	3	0	0	3	6
	7:45 AM	498	46	41	115	71	273	43	38	111	66	258	3	3	4	5	15
	8:00 AM	225	18	25	56	31	130	12	22	52	27	113	6	3	4	4	17
	8:15 AM	95	11	23	32	29	95	10	19	30	27	86	1	4	2	2	9
	8:30 AM	614	11	11	19	11	52	8	11	17	11	47	3	0	2	0	5
	8:45 AM	562	14	51	37	30	132	13	50	34	29	126	1	1	3	1	6
	9:00 AM	430	32	19	68	24	143	31	18	64	22	135	1	1	4	2	8
	9:15 AM	287	46	58	117	66	287	42	58	107	61	268	4	0	10	5	19
	TOTAL		197	258	491	303	1,249	175	246	462	281	1,164	22	12	29	22	85
PM	5:00 PM	603	22	53	87	82	244	22	51	83	78	234	0	2	4	4	10
	5:15 PM	359	21	40	33	38	132	17	37	31	34	119	4	3	2	4	13
	5:30 PM	227	16	33	24	32	105	13	30	21	29	93	3	3	3	3	12
	5:45 PM	122	28	26	36	32	122	24	24	34	27	109	4	2	2	5	13
	6:00 PM	461	19	27	51	20	117	19	26	48	18	111	0	1	3	2	6
	6:15 PM	344	16	27	21	25	89	13	25	17	24	79	3	2	4	1	10
	6:30 PM	255	24	38	48	34	144	21	37	45	32	135	3	1	3	2	9
	6:45 PM	111	14	27	31	39	111	13	22	25	37	97	1	5	6	2	14
	TOTAL		160	271	331	302	1,064	142	252	304	279	977	18	19	27	23	87

AM







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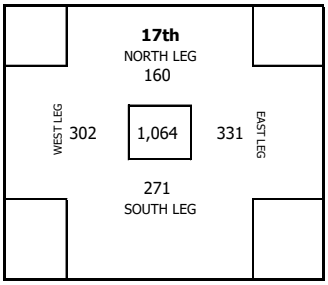
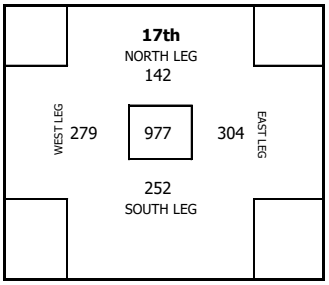
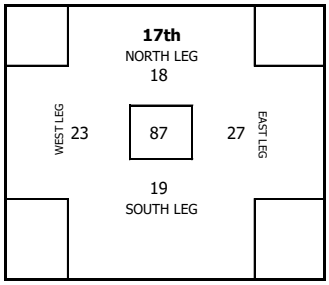


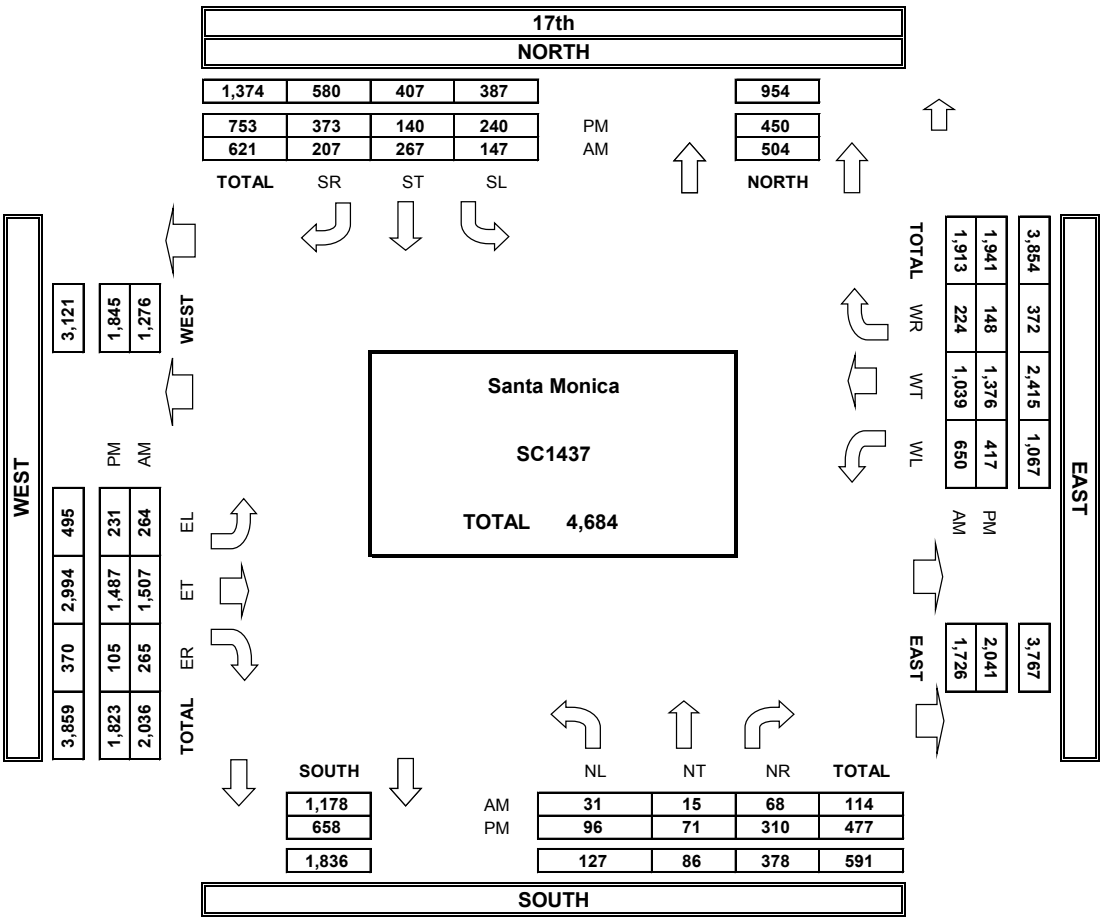


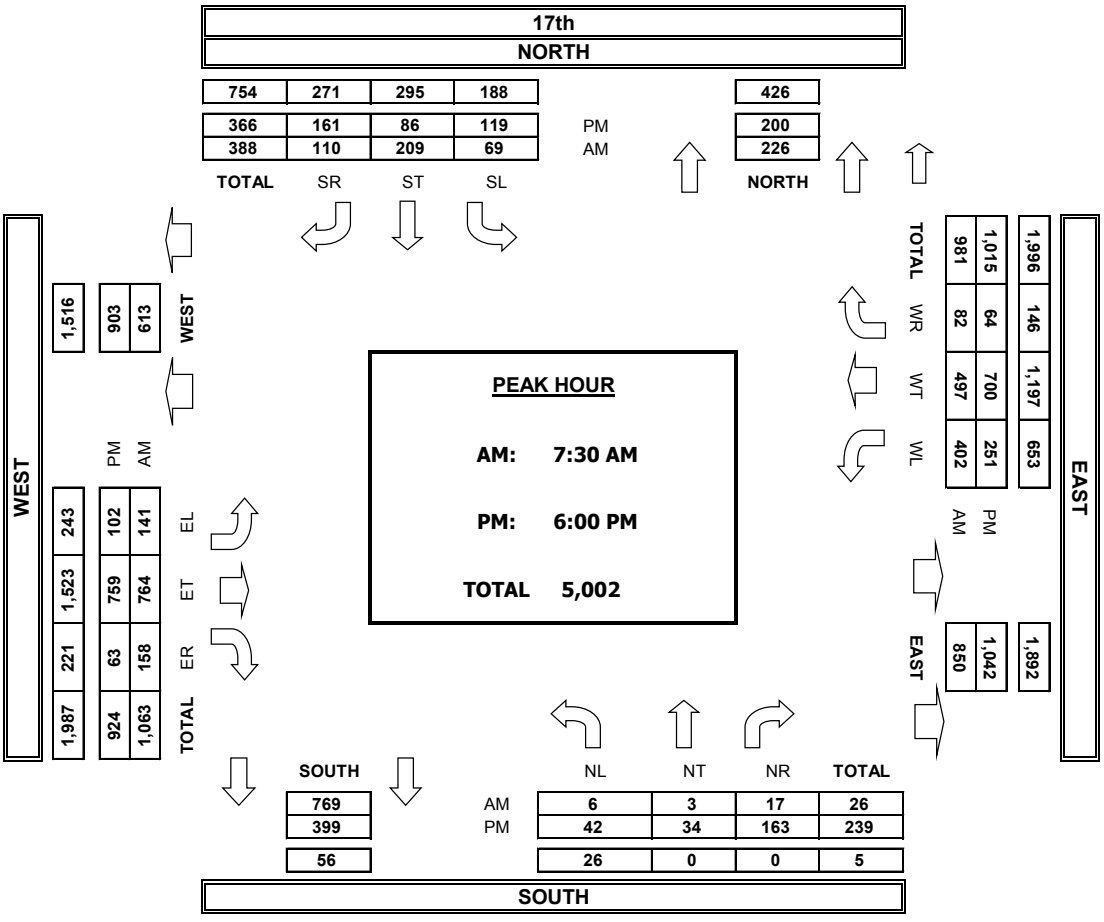


PEAK HOURS																	
7:30 AM	**AM**	94	119	250	172	635	81	109	240	158	588	13	10	10	14	47
6:00 PM	**PM**	73	119	151	118	461	66	110	135	111	422	7	9	16	7	39

AimTD LLC

TURNING MOVEMENT COUNTS





APPENDIX F2

Event Transportation Analysis

transpogroup
WHAT TRANSPORTATION CAN BE.

TRAFFIC MEMORANDUM

Date:	February 12, 2018	**TG:**	17155.00
To:	Ruta K. Thomas, REPA (Dudek)		
From:	Rawad Hani, PE, TE Rudy Garcia, Emily Chen		
cc:			
Subject:	John Adams Middle School Auditorium Replacement Project Opening Year Event Transportation and Parking Analysis		

The purpose of this Memorandum is to identify potential transportation impacts associated with the replacement of the John Adams Middle School auditorium (proposed project) in the City of Santa Monica (City). The John Adams Middle School is a part of the Santa Monica Malibu Unified School District (SMMUSD) and is located at 2425 16th Street, Santa Monica, CA. The project site location and the project study area are illustrated in Figure 1.

The proposed project serves to replace the school's auditorium. This project includes demolition of structures, construction of new buildings, and upgrading infrastructure systems to include modern functionalities. The proposed project would not increase the existing number of students, nor would it add additional uses. Although the number of auditorium seats will increase from 600 to 750 seats, the typical weekday events where the auditorium is likely to be at capacity is less than 10 days per year and therefore the project would not generate new (permanent) traffic to the study area.

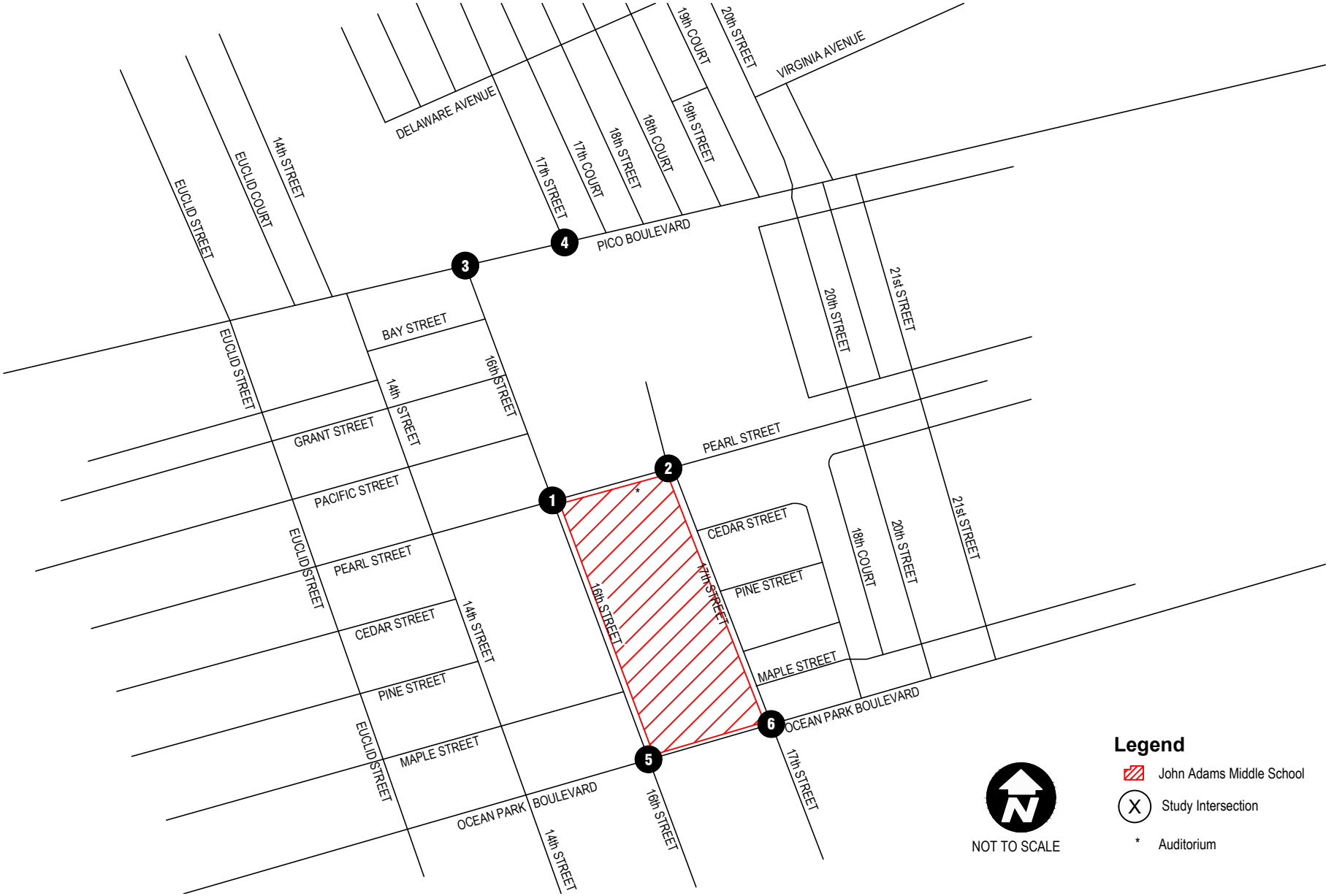
This memorandum provides an analysis of an opening year scenario when the auditorium is occupied at full capacity during an event. Parking considerations associated with weekday and weekend events are also assessed and presented. As necessary, mitigation measures are identified that would offset or reduce significant impacts.

Project Background

The auditorium is important to the function of the middle school. It is the only facility large enough to accommodate class meetings, assemblies and other educational gatherings. It is integral to the performing arts programs for performances and every day for rehearsals. The auditorium is also central to community activities.

Significant structural damage was discovered at the auditorium in the summer of 2014. The auditorium replacement construction activities are anticipated to begin in the 3rd quarter of 2018 and be completed during the 1st quarter of 2022. A separate memorandum was earlier prepared to assess the construction traffic impacts of the project.

The seating capacity of the auditorium will increase from 600 (before the replacement) to 750 seats. Appendix A presents the projected uses of the auditorium after opening; the 2013 auditorium uses are also provided for reference. In total less than ten weekday events are anticipated where the auditorium is at full capacity and almost all events occur in the evening hours.



Source: Google Maps, 09/2017.

Project Site Location and Study Area

FIGURE 1

SMMUSD John Adams Middle School

transpogroup
WHAT TRANSPORTATION CAN BE.

NOT TO SCALE

Source: HGA

Project Site Plan

FIGURE
2

SMMUSD John Adams Middle School

transpogroup
WHAT TRANSPORTATION CAN BE.

Analysis Methodology

This analysis focuses on the weekday PM (4:00 to 6:00 PM) peak period given that most events using the auditorium occur in the afternoons and evenings as illustrated in Appendix A. This period represents the highest cumulative total traffic for the adjacent street system.
The study intersections include all major intersections providing access to the proposed project and are the locations that are most likely to be impacted by the project. The study intersections include:

1. 16th Street & Pearl Street
2. 17th Street & Pearl Street
3. 16th Street & Pico Blvd
4. 17th Street & Pico Blvd
5. 16th Street & Ocean Park Blvd
6. 17th Street & Ocean Park Blvd

Congestion Management Program Locations

The Los Angeles County Congestion Management Program (CMP) requires evaluation of all CMP arterial monitoring intersections where the project adds 50 or more new peak hour trips. The nearest CMP monitoring intersection is that of Lincoln Blvd with Pico Blvd, less than one mile away from the project site. Due to the project trips generated, the location of the intersection and its distance from the project, is it unlikely that 50 peak hour trips would be added to this location under the event scenario as illustrated in later sections of this memo (up to 25 trips are forecasted to be added at this location during an event). Similarly, the CMP requires CMP freeway mainline monitoring locations to be evaluated when the project would add 150 or more trips at the monitoring location. The nearest CMP freeway monitoring station is located approximately 1 mile from the project on I-10 at Lincoln Blvd. The project would not add 150 trips to this CMP freeway mainline monitoring station during an event (up to 25 trips are forecasted to be added at this location during an event). Based on the trip generation and location of the project, no CMP arterial intersection or freeway mainline monitoring stations are required to be included in the analysis.

LOS Methodology

Per the City guidelines, the study area intersections were analyzed under the latest version of the Highway Capacity Manual (HCM) “Operations” methodology using the Synchro level of service (LOS) software program which is consistent with the HCM 2010 methodology. The HCM 2010 methodology determines the control delay a driver may experience at the intersection. If an intersection could not be analyzed using the HCM 2010 methodology because of a particular intersection configuration (e.g., U-turn movements), the HCM 2000 methodology was used.

The degree of congestion at an intersection is described by the level of service, which ranges from LOS A to LOS F, with LOS A representing free-flow conditions with little delay and LOS F representing over-saturated traffic flow throughout the peak hour. A description of the meaning of level of service is provided in Table 1. Brief descriptions of the six levels of service for signalized and unsignalized intersections based on the HCM methodology are shown in Table 2.

Table 1. Level of Service Descriptions

Level of Service	Descriptions
A	No approach phase is fully utilized by traffic, and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily, and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized and a substantial number are nearing full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.
D	This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is seldom attained no matter how great the demand.
F	This level describes forced flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially, and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, both speed and volume can drop to zero.

Source: Highway Capacity Manual, Transportation Research Board, Special Report No. 209, Washington, D.C., 2000.

Table 2. Level of Service Definitions for Intersections

Level of Service	Control Delay in Seconds (signalized)	Control Delay in Seconds (unsignalized)
A	0.0 – 10.0 seconds	0.0 – 10.0 seconds
B	10.1 – 20.0 seconds	10.1 – 15.0 seconds
C	20.1 – 35.0 seconds	15.1 – 25.0 seconds
D	35.1 – 55.0 seconds	25.1 – 35.0 seconds
E	55.1 – 80.0 seconds	35.1 – 50.0 seconds
F	80.1 seconds or greater	50.1 seconds or greater

Future Traffic Forecasts. The list of cumulative projects was provided by the City. Future traffic volumes and growth rates were determined by utilizing the methodologies outlined in the Travel Forecasting Model Trip Generation Rates report.

Significance Criteria The City of Santa Monica has adopted the following significance criteria illustrated in Table 3 to assess whether the addition of project trips would cause a significant impact on study area signalized intersections.

Table 3. City of Santa Monica Significant Impact Criteria – Arterial and Collector Intersections	
Level of Service	**Control Delay in Seconds (unsignalized)**
If LOS = A, B, or C	**SIGNIFICANT IMPACT IF:**
➔ and is a collector street intersection	Average vehicle delay increase is ≥ 15 seconds or LOS becomes D, E, or F
➔ and is an arterial street intersection	Average vehicle delay increase is ≥ 15 seconds or LOS becomes E, or F
If LOS = D	**SIGNIFICANT IMPACT IF:**
➔ and is a collector street intersection	Any net increase in average seconds of delay per vehicle
➔ and is an arterial street intersection	Average vehicle delay increase is ≥ 15 seconds or LOS becomes E, or F
If LOS = E	**SIGNIFICANT IMPACT IF:**
➔ and is a collector or arterial street intersection	Any net increase in average seconds of delay per vehicle
If LOS = F	**SIGNIFICANT IMPACT IF:**
==> and is a collector or arterial street intersection	HCM V/C ratio net increase is ≥ 0.005

However, the City's traffic guidelines do not define the criteria to determine a significant impact for unsignalized intersections. Therefore, the criteria from the City of Los Angeles Department of Transportation (LADOT) *Transportation Impact Study Guidelines (December 2016)* was used which states:
"Unsignalized intersections should be evaluated solely to determine the need for the installation of a traffic signal or other traffic control device(s), but will not be included in the impact analysis... Based on the estimated delay, if the resultant LOS is E or F in the "Future with Project" scenario, then the intersection should be evaluated for the potential installation of a new traffic signal."

The study intersections were analyzed for the following study scenarios:
1) Existing Conditions;
2) Existing Plus Event Traffic Conditions;
3) Opening Year (2022) Baseline Conditions;
4) Opening Year (2022) Plus Event Traffic Conditions;

1. Existing Conditions

This section describes Existing (without project) conditions within the identified study area. Characteristics are provided for the street system, peak hour traffic volumes, and intersection operations.

Street System

Characteristics of the existing street system in the proposed project vicinity are shown in Table 4. Table 4 summarizes the roadway classifications for the various modes (auto, transit, bicycle, and walking) based on the City's 2010 Land Use and Circulation Element. The speed limits are presented as per City's Speed Limit Map and on-street signage.

Table 4. Study Area Existing Street System Summary

Roadway	Classification[1]	Speed Limit[2] (MPH)	Number of Lanes	Parking	Sidewalks
16th Street	Bicycle: Slow Street Transit: Local Auto: Neighborhood Street	15	NB: 1 GP + 1 Bike lane SB: 1 Sharrow	Both sides (parallel)	Yes
17th Street	Bicycle: Lane/ Path/ Bicycle Boulevard Transit: Connecting Auto: Neighborhood Street	25	NB: 1 Sharrow SB: 1 GP + 1 Bike lane	Both sides (parallel)	Yes
Pearl Street	Bicycle: Lane/ Path/ Bicycle Boulevard Transit: Connecting Auto: Neighborhood Street	25	EB: 1 GP + 1 Bike lane WB: 1 GP + 1 Bike lane	Both sides (90 degree angled parking)	Yes
Pico Blvd	Walking: Boulevard Bicycle: Auto/Transit Priority Transit: Regional Auto: Boulevard	35	EB: 1 Sharrow + 1 GP WB: 1 Sharrow + 1 GP TWLT Lane	No Parking	Yes
Ocean Park Blvd	Walking: Neighborhood Retail/Commercial Bicycle: Lane/ Path/ Bicycle Boulevard Transit: Connecting Auto: Major Avenue	30	EB: 1 GP + 1 Bike lane WB: 1 GP + 1 Bike lane TWLT Lane	Both sides (parallel)	Yes

[1] Classification Information from City of Santa Monica 2010 Land Use and Circulation Element (Revised 7.24.15)
[2] MPH = miles per hour; Speeds are as per City of Santa Monica Speed Limit Map
[3] GP: General Purpose, TWLT: Two-Way-Left-Turn, NB: northbound, SB: southbound, EB: eastbound, WB: westbound

The study area intersections mentioned in the earlier section were determined based on the proximity to the project, the travel patterns and engineering judgement. Geometry and signal controls at the study area intersections are shown in Figure 3.

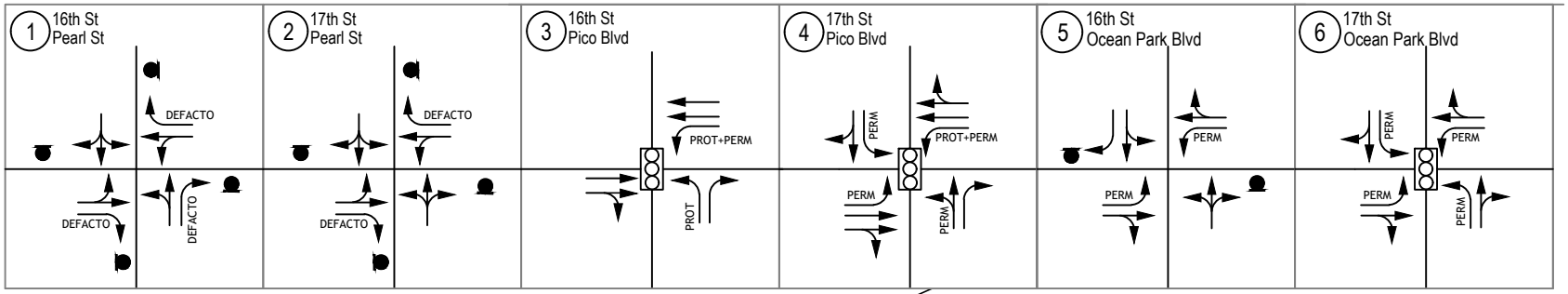
Non-motorized facilities exist along all study area streets in the form of sidewalks as well as bicycle lanes or sharrows. Bike share stations are also available at the southeast corners of 16th Street and Ocean Park Blvd and 16th Street and Pico Blvd. Mid-block pedestrian crossings are available along 16th Street and 17th Street and speeds bumps along 16th Street are installed to slow traffic to 15 mph.

It is also worth noting that dedicated parking for car sharing (zipcar) is also present at the southeast corner of 16th Street and Ocean Park Blvd.

Transit service in the project study area is provided by the Big Blue Bus. The project area is served by the following lines:

- Route 7 at Pico Blvd and 17th Street
- Rapid 7 at Pico Blvd and 17th Street
- Route 8 at Ocean Park Blvd and 17th Street
- Route 41 – 42 at Pico Blvd and 17th Street
- Route 43 at Pico Blvd and 17th Street
- Route 44 at Ocean Park Blvd and 17th Street as well as 17th Street and Pearl Street

These routes vary in service and frequency with all routes providing service every day except for Routes 43 and 44 which run only on weekdays with no weekend service. Bus frequencies vary during times the day with peak hour services at higher frequency. Light rail is accessible through the Metro Expo Line at 17th Street/SMC station located at Colorado Ave and 17th Street.



NOT TO SCALE

Legend

- Site
- X — Study Intersection
- Lane Geometrics
- Traffic Signal
- Stop Sign

PROT	Protected Left Turn Phasing
PERM	Permitted Left Turn Phasing
SPLIT	Split Phasing
DEFACTO	Defacto Right Turn Lane
OVL	Overlapping Right Turn Phasing
FREE	Free Movement
XD	Number of lanes (divided roadway)
XU	Number of lanes (undivided roadway)

Study Area Intersections and Roadway Geometrics and Traffic Control

FIGURE **3**

SMMUSD John Adams Middle School

transpogroup
WHAT TRANSPORTATION CAN BE.

Traffic Volumes

Traffic counts were collected in September 2017 during a typical weekday for all study intersections except for those along Ocean Park Blvd which were collected in January 2018. Traffic counts are presented in Appendix B. Intersections were analyzed with PCE (passenger car equivalent) factors when applicable. Existing weekday PM peak hour traffic volumes are illustrated in Figure 4 and were used to evaluate existing traffic conditions. Existing weekday PM peak hour bicycle and pedestrian volumes are illustrated in Figures 5 and 6 respectively.

Intersection Operations

LOS analyses were prepared for the Existing conditions per the City's requirements and are summarized in Table 5. Detailed LOS worksheets are provided in Appendix C.

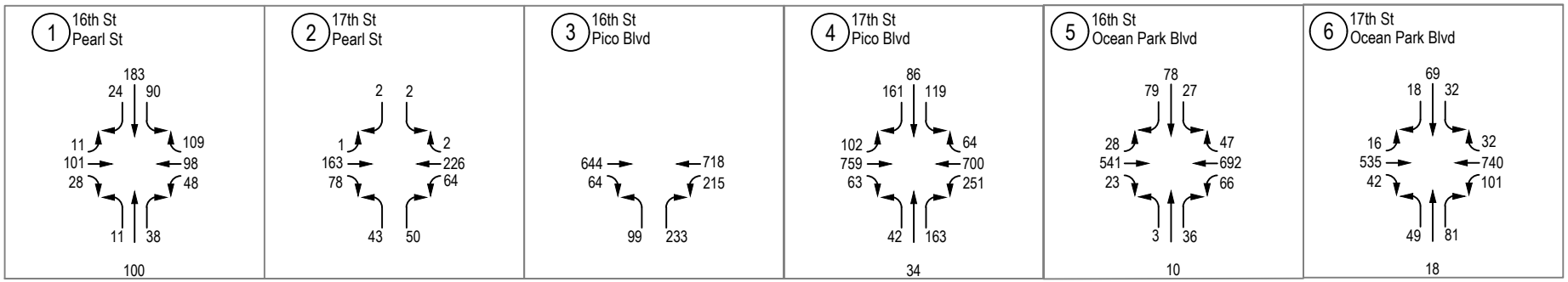
Table 5. Existing (without project) Weekday Peak Hour Intersection LOS

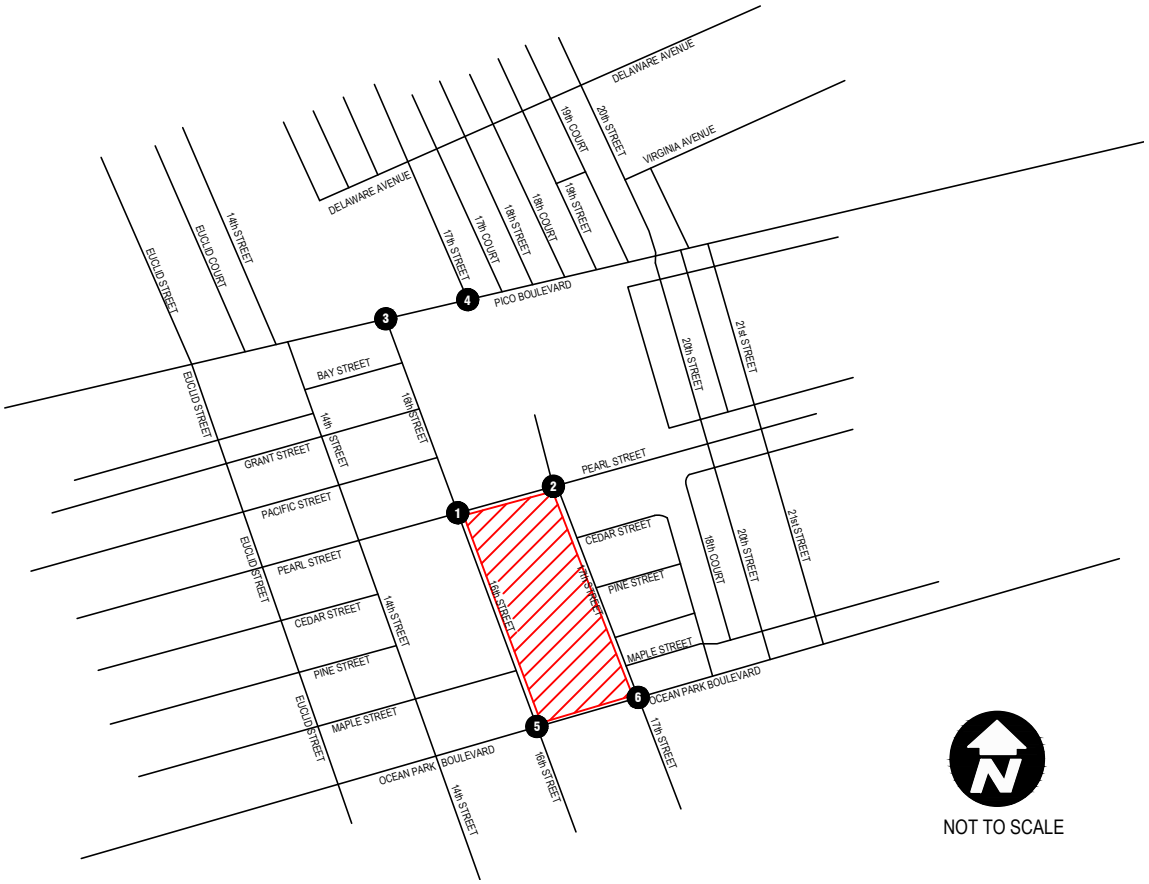
		PM Peak	
Intersection	**LOS Method**	**LOS[1]**	**Delay[2]**
1. 16th St/Pearl St	HCM	B	14.2
2. 17th St/Pearl St	HCM	B	10.9
3. 16th St/Pico Blvd	HCM	B	13.7
4. 17th St/Pico Blvd	HCM	C	21.4
5. 16th St/Ocean Park Blvd[4]	HCM (Unsignalized)	F	179.5[5]
6. 17th St/Ocean Park Blvd	HCM	A	7.8

1. Level of Service
2. Delay measured in seconds/vehicle
3. HCM = Highway Capacity Manual 2010
4. Two Way Stop Controlled Intersection. LOS and Delay reported for the worst approach.
5. The calculation of delay is an exponential equation and delays shown within this range may be an overestimate. The numbers shown are provided for relative comparison.

As shown in the table, all of the study intersections currently operate at satisfactory LOS D or better during the weekday AM and PM peak hours under Existing conditions except for the two-way-stop-controlled (unsignalized) intersection of 16th Street and Ocean Park Blvd where the minor approaches (along 16th Street) experience delays leading to a LOS F along these approaches.

A traffic signal warrant analysis was carried out for the 16th Street and Ocean Park Blvd and it was found that a signal is warranted under existing (without project) conditions. The 8-hour volume, the 4-hour volume, and peak hour volume warrants are all met. Once signalized this intersection operates at a LOS A with an average delay of 6.7 seconds. The signal warrant analysis worksheets and signalization LOS worksheets are presented in Appendix D.





NOT TO SCALE

Legend

- Site
- X Weekday PM Peak Hour Traffic Volumes
- (X) Study Intersection

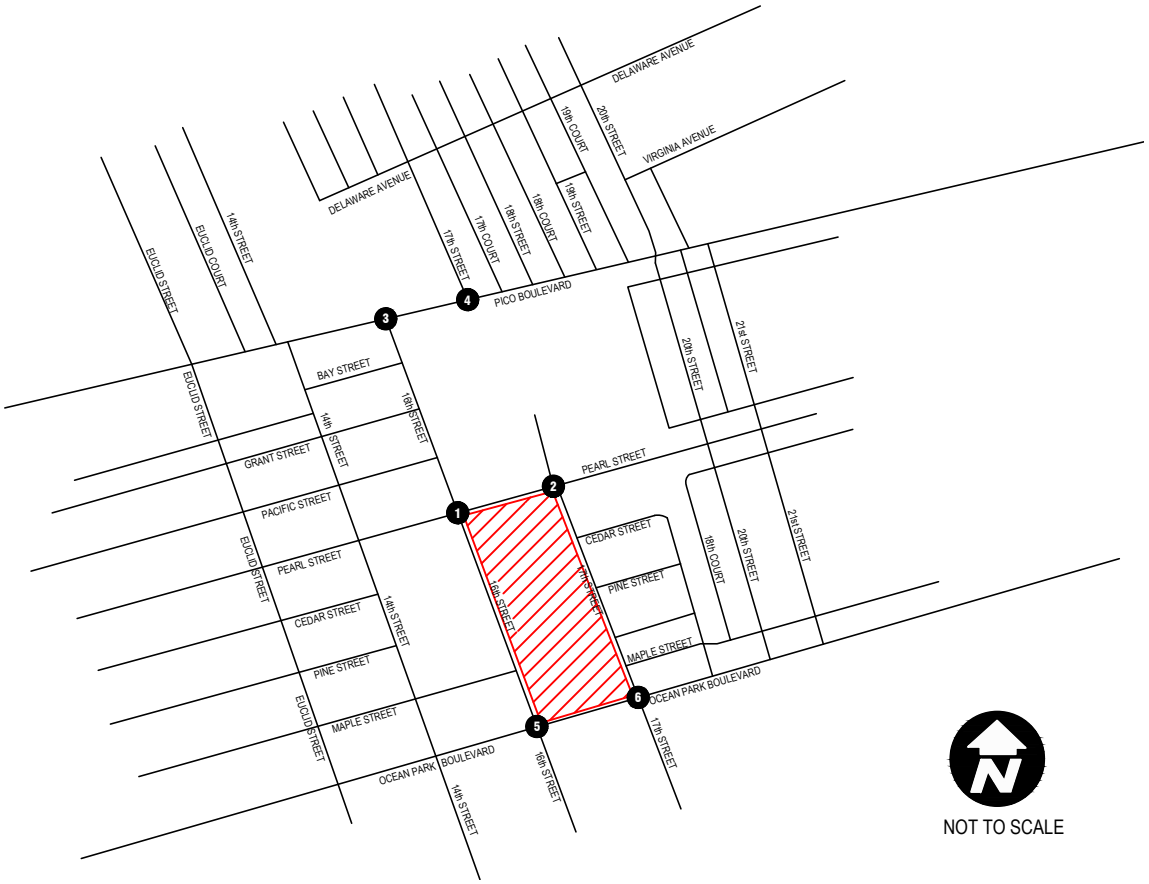
Existing PM Peak Hour Traffic Volumes

FIGURE **4**

SMMUSD John Adams Middle School

transpogroup
WHAT TRANSPORTATION CAN BE.

1 16th St Pearl St	2 17th St Pearl St	3 16th St Pico Blvd	4 17th St Pico Blvd	5 16th St Ocean Park Blvd	6 17th St Ocean Park Blvd
12 / 6 / 10 / 7	10 / 0 / 1 / 11	1 / 1 / 9	7 / 7 / 16 / 9	7 / 2 / 1 / 5	8 / 5 / 1 / 5



NOT TO SCALE

Legend

- Site
- X Weekday PM Peak Hour Bicycle Volumes
- (X) Study Intersection

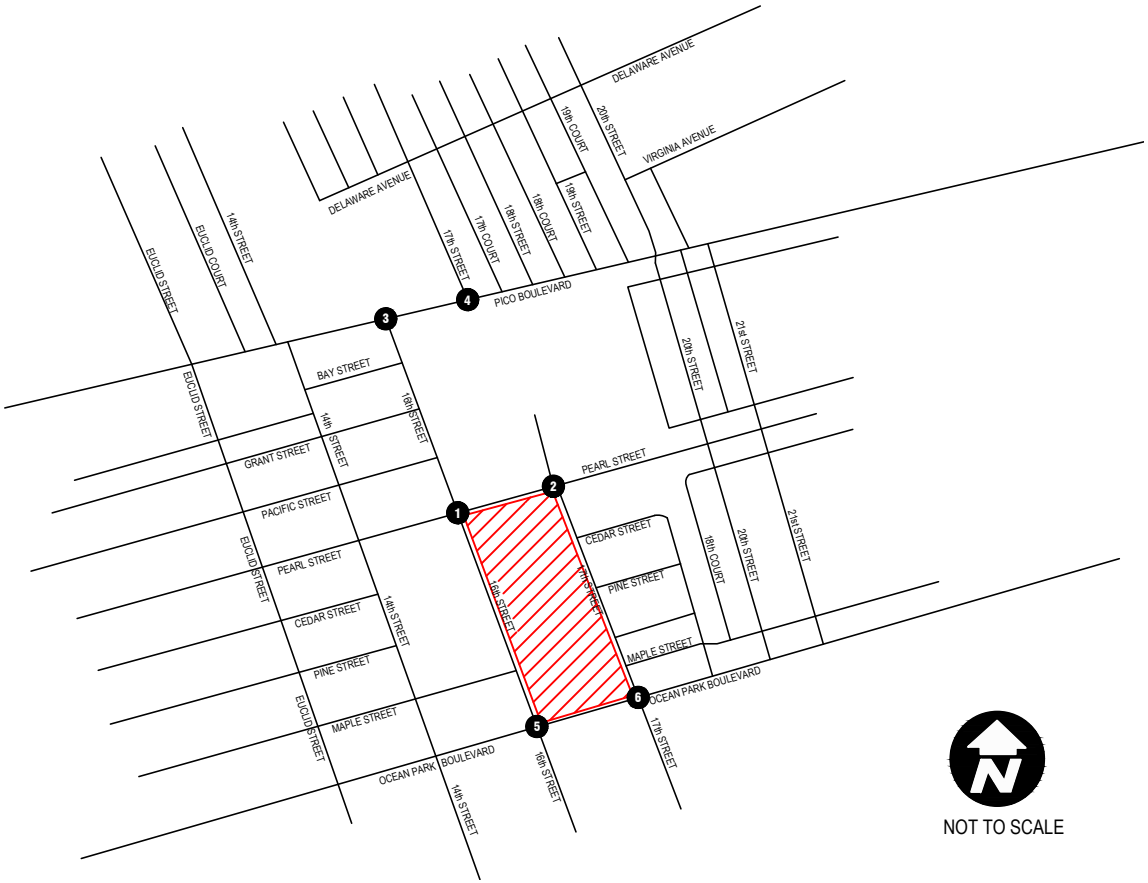
Existing Peak Hour Bicycle Volumes

SMMUSD John Adams Middle School

FIGURE **5**

transpogroup
WHAT TRANSPORTATION CAN BE.

1 16th St Pearl St	2 17th St Pearl St	3 16th St Pico Blvd	4 17th St Pico Blvd	5 16th St Ocean Park Blvd	6 17th St Ocean Park Blvd
36 / 37 / 102 / 73	211 / 124 / 119 / 115	6 / 8 / 88	66 / 111 / 135 / 110	20 / 1 / 27 / 28	28 / 30 / 34 / 48



NOT TO SCALE

Legend

- Site
- X — Weekday PM Peak Hour Pedestrian Volumes
- (X) — Study Intersection

Existing PM Peak Hour Pedestrian Volumes

SMMUSD John Adams Middle School

FIGURE **6**

transpogroup
WHAT TRANSPORTATION CAN BE.

2. Existing Plus Event Traffic Conditions

This section documents the traffic impacts of a full capacity event (750 attendees) in the auditorium on the surrounding transportation system. As mentioned earlier, the proposed project would not increase the existing number of students, nor would it add additional uses and the auditorium's full-capacity events happen less than 10 times a year and are not considered permanent.

Trip Generation

Trip generation for the auditorium was determined based on the operational characteristics. The *ITE (Institute of Transportation Engineers) Trip Generation Manual, 10th Edition, 2017* provides rates for an Arena (Land Use 460); however, the ITE rates are based on a single study and do not represent the characteristics of the subject project.

The trip generation estimates rely on the peak event data provided by SMMUSD with 750 people (maximum capacity) assumed to be in attendance. A vehicle occupancy factor of 1.5 is assumed to account for multiple people per vehicle as well as pedestrian traffic from the neighborhood (this factor is based on 1.58 persons per vehicle from the SCAG Travel Survey).

As a conservative scenario it is also assumed that 50% of the attendance are expected to arrive between 5:00 and 6:00 PM (PM peak hour). As shown in Appendix A most of the events where the auditorium is at full capacity occur outside the PM peak hour, and hence the 50% is a conservative estimate.

As such a total of 250 vehicle trips are estimated in the PM peak hour with the majority (230) coming in and the rest (20) leaving the site which could account for deliveries, equipment, catering, etc.

By means of comparison ITE trip rates would yield 35 trips entering the site and 63 trips leaving. As such the above illustrated trip generation estimates are more conservative in nature. The trip generation estimates are summarized in Table 6.

Table 6. Event Trip Generation Estimates

		PM Peak Hour		
	Units	**IN**	**OUT**	**TOTAL**
Peak Event Data[1]				
PTSA Fundraiser	Attendees			750
Vehicle Occupancy of 1.5[2]				
TOTAL VEHICLE TRIPS[3]		**230**	**20**	**250**

1. Peak Event data provided by SMMUSD. Peak data assumed for PTSA Fundraiser. 750 is assumed to be the maximum attendance.
2. A conservative vehicle occupancy factor of 1.5 is assumed. This factor will account for multiple people per vehicle as well as pedestrian traffic from the neighborhood.
3. 50% of the attendees are expected to arrive between 5:00 and 6:00 PM. As such (750 / 1.50) x 50% = 250 vehicles during the PM peak hour. Assuming 20 vehicles will be leaving during the peak hour for deliveries, equipment, catering, etc.

Trip Distribution and Assignment

Event trips were distributed to the study area intersections using logical travel paths between the project and other local land uses, as well as the location of the project in relation to local and regional transportation facilities.

The event traffic distribution and assignments are illustrated in Figures 7 and 8 respectively. Event trips were assigned to the study area intersections by multiplying the project trip generation by the trip distribution percent at each location.

Traffic Volumes

Existing Plus Event Traffic volumes were determined by adding the event trips to the Existing (without project) traffic volumes. Figure 9 shows the Existing Plus Event Traffic weekday PM peak hour traffic volumes.

Intersection Operations

An operations analysis was conducted for the study area intersections to evaluate the Existing Plus Event Traffic weekday PM peak hour conditions. Intersection operations were calculated using the LOS methodology described previously. Table 7 provides a comparison between the Existing (without project) and Existing Plus Event Traffic conditions for the weekday PM peak hours. Detailed LOS worksheets are included in Appendix C.

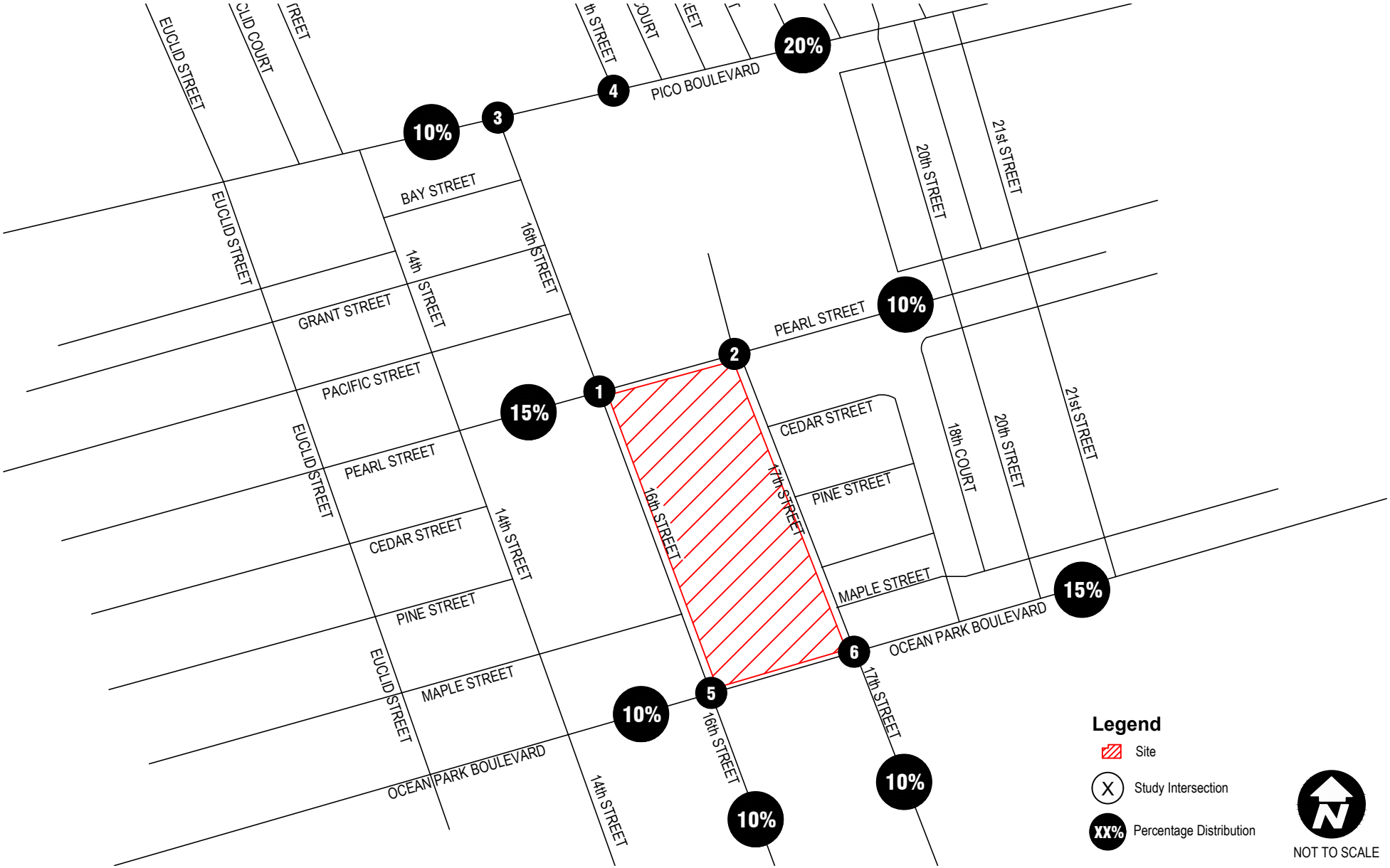
Table 7. Existing and Existing Plus Event Traffic Peak Hour Intersection LOS

		Existing		Existing Plus Event Traffic		Change
		PM Peak		PM Peak		
Intersection	LOS Method	LOS[1]	Delay[2]	LOS[1]	Delay[2]	
1. 16th St/Pearl St	HCM	B	14.2	C	23.0	8.8
2. 17th St/Pearl St	HCM	B	10.9	B	12.2	1.3
3. 16th St/Pico Blvd	HCM	B	13.7	B	13.0	-0.7
4. 17th St/Pico Blvd	HCM	C	21.4	C	22.4	1.0
5. 16th St/Ocean Park Blvd[4]	HCM (unsignalized)	F	179.5	F	333.2	153.7
6. 17th St/Ocean Park Blvd	HCM	A	7.8	A	8.8	1.0

1. Level of Service
2. Delay measured in seconds/vehicle
3. HCM = Highway Capacity Manual 2010
4. The calculation of delay is an exponential equation and delays shown within this range may be an overestimate. The numbers shown are provided for relative comparison.

As shown in the table, all of the study area signalized intersections are forecast to continue to operate at LOS C or better during the PM peak hours in the Existing Plus Event Traffic conditions.

The two-way-stop controlled intersection at 16th Street and Ocean Park Blvd operates at LOS F. It should be noted that the calculation of delay is an exponential equation and delays shown within this range (LOS F) may be an overestimate. The delay numbers shown are provided for relative comparison only. As mentioned earlier the signal warrants for this intersection are met under existing conditions and hence signalization of the intersection is warranted. Once signalized, this intersection operates at a LOS A with an average delay of 7.0 seconds in the Existing Plus Event Traffic Conditions with no significant impact compared to Existing Conditions. The signal warrant analysis worksheets and signalization LOS worksheets are presented in Appendix D.

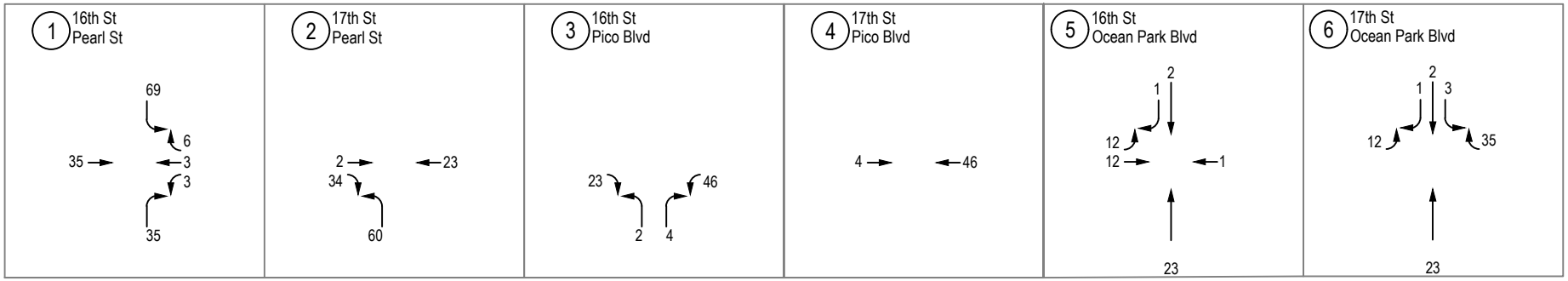


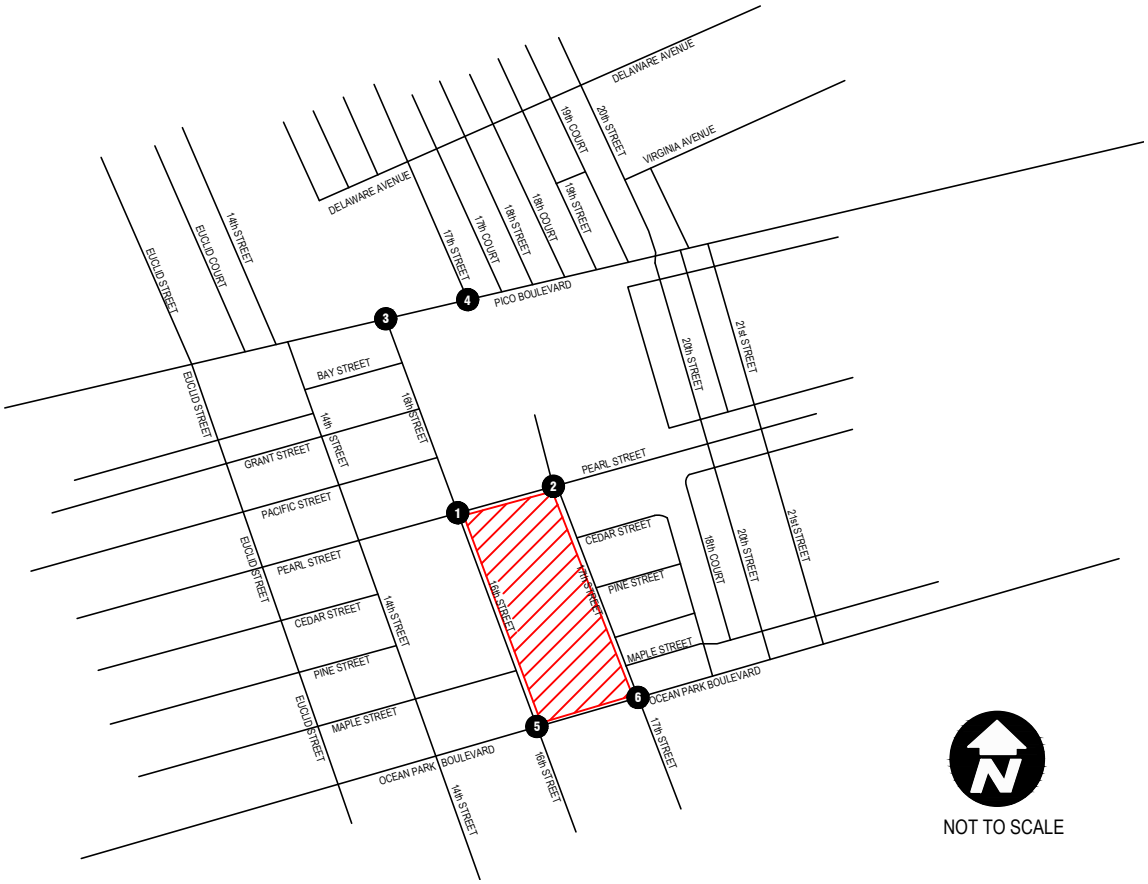
Event Traffic - Trip Distribution

FIGURE
7

SMMUSD John Adams Middle School

transpogroup
WHAT TRANSPORTATION CAN BE.





NOT TO SCALE

Legend

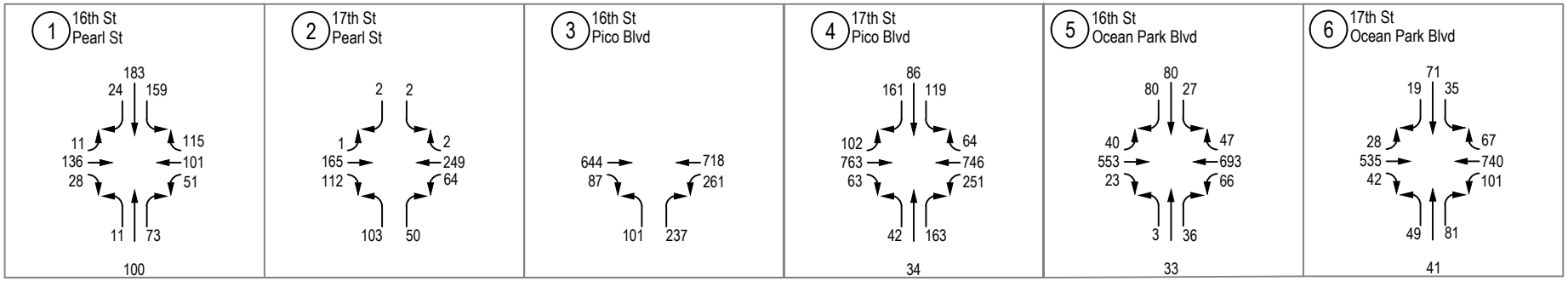
- Site
- X Weekday PM Peak Hour Traffic Volumes
- (X) Study Intersection

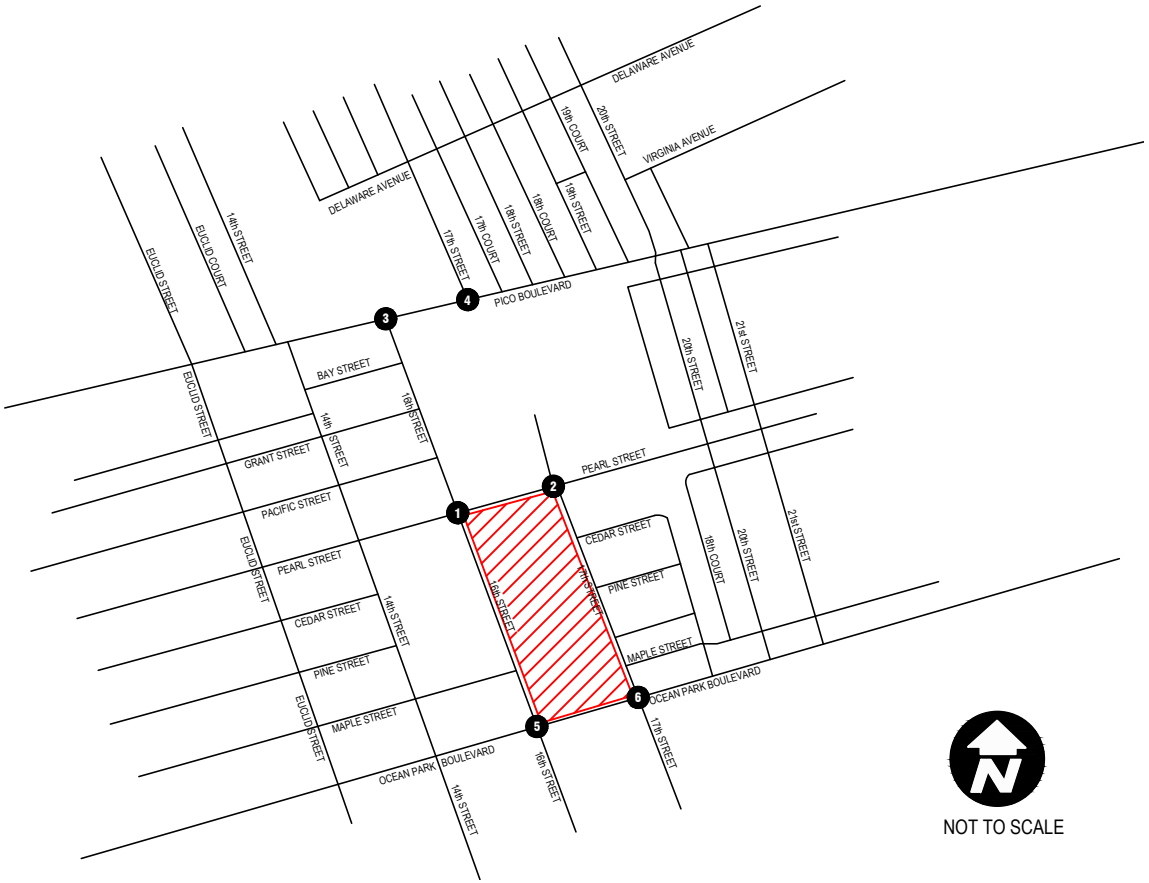
Event Traffic - Trip Assignment

SMMUSD John Adams Middle School

FIGURE **8**

transpogroup
WHAT TRANSPORTATION CAN BE.





NOT TO SCALE

Legend

- Site
- X — Weekday PM Peak Hour Traffic Volumes
- (X) — Study Intersection

Existing Plus Event Traffic PM Peak Hour Traffic Volumes

FIGURE **9**

SMMUSD John Adams Middle School

transpogroup
WHAT TRANSPORTATION CAN BE.

3. Opening Year 2022 Baseline Conditions

This section describes opening year (2022) baseline conditions within the identified study area. This scenario includes the cumulative projects without any Event Traffic.

Traffic Volumes

As noted in the methodology section, Year 2022 Baseline traffic volumes were determined by adding the existing traffic volumes as well as traffic from approved but not yet constructed projects in the vicinity of the project. The location of each cumulative project is shown in Figure 10, while the trip generation of each cumulative project is shown in Table 8. The trip rates used for calculating the cumulative projects are as per the Travel Forecasting Model Trip Generation Rates report.

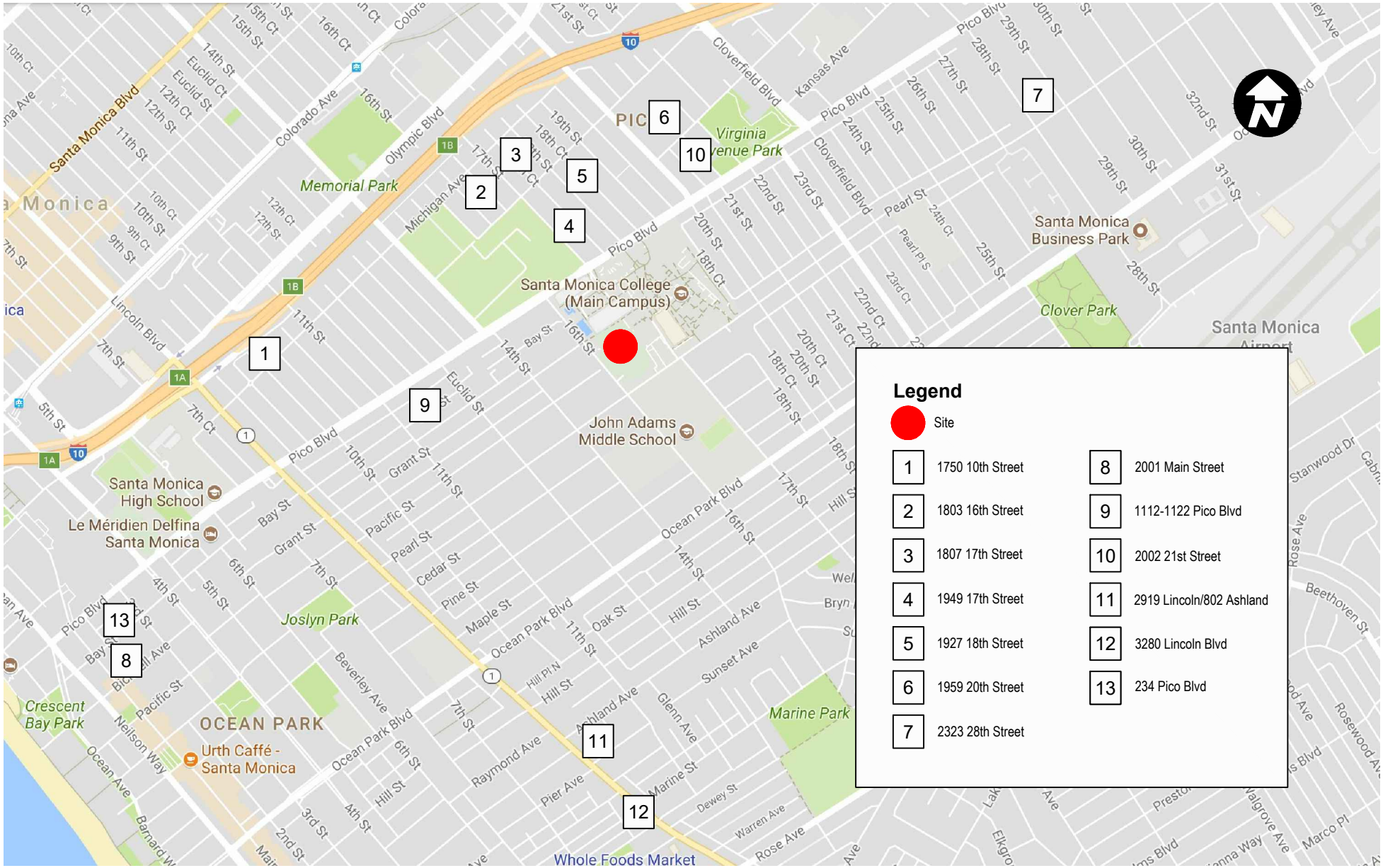
Table 8. Cumulative Projects Trip Generation

				AM Peak Hour			PM Peak Hour		
Project	**No. of Units**	**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
1. 1750 10th Street (Condominium)	7	DU	45	1	2	3	2	1	3
2. 1803 16th Street (Condominium)	10	DU	65	1	3	4	3	2	5
3. 1807 17th Street (Condominium)	4	DU	26	0	1	1	1	1	2
4. 1949 17th Street (Condominium)	6	DU	39	0	2	2	2	1	3
5. 1927 18th Street (Condominium)	2	DU	13	0	0	0	1	0	1
6. 1959 20th Street (Condominium)	2	DU	12	0	0	0	1	0	1
7. 2323 28th Street (Condominium)	6	DU	39	0	2	2	2	1	3
8. 2001 Main Street (Retail)	4.15	KSF	170	5	3	8	7	5	12
9. 1112-1122 Pico Blvd (Assumed Multi-Family Residential)									
residential	28	DU	181	2	10	12	9	4	13
affordable housing	4	DU	26	0	1	1	1	0	1
Total 1112-1122 Pico Blvd			206	2	11	13	10	4	14
10. 2002 21st Street (Condominium)									
residential	4	DU	26	0	2	2	2	1	3
affordable housing	2	DU	13	0	0	0	0	1	1
Total 2002 21st Street			39	0	2	2	2	2	4
11. 2919 Lincoln/802 Ashland (Condo)	10	DU	65	1	3	4	3	1	4
12. 3280 Lincoln Blvd (assume Condos)	4	DU	26	0	1	1	1	0	1
13. 234 Pico Blvd (Assumed Condominiums)									
residential	79	DU	510	5	28	33	25	12	37
affordable housing	12	DU	77	1	4	5	3	2	5
retail	-3.914	KSF	-160	-4	-3	-7	-7	-4	-11
Total 234 Pico Blvd			427	2	29	31	21	10	31
Total Trip Generation			**1172**	**12**	**59**	**71**	**56**	**28**	**84**

Note: Trip Rates were derived from *Santa Monica Travel Demand Forecasting Model Trip Generation Rates*, Fehr and Peers, October 2011.

As shown in the table, the cumulative projects are expected to generate approximately 1,172 daily trips, 71 AM peak hour trips (12 inbound and 59 outbound), and 84 PM peak hour trips (56 inbound and 28 outbound).

The Year 2022 baseline without Event Traffic volumes are illustrated in Figure 11.



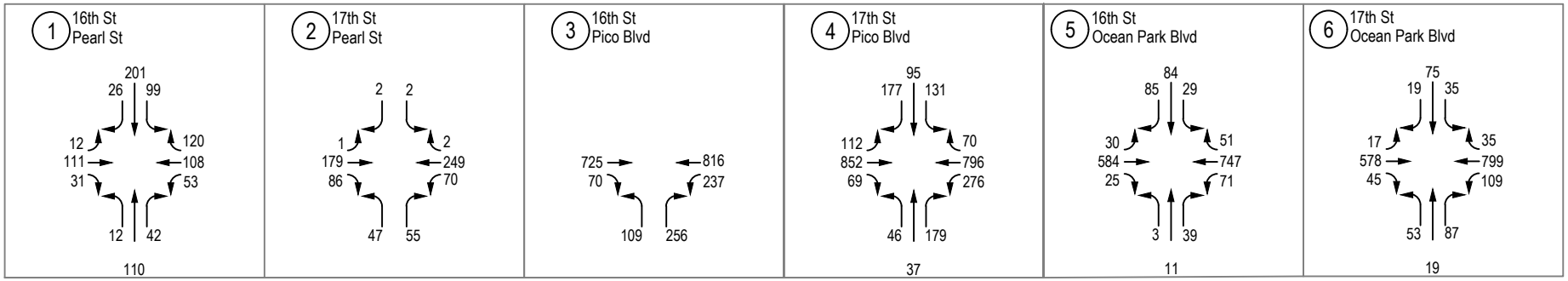
Source: City of Santa Monica, October 2017

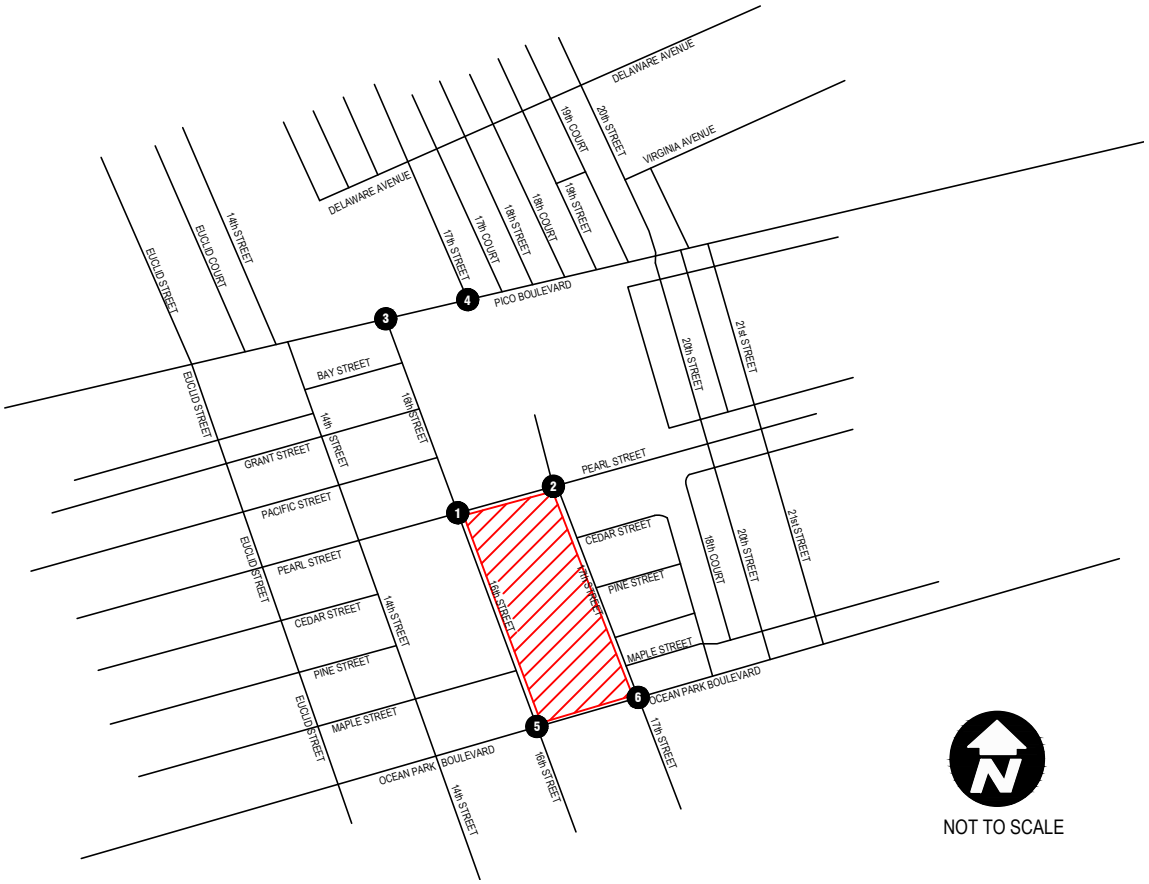
Locations of Cumulative Projects

FIGURE **10**

SMMUSD John Adams Middle School

transpogroup
WHAT TRANSPORTATION CAN BE.





Opening Year 2022 Baseline PM Peak Hour Traffic Volumes

FIGURE 11

SMMUSD John Adams Middle School

transpogroup
WHAT TRANSPORTATION CAN BE.

Intersection Operations

An operations analysis was conducted for the study area intersections to evaluate the Year 2022 Baseline PM peak hour conditions. Intersection operations were calculated using the LOS methodology described previously. The LOS analyses summaries are shown in Table 9. Detailed LOS worksheets are provided in Appendix C.

Table 9. Opening Year (2022) Without-Event Weekday PM Peak Hour Intersection LOS

		PM Peak	
Intersection	**LOS Method**	**LOS[1]**	**Delay[2]**
1. 16th St/Pearl St	HCM	C	16.9
2. 17th St/Pearl St	HCM	B	11.7
3. 16th St/Pico Blvd	HCM	B	14.1
4. 17th St/Pico Blvd	HCM	D	52.7
3. 16th St/Ocean Park Blvd	HCM (Unsignalized)	F	847.6[4]
4. 17th St/Ocean Park Blvd	HCM	A	9.8

1. Level of Service
2. Delay measured in seconds/vehicle
3. HCM = Highway Capacity Manual 2010
4. The calculation of delay is an exponential equation and delays shown within this range may be an overestimate. The numbers shown are provided for relative comparison.

As shown in the table, all signalized study intersections continue to operate at LOS D or better during the weekday PM peak hours under opening Year 2022 baseline conditions.

The un-signalized intersection at 16th Street and Ocean Park Blvd operates at LOS F. It should be noted that the calculation of delay is an exponential equation and delays shown within this range may be an overestimate. The numbers shown are provided for relative comparison. As demonstrated earlier signalization is warranted at this intersection even under existing conditions. Once signalized this intersection operates at a LOS A with an average delay of 8.2 seconds in the Opening Year Baseline Conditions. The signal warrant analysis worksheets and signalization LOS worksheets are presented in Appendix D.

4. Opening Year (2022) Plus Event Traffic Conditions

This section describes opening year (2022) plus event traffic conditions within the identified study area. This scenario assumes an auditorium event at maximum capacity (750 seats) event. The event trip generation is presented above in Table 6.

Traffic Volumes

Opening Year (2022) Plus Event Traffic volumes were determined by adding the Event Trips from Figure 8 to the Opening Year (2022) Baseline traffic volumes in Figure 11.
Figure 13 shows the Opening Year (2022) Plus Event Traffic weekday PM peak hour traffic volumes.

Intersection Operations

An operations analysis was conducted for the study area intersections to evaluate the Opening Year (2022) Plus Event Traffic PM peak hour conditions. Intersection operations were calculated using the LOS methodology described previously. Table 10 provides a comparison between the Opening Year (2022) Baseline and Plus Event Traffic conditions for the weekday PM peak hours. Detailed LOS worksheets are included in Appendix C.

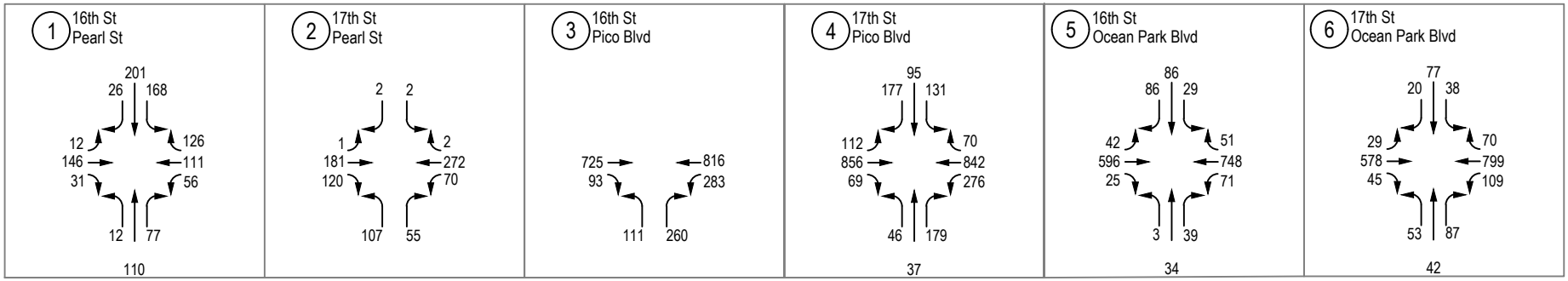
Table 10. Opening Year (2022) Plus Event Traffic PM Peak Hour Intersection LOS

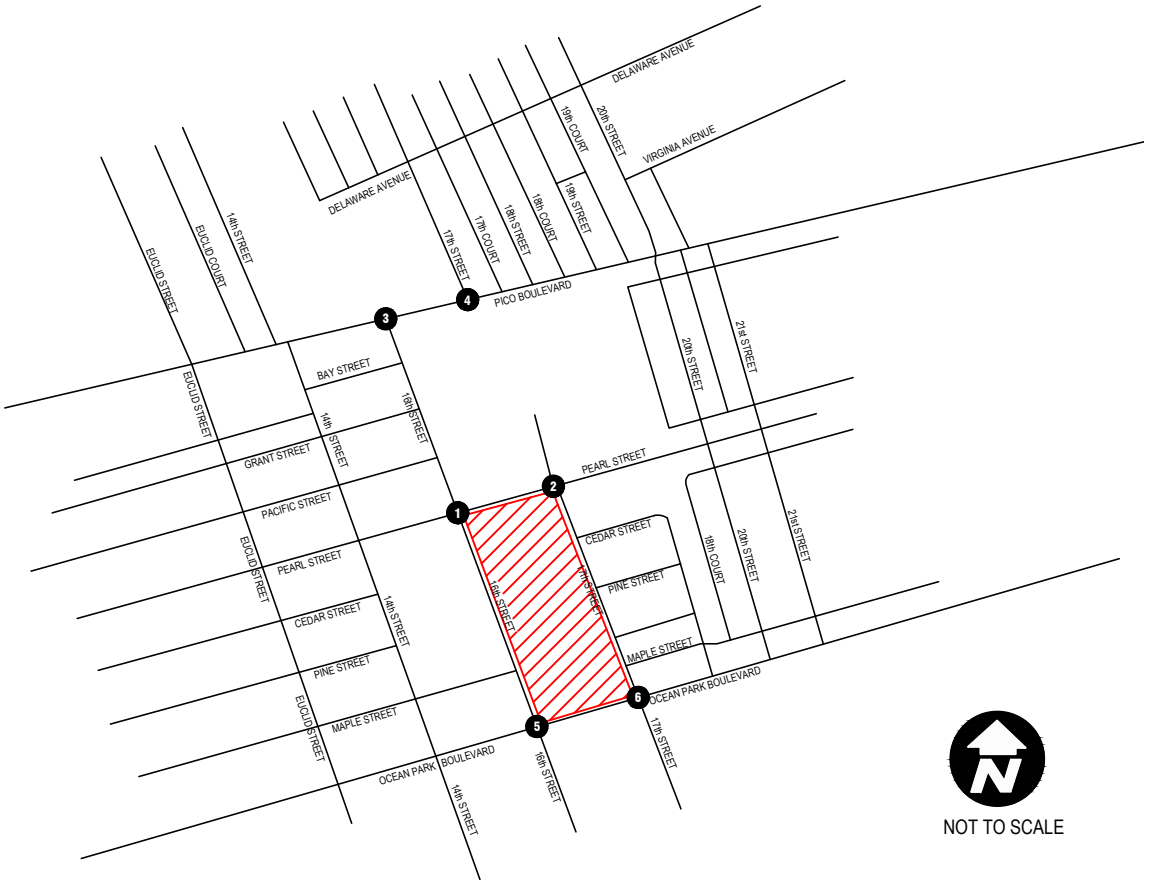
		Year (2022) Baseline PM Peak		Year (2022) Plus Event Traffic PM Peak		Change PM
Intersection	LOS Method	LOS[1]	Delay[2]	LOS[1]	Delay[2]	
1. 16th St/Pearl St	HCM	C	16.9	D	28.5	11.6
2. 17th St/Pearl St	HCM	B	11.7	B	13.5	1.8
3. 16th St/Pico Blvd	HCM	B	14.1	B	14.0	-0.1
4. 17th St/Pico Blvd[4]	HCM	D	52.7	D	52.2	-0.5
5. 16th St/Ocean Park Blvd[5]	HCM (Unsignalized)	F	847.6	F	1463.8	616.2
6. 17th St/ Ocean Park Blvd	HCM	A	9.8	A	11.6	1.8

1. Level of Service
2. Delay measured in seconds/vehicle
3. HCM = Highway Capacity Manual 2010
4. This decrease (in delay per vehicle) is not unusual as number of vehicles minimally increased
5. The calculation of delay is an exponential equation and delays shown within this range may be an overestimate. The numbers shown are provided for relative comparison.

As shown in the table, all of the signalized study intersections are forecast to continue to operate at LOS D or better during the PM peak hours in the Year 2022 Plus Event Traffic conditions.

The unsignalized intersection of 16th and Ocean Park Blvd is at LOS F. It should be noted that the calculation of delay is an exponential equation and delays shown within this range (LOS F) may be an overestimate. The delay numbers shown are provided for relative comparison only. As mentioned earlier the signal warrants for this intersection are met under existing conditions and hence signalization of the intersection is warranted. Once signalized, this intersection operates at a LOS A with an average delay of 8.5 seconds in the Opening Year (2022) Event Traffic Conditions (PM peak hour). The signal warrant analysis worksheets and signalization LOS worksheets are presented in Appendix D. As such the project does not increase the delays per the City's significance impacts criteria once signalized.





NOT TO SCALE

Legend

- Site
- X — Weekday PM Peak Hour Traffic Volumes
- (X) — Study Intersection

Opening Year 2022 Baseline with Event Traffic PM Peak Hour Traffic Volumes

FIGURE **12**

SMMUSD John Adams Middle School

transpogroup
WHAT TRANSPORTATION CAN BE.

Pedestrian Access and Bicycle Circulation

The existing bicycle and pedestrian graphics are previously shown in Figures 5 and 6. As shown in these graphics, about 21 bicycles are expected to travel along Pearl Street in the PM peak hour and about 16 bicycles are expected to travel along Pico Blvd during the same peak. Along Ocean Park Blvd about 11 bicyclists were observed in the PM peak hour while less than 10 bicycles were observed along 16th Street and 17th Street abutting the school during the same PM peak period.

During the PM peak hour the number of crossing pedestrians observed are as such:

- 248 at the intersection of 16th Street and Pearl Street
- 569 at the intersection of 17th Street and Pearl Street
- 106 at the intersection of 16th Street and Pico Blvd
- 422 at the intersection of 17th Street and Pico Blvd
- 76 at the intersection of 16th Street and Ocean Park Blvd
- 140 at the intersection of 17th Street and Ocean Park Blvd

Event Traffic is not anticipated to have an impact on the pedestrian or bicycle access.

Parking Analysis

This section assesses parking supply (availability) and demand (need) considerations associated with events following the opening of the auditorium. As mentioned earlier, the number of auditorium seats will increase from 600 to 750 seats and Appendix A presents the projected uses of the auditorium after opening.

Three scenarios are considered in what follows which include (i) a typical weekday event (ii) a large weekday event and (iii) a typical weekend event (Sunday church service).

Parking Supply

The existing off-street parking supply is distributed among two parking lots. The first is to the south of the auditorium (south west of the Pearl Street and 17th Street intersection) with a capacity of 47 spaces (2 of which are disabled spaces) and the second to the northeast of Ocean Park Blvd and 16th Street intersection and has a capacity of 55 spaces (3 of which are disabled spaces). As such the total number of off-street spaces is 102 spaces. It should be noted that there are about 10 parking spaces distributed throughout the school campus and which appear reserved for particular uses and as such are not counted as part of the available supply.

On-street parking exists along all streets abutting the school campus as such:

- Along 16th Street and 17th Street: mostly 2-hour parallel parking from 9AM to 2PM on school days. From 7AM to 9AM and from 2PM to 6PM parking is allowed for 15 minutes with the purpose of serving student drop-offs and pick-ups. A few spaces on 16th Street in the vicinity of Ocean Park Blvd allow for only 30-minute parking from 9AM to 2PM and a few spaces in the vicinity of Pearl St allows for 2-hour parking from 7AM to 4PM.
- Along Peal Street: about 120 metered parking spaces at 90-degree-angle. Most of the meters allow for 4-hour parking from 8 AM to 6 PM on weekdays with some meters close to the intersections having a 2-hour time limit. On typical weekdays these are used primarily by Santa Monica College (SMC) students.
- Along Ocean Blvd: 2-hr parallel parking from 9 AM to 6 PM

Parking Code Requirements

The City of Santa Monica Municipal Code (Section 9.28.060 Off-Street Parking) sets the requirements for off-street parking for various land uses.

Per code the parking required for John Adams Middle School is 2 spaces per classroom which translates to 86 parking spaces given that the number of classrooms is 43. This is less than the 102 spaces provided on campus.

The auditorium, if treated as a community assembly, has the parking requirement of 1 space for each 4 seats. As such the 750-seat auditorium would require 188 parking spaces per code. The following sections illustrate the parking requirements for different uses of the auditorium.

Typical Weekday Events Parking

As per the events schedule illustrated in Appendix A, typical weekday events are those events which occur as part of the school curriculum (rehearsals, class meetings, etc.) whereby the auditorium is used for curricular activities, and only students and/or faculty would be present.

Such events will not draw additional trips to the school and as such are not likely to have an impact on parking demand. Under this scenario the parking supply of 102 spaces is able to accommodate the demand of 86 spaces corresponding to the 43 classrooms.

Large Weekday Events Parking

This scenario assesses parking during relatively large (full-capacity) weekday events which would draw additional vehicular trips to the school and thereby require more parking than typical weekday events.

As per the schedule of events illustrated in Appendix A, there are various events that occur in the afternoon and evening hours and that command an attendance of about 750 people (full capacity). As all such events occur after school hours it is assumed that the school parking lots will be generally available for such events. However, it is assumed that on-street parking with be limited due to on-going classes in SMC. A conservative analysis assumes a full-capacity auditorium event with no on-street parking availability.

There are various options for travel to the school (auditorium) which include transit (buses), bike and bike share stations, car-share options (zipcar, uber, lyft, etc), and walking. It is however conservatively assumed that the parking spaces to be provided should be per code. As such 188 spaces should be available for full-capacity events.

With 102 spaces available for parking on-site, this leaves an unmet demand of additional 86 spaces. Historically, this demand for parking has been accommodated by the parking spaces provided by Santa Monica College (SMC), to avoid spilling into the neighborhood.

As such it is recommended that the District develops a Memorandum of Understanding with SMC to use available SMC parking for full-capacity weekday events. It is recommended that the number of spaces to be made available by SMC is about 100 parking spaces on typical weekdays (assuming an effective parking rate of 85%).

Typical Weekend Events (Sunday Church Services) Parking

Church services occurring every Sunday at 9:30 AM and 11:30 AM are considered typical weekend events. Both of these services are assumed to include 750 people (full capacity of the auditorium) and occur on non-school days.

While the two-hour offset between the two services allows for some attendees of the first service to leave the site before the second service attendees start arriving, there will likely be some overlap between both services. A conservative analysis assumes that the overlap will be in the order of 50% whereby half of attendees of the second service arrive when the first service attendees have not yet vacated their parking spaces.

Per code, the number of spaces needed for a full-capacity auditorium is 188 spaces. Assuming the conservative scenario overlap of about 50% means that the number of parking spaces required at the start of the second services is about 282 spaces (188 + 188 x 50%).

While there are 102 spaces that would be available on campus, there is still a demand for about 180 parking spaces. There are about 120 on-street parking spaces on Pearl Street that would mostly be available for use by the church on Sundays (during weekdays these are used mainly by SMC students) as well as about 60 parking spaces along the school side of 16th Street and 17th Street. Assuming only 120 on-street parking spaces are available on-street, leaves an unsatisfied parking demand of about 60 additional spaces. Historically, this demand for parking has been accommodated by the parking spaces provided by Santa Monica College (SMC), to avoid spilling into the neighborhood.

As such it is recommended that the District develops a Memorandum of Understanding with SMC to use SMC parking for Sunday church services. It is recommended that the number of spaces provided by SMC is about 70 parking spaces on typical Sundays (assuming an effective parking rate of 85%).

Mitigation Measures

As noted previously, the project is not expected to impact any study area intersections per the City of Santa Monica significance thresholds. It should be noted that the intersection of 16th Street and Ocean Park Blvd meets the signal warrants under existing conditions and if signalized the project will not have any significant impact on the intersection. Therefore, no traffic mitigation measures would be required.

To mitigate parking needs during full-capacity weekday and weekend events, it is recommended that the District develops a Memorandum of Understanding to share parking with Santa Monica College (SMC) whereby SMC provides about 100 spaces during weekday events and about 70 spaces for Sunday church services.

Attachments: Appendix A – Events Schedule
Appendix B – Traffic Counts
Appendix C – LOS Worksheets
Appendix D – Warrant Analysis and Signalization LOS Worksheets

APPENDIX A – EVENTS SCHEDULE

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2022 Event Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
KEY: Permits/Rentals; School events; SMC events			1 JANUARY	2	3	4
5 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	6 Faculty all-hands meeting 9:00am Attendance: 300	7	8	9	10	11 TV pilot filming 6:00am - 8:00pm Attendance: 115
12 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	13	14	15	16	17	18
19 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	20	21	22	23 Elemental strings rehearsal 3:30 - 10:30pm Attendance: 75	24 Elemental strings concert 3:30 - 10:30pm (7PM Curtain) Attendance: 500	25 WLA Music teachers conference 10:00am - 4:00pm Attendance: 250
26 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	27	28	29	30	31	1 FEBRUARY
2 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	3	4 SMC Lecture Series 9:30am - 1:00pm (11:30am curtain) Attendance: 400	5	6	7	8 CA Cinderella Pageant 9:00am - 3:00pm Noon Curtain Attendance: 300
9 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	10	11	12	13 Live Talks presents 5:00 - 10:00pm Attendance: 750	14	15
16 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	17	18	19	20	21	22 Fullscreen Live 8:00am - 2:00pm 12:30pm Curtain Attendance: 750
23 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	24	25	26	27	28	29
1 MARCH Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	2	3 Stairway of the Stars guest conductor 9:30am - 3:30pm Students/faculty Attendance: 400	4 Stairway of the Stars guest conductor 9:30am - 3:30pm Students/faculty Attendance: 400	5 Stairway of the Stars guest conductor 9:30am - 3:30pm Students/faculty Attendance: 400	6	7
8 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	9	10	11	12	13	14 SMC Latino/a Youth Conference 7:30 - 11:30am Attendance: 600 outdoor event
15 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	16	17 City of Santa Monica community meeting 5:00 - 8:00pm 6:00pm start time Attendance: 300	18	19	20 JAMS ASB Film Festival 3:30 - 11:00pm Students, faculty, parents Attendance: 400	21 JAMS ASB Film Festival 5:00 - 11:00pm Students, faculty, parents Attendance: 500
22 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	23	24	25	26	27	28
29 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	30	31 Live Talks presents 5:00 - 10:00pm Attendance: 750	1 APRIL	2 PTSA Fundraiser night 3:30 - 9:00pm 7:00pm curtain Attendance: 750 outdoor event	3	4 USA National Miss pageant 9:00am - 4:00pm 1:00pm curtain Attendance: 350
5 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	6	7	8	9	10	11 Fullscreen Live 8:00am - 2:00pm 12:30pm Curtain Attendance: 750
12 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	13	14 SMC Lecture Series 9:30am - 1:00pm (11:30am curtain) Attendance: 400	15	16 Open House night (outdoor event) 5:00 - 9:00pm Parents, students & families Attendance: 750	17	18
19 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	20 JAMS Spring Musical rehearsal 3:30 - 7:30pm Students/faculty Attendance: 55	21 JAMS Spring Musical rehearsal 3:30 - 7:30pm Students/faculty Attendance: 55	22 JAMS Spring Musical rehearsal 3:30 - 7:30pm Students/faculty Attendance: 55	23 JAMS Spring Musical rehearsal 3:30 - 7:30pm Students/faculty Attendance: 55	24 JAMS Spring Musical rehearsal 3:30 - 7:30pm Students/faculty Attendance: 55	25 City of Santa Monica climate festival 8:00am - 8:00pm Attendance: 1000 throughout the day outdoor event
26 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	27 JAMS Spring Musical rehearsal 3:30 - 7:30pm Students/faculty Attendance: 55	28 JAMS Spring Musical rehearsal 3:30 - 7:30pm Students/faculty Attendance: 55	29 JAMS Spring Musical rehearsal 3:30 - 7:30pm Students/faculty Attendance: 55	30 JAMS Spring Musical rehearsal 3:30 - 7:30pm Students/faculty Attendance: 55	1 MAY JAMS Spring Musical rehearsal 3:30 - 7:30pm Students/faculty Attendance: 55	2 Fancy Feet dance recials 7:00am - 7:00pm 3:00pm Curtain & 7:00pm curtain Attendance: 500 each show
3	4	5	6	7	8	9

2022 Event Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	JAMS Spring Musical rehearsal 3:30 - 7:30pm Students/faculty Attendance: 55	JAMS Spring Musical rehearsal 3:30 - 7:30pm Students/faculty Attendance: 55	JAMS Spring Musical rehearsal 3:30 - 7:30pm Students/faculty Attendance: 55	JAMS Spring Musical performance 3:30 - 10:00pm (7PM Curtain) Students, parents & families Attendance: 500	JAMS Spring Musical performance 3:30 - 10:00pm (7PM Curtain) Students, parents & families Attendance: 500	JAMS Spring Musical performance 11:00am - 10:00pm (2PM Curtain & 7PM Curtain) Students, parents & families Attendance matinee: 500 Attendance evening: 550
10 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	11 Orchestra rehearsal 3:30 - 7:30pm Students/faculty Attendance: 200	12 Orchestra concert 3:30 - 10:00pm (7PM Curtain) Students, parents & families Attendance: 600	13 Band rehearsal 3:30 - 7:30pm Students/faculty Attendance: 200	14 Band concert 3:30 - 10:00pm (7PM Curtain) Students, parents & families Attendance: 600	15 8 Count Dance rehearsals 3:30 - 11:00pm Attendance: 500	16 8 Count Dance rehearsals 8:00am - 8:00pm Attendance: 1000 over the day
17 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	18	19 Choir rehearsal 3:30 - 7:30pm Students/faculty Attendance: 200	20 Choir concert 3:30 - 10:00pm (7PM Curtain) Students, parents & families Attendance: 600	21 8 Count Dance rehearsals 3:30 - 11:00pm Attendance: 500	22 8 Count Dance rehearsals 3:30 - 11:00pm Attendance: 500	23 8 Count Dance recitals 7:00am - 10:00pm 12:00pm curtain 3:00pm curtain 6:30pm curtain Attendance: 750 each show
24 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	25	26 SMC Lecture Series 9:30am - 1:00pm (11:30am curtain) Attendance: 400	27	28	29	30 Westside Ballet rehearsal & performance 8:00am - 8:00pm 5:00PM Curtain Attendance: 750 each show
31 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	1 **JUNE**	2	3	4 Elemental strings rehearsal 3:30 - 10:30pm Attendance: 75	5 Elemental strings concert 3:30 - 10:30pm (7PM Curtain) Attendance: 650	6 SM School of Dance recitals 8:00am - 8:00pm 2:00pm Curtain & 5:00pm curtain Attendance: 600 each show
7 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	8	9 City of Santa Monica community meeting 5:00 - 8:00pm 6:00pm start time Attendance: 300	10	11	12 Mexican cultural celebration rehearsal 3:30 - 8:30pm Attendance: 40	13 Mexican cultural celebration performance 9:00am - 5:00pm (2PM Curtain) Attendance: 450
14 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	15	16	17	18	19	20 Fullscreen Live 8:00am - 2:00pm 12:30pm Curtain Attendance: 750
21 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	22	23	24	25	26	27 Theatre 31 performance 8:00am - 3:00pm 12:00pm curtain Attendance: 500
28 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	29 Filming: commercial 7:00am - 7:00pm Attendance: 30	30 Filming: commercial 7:00am - 7:00pm Attendance: 30	1 **JULY** Filming: commercial 7:00am - 7:00pm Attendance: 30	2	3	4 4th of July Pops Concert 12:00 - 5:00pm 2:00pm Curtain Attendance: 750 outdoor event
5 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	6	7	8	9	10	11
12 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	13	14	15	16 Live Talks presents 5:00 - 10:00pm Attendance: 750	17	18 Theatre 31 performance 8:00am - 3:00pm 12:00pm curtain Attendance: 500
19 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	20	21	22 Concept Art Workshop 9:00am - 6:00pm Attendance: 350	23 Concept Art Workshop 9:00am - 6:00pm Attendance: 350	24	25
26 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	27	28	29	30 Filming: Feature Film 7:00am - 10:00pm Attendance: 150	31 Filming: Feature Film 7:00am - 10:00pm Attendance: 150	1 **AUGUST**
2 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	3	4 Still photo shoot 7:00am - 7:00pm Attendance: 20	5	6	7	8 Fullscreen Live 8:00am - 2:00pm 12:30pm Curtain Attendance: 750
9 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	10	11	12	13	14	15 Theatre 31 performance 8:00am - 3:00pm 12:00pm curtain Attendance: 500
16 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	17	18	19	20	21	22
23 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	24 Filming: Feature Film 7:00am - 10:00pm Attendance: 150	25 Filming: Feature Film 7:00am - 10:00pm Attendance: 150	26 Filming: Feature Film 7:00am - 10:00pm Attendance: 150	27 Filming: Feature Film 7:00am - 10:00pm Attendance: 150	28 Filming: Feature Film 7:00am - 10:00pm Attendance: 150	29
30 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	31	1 **SEPTEMBER**	2	3 Still photo shoot 7:00am - 7:00pm Attendance: 20	4	5 Fullscreen Live 8:00am - 2:00pm 12:30pm Curtain Attendance: 750
6	7	8	9	10	11	12

2022 Event Calendar

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service			Back to School night 5:00 - 9:00pm Parents, students & families Attendance: 600 outdoor event			
13 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	14	15	16	17 Filming: TV show 7:00am - 10:00pm Attendance: 80	18 Filming: TV show 7:00am - 10:00pm Attendance: 80	19
20 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	21	22 City of Santa Monica community meeting 5:00 - 8:00pm 6:00pm start time Attendance: 300	23	24	25	26
27 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	28	29	30	1 OCTOBER PTSA Fundraiser night 3:30 - 9:00pm 7:00pm curtain Attendance: 750 outdoor event	2	3 Fullscreen Live 8:00am - 2:00pm 12:30pm Curtain Attendance: 750
4 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	5	6	7	8	9 Live Talks presents 5:00 - 10:00pm Attendance: 750	10
11 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	12	13	14	15 SMC Lecture Series 9:30am - 1:00pm (11:30am curtain) Attendance: 400	16	17
18 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	19	20	21 Concept Art Workshop 9:00am - 6:00pm Attendance: 350	22 Concept Art Workshop 9:00am - 6:00pm Attendance: 350	23	24
25 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	26	27	28	29	30	31
1 NOVEMBER Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	2	3	4	5	6	7 Fullscreen Live 8:00am - 2:00pm 12:30pm Curtain Attendance: 750
8 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	9	10 Still photo shoot 7:00am - 7:00pm Attendance: 20	11	12	13	14
15 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	16	17 City of Santa Monica community meeting 5:00 - 8:00pm 6:00pm start time Attendance: 300	18	19	20	21 Hope for Today seminar 12:00 - 5:00pm 3:00pm curtain Attendance: 400
22 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	23	24	25	26	27	28
29 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	30	1 DECEMBER Choir rehearsal 3:30 - 7:30pm Students/faculty Attendance: 200	2 Choir rehearsal 3:30 - 7:30pm Students/faculty Attendance: 200	3 Choir concert 3:30 - 10:00pm (7PM Curtain) Students, parents & families Attendance: 600	4 CODA orchestra festival rehearsal 7:00am - 8:00pm Attendance: 250 students/teachers	5 CODA orchestra festival performance 7:00am - 3:00pm (1:00pm Curtain) Attendance: 250 students/teachers; 500 parents
6 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	7 Orchestra rehearsal 3:30 - 7:30pm Students/faculty Attendance: 200	8 Orchestra rehearsal 3:30 - 7:30pm Students/faculty Attendance: 200	9 Orchestra concert 3:30 - 10:00pm (7PM Curtain) Students, parents & families Attendance: 600	10 Band rehearsal 3:30 - 7:30pm Students/faculty Attendance: 200	11 Band concert 3:30 - 10:00pm (7PM Curtain) Students, parents & families Attendance: 600	12 Still photo shoot 7:00am - 7:00pm Attendance: 20
13 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	14	15	16	17	18	19
20 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	21	22	23	24 Mosaic Church Christmas Eve 3:00pm - 11:00pm 7:00pm service Attendance: 750	25 Mosaic Church Christmas Day 7:00am - 2:00pm 11:00am service Attendance: 400	26
27 Mosaic Church 6:00am - 2:00pm 9:30am service & 11:30am service Attendance: 750 each service	28	29	30	31		

2013 Events Schedule
Provided for Comparison

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
KEY: Permits/Rentals; School events; SMC events		1 JANUARY Pacific Crossroads Church new years service 8:00am - Noon Attendance: 350	2	3	4	5
6 Pacific Crossroads Church 5:00am - 1:00pm (9am service & 11am service) Attendance: 600 each service	7	8	9	10	11	12
13 Pacific Crossroads Church 5:00am - 1:00pm (9am service & 11am service) Attendance: 600 each service	14	15	16	17	18	19
20 Pacific Crossroads Church 5:00am - 1:00pm (9am service & 11am service) Attendance: 600 each service	21	22	23	24	25	26
27 Pacific Crossroads Church 5:00am - 1:00pm (9am service & 11am service) Attendance: 600 each service	28	29	30	31	1 FEBRUARY	2
3 Pacific Crossroads Church 5:00am - 1:00pm (9am service & 11am service) Attendance: 600 each service	4	5	6	7	8	9
10 Pacific Crossroads Church 5:00am - 1:00pm (9am service & 11am service) Attendance: 600 each service	11	12	13	14 Heart celebration 5:00 - 8:30pm (6:30PM Curtain) Attendance: 100	15 Zumba event 6:00 - 9:00pm Attendance: 150	16
17 Pacific Crossroads Church 5:00am - 1:00pm (9am service & 11am service) Attendance: 600 each service	18	19	20	21 Elemental strings rehearsal 3:30 - 10:30pm Attendance: 75	22 Elemental strings concert 3:30 - 10:30pm (7PM Curtain) Attendance: 400	23 WLA Music teachers conference 10:00am - 4:00pm Attendance: 250
24 Pacific Crossroads Church 5:00am - 1:00pm (9am service & 11am service) Attendance: 600 each service	25	26	27	28	1 MARCH	2 Polish events "Red Guitar" event 4:00 - 9:30pm (7PM Curtain) Attendance: 300
3 Pacific Crossroads Church 5:00am - 1:00pm (9am service & 11am service) Attendance: 600 each service	4	5	6	7	8	9
10 Pacific Crossroads Church 5:00am - 1:00pm (9am service & 11am service) Attendance: 600 each service	11	12	13	14	15	16 SMC Latino/a Youth Conference 7:30 - 11:30am Attendance: 600
17 Pacific Crossroads Church 5:00am - 1:00pm (9am service & 11am service) Attendance: 600 each service	18	19	20	21	22	23
24 Pacific Crossroads Church 5:00am - 1:00pm (9am service & 11am service) Attendance: 600 each service	25	26	27	28	29	30
31 Pacific Crossroads Church 5:00am - 1:00pm (9am service & 11am service) Attendance: 600 each service	1 APRIL	2	3	4	5	6
7 Pacific Crossroads Church 5:00am - 1:00pm (9am service & 11am service) Attendance: 600 each service	8	9	10	11 Open House night (outdoor event) 5:00 - 9:00pm Parents, students & families Attendance: 600	12	13
14 Pacific Crossroads Church 5:00am - 1:00pm (9am service & 11am service) Attendance: 600 each service	15	16	17	18	19	20
21 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	22	23	24	25	26	27
28 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	29 SEUSSICAL rehearsal 3:30 - 7:30pm Students/faculty Attendance: 45	30 SEUSSICAL rehearsal 3:30 - 7:30pm Students/faculty Attendance: 45	1 MAY SEUSSICAL rehearsal 3:30 - 7:30pm Students/faculty Attendance: 45	2 SEUSSICAL rehearsal 3:30 - 7:30pm Students/faculty Attendance: 45	3 SEUSSICAL rehearsal 3:30 - 7:30pm Students/faculty Attendance: 45	4
5	6	7	8	9	10	11

2013 Events Schedule
Provided for Comparison

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	SEUSSICAL rehearsal 3:30 - 7:30pm Students/faculty Attendance: 45	SEUSSICAL rehearsal 3:30 - 7:30pm Students/faculty Attendance: 45	SEUSSICAL rehearsal 3:30 - 7:30pm Students/faculty Attendance: 45	SEUSSICAL performance 3:30 - 10:00pm (7PM Curtain) Students, parents & families Attendance: 500	SEUSSICAL performance 3:30 - 10:00pm (7PM Curtain) Students, parents & families Attendance: 600	SEUSSICAL performance 11:00am - 10:00pm (2PM Curtain & 7PM Curtain) Students, parents & families Attendance matinee: 500 Attendance evening: 550
12 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	13	14	15 Orchestra rehearsal 3:30 - 7:30pm Students/faculty Attendance: 200	16 Orchestra concert 3:30 - 10:00pm (7PM Curtain) Students, parents & families Attendance: 600	17 8 Count Dance rehearsals 3:30 - 11:00pm Attendance: 500	18 8 Count Dance rehearsals 8:00am - 8:00pm Attendance: 1000 over the day
19 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	20	21 Band rehearsal 3:30 - 7:30pm Students/faculty Attendance: 200	22 Band concert 3:30 - 10:00pm (7PM Curtain) Students, parents & families Attendance: 600	23 Choir rehearsal 3:30 - 7:30pm Students/faculty Attendance: 200	24 Choir concert 3:30 - 10:00pm (7PM Curtain) Students, parents & families Attendance: 600	25 8 Count Dance recitals 7:00am - 10:00pm 12:00pm curtain 3:00pm curtain 6:30pm curtain Attendance: 600 each show
26 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	27	28	29	30	31 SoCal Ballet rehearsals 3:30 - 11:00pm Attendance: 150	1 JUNE SoCal Ballet recitals 8:00am - 10:00pm 2PM Curtain & 6:30PM Curtain Attendance: 500 each show
2 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	3	4	5	6 Elemental strings rehearsal 3:30 - 10:30pm Attendance: 75	7 Elemental strings concert 3:30 - 10:30pm (7PM Curtain) Attendance: 450	8 Westside Ballet rehearsal & performance 8:00am - 8:00pm 5:00PM Curtain Attendance: 500
9 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	10	11	12	13	14 Mexican cultural celebration rehearsal 3:30 - 8:30pm Attendance: 40	15 Mexican cultural celebration performance 9:00am - 5:00pm (2PM Curtain) Attendance: 250
16 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	17	18	19	20	21	22
23 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	24	25	26	27	28	29
30 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	1 JULY	2 Filming: Adidas commercial 6:00am - 8:00pm Attendance: 55	3 Filming: Adidas commercial 6:00am - 8:00pm Attendance: 55	4 Filming: Adidas commercial 6:00am - 8:00pm Attendance: 55	5	6
7 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	8	9	10	11	12	13
14 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	15	16	17	18	19	20
21 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	22	23	24	25	26	27
28 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	29	30	31	1 AUGUST Filming: Feature Film 7:00am - 10:00pm Attendance: 150	2 Filming: Feature Film 7:00am - 10:00pm Attendance: 150	3
4 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	5	6	7	8	9	10
11 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	12	13	14	15	16	17
18 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	19	20	21	22	23	24
25 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	26	27	28	29	30	31
1 SEPTEMBER LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	2	3 Back to School night 5:00 - 9:00pm Parents, students & families Attendance: 600	4	5	6	7
8	9	10	11	12	13	14

2013 Events Schedule
Provided for Comparison

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500						
15 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	16	17	18	19 Live Talks presents 5:00 - 10:00pm Attendance: 600	20	21
22 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	23	24	25	26	27	28
29 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	30	1 OCTOBER	2	3	4	5 Lighthouse church 7:00am - 1:30pm 10:30am service Attendance: 300
6 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	7	8	9	10	11	12 Lighthouse church 7:00am - 1:30pm 10:30am service Attendance: 300
13 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	14	15	16	17	18	19 Lighthouse church 7:00am - 1:30pm 10:30am service Attendance: 300
20 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	21	22	23	24	25	26 Lighthouse church 7:00am - 1:30pm 10:30am service Attendance: 300
27 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	28	29	30	31	1 NOVEMBER	2 Lighthouse church 7:00am - 1:30pm 10:30am service Attendance: 300
3 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	4	5	6	7	8	9 Lighthouse church 7:00am - 1:30pm 10:30am service Attendance: 300
10 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	11	12	13	14	15	16 Lighthouse church 7:00am - 1:30pm 10:30am service Attendance: 300
17 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	18	19	20	21	22	23 Lighthouse church 7:00am - 1:30pm 10:30am service Attendance: 300
24 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	25	26	27	28	29	30 Lighthouse church 7:00am - 1:30pm 10:30am service Attendance: 300
1 DECEMBER LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	2	3	4 Choir rehearsal 3:30 - 7:30pm Students/faculty Attendance: 200	5 Choir concert 3:30 - 10:00pm (7PM Curtain) Students, parents & families Attendance: 600	6	7 Lighthouse church 7:00am - 1:30pm 10:30am service Attendance: 300
8 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	9 Orchestra rehearsal 3:30 - 7:30pm Students/faculty Attendance: 200	10 Orchestra concert 3:30 - 10:00pm (7PM Curtain) Students, parents & families Attendance: 600	11	12 Band rehearsal 3:30 - 7:30pm Students/faculty Attendance: 200	13 Band concert 3:30 - 10:00pm (7PM Curtain) Students, parents & families Attendance: 600	14 Lighthouse church 7:00am - 1:30pm 10:30am service Attendance: 300
15 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	16	17	18	19	20	21 Lighthouse church 7:00am - 1:30pm 10:30am service Attendance: 300
22 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	23	24 LA Church of Christ Christmas Eve service 5:00 - 10:00pm (7pm service) Attendance: 550	25 LA Church of Christ Christmas Day service 7:00am - 1:00pm (10:30am service) Attendance: 350	26	27	28 Lighthouse church 7:00am - 1:30pm 10:30am service Attendance: 300
29 LA Church of Christ 7:00am - 1:00pm 10:30am service Attendance: 500	30	31				

APPENDIX B – TRAFFIC COUNTS

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INTERSECTION TURNING MOVEMENT COUNTS

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

T517

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1437
Tue, Sep 12, 17	NORTH & SOUTH:	16th	LOCATION #:	1
TUESDAY	EAST & WEST:	Pearl	CONTROL:	STOP ALL

NOTES:

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

Add U-Turns to Left Turns

Add Bike Left Turns to Left Turns

		NORTHBOUND 16th			SOUTHBOUND 16th			EASTBOUND Pearl			WESTBOUND Pearl			
	LANES:	NL 0	NT 2	NR 0	SL 0	ST 1	SR 0	EL 0	ET 2	ER 0	WL 0	WT 2	WR 0	TOTAL
AM	7:30 AM	5	54	15	19	20	6	8	18	7	5	23	67	247
	7:45 AM	8	59	15	18	20	10	8	38	9	10	41	70	306
	8:00 AM	19	51	17	21	38	9	12	41	25	10	40	56	339
	8:15 AM	12	44	18	14	26	11	10	35	16	7	34	39	266
	8:30 AM	7	35	9	5	6	5	9	16	1	5	30	30	158
	8:45 AM	6	30	6	11	7	2	4	20	2	5	15	23	131
	9:00 AM	5	26	5	17	11	7	2	14	1	6	21	53	168
	9:15 AM	2	31	10	18	24	2	7	16	4	8	22	68	212
	VOLUMES	64	330	95	123	152	52	60	198	65	56	226	406	1,827
	APPROACH %	13%	67%	19%	38%	46%	16%	19%	61%	20%	8%	33%	59%	
	APP/DEPART	489	/	795	327	/	272	323	/	416	688	/	344	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	44	208	65	72	104	36	38	132	57	32	138	232	1,158
	APPROACH %	14%	66%	21%	34%	49%	17%	17%	58%	25%	8%	34%	58%	
	PEAK HR FACTOR		0.911			0.779			0.728			0.831		0.854
	APP/DEPART	317	/	477	212	/	192	227	/	270	402	/	219	0
PM	5:00 PM	6	36	12	16	46	7	4	33	11	14	31	38	254
	5:15 PM	1	24	11	28	55	5	2	28	10	13	25	18	220
	5:30 PM	3	22	8	22	33	3	1	19	5	9	17	28	170
	5:45 PM	1	18	7	24	49	9	4	21	2	12	25	25	197
	6:00 PM	0	14	10	24	21	12	4	21	3	16	30	34	189
	6:15 PM	3	22	9	19	35	4	2	20	2	8	27	40	191
	6:30 PM	2	29	9	27	32	10	3	16	1	12	19	49	209
	6:45 PM	1	24	9	16	35	8	4	15	4	11	21	35	183
	VOLUMES	17	189	75	176	306	58	24	173	38	95	195	267	1,613
	APPROACH %	6%	67%	27%	33%	57%	11%	10%	74%	16%	17%	35%	48%	
	APP/DEPART	281	/	482	540	/	437	235	/	424	557	/	270	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	11	100	38	90	183	24	11	101	28	48	98	109	841
	APPROACH %	7%	67%	26%	30%	62%	8%	8%	72%	20%	19%	38%	43%	
	PEAK HR FACTOR		0.690			0.844			0.729			0.768		0.828
	APP/DEPART	149	/	221	297	/	258	140	/	229	255	/	133	0

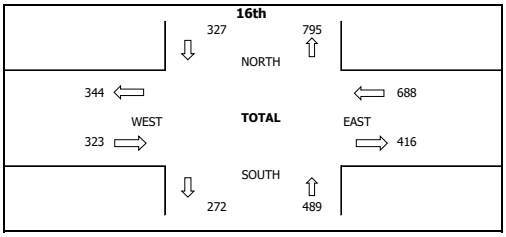
VEHICLE U-TURNS

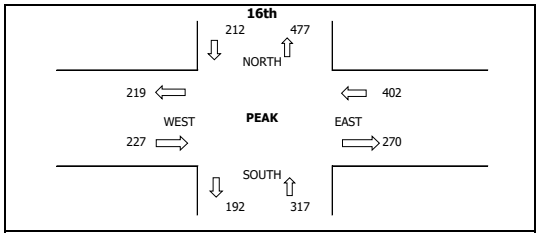
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	1	0	1
0	1	2	1	4
0	0	0	0	0
0	0	0	0	0
0	1	0	1	1
0	0	0	1	1
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	2	0	2	4

BIKE LEFT TURNS

NL 0	SL 0	EL 0	WL 0	TTL
0	0	1	0	1
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	1	0	0	1
0	1	0	0	1
0	0	0	0	0
0	2	0	0	2
0	5	1	0	6
0	0	1	0	1
0	0	0	0	0
0	0	1	0	1
0	0	0	1	1
0	3	0	0	3
0	1	0	2	3
0	0	1	0	1
0	1	0	1	2
0	0	0	0	0
0	5	2	4	11

AM





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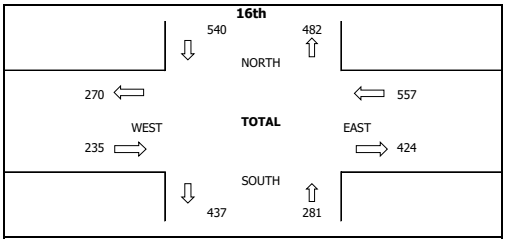
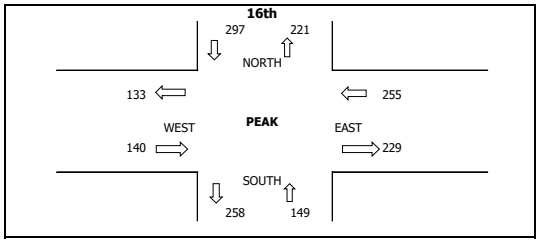




PEDESTRIAN & BIKE STUDY

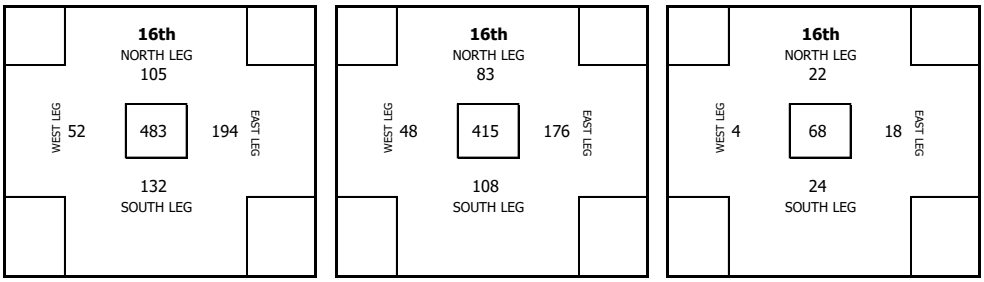
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1437
9/12/17	NORTH/SOUTH:	16th	LOCATION #:	1
TUESDAY	EAST/WEST:	Pearl	CONTROL:	STOP ALL

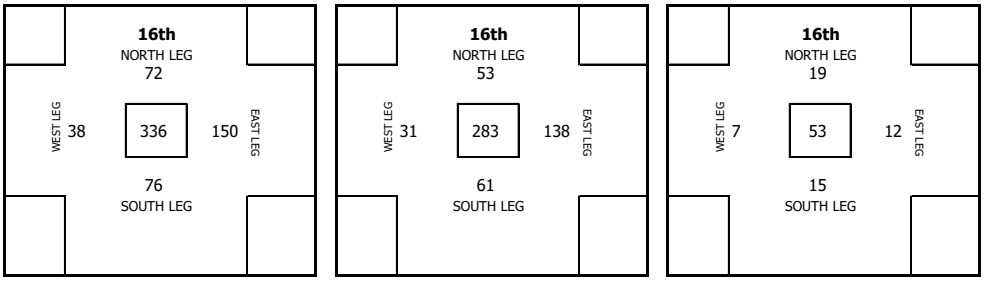
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

	START TIME PERIOD	HOUR TOTAL	PEDESTRIAN + BIKE CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	PEDESTRIAN CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	BICYCLE CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
AM	7:30 AM	286	12	10	18	4	44	11	6	16	3	36	1	4	2	1	8
	7:45 AM	242	22	29	38	9	98	14	25	36	9	84	8	4	2	0	14
	8:00 AM	144	8	21	38	15	82	4	20	33	15	72	4	1	5	0	10
	8:15 AM	62	9	23	19	11	62	7	22	17	10	56	2	1	2	1	6
	8:30 AM	197	7	8	8	6	29	6	6	7	5	24	1	2	1	1	5
	8:45 AM	168	12	10	8	3	33	9	5	5	3	22	3	5	3	0	11
	9:00 AM	135	8	7	21	0	36	6	5	20	0	31	2	2	1	0	5
	9:15 AM	99	27	24	44	4	99	26	19	42	3	90	1	5	2	1	9
	TOTAL		105	132	194	52	483	83	108	176	48	415	22	24	18	4	68
PM	5:00 PM	164	10	11	23	3	47	7	8	20	3	38	3	3	3	0	9
	5:15 PM	117	11	11	24	4	50	7	9	19	3	38	4	2	5	1	12
	5:30 PM	67	7	4	14	4	29	5	3	13	2	23	2	1	1	2	6
	5:45 PM	38	8	11	13	6	38	5	10	12	3	30	3	1	1	3	8
	6:00 PM	172	8	11	19	6	44	5	8	19	6	38	3	3	0	0	6
	6:15 PM	128	7	10	25	5	47	7	10	24	5	46	0	0	1	0	1
	6:30 PM	81	12	9	21	6	48	11	6	20	5	42	1	3	1	1	6
	6:45 PM	33	9	9	11	4	33	6	7	11	4	28	3	2	0	0	5
	TOTAL		72	76	150	38	336	53	61	138	31	283	19	15	12	7	53

AM

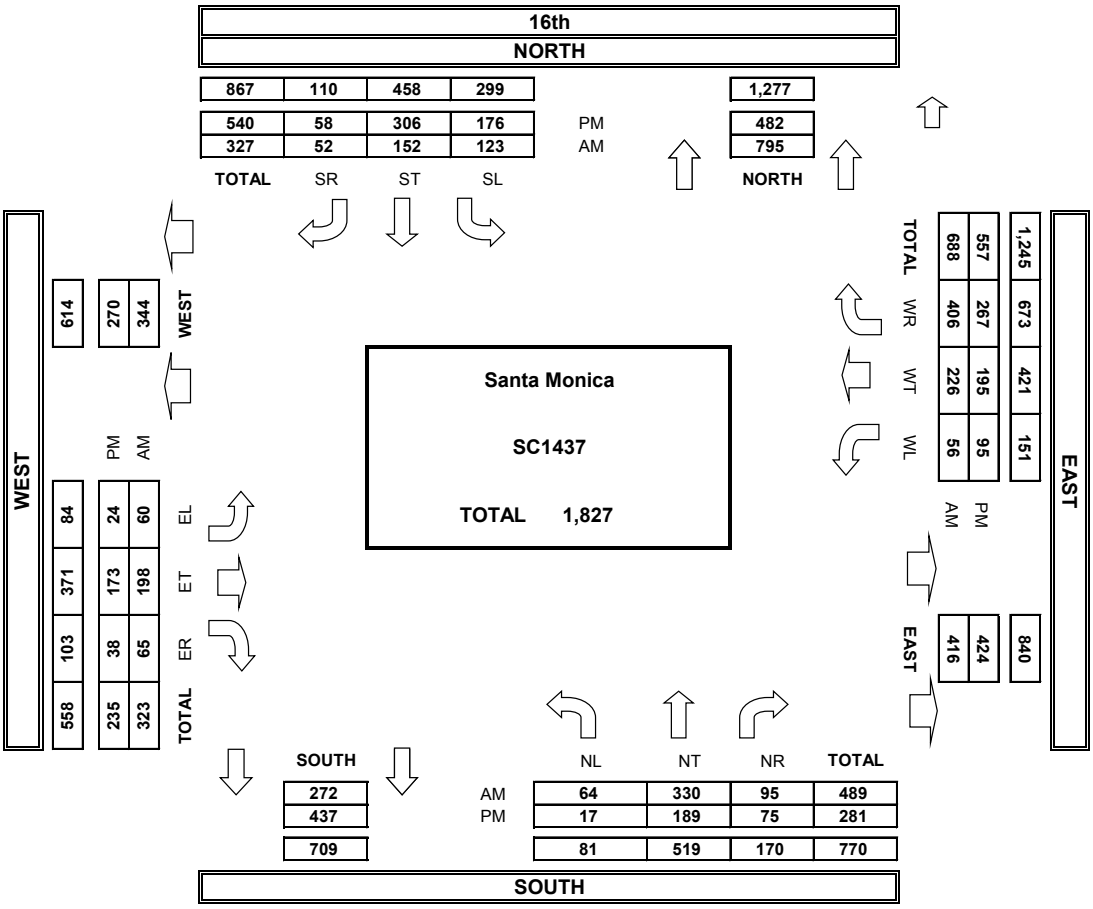


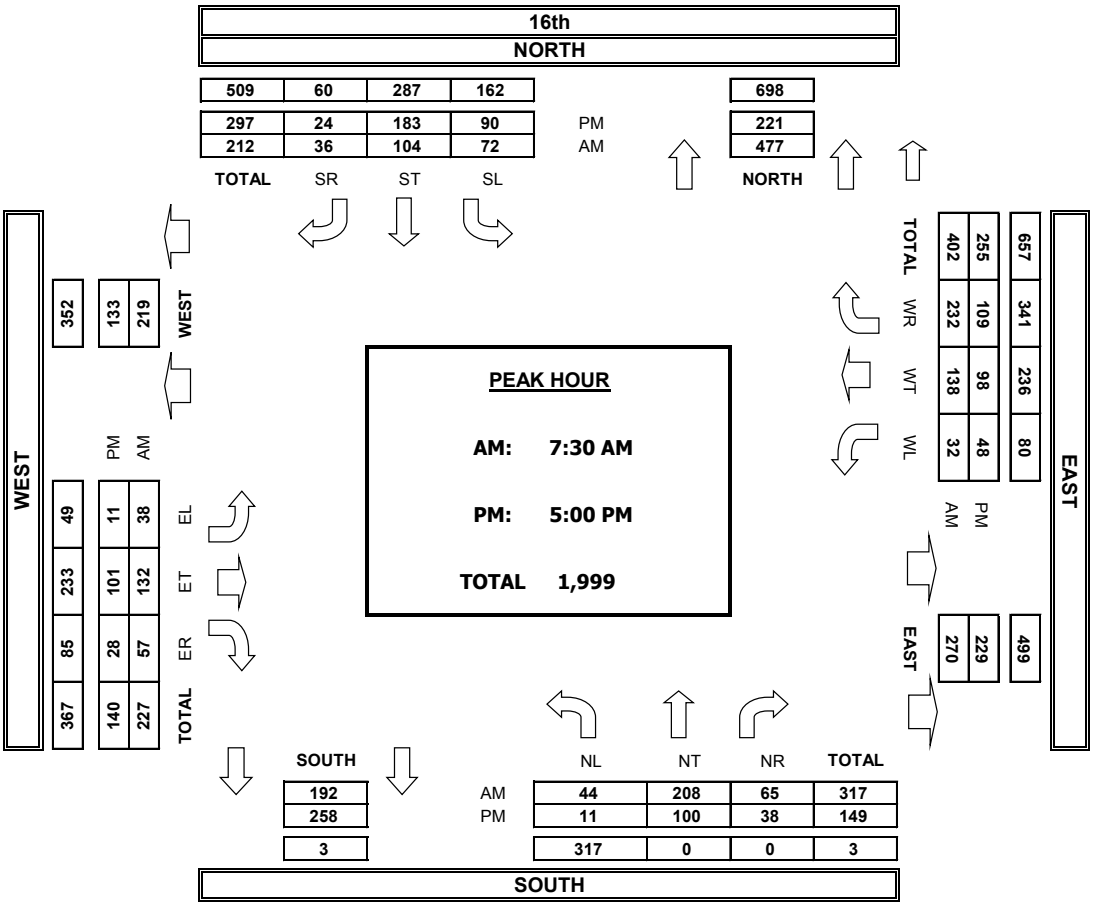
PM



PEAK HOURS																	
7:30 AM	AM	51	83	113	39	286	36	73	102	37	248	15	10	11	2	38
5:00 PM	PM	36	37	74	17	164	24	30	64	11	129	12	7	10	6	35

AimTD LLC
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T517

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

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1437
Tue, Sep 12, 17	NORTH & SOUTH:	17th	LOCATION #:	2
TUESDAY	EAST & WEST:	Pearl	CONTROL:	STOP ALL

NOTES:

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

Add U-Turns to Left Turns

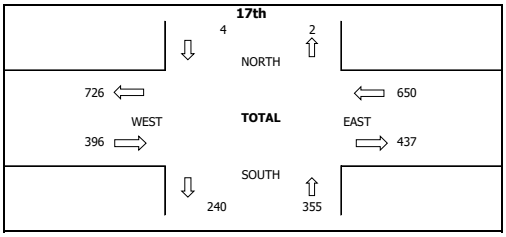
Add Bike Left Turns to Left Turns

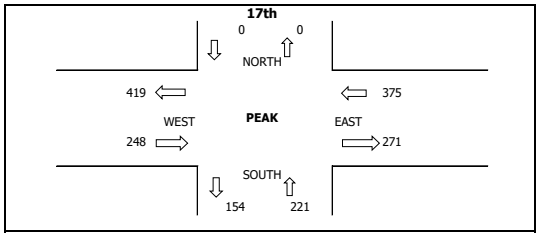
		NORTHBOUND 17th			SOUTHBOUND 17th			EASTBOUND Pearl			WESTBOUND Pearl			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 2	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	7:30 AM	28	0	17	0	0	0	0	21	18	14	90	0	188
	7:45 AM	32	0	30	0	0	0	0	43	19	12	87	0	223
	8:00 AM	28	0	34	0	0	0	0	43	28	19	81	0	233
	8:15 AM	19	0	33	0	0	0	0	50	26	15	57	0	200
	8:30 AM	18	0	20	0	0	0	0	20	14	7	51	0	130
	8:45 AM	6	0	12	2	0	1	1	24	7	6	38	1	98
	9:00 AM	21	0	21	1	0	0	1	26	10	9	69	1	159
	9:15 AM	20	0	16	0	0	0	0	24	21	12	81	0	174
	VOLUMES	172	0	183	3	0	1	2	251	143	94	554	2	1,405
	APPROACH %	48%	0%	52%	75%	0%	25%	1%	63%	36%	14%	85%	0%	
	APP/DEPART	355	/	2	4	/	240	396	/	437	650	/	726	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	107	0	114	0	0	0	0	157	91	60	315	0	844
	APPROACH %	48%	0%	52%	0%	0%	0%	0%	63%	37%	16%	84%	0%	
	PEAK HR FACTOR		0.891			0.000			0.816			0.901		0.906
	APP/DEPART	221	/	0	0	/	154	248	/	271	375	/	419	0
PM	5:00 PM	13	0	15	1	0	0	0	48	21	16	70	1	185
	5:15 PM	12	0	10	1	0	2	0	45	24	18	53	0	165
	5:30 PM	7	0	16	0	0	0	0	38	19	13	51	0	144
	5:45 PM	11	0	9	0	0	0	1	32	14	17	52	1	137
	6:00 PM	16	0	10	1	0	0	1	34	18	17	67	0	164
	6:15 PM	11	0	15	0	0	0	2	26	15	13	65	0	147
	6:30 PM	12	0	15	0	0	0	1	36	22	29	62	0	177
	6:45 PM	13	0	11	0	0	0	0	27	16	13	55	0	135
	VOLUMES	95	0	101	3	0	2	5	286	149	136	475	2	1,254
	APPROACH %	48%	0%	52%	60%	0%	40%	1%	65%	34%	22%	77%	0%	
	APP/DEPART	196	/	2	5	/	283	440	/	392	613	/	577	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	43	0	50	2	0	2	1	163	78	64	226	2	631
	APPROACH %	46%	0%	54%	50%	0%	50%	0%	67%	32%	22%	77%	1%	
	PEAK HR FACTOR		0.830			0.333			0.877			0.839		0.853
	APP/DEPART	93	/	2	4	/	140	242	/	217	292	/	272	0

VEHICLE U-TURNS					
	NB 0	SB 0	EB 0	WB 0	TTL
	3	0	0	0	3
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	1	0	1
	0	0	1	0	1
	0	0	0	0	0
	3	0	2	0	5
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	1	0	1
	0	0	1	0	1
	0	0	2	0	2
	0	0	1	0	1
	0	0	0	0	0
	0	0	5	2	7

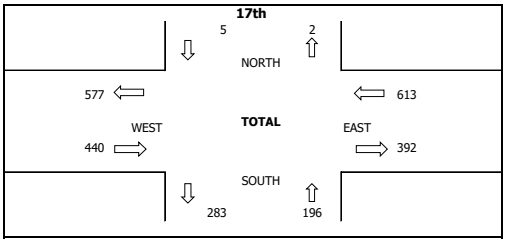
BIKE LEFT TURNS					
	NL 0	SL 0	EL 0	WL 0	TTL
	2	0	0	0	2
	1	0	0	2	3
	4	0	0	5	9
	0	0	0	3	3
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	7	0	0	10	17
	1	0	0	1	2
	0	0	0	1	1
	0	0	0	1	1
	0	0	0	0	0
	0	0	0	1	1
	0	0	0	1	1
	0	0	0	1	1
	6	0	0	0	6
	7	0	0	7	14

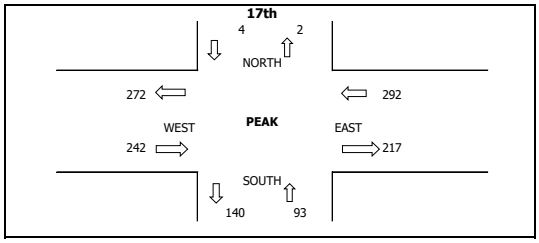
AM





PM





PEDESTRIAN & BIKE STUDY

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

DATE: 9/12/17 TUESDAY

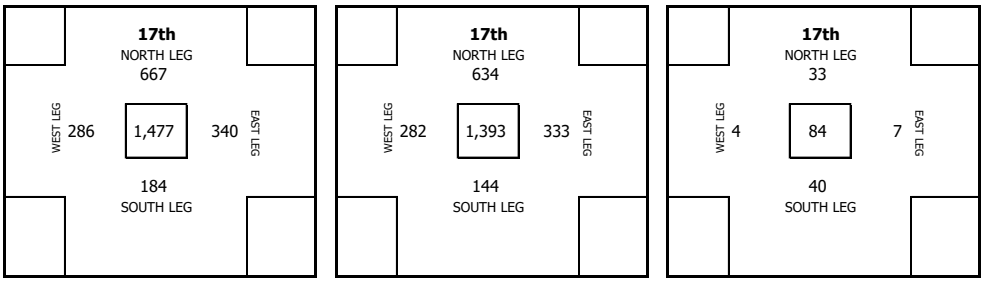
LOCATION: Santa Monica
NORTH/SOUTH: 17th
EAST/WEST: Pearl

PROJECT #: SC1437
LOCATION #: 2
CONTROL: STOP ALL

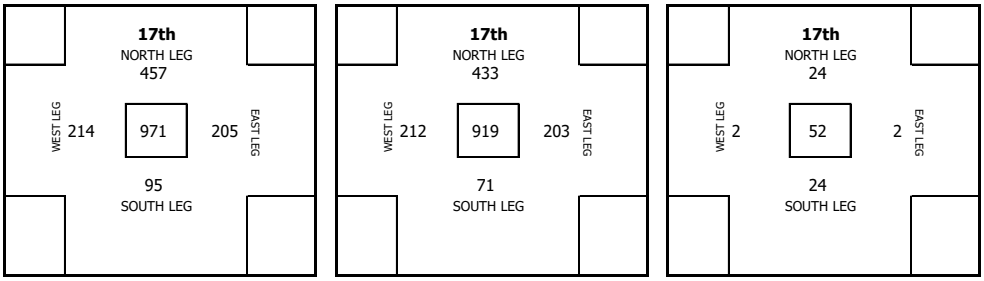
AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

	START TIME PERIOD	HOUR TOTAL	PEDESTRIAN + BIKE CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	PEDESTRIAN CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	BICYCLE CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
AM	7:30 AM	763	75	9	40	36	160	71	9	40	36	156	4	0	0	0	4
	7:45 AM	603	132	24	60	30	246	122	15	59	29	225	10	9	1	1	21
	8:00 AM	357	64	87	37	53	241	60	76	34	52	222	4	11	3	1	19
	8:15 AM	116	37	18	50	11	116	33	15	48	11	107	4	3	2	0	9
	8:30 AM	714	19	8	17	17	61	18	6	17	17	58	1	2	0	0	3
	8:45 AM	653	16	12	19	19	66	14	7	19	19	59	2	5	0	0	7
	9:00 AM	587	61	6	51	33	151	58	4	51	32	145	3	2	0	1	6
	9:15 AM	436	263	20	66	87	436	258	12	65	86	421	5	8	1	1	15
	TOTAL		667	184	340	286	1,477	634	144	333	282	1,393	33	40	7	4	84
PM	5:00 PM	507	84	12	24	46	166	82	8	23	46	159	2	4	1	0	7
	5:15 PM	341	50	12	39	22	123	49	11	39	22	121	1	1	0	0	2
	5:30 PM	218	36	9	34	28	107	33	5	34	28	100	3	4	0	0	7
	5:45 PM	111	51	9	23	28	111	47	7	23	28	105	4	2	0	0	6
	6:00 PM	464	60	16	24	17	117	52	12	24	17	105	8	4	0	0	12
	6:15 PM	347	52	13	13	22	100	52	11	12	22	97	0	2	1	0	3
	6:30 PM	247	95	10	32	31	168	91	6	32	30	159	4	4	0	1	9
	6:45 PM	79	29	14	16	20	79	27	11	16	19	73	2	3	0	1	6
	TOTAL		457	95	205	214	971	433	71	203	212	919	24	24	2	2	52

AM



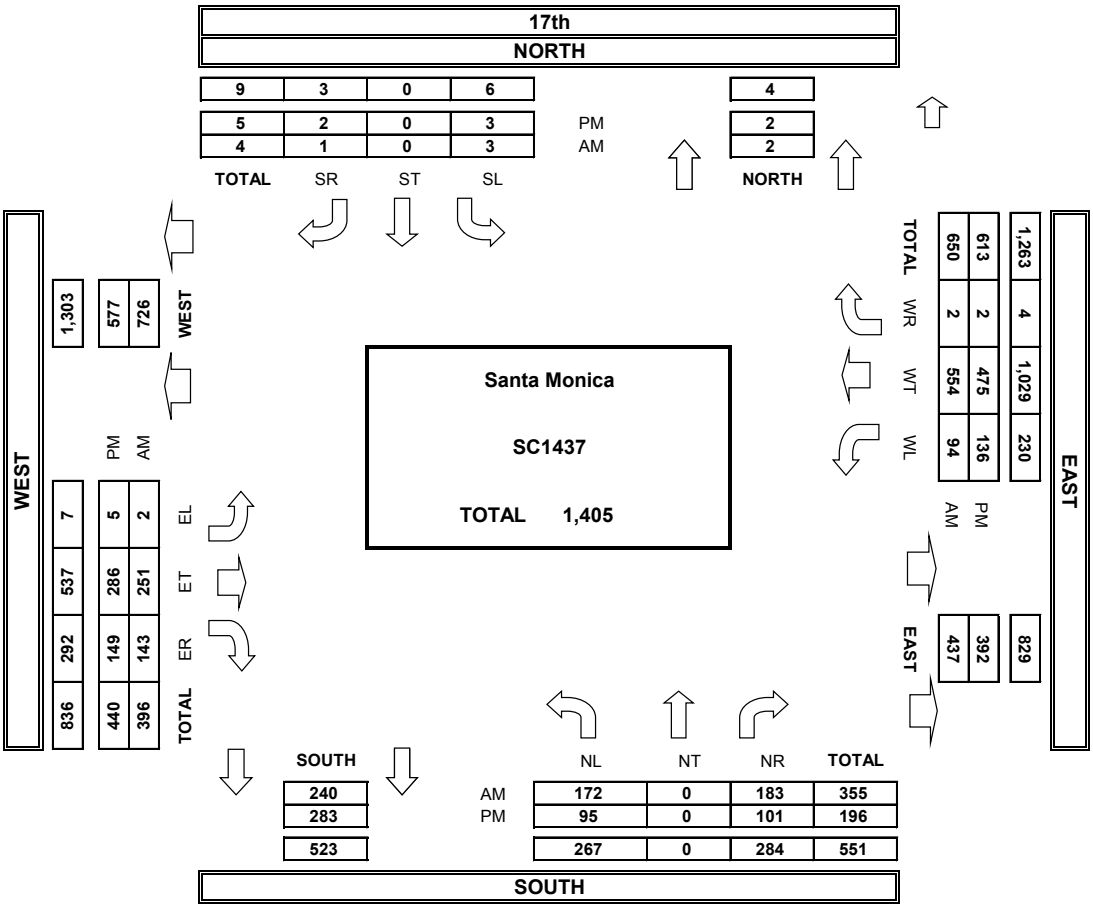
PM

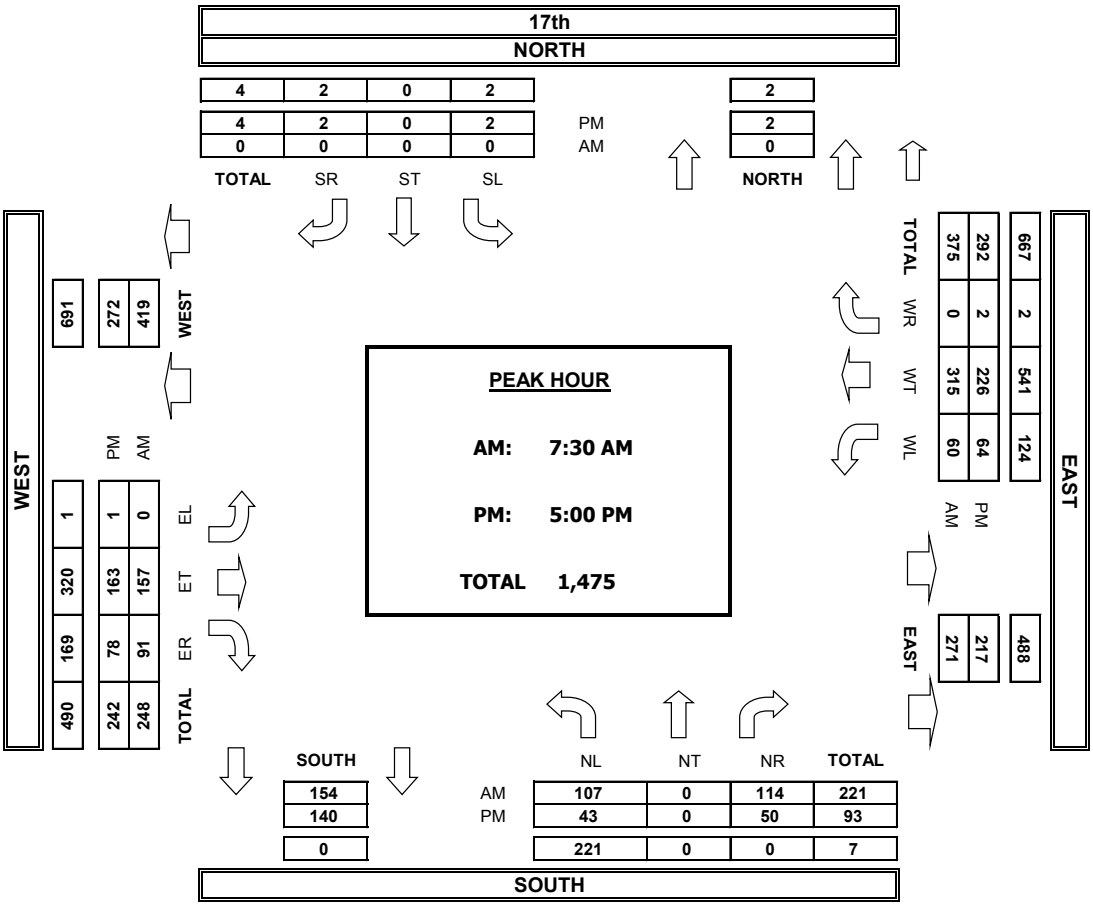


PEAK HOURS																	
7:30 AM	AM	308	138	187	130	763	286	115	181	128	710	22	23	6	2	53
5:00 PM	PM	221	42	120	124	507	211	31	119	124	485	10	11	1	0	22

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T517

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

DATE: Tue, Sep 12, 17 TUESDAY	LOCATION:	Santa Monica	PROJECT #: SC1437
	NORTH & SOUTH:	16th	LOCATION #: 3
	EAST & WEST:	Pico	CONTROL: SIGNAL

NOTES:

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

Add U-Turns to Left Turns

Add Bike Left Turns to Left Turns

		NORTHBOUND 16th			SOUTHBOUND 16th			EASTBOUND Pico			WESTBOUND Pico			
	LANES:	NL 1	NT X	NR 1	SL X	ST X	SR X	EL X	ET 2	ER 0	WL 1	WT 2	WR X	TOTAL
AM	7:30 AM	18	0	114	0	0	0	0	170	13	35	74	0	424
	7:45 AM	28	0	131	0	0	0	0	186	17	37	82	0	481
	8:00 AM	22	0	102	0	0	0	0	205	24	45	150	0	548
	8:15 AM	23	0	87	0	0	0	0	236	11	31	155	0	543
	8:30 AM	15	0	62	0	0	0	0	179	1	19	139	0	415
	8:45 AM	11	0	58	0	0	0	0	177	3	20	143	0	412
	9:00 AM	14	0	77	0	0	0	0	147	6	28	138	0	410
	9:15 AM	19	0	113	0	0	0	0	145	12	31	138	0	458
	VOLUMES	150	0	744	0	0	0	0	1,445	87	246	1,019	0	3,697
	APPROACH %	17%	0%	83%	0%	0%	0%	0%	94%	6%	19%	80%	0%	
	APP/DEPART	894	/	0	0	/	333	1,537	/	2,190	1,266	/	1,174	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	91	0	434	0	0	0	0	797	65	148	461	0	2,000
	APPROACH %	17%	0%	83%	0%	0%	0%	0%	92%	8%	24%	76%	0%	
	PEAK HR FACTOR		0.825			0.000			0.872			0.778		0.907
	APP/DEPART	525	/	0	0	/	213	865	/	1,232	610	/	555	0
PM	5:00 PM	38	0	78	0	0	0	0	160	15	42	166	0	499
	5:15 PM	19	0	58	0	0	0	0	163	23	67	176	0	506
	5:30 PM	21	0	51	0	0	0	0	166	13	50	187	0	488
	5:45 PM	21	0	46	0	0	0	0	155	13	56	189	0	480
	6:00 PM	24	0	55	0	0	0	0	141	13	43	184	0	460
	6:15 PM	19	0	67	0	0	0	0	164	16	45	158	0	469
	6:30 PM	29	0	76	0	0	0	0	151	14	54	195	0	519
	6:45 PM	33	0	77	0	0	0	0	150	14	45	176	0	495
	VOLUMES	204	0	508	0	0	0	0	1,250	121	402	1,431	0	3,919
	APPROACH %	29%	0%	71%	0%	0%	0%	0%	91%	9%	22%	78%	0%	
	APP/DEPART	712	/	0	0	/	523	1,374	/	1,758	1,833	/	1,638	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	99	0	233	0	0	0	0	644	64	215	718	0	1,975
	APPROACH %	30%	0%	70%	0%	0%	0%	0%	91%	9%	23%	77%	0%	
	PEAK HR FACTOR		0.716			0.000			0.954			0.952		0.976
	APP/DEPART	332	/	0	0	/	279	710	/	877	933	/	819	0

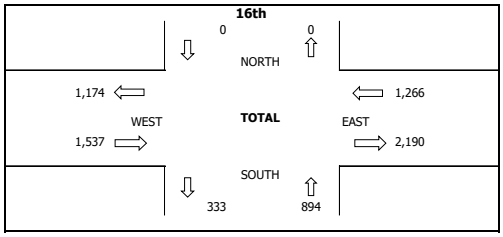
VEHICLE U-TURNS

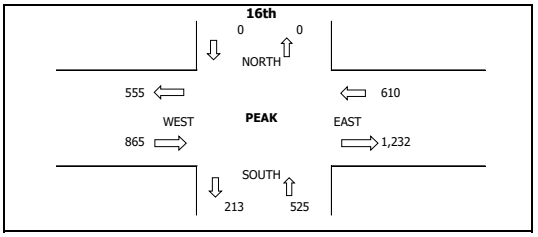
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	2	1	3
0	0	1	0	1
0	0	1	0	1
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	5	1	6
0	0	1	0	1
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	3	0	3

BIKE LEFT TURNS

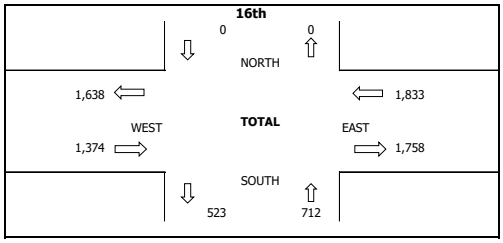
NL	SL	EL	WL	TTL
2	0	0	0	2
0	0	0	0	0
2	0	0	0	2
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	0	0
2	0	0	0	2
6	0	0	2	8
2	0	0	0	2
0	0	0	0	0
0	0	0	5	5
0	0	0	1	1
0	0	0	0	0
1	0	0	0	1
2	0	0	0	2
5	0	0	6	11

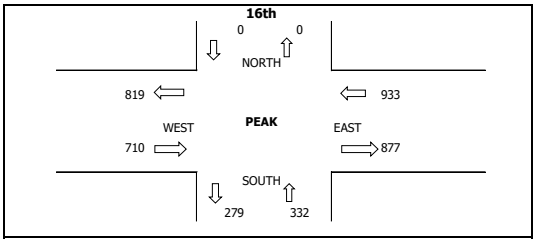
AM





PM





PEDESTRIAN & BIKE STUDY

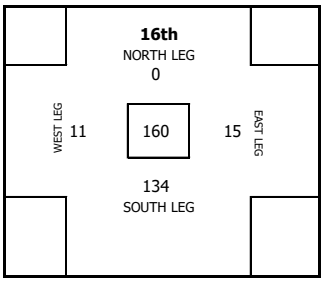
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

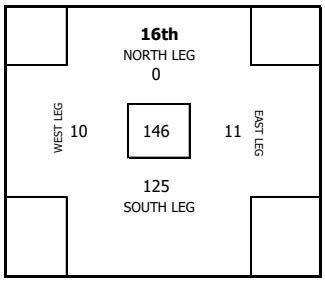
DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1437
9/12/17	NORTH/SOUTH:	16th	LOCATION #:	3
TUESDAY	EAST/WEST:	Pico	CONTROL:	SIGNAL

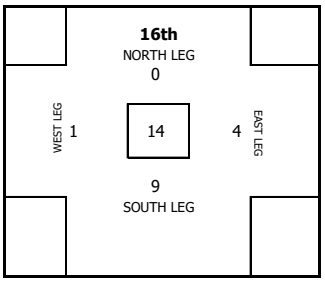
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

	START TIME PERIOD	HOUR TOTAL	PEDESTRIAN + BIKE CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	PEDESTRIAN CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	BICYCLE CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
AM	7:30 AM	84	0	16	0	5	21	0	14	0	5	19	0	2	0	0	2
	7:45 AM	63	0	19	4	2	25	0	17	3	2	22	0	2	1	0	3
	8:00 AM	38	0	22	3	0	25	0	22	2	0	24	0	0	1	0	1
	8:15 AM	13	0	10	1	2	13	0	8	1	1	10	0	2	0	1	3
	8:30 AM	76	0	10	3	1	14	0	10	3	1	14	0	0	0	0	0
	8:45 AM	62	0	7	1	0	8	0	5	1	0	6	0	2	0	0	2
	9:00 AM	54	0	21	1	0	22	0	21	0	0	21	0	0	1	0	1
	9:15 AM	32	0	29	2	1	32	0	28	1	1	30	0	1	1	0	2
	TOTAL		0	134	15	11	160	0	125	11	10	146	0	9	4	1	14
PM	5:00 PM	113	0	31	4	2	37	0	30	3	2	35	0	1	1	0	2
	5:15 PM	76	0	32	1	2	35	0	29	1	2	32	0	3	0	0	3
	5:30 PM	41	0	20	1	3	24	0	16	1	2	19	0	4	0	1	5
	5:45 PM	17	0	14	3	0	17	0	13	3	0	16	0	1	0	0	1
	6:00 PM	103	0	9	2	2	13	0	8	2	2	12	0	1	0	0	1
	6:15 PM	90	0	24	2	1	27	0	23	2	1	26	0	1	0	0	1
	6:30 PM	63	0	32	3	3	38	0	31	3	2	36	0	1	0	1	2
	6:45 PM	25	0	21	0	4	25	0	19	0	4	23	0	2	0	0	2
	TOTAL		0	183	16	17	216	0	169	15	15	199	0	14	1	2	17

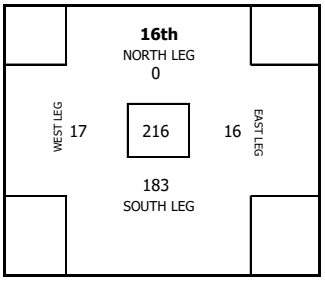
AM

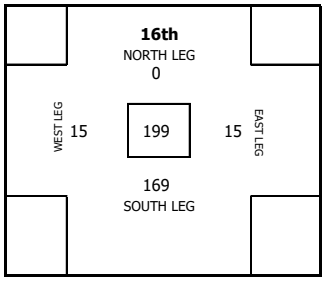


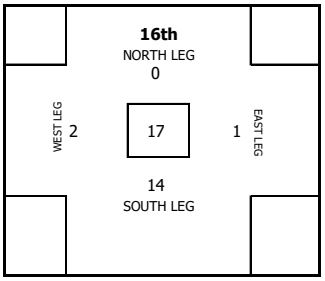




PM

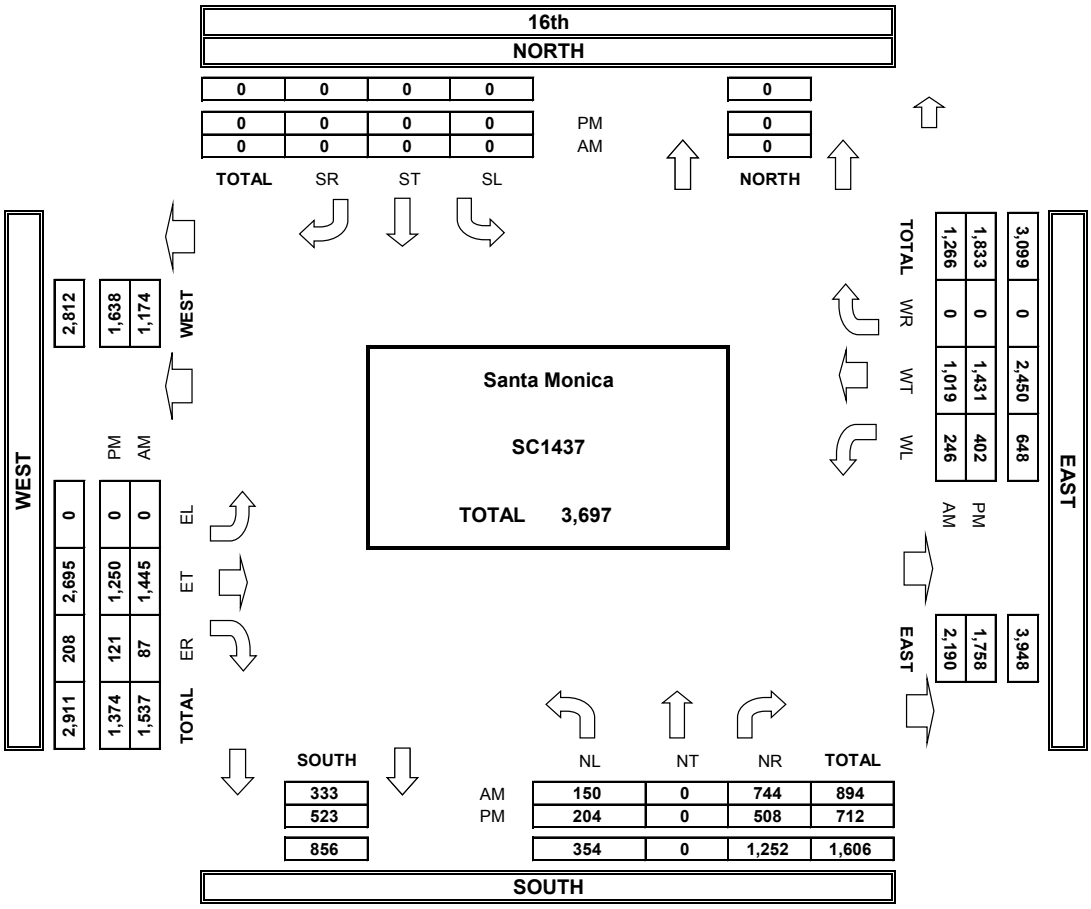


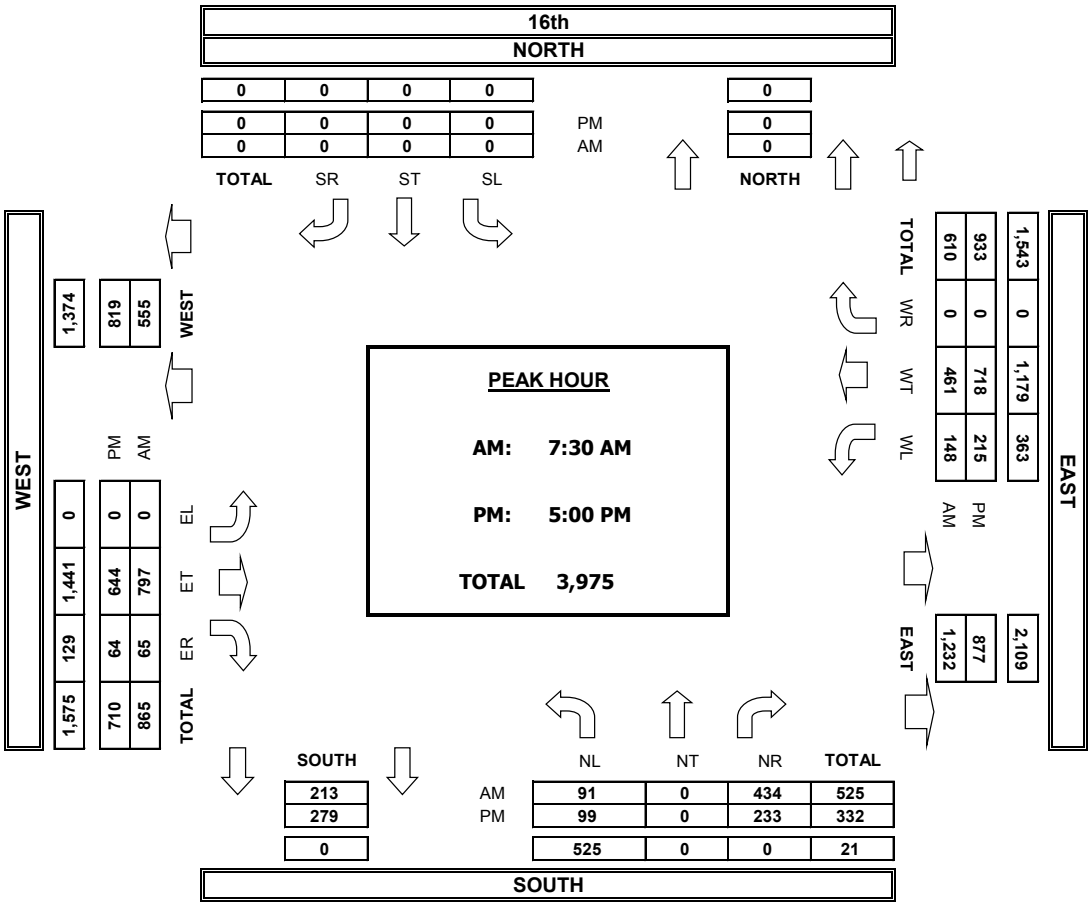




PEAK HOURS		PEDESTRIAN + BIKE CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	PEDESTRIAN CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	BICYCLE CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
7:30 AM	AM	0	67	8	9	84	0	61	6	8	75	0	6	2	1	9
5:00 PM	PM	0	97	9	7	113	0	88	8	6	102	0	9	1	1	11

AimTD LLC
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T517

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

DATE: Tue, Sep 12, 17 TUESDAY	LOCATION:	Santa Monica	PROJECT #: SC1437
	NORTH & SOUTH:	17th	LOCATION #: 4
	EAST & WEST:	Pico	CONTROL: SIGNAL

NOTES:

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

Add U-Turns to Left Turns

Add Bike Left Turns to Left Turns

		NORTHBOUND 17th			SOUTHBOUND 17th			EASTBOUND Pico			WESTBOUND Pico			
	LANES:	NL 0.5	NT 0.5	NR 1	SL 1	ST 0.5	SR 0.5	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	7:30 AM	3	2	3	18	80	20	21	145	53	112	88	17	562
	7:45 AM	0	0	4	16	72	24	31	181	47	109	93	15	592
	8:00 AM	2	1	5	19	36	36	38	210	38	106	160	21	672
	8:15 AM	1	0	5	16	21	30	51	228	20	75	156	29	632
	8:30 AM	1	0	2	14	13	21	34	182	27	57	142	30	523
	8:45 AM	2	2	3	18	8	22	38	175	17	64	134	31	514
	9:00 AM	8	2	11	22	15	25	22	181	37	63	136	46	568
	9:15 AM	14	8	35	24	22	29	29	205	26	64	130	35	621
	VOLUMES	31	15	68	147	267	207	264	1,507	265	650	1,039	224	4,684
	APPROACH %	27%	13%	60%	24%	43%	33%	13%	74%	13%	34%	54%	12%	
	APP/DEPART	114	/	504	621	/	1,178	2,036	/	1,726	1,913	/	1,276	0
	BEGIN PEAK HR		7:30 AM											
	VOLUMES	6	3	17	69	209	110	141	764	158	402	497	82	2,458
	APPROACH %	23%	12%	65%	18%	54%	28%	13%	72%	15%	41%	51%	8%	
	PEAK HR FACTOR		0.813			0.822			0.889			0.855		0.914
	APP/DEPART	26	/	226	388	/	769	1,063	/	850	981	/	613	0
PM	5:00 PM	15	16	50	32	11	36	23	194	10	48	161	16	612
	5:15 PM	25	10	51	31	12	59	47	194	10	28	162	18	647
	5:30 PM	5	3	20	34	15	56	37	174	12	35	172	23	586
	5:45 PM	9	8	26	24	16	61	22	166	10	55	181	27	605
	6:00 PM	12	6	33	28	11	39	26	176	13	43	177	18	582
	6:15 PM	8	6	27	19	25	34	18	170	24	75	164	10	580
	6:30 PM	9	11	51	38	21	51	24	191	13	81	190	19	699
	6:45 PM	13	11	52	34	29	37	34	222	13	52	169	17	683
	VOLUMES	96	71	310	240	140	373	231	1,487	105	417	1,376	148	4,994
	APPROACH %	20%	15%	65%	32%	19%	50%	13%	82%	6%	21%	71%	8%	
	APP/DEPART	477	/	450	753	/	658	1,823	/	2,041	1,941	/	1,845	0
	BEGIN PEAK HR		6:00 PM											
	VOLUMES	42	34	163	119	86	161	102	759	63	251	700	64	2,544
	APPROACH %	18%	14%	68%	33%	23%	44%	11%	82%	7%	25%	69%	6%	
	PEAK HR FACTOR		0.786			0.832			0.859			0.875		0.910
	APP/DEPART	239	/	200	366	/	399	924	/	1,042	1,015	/	903	0

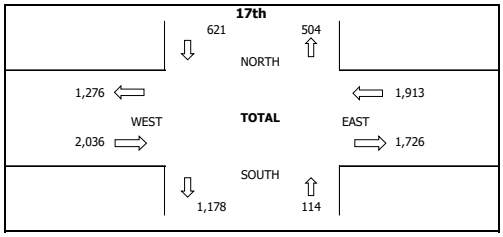
VEHICLE U-TURNS

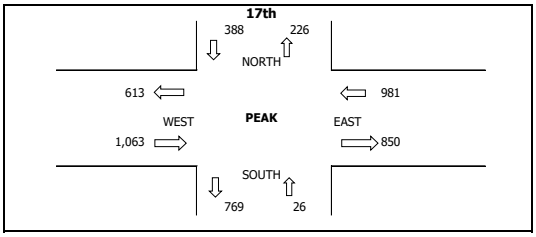
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	2	2
1	0	0	2	3
0	1	0	1	2
1	1	0	5	7
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	4	4

BIKE LEFT TURNS

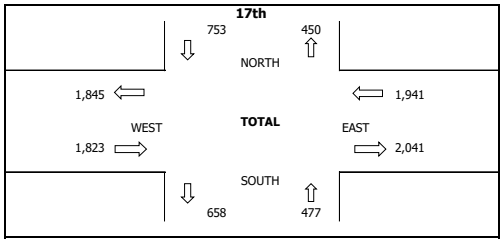
NL	SL	EL	WL	TTL
0	3	0	0	3
0	0	0	0	0
0	1	0	0	1
0	0	1	0	1
0	0	0	0	0
0	1	2	0	3
0	0	1	0	1
0	0	0	0	0
0	5	4	0	9
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	3	0	0	3
0	2	0	0	2
0	0	0	0	0
0	0	0	0	0
0	6	2	0	8

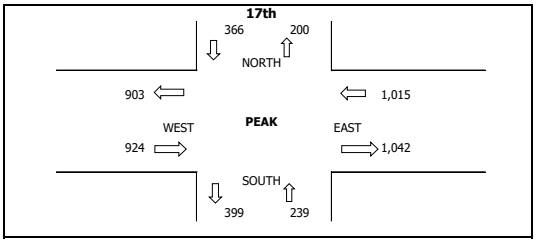
AM





PM





PEDESTRIAN & BIKE STUDY

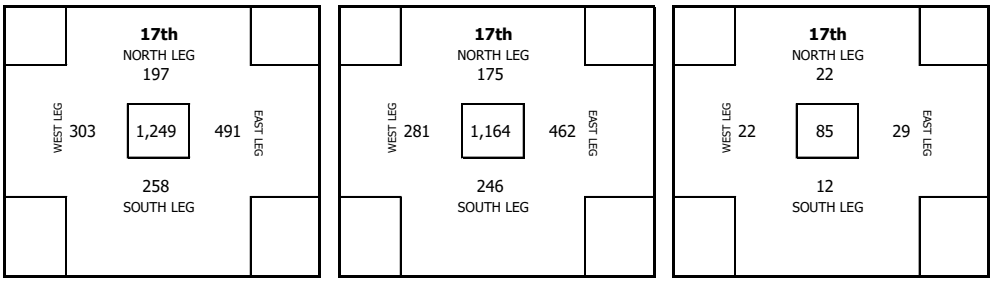
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1437
9/12/17	NORTH/SOUTH:	17th	LOCATION #:	4
TUESDAY	EAST/WEST:	Pico	CONTROL:	SIGNAL

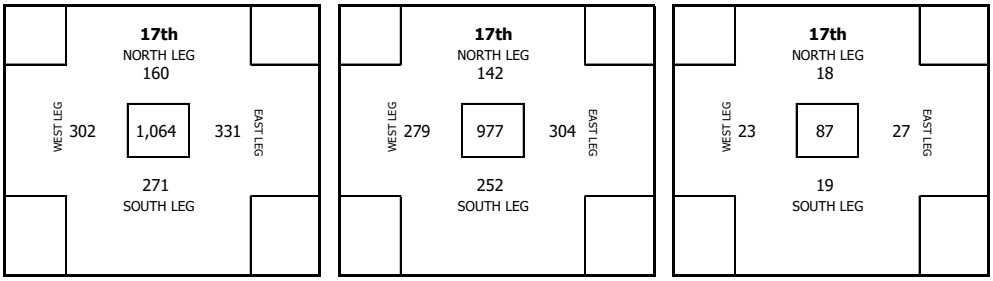
AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

	START TIME PERIOD	HOUR TOTAL	PEDESTRIAN + BIKE CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	PEDESTRIAN CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	BICYCLE CROSSINGS N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
AM	7:30 AM	635	19	30	47	41	137	16	30	47	38	131	3	0	0	3	6
	7:45 AM	498	46	41	115	71	273	43	38	111	66	258	3	3	4	5	15
	8:00 AM	225	18	25	56	31	130	12	22	52	27	113	6	3	4	4	17
	8:15 AM	95	11	23	32	29	95	10	19	30	27	86	1	4	2	2	9
	8:30 AM	614	11	11	19	11	52	8	11	17	11	47	3	0	2	0	5
	8:45 AM	562	14	51	37	30	132	13	50	34	29	126	1	1	3	1	6
	9:00 AM	430	32	19	68	24	143	31	18	64	22	135	1	1	4	2	8
	9:15 AM	287	46	58	117	66	287	42	58	107	61	268	4	0	10	5	19
	TOTAL		197	258	491	303	1,249	175	246	462	281	1,164	22	12	29	22	85
PM	5:00 PM	603	22	53	87	82	244	22	51	83	78	234	0	2	4	4	10
	5:15 PM	359	21	40	33	38	132	17	37	31	34	119	4	3	2	4	13
	5:30 PM	227	16	33	24	32	105	13	30	21	29	93	3	3	3	3	12
	5:45 PM	122	28	26	36	32	122	24	24	34	27	109	4	2	2	5	13
	6:00 PM	461	19	27	51	20	117	19	26	48	18	111	0	1	3	2	6
	6:15 PM	344	16	27	21	25	89	13	25	17	24	79	3	2	4	1	10
	6:30 PM	255	24	38	48	34	144	21	37	45	32	135	3	1	3	2	9
	6:45 PM	111	14	27	31	39	111	13	22	25	37	97	1	5	6	2	14
	TOTAL		160	271	331	302	1,064	142	252	304	279	977	18	19	27	23	87

AM



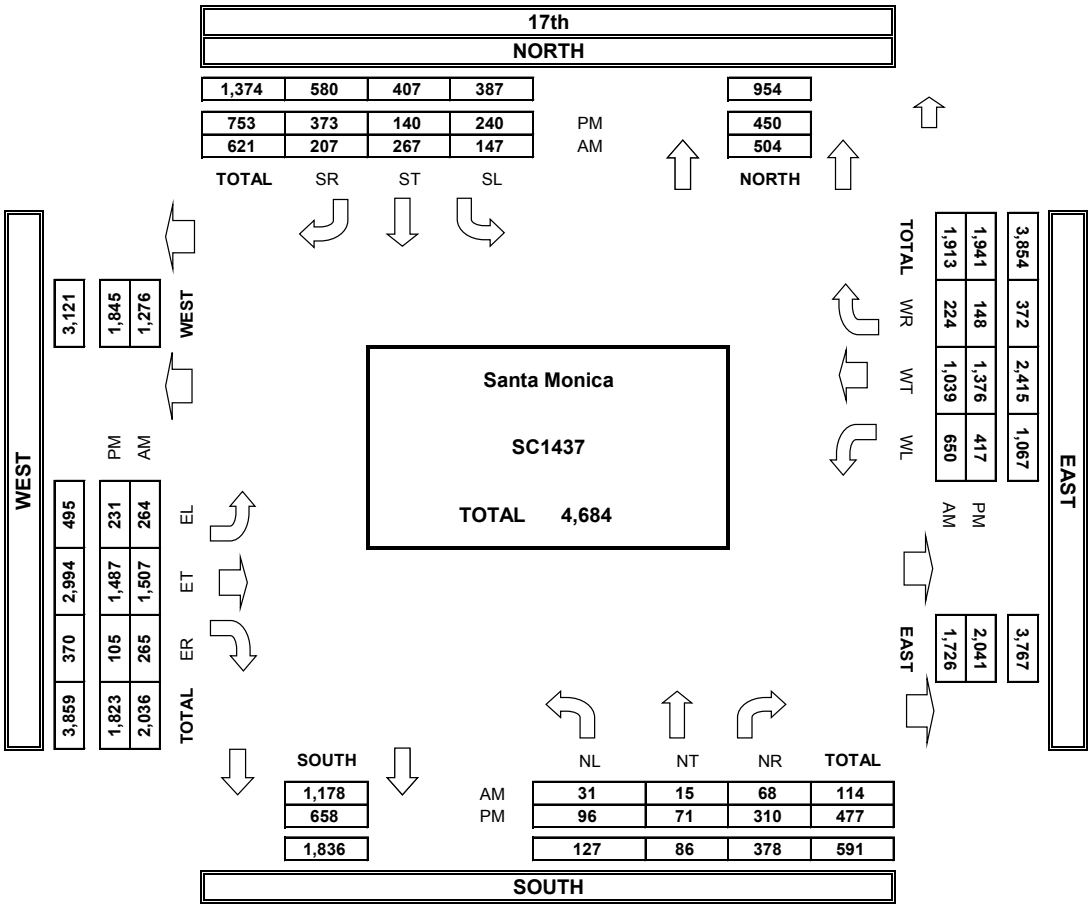
PM

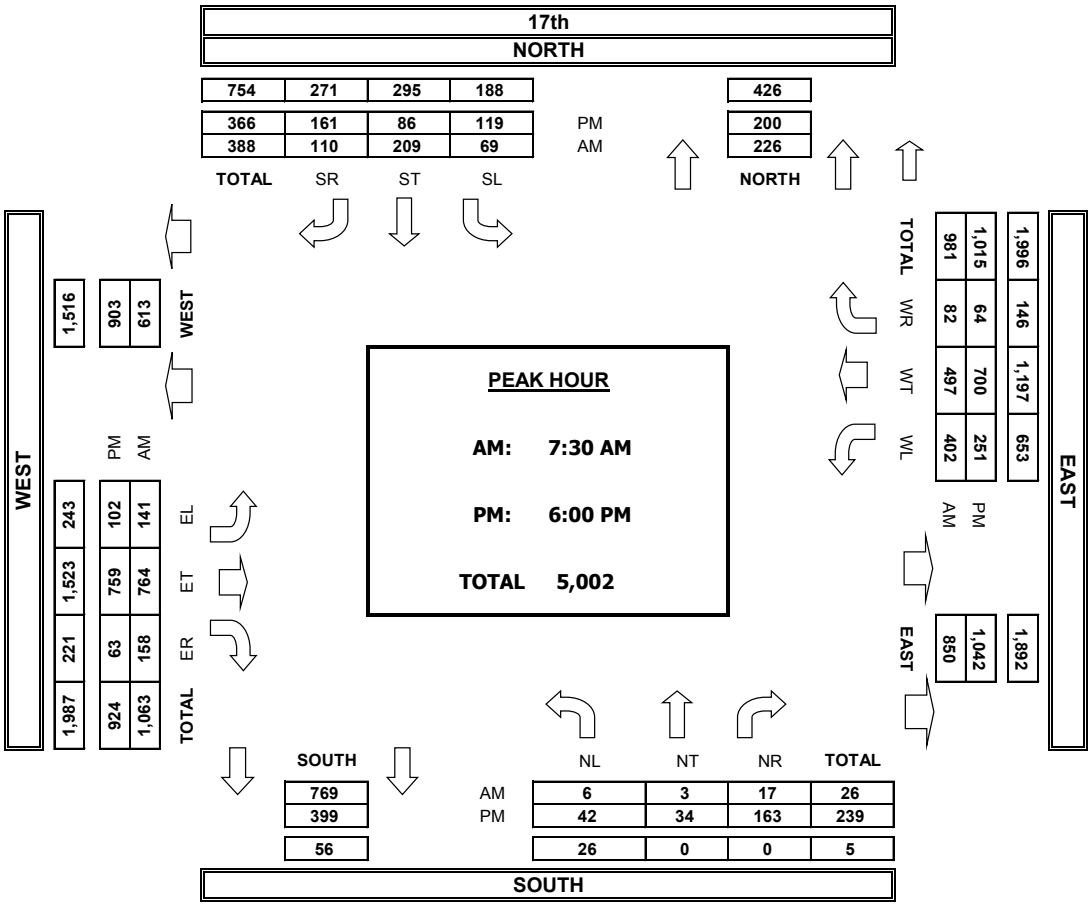


PEAK HOURS																	
7:30 AM	AM	94	119	250	172	635	81	109	240	158	588	13	10	10	14	47
6:00 PM	PM	73	119	151	118	461	66	110	135	111	422	7	9	16	7	39

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

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

T517

DATE: Wed, Jan 17, 18 WEDNESDAY	LOCATION:	Santa Monica	PROJECT #: SC1578
	NORTH & SOUTH:	16th	LOCATION #: 2
	EAST & WEST:	Ocean Park	CONTROL: STOP N/S

NOTES:

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

Add U-Turns to Left Turns

Add Bike Left Turns to Left Turns

		NORTHBOUND 16th			SOUTHBOUND 16th			EASTBOUND Ocean Park			WESTBOUND Ocean Park			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 1	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL
AM	7:30 AM	3	4	5	6	1	8	13	113	0	6	87	43	289
	7:45 AM	2	8	9	7	3	11	23	132	6	3	113	60	377
	8:00 AM	2	11	5	5	3	28	31	152	2	4	132	60	435
	8:15 AM	4	5	11	8	5	19	16	147	6	9	154	20	404
	8:30 AM	6	15	8	3	2	5	8	158	6	3	141	15	370
	8:45 AM	4	22	9	6	0	5	13	143	3	2	151	22	380
	9:00 AM	2	12	11	1	2	6	5	161	5	8	165	18	396
	9:15 AM	1	13	8	3	1	6	12	148	6	4	172	12	386
	VOLUMES	24	90	66	39	17	88	121	1,154	34	39	1,115	250	3,037
	APPROACH %	13%	50%	37%	27%	12%	61%	9%	88%	3%	3%	79%	18%	
	APP/DEPART	180	/	460	144	/	90	1,309	/	1,259	1,404	/	1,228	0
	BEGIN PEAK HR		8:00 AM											
	VOLUMES	16	53	33	22	10	57	68	600	17	18	578	117	1,589
	APPROACH %	16%	52%	32%	25%	11%	64%	10%	88%	2%	3%	81%	16%	
	PEAK HR FACTOR		0.729			0.618			0.926			0.909		0.913
	APP/DEPART	102	/	237	89	/	45	685	/	655	713	/	652	0
PM	5:00 PM	2	3	7	14	17	22	14	161	5	15	165	21	446
	5:15 PM	0	4	11	4	20	26	7	129	7	15	174	9	406
	5:30 PM	1	2	11	5	22	16	5	109	2	16	172	4	365
	5:45 PM	0	1	7	4	19	15	2	142	9	20	181	13	413
	6:00 PM	3	1	10	5	20	15	4	127	4	23	163	8	383
	6:15 PM	1	4	8	7	18	9	0	133	6	20	174	19	399
	6:30 PM	2	4	8	7	11	4	7	179	4	14	167	14	421
	6:45 PM	3	2	7	10	3	24	18	140	2	10	162	35	416
	VOLUMES	12	21	69	56	130	131	57	1,120	39	133	1,358	123	3,249
	APPROACH %	12%	21%	68%	18%	41%	41%	5%	92%	3%	8%	84%	8%	
	APP/DEPART	102	/	201	317	/	295	1,216	/	1,252	1,614	/	1,501	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	3	10	36	27	78	79	28	541	23	66	692	47	1,630
	APPROACH %	6%	20%	73%	15%	42%	43%	5%	91%	4%	8%	86%	6%	
	PEAK HR FACTOR		0.817			0.868			0.822			0.940		0.914
	APP/DEPART	49	/	85	184	/	164	592	/	607	805	/	774	0

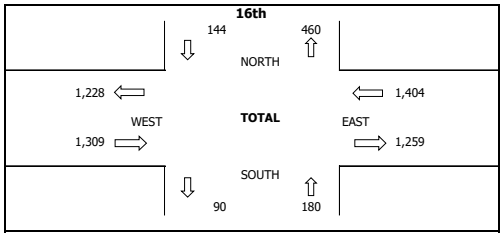
VEHICLE U-TURNS

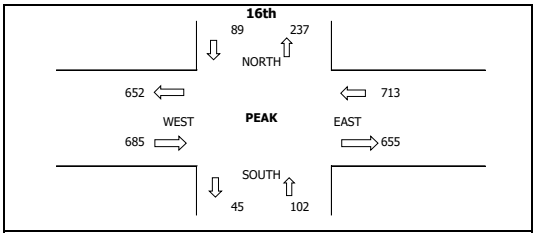
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	3	3
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	7	7

BIKE LEFT TURNS

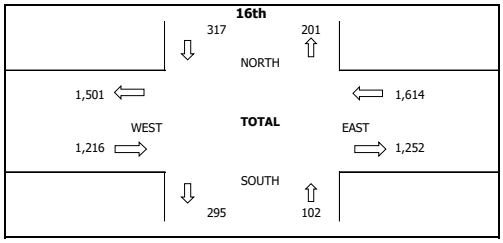
NL	SL	EL	WL	TTL
0	0	0	0	0
0	2	1	0	3
0	0	0	0	0
0	0	0	0	0
0	1	0	1	2
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	3	2	1	6
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	2	2

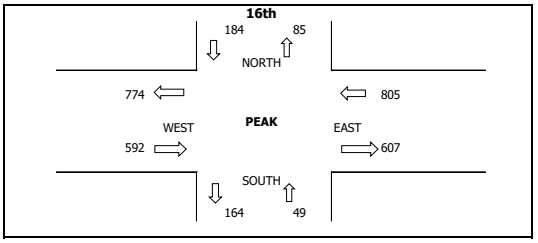
AM





PM





PEDESTRIAN & BIKE STUDY

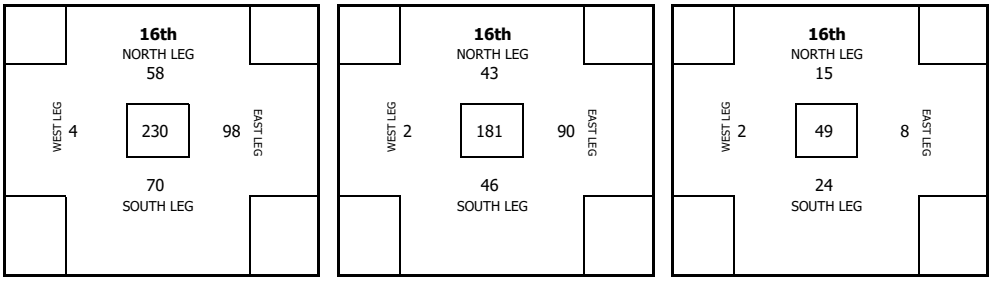
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1578
1/17/18	NORTH/SOUTH:	16th	LOCATION #:	2
WEDNESDAY	EAST/WEST:	Ocean Park	CONTROL:	STOP N/S

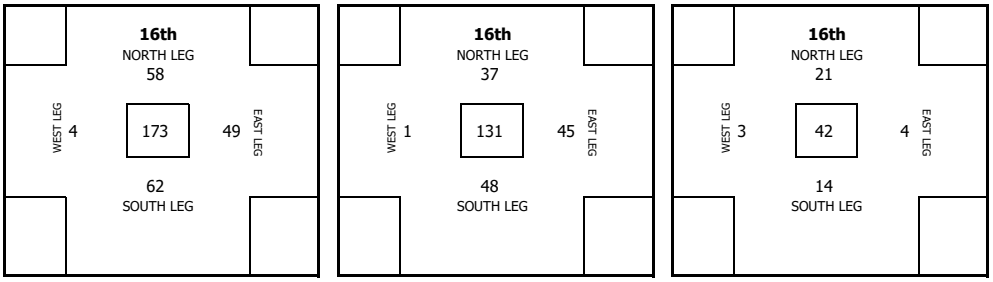
AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

	START TIME PERIOD	HOUR TOTAL	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
			N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
AM	7:30 AM	146	1	5	5	1	12	1	2	4	1	8	0	3	1	0	4
	7:45 AM	134	1	6	28	1	36	1	3	25	0	29	0	3	3	1	7
	8:00 AM	98	13	7	27	0	47	11	7	27	0	45	2	0	0	0	2
	8:15 AM	51	27	7	17	0	51	22	5	15	0	42	5	2	2	0	9
	8:30 AM	84	4	9	6	1	20	2	2	5	0	9	2	7	1	1	11
	8:45 AM	64	5	7	7	0	19	3	2	7	0	12	2	5	0	0	7
	9:00 AM	45	3	21	5	1	30	1	18	5	1	25	2	3	0	0	5
	9:15 AM	15	4	8	3	0	15	2	7	2	0	11	2	1	1	0	4
	TOTAL		58	70	98	4	230	43	46	90	2	181	15	24	8	2	49
PM	5:00 PM	91	8	10	15	2	35	5	10	15	1	31	3	0	0	1	4
	5:15 PM	56	9	6	4	0	19	7	4	4	0	15	2	2	0	0	4
	5:30 PM	37	3	10	5	1	19	3	9	4	0	16	0	1	1	1	3
	5:45 PM	18	7	7	4	0	18	5	5	4	0	14	2	2	0	0	4
	6:00 PM	82	7	9	3	1	20	3	7	3	0	13	4	2	0	1	7
	6:15 PM	62	6	7	7	0	20	2	3	6	0	11	4	4	1	0	9
	6:30 PM	42	4	10	3	0	17	2	7	2	0	11	2	3	1	0	6
	6:45 PM	25	14	3	8	0	25	10	3	7	0	20	4	0	1	0	5
	TOTAL		58	62	49	4	173	37	48	45	1	131	21	14	4	3	42

AM

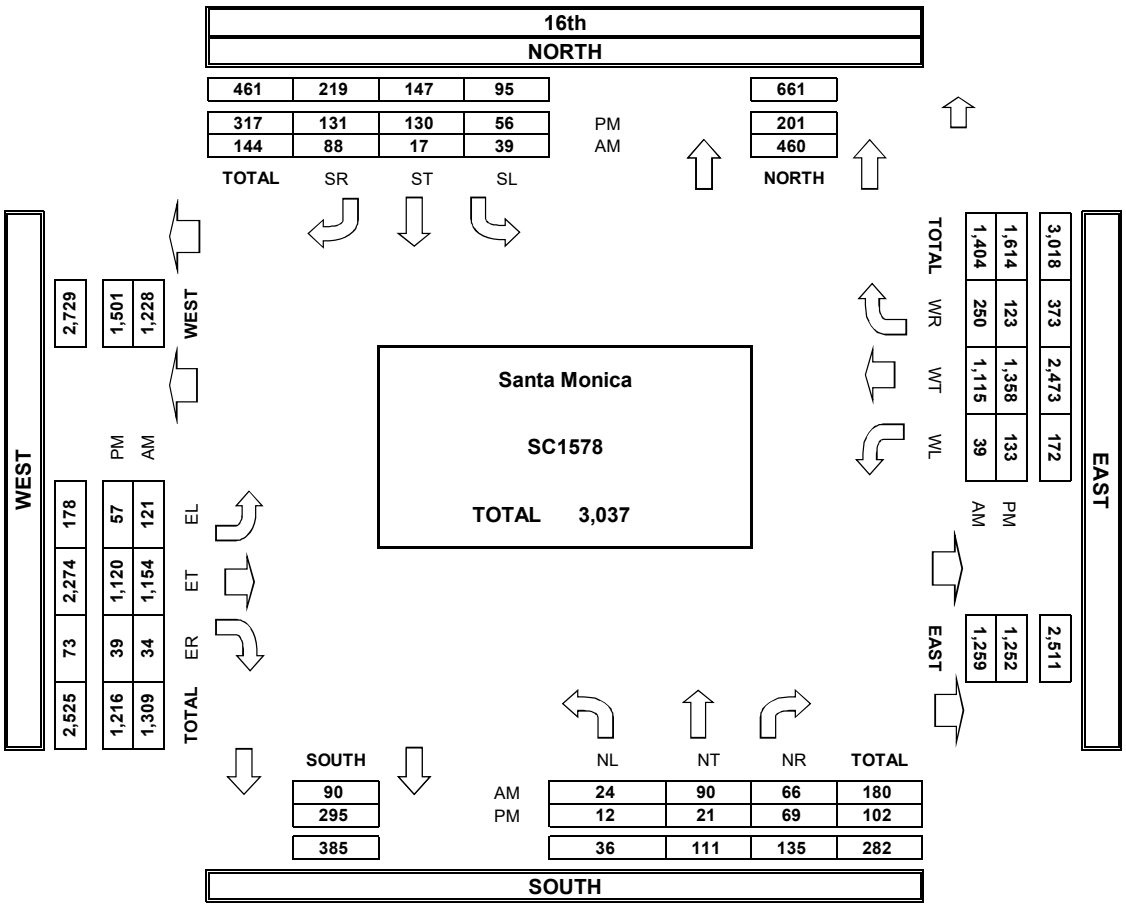


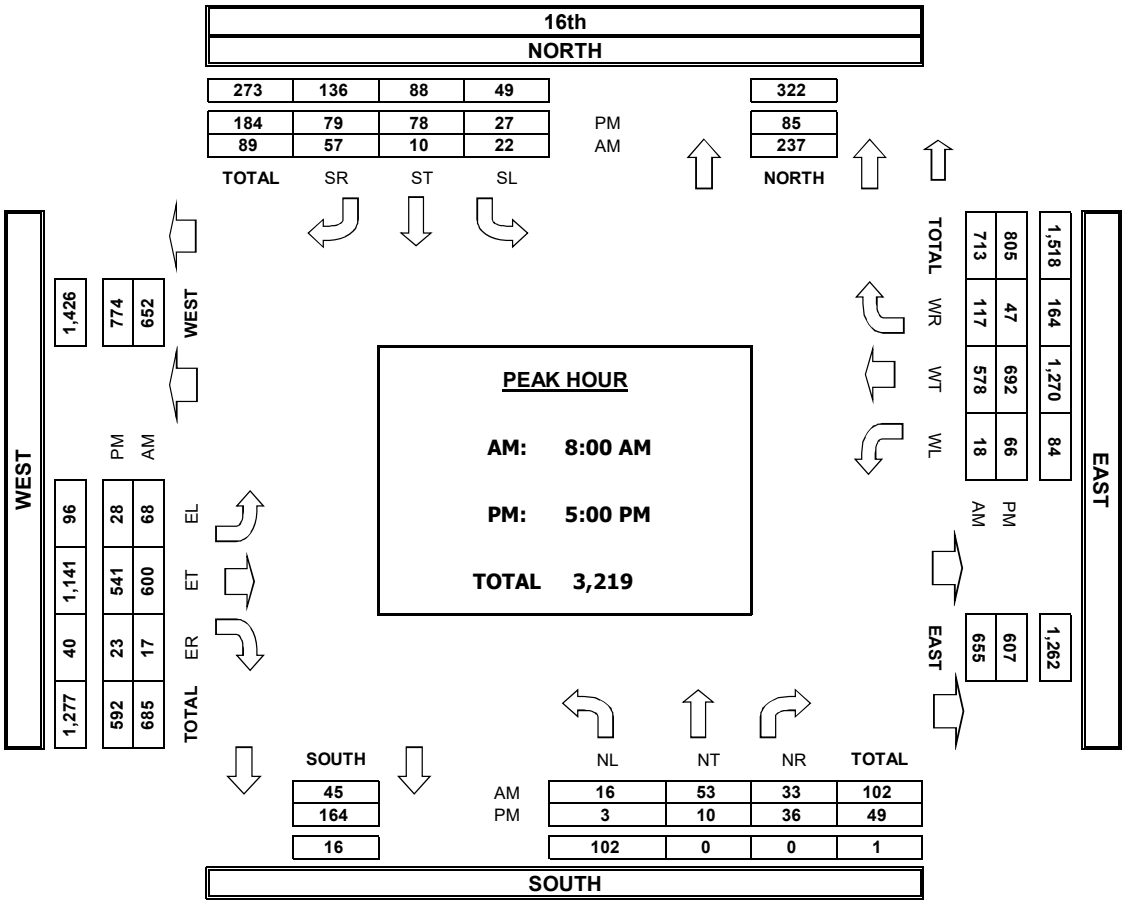
PM



PEAK HOURS																	
8:00 AM	AM	49	30	57	1	137	38	16	54	0	108	11	14	3	1	29
5:00 PM	PM	27	33	28	3	91	20	28	27	1	76	7	5	1	2	15

AimTD LLC
TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T517

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

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1578
Wed, Jan 17, 18	NORTH & SOUTH:	17th	LOCATION #:	1
WEDNESDAY	EAST & WEST:	Ocean Park	CONTROL:	SIGNAL

NOTES:

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

Add U-Turns to Left Turns

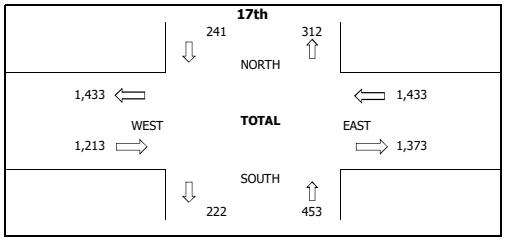
Add Bike Left Turns to Left Turns

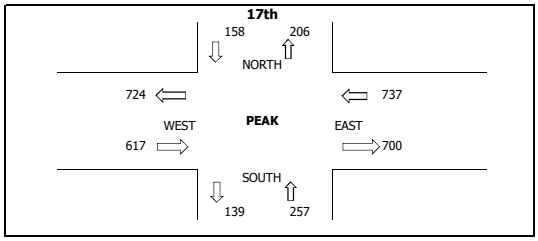
		NORTHBOUND 17th			SOUTHBOUND 17th			EASTBOUND Ocean Park			WESTBOUND Ocean Park			
	LANES:	NL 1	NT 1	NR 0	SL 1	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL
AM	7:30 AM	17	14	13	18	8	10	7	100	2	5	114	16	324
	7:45 AM	21	22	17	19	2	15	7	136	2	16	142	24	423
	8:00 AM	22	58	20	33	17	16	10	127	6	22	160	17	508
	8:15 AM	16	25	14	11	16	8	6	161	9	24	164	7	461
	8:30 AM	13	10	19	4	9	8	10	138	5	12	139	10	377
	8:45 AM	20	8	23	6	9	4	6	161	2	11	155	8	413
	9:00 AM	13	9	22	9	3	7	4	148	10	11	176	10	422
	9:15 AM	22	9	26	3	4	2	5	143	8	11	169	10	412
	VOLUMES	144	155	154	103	68	70	55	1,114	44	112	1,219	102	3,340
	APPROACH %	32%	34%	34%	43%	28%	29%	5%	92%	4%	8%	85%	7%	
	APP/DEPART	453	/	312	241	/	222	1,213	/	1,373	1,433	/	1,433	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	72	115	70	67	44	47	33	562	22	74	605	58	1,769
	APPROACH %	28%	45%	27%	42%	28%	30%	5%	91%	4%	10%	82%	8%	
	PEAK HR FACTOR		0.643			0.598			0.876			0.926		0.871
	APP/DEPART	257	/	206	158	/	139	617	/	700	737	/	724	0
PM	5:00 PM	16	2	24	8	20	7	2	155	9	21	186	10	460
	5:15 PM	13	3	16	10	14	6	4	132	15	21	178	3	415
	5:30 PM	6	5	16	8	18	3	5	109	11	34	189	11	415
	5:45 PM	14	8	25	6	17	2	5	139	7	25	187	8	443
	6:00 PM	5	4	17	3	16	4	4	124	11	34	187	5	414
	6:15 PM	11	4	15	7	9	7	7	118	11	30	191	6	416
	6:30 PM	11	3	12	5	5	3	4	176	5	24	191	5	444
	6:45 PM	14	6	18	5	9	11	5	146	6	21	181	7	429
	VOLUMES	90	35	143	52	108	43	36	1,099	75	210	1,490	55	3,436
	APPROACH %	34%	13%	53%	26%	53%	21%	3%	91%	6%	12%	85%	3%	
	APP/DEPART	268	/	125	203	/	390	1,210	/	1,297	1,755	/	1,624	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	49	18	81	32	69	18	16	535	42	101	740	32	1,733
	APPROACH %	33%	12%	55%	27%	58%	15%	3%	90%	7%	12%	85%	4%	
	PEAK HR FACTOR		0.787			0.850			0.893			0.933		0.942
	APP/DEPART	148	/	66	119	/	212	593	/	648	873	/	807	0

VEHICLE U-TURNS					
	NB	SB	EB	WB	TTL
	0	0	0	0	
	0	0	0	0	0
	0	0	0	1	1
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	1	1
	0	0	0	0	0
	0	0	0	2	2
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	1	1	2
	0	0	0	0	0
	0	0	0	0	0
	0	0	1	3	4

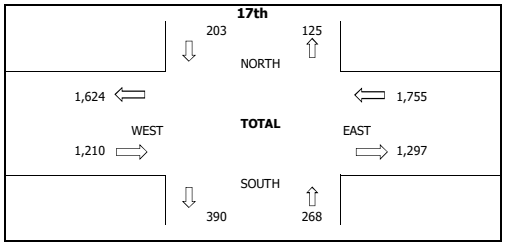
BIKE LEFT TURNS					
	NL	SL	EL	WL	TTL
	0	0	0	0	
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	1	1
	0	1	0	0	1
	0	0	1	0	1
	0	0	0	0	0
	0	0	0	0	0
	0	1	1	1	3
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	0	0	0	0
	0	1	0	0	1

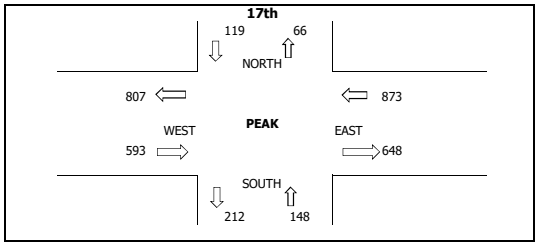
AM





PM





PEDESTRIAN & BIKE STUDY

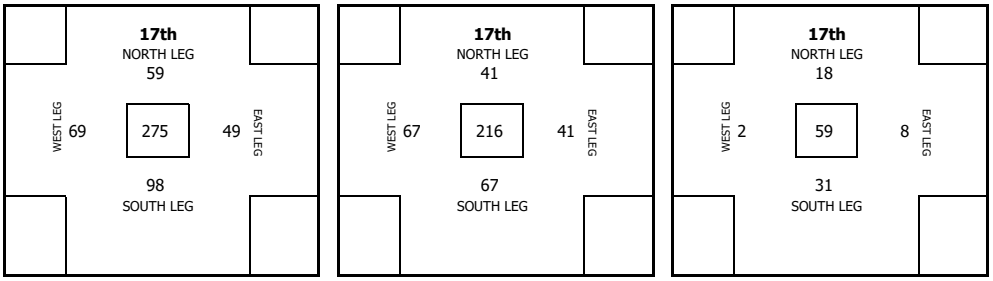
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Santa Monica	PROJECT #:	SC1578
1/17/18	NORTH/SOUTH:	17th	LOCATION #:	1
WEDNESDAY	EAST/WEST:	Ocean Park	CONTROL:	SIGNAL

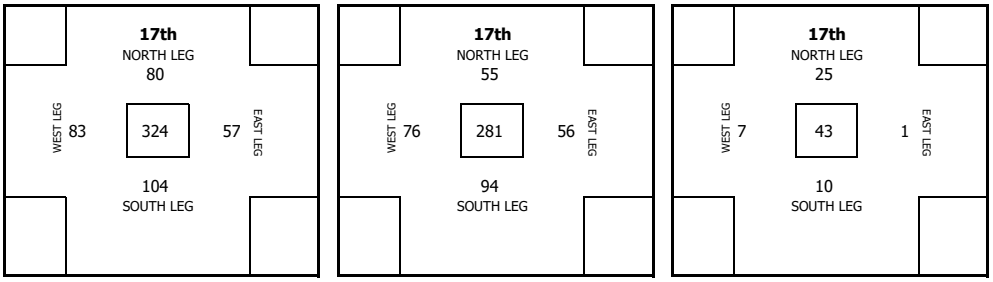
AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

	START TIME PERIOD	HOUR TOTAL	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
			N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
AM	7:30 AM	152	8	7	4	8	27	6	5	4	8	23	2	2	0	0	4
	7:45 AM	125	6	14	14	23	57	5	9	9	23	46	1	5	5	0	11
	8:00 AM	68	8	10	5	18	41	6	9	5	17	37	2	1	0	1	4
	8:15 AM	27	10	8	6	3	27	4	6	5	3	18	6	2	1	0	9
	8:30 AM	123	5	15	2	3	25	4	8	2	3	17	1	7	0	0	8
	8:45 AM	98	4	10	4	3	21	3	5	3	3	14	1	5	1	0	7
	9:00 AM	77	10	16	9	2	37	7	10	8	2	27	3	6	1	0	10
	9:15 AM	40	8	18	5	9	40	6	15	5	8	34	2	3	0	1	6
	TOTAL		59	98	49	69	275	41	67	41	67	216	18	31	8	2	59
PM	5:00 PM	159	10	17	10	9	46	6	17	10	8	41	4	0	0	1	5
	5:15 PM	113	13	12	6	8	39	11	11	6	7	35	2	1	0	1	4
	5:30 PM	74	6	10	8	4	28	5	8	8	3	24	1	2	0	1	4
	5:45 PM	46	7	14	11	14	46	6	12	10	12	40	1	2	1	2	6
	6:00 PM	165	12	9	5	16	42	6	8	5	15	34	6	1	0	1	8
	6:15 PM	123	14	13	10	13	50	9	11	10	13	43	5	2	0	0	7
	6:30 PM	73	15	16	1	12	44	11	14	1	11	37	4	2	0	1	7
	6:45 PM	29	3	13	6	7	29	1	13	6	7	27	2	0	0	0	2
	TOTAL		80	104	57	83	324	55	94	56	76	281	25	10	1	7	43

AM

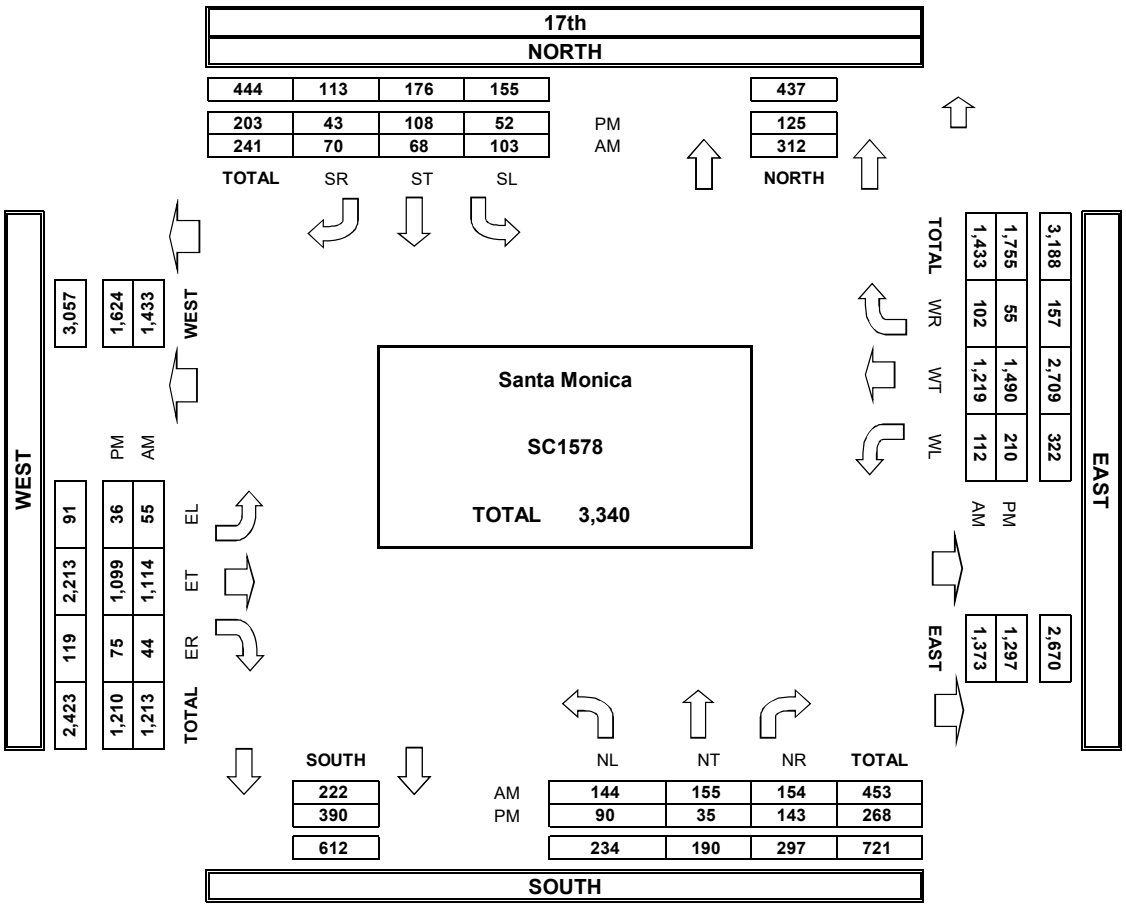


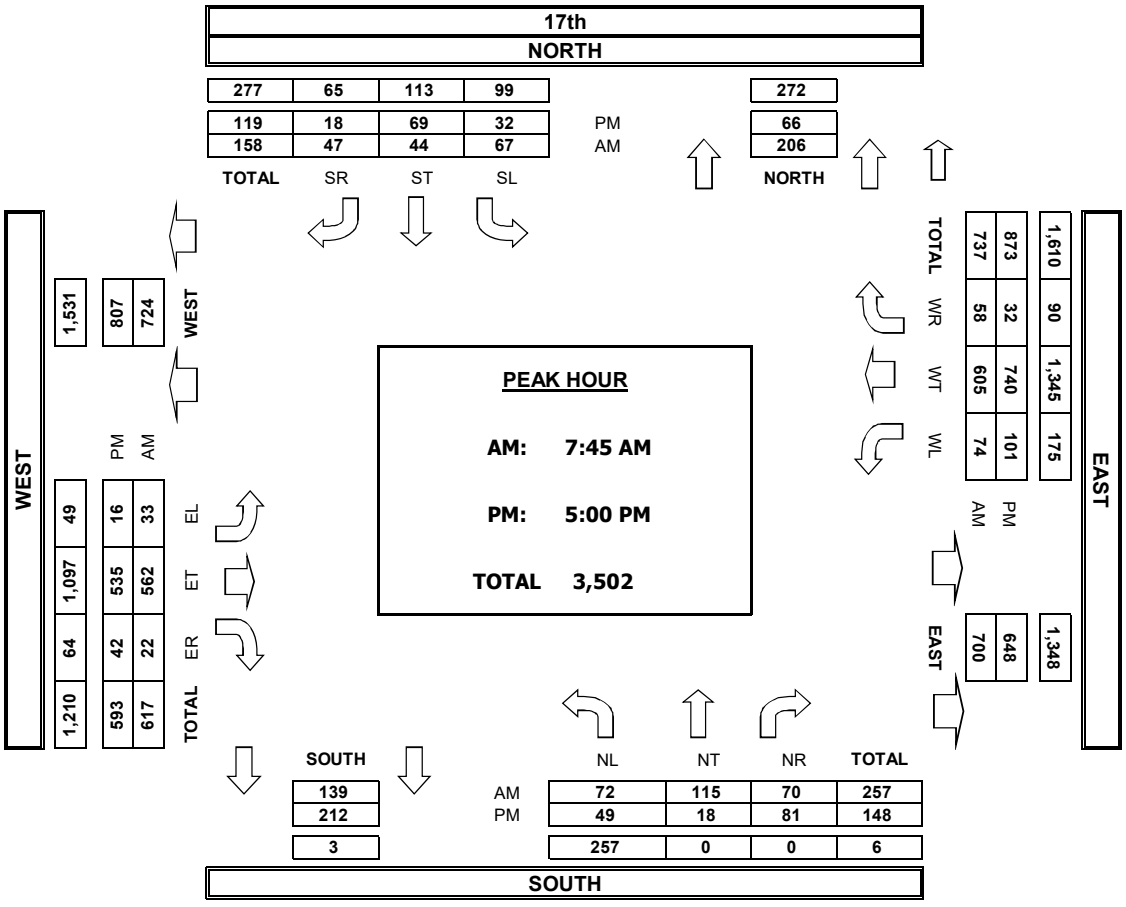
PM



PEAK HOURS																	
7:45 AM	AM	29	47	27	47	150	19	32	21	46	118	10	15	6	1	32
5:00 PM	PM	36	53	35	35	159	28	48	34	30	140	8	5	1	5	19

AimTD LLC
TURNING MOVEMENT COUNTS





APPENDIX C – LOS WORKSHEETS

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Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	101	28	48	98	109	11	100	38	90	183	24
Future Vol, veh/h	11	101	28	48	98	109	11	100	38	90	183	24
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	122	34	58	118	131	13	120	46	108	220	29
Number of Lanes	0	1	1	0	1	1	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	11.4	11.7	11	19.3
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	10%	0%	10%	0%	33%	0%	30%
Vol Thru, %	90%	0%	90%	0%	67%	0%	62%
Vol Right, %	0%	100%	0%	100%	0%	100%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	111	38	112	28	146	109	297
LT Vol	11	0	11	0	48	0	90
Through Vol	100	0	101	0	98	0	183
RT Vol	0	38	0	28	0	109	24
Lane Flow Rate	134	46	135	34	176	131	358
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.247	0.075	0.256	0.057	0.328	0.212	0.624
Departure Headway (Hd)	6.637	5.873	6.818	6.053	6.703	5.822	6.275
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	538	605	524	587	533	612	573
Service Time	4.418	3.654	4.606	3.84	4.483	3.601	4.342
HCM Lane V/C Ratio	0.249	0.076	0.258	0.058	0.33	0.214	0.625
HCM Control Delay	11.6	9.1	12	9.2	12.8	10.2	19.3
HCM Lane LOS	B	A	B	A	B	B	C
HCM 95th-tile Q	1	0.2	1	0.2	1.4	0.8	4.3

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	163	78	64	226	2	43	0	50	2	0	2
Future Vol, veh/h	1	163	78	64	226	2	43	0	50	2	0	2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	192	92	75	266	2	51	0	59	2	0	2
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.1	12.9	9.2	8.5
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	46%	1%	0%	22%	0%	50%
Vol Thru, %	0%	99%	0%	78%	0%	0%
Vol Right, %	54%	0%	100%	0%	100%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	93	164	78	290	2	4
LT Vol	43	1	0	64	0	2
Through Vol	0	163	0	226	0	0
RT Vol	50	0	78	0	2	2
Lane Flow Rate	109	193	92	341	2	5
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.157	0.275	0.113	0.492	0.003	0.007
Departure Headway (Hd)	5.174	5.136	4.429	5.188	4.373	5.392
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	690	697	806	693	815	658
Service Time	3.229	2.883	2.175	2.933	2.118	3.468
HCM Lane V/C Ratio	0.158	0.277	0.114	0.492	0.002	0.008
HCM Control Delay	9.2	9.8	7.7	12.9	7.1	8.5
HCM Lane LOS	A	A	A	B	A	A
HCM 95th-tile Q	0.6	1.1	0.4	2.7	0	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	644	64	215	718	99	233
Future Volume (veh/h)	644	64	215	718	99	233
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	657	65	219	733	101	238
Adj No. of Lanes	2	0	1	2	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1851	183	417	2014	581	519
Arrive On Green	0.57	0.57	0.57	0.57	0.33	0.33
Sat Flow, veh/h	3347	322	728	3632	1774	1583
Grp Volume(v), veh/h	357	365	219	733	101	238
Grp Sat Flow(s),veh/h/ln	1770	1806	728	1770	1774	1583
Q Serve(g_s), s	9.5	9.5	20.2	9.8	3.5	10.3
Cycle Q Clear(g_c), s	9.5	9.5	29.7	9.8	3.5	10.3
Prop In Lane		0.18	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1007	1028	417	2014	581	519
V/C Ratio(X)	0.35	0.36	0.52	0.36	0.17	0.46
Avail Cap(c_a), veh/h	1678	1713	694	3356	581	519
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.1	10.1	18.2	10.2	20.9	23.1
Incr Delay (d2), s/veh	0.2	0.2	1.0	0.1	0.7	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	4.7	4.1	4.8	1.8	4.9
LnGrp Delay(d),s/veh	10.3	10.3	19.2	10.3	21.5	26.1
LnGrp LOS	B	B	B	B	C	C
Approach Vol, veh/h	722			952	339	
Approach Delay, s/veh	10.3			12.3	24.7	
Approach LOS	B			B	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		33.0		54.0				54.0
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		28.5		82.5				82.5
Max Q Clear Time (g_c+I1), s		12.3		11.5				31.7
Green Ext Time (p_c), s		1.0		19.1				17.8

Intersection Summary	
HCM 2010 Ctrl Delay	13.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	759	63	251	700	64	42	34	163	119	86	161
Future Volume (veh/h)	102	759	63	251	700	64	42	34	163	119	86	161
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	112	834	69	276	769	70	46	37	179	131	95	177
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	440	2226	184	412	2207	201	124	86	387	136	143	266
Arrive On Green	0.67	0.67	0.67	0.67	0.67	0.67	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	653	3310	274	615	3281	299	298	353	1583	1161	584	1087
Grp Volume(v), veh/h	112	446	457	276	415	424	83	0	179	131	0	272
Grp Sat Flow(s),veh/h/ln	653	1770	1814	615	1770	1810	651	0	1583	1161	0	1671
Q Serve(g_s), s	9.6	12.0	12.0	38.7	10.9	10.9	4.1	0.0	10.4	6.5	0.0	15.9
Cycle Q Clear(g_c), s	20.5	12.0	12.0	50.6	10.9	10.9	20.0	0.0	10.4	26.5	0.0	15.9
Prop In Lane	1.00		0.15	1.00		0.16	0.55		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	440	1190	1220	412	1190	1217	211	0	387	136	0	408
V/C Ratio(X)	0.25	0.37	0.37	0.67	0.35	0.35	0.39	0.00	0.46	0.96	0.00	0.67
Avail Cap(c_a), veh/h	510	1379	1414	478	1379	1411	211	0	387	136	0	408
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.0	7.8	7.8	18.9	7.6	7.6	40.3	0.0	34.9	52.5	0.0	37.0
Incr Delay (d2), s/veh	0.3	0.2	0.2	2.9	0.2	0.2	5.4	0.0	3.9	67.5	0.0	8.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.9	6.0	6.9	5.4	5.5	2.6	0.0	5.0	6.4	0.0	8.3
LnGrp Delay(d),s/veh	12.3	8.0	8.0	21.8	7.8	7.8	45.7	0.0	38.8	120.0	0.0	45.3
LnGrp LOS	B	A	A	C	A	A	D		D	F		D
Approach Vol, veh/h		1015			1115			262			403	
Approach Delay, s/veh		8.4			11.2			41.0			69.6	
Approach LOS		A			B			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		31.0		77.4		31.0		77.4
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		26.5		84.5		26.5		84.5
Max Q Clear Time (g_c+I1), s		22.0		22.5		28.5		52.6
Green Ext Time (p_c), s		1.5		28.8		0.0		20.3

Intersection Summary		
HCM 2010 Ctrl Delay		21.4
HCM 2010 LOS		C

Intersection	
Int Delay, s/veh	22.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	541	23	66	692	47	3	10	36	27	78	79
Future Vol, veh/h	28	541	23	66	692	47	3	10	36	27	78	79
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	99	-	-	97	-	-	-	-	-	-	-	81
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	588	25	72	752	51	3	11	39	29	85	86

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	803	0	0	613	0	0	1625	1608	601	1607	1595	778
Stage 1	-	-	-	-	-	-	661	661	-	921	921	-
Stage 2	-	-	-	-	-	-	964	947	-	686	674	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	821	-	-	966	-	-	82	105	500	85	107	396
Stage 1	-	-	-	-	-	-	452	460	-	324	349	-
Stage 2	-	-	-	-	-	-	307	340	-	438	454	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	821	-	-	966	-	-	14	94	500	66	95	396
Mov Cap-2 Maneuver	-	-	-	-	-	-	14	94	-	66	95	-
Stage 1	-	-	-	-	-	-	435	443	-	312	323	-
Stage 2	-	-	-	-	-	-	164	315	-	379	437	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.7	53.7	179.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	125	821	-	-	966	-	-	85	396
HCM Lane V/C Ratio	0.426	0.037	-	-	0.074	-	-	1.343	0.217
HCM Control Delay (s)	53.7	9.6	-	-	9	-	-	$ 302	16.6
HCM Lane LOS	F	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	1.8	0.1	-	-	0.2	-	-	8.6	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	535	42	101	740	32	49	18	81	32	69	18
Future Volume (veh/h)	16	535	42	101	740	32	49	18	81	32	69	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	17	582	46	110	804	35	53	20	88	35	75	20
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	409	1165	92	548	1211	53	265	45	196	247	210	56
Arrive On Green	0.68	0.68	0.68	0.68	0.68	0.68	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	653	1704	135	795	1772	77	1295	302	1327	1280	1418	378
Grp Volume(v), veh/h	17	0	628	110	0	839	53	0	108	35	0	95
Grp Sat Flow(s),veh/h/ln	653	0	1839	795	0	1849	1295	0	1629	1280	0	1796
Q Serve(g_s), s	0.8	0.0	8.8	4.1	0.0	14.0	2.1	0.0	3.2	1.4	0.0	2.5
Cycle Q Clear(g_c), s	14.9	0.0	8.8	12.9	0.0	14.0	4.6	0.0	3.2	4.6	0.0	2.5
Prop In Lane	1.00		0.07	1.00		0.04	1.00		0.81	1.00		0.21
Lane Grp Cap(c), veh/h	409	0	1257	548	0	1264	265	0	241	247	0	266
V/C Ratio(X)	0.04	0.00	0.50	0.20	0.00	0.66	0.20	0.00	0.45	0.14	0.00	0.36
Avail Cap(c_a), veh/h	1032	0	3011	1305	0	3028	643	0	716	620	0	790
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.2	0.0	4.1	7.2	0.0	4.9	22.5	0.0	20.8	22.9	0.0	20.5
Incr Delay (d2), s/veh	0.0	0.0	0.3	0.2	0.0	0.6	0.4	0.0	1.3	0.3	0.0	0.8
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	0.2	0.0	4.5	0.9	0.0	7.2	0.8	0.0	1.5	0.5	0.0	1.3
LnGrp Delay(d),s/veh	9.2	0.0	4.4	7.3	0.0	5.5	22.9	0.0	22.1	23.1	0.0	21.3
LnGrp LOS	A		A	A		A	C		C	C		C
Approach Vol, veh/h		645			949			161			130	
Approach Delay, s/veh		4.5			5.7			22.4			21.8	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		12.4		41.0		12.4		41.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		23.5		87.5		23.5		87.5
Max Q Clear Time (g_c+I1), s		6.6		16.9		6.6		16.0
Green Ext Time (p_c), s		1.3		19.7		1.3		19.7

Intersection Summary	
HCM 2010 Ctrl Delay	7.8
HCM 2010 LOS	A

Existing with Project

Intersection	
Intersection Delay, s/veh	23
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	100	73	159	183	24	11	136	28	51	101	115
Future Vol, veh/h	11	100	73	159	183	24	11	136	28	51	101	115
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	120	88	192	220	29	13	164	34	61	122	139
Number of Lanes	0	1	1	0	1	1	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	12.3	33.5	14.2	21.9
HCM LOS	B	D	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	7%	0%	10%	0%	46%	0%	19%
Vol Thru, %	93%	0%	90%	0%	54%	0%	38%
Vol Right, %	0%	100%	0%	100%	0%	100%	43%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	147	28	111	73	342	24	267
LT Vol	11	0	11	0	159	0	51
Through Vol	136	0	100	0	183	0	101
RT Vol	0	28	0	73	0	24	115
Lane Flow Rate	177	34	134	88	412	29	322
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.376	0.065	0.281	0.166	0.821	0.05	0.636
Departure Headway (Hd)	7.649	6.892	7.555	6.782	7.172	6.218	7.122
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	469	517	473	526	503	574	505
Service Time	5.423	4.665	5.331	4.557	4.932	3.977	5.188
HCM Lane V/C Ratio	0.377	0.066	0.283	0.167	0.819	0.051	0.638
HCM Control Delay	15	10.1	13.3	10.9	35.2	9.3	21.9
HCM Lane LOS	B	B	B	B	E	A	C
HCM 95th-tile Q	1.7	0.2	1.1	0.6	8	0.2	4.4

Intersection	
Intersection Delay, s/veh	12.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	165	112	64	249	2	103	0	50	2	0	2
Future Vol, veh/h	1	165	112	64	249	2	103	0	50	2	0	2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	194	132	75	293	2	121	0	59	2	0	2
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.7	15.1	10.7	8.9
HCM LOS	A	C	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	67%	1%	0%	20%	0%	50%
Vol Thru, %	0%	99%	0%	80%	0%	0%
Vol Right, %	33%	0%	100%	0%	100%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	153	166	112	313	2	4
LT Vol	103	1	0	64	0	2
Through Vol	0	165	0	249	0	0
RT Vol	50	0	112	0	2	2
Lane Flow Rate	180	195	132	368	2	5
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.276	0.294	0.173	0.559	0.003	0.008
Departure Headway (Hd)	5.515	5.423	4.713	5.464	4.655	5.87
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	644	656	751	655	759	613
Service Time	3.608	3.215	2.505	3.254	2.444	3.87
HCM Lane V/C Ratio	0.28	0.297	0.176	0.562	0.003	0.008
HCM Control Delay	10.7	10.5	8.5	15.1	7.5	8.9
HCM Lane LOS	B	B	A	C	A	A
HCM 95th-tile Q	1.1	1.2	0.6	3.5	0	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	644	87	261	718	101	237
Future Volume (veh/h)	644	87	261	718	101	237
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	657	89	266	733	103	242
Adj No. of Lanes	2	0	1	2	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1953	264	453	2206	489	436
Arrive On Green	0.62	0.62	0.62	0.62	0.28	0.28
Sat Flow, veh/h	3227	424	712	3632	1774	1583
Grp Volume(v), veh/h	371	375	266	733	103	242
Grp Sat Flow(s),veh/h/ln	1770	1788	712	1770	1774	1583
Q Serve(g_s), s	8.9	8.9	25.3	8.8	4.0	11.6
Cycle Q Clear(g_c), s	8.9	8.9	34.2	8.8	4.0	11.6
Prop In Lane		0.24	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1103	1114	453	2206	489	436
V/C Ratio(X)	0.34	0.34	0.59	0.33	0.21	0.55
Avail Cap(c_a), veh/h	1722	1739	702	3443	489	436
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.0	8.0	16.1	8.0	24.8	27.5
Incr Delay (d2), s/veh	0.2	0.2	1.2	0.1	1.0	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	4.4	5.1	4.2	2.1	5.6
LnGrp Delay(d),s/veh	8.2	8.2	17.4	8.0	25.8	32.6
LnGrp LOS	A	A	B	A	C	C
Approach Vol, veh/h	746			999	345	
Approach Delay, s/veh	8.2			10.5	30.5	
Approach LOS	A			B	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		29.0		59.9				59.9
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		24.5		86.5				86.5
Max Q Clear Time (g_c+I1), s		13.6		10.9				36.2
Green Ext Time (p_c), s		0.9		21.1				19.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	763	63	251	746	64	42	34	163	119	86	161
Future Volume (veh/h)	102	763	63	251	746	64	42	34	163	119	86	161
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	112	838	69	276	820	70	46	37	179	131	95	177
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	424	2252	185	417	2245	192	118	81	374	125	138	257
Arrive On Green	0.68	0.68	0.68	0.68	0.68	0.68	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	622	3312	273	612	3301	282	278	341	1583	1161	584	1087
Grp Volume(v), veh/h	112	448	459	276	440	450	83	0	179	131	0	272
Grp Sat Flow(s),veh/h/ln	622	1770	1815	612	1770	1813	619	0	1583	1161	0	1671
Q Serve(g_s), s	10.1	11.7	11.7	37.9	11.4	11.4	4.1	0.0	10.5	5.4	0.0	16.0
Cycle Q Clear(g_c), s	21.5	11.7	11.7	49.6	11.4	11.4	20.1	0.0	10.5	25.5	0.0	16.0
Prop In Lane	1.00		0.15	1.00		0.16	0.55		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	424	1204	1234	417	1204	1233	198	0	374	125	0	395
V/C Ratio(X)	0.26	0.37	0.37	0.66	0.37	0.37	0.42	0.00	0.48	1.05	0.00	0.69
Avail Cap(c_a), veh/h	494	1403	1438	486	1403	1437	198	0	374	125	0	395
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.9	7.4	7.4	18.0	7.3	7.3	41.0	0.0	35.5	52.7	0.0	37.6
Incr Delay (d2), s/veh	0.3	0.2	0.2	2.7	0.2	0.2	6.4	0.0	4.3	94.4	0.0	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.7	5.8	6.7	5.6	5.7	2.7	0.0	5.0	6.9	0.0	8.4
LnGrp Delay(d),s/veh	12.2	7.6	7.6	20.7	7.5	7.5	47.3	0.0	39.8	147.4	0.0	47.0
LnGrp LOS	B	A	A	C	A	A	D		D	F		D
Approach Vol, veh/h		1019			1166			262			403	
Approach Delay, s/veh		8.1			10.6			42.2			79.6	
Approach LOS		A			B			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		30.0		77.9		30.0		77.9
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		25.5		85.5		25.5		85.5
Max Q Clear Time (g_c+I1), s		22.1		23.5		27.5		51.6
Green Ext Time (p_c), s		1.2		30.2		0.0		21.8

Intersection Summary		
HCM 2010 Ctrl Delay		22.4
HCM 2010 LOS		C

Intersection	
Int Delay, s/veh	44.4

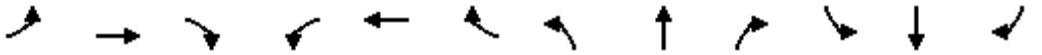
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	553	23	66	693	47	3	33	36	27	80	80
Future Vol, veh/h	40	553	23	66	693	47	3	33	36	27	80	80
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	99	-	-	97	-	-	-	-	-	-	-	81
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	601	25	72	753	51	3	36	39	29	87	87

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	804	0	0	626	0	0	1667	1649	614	1660	1635	779
Stage 1	-	-	-	-	-	-	701	701	-	922	922	-
Stage 2	-	-	-	-	-	-	966	948	-	738	713	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	820	-	-	956	-	-	77	99	492	78	101	396
Stage 1	-	-	-	-	-	-	429	441	-	324	349	-
Stage 2	-	-	-	-	-	-	306	339	-	410	435	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	820	-	-	956	-	-	4	87	492	44	88	396
Mov Cap-2 Maneuver	-	-	-	-	-	-	4	87	-	44	88	-
Stage 1	-	-	-	-	-	-	407	418	-	307	323	-
Stage 2	-	-	-	-	-	-	161	313	-	327	412	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.7	$ 333.2	265.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	60	820	-	-	956	-	-	70	396
HCM Lane V/C Ratio	1.304	0.053	-	-	0.075	-	-	1.661	0.22
HCM Control Delay (s)	$ 333.2	9.6	-	-	9.1	-	-	$ 451.4	16.6
HCM Lane LOS	F	A	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	6.7	0.2	-	-	0.2	-	-	10.1	0.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	535	42	101	740	67	49	41	81	35	71	19
Future Volume (veh/h)	28	535	42	101	740	67	49	41	81	35	71	19
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	30	582	46	110	804	73	53	45	88	38	77	21
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	379	1181	93	544	1166	106	260	89	174	225	222	61
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	630	1704	135	795	1683	153	1292	564	1104	1252	1410	385
Grp Volume(v), veh/h	30	0	628	110	0	877	53	0	133	38	0	98
Grp Sat Flow(s),veh/h/ln	630	0	1839	795	0	1836	1292	0	1668	1252	0	1795
Q Serve(g_s), s	1.8	0.0	9.6	4.5	0.0	16.9	2.3	0.0	4.4	1.7	0.0	2.9
Cycle Q Clear(g_c), s	18.7	0.0	9.6	14.1	0.0	16.9	5.2	0.0	4.4	6.1	0.0	2.9
Prop In Lane	1.00		0.07	1.00		0.08	1.00		0.66	1.00		0.21
Lane Grp Cap(c), veh/h	379	0	1275	544	0	1272	260	0	263	225	0	283
V/C Ratio(X)	0.08	0.00	0.49	0.20	0.00	0.69	0.20	0.00	0.51	0.17	0.00	0.35
Avail Cap(c_a), veh/h	867	0	2698	1159	0	2693	538	0	622	495	0	669
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.9	0.0	4.3	7.6	0.0	5.4	25.0	0.0	23.3	26.1	0.0	22.6
Incr Delay (d2), s/veh	0.1	0.0	0.3	0.2	0.0	0.7	0.4	0.0	1.5	0.3	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	4.8	1.0	0.0	8.5	0.9	0.0	2.1	0.6	0.0	1.5
LnGrp Delay(d),s/veh	11.0	0.0	4.6	7.8	0.0	6.1	25.3	0.0	24.8	26.4	0.0	23.4
LnGrp LOS	B		A	A		A	C		C	C		C
Approach Vol, veh/h		658			987			186			136	
Approach Delay, s/veh		4.9			6.3			24.9			24.2	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		14.0		46.3		14.0		46.3
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		22.5		88.5		22.5		88.5
Max Q Clear Time (g_c+I1), s		7.2		20.7		8.1		18.9
Green Ext Time (p_c), s		1.4		21.1		1.4		21.2

Intersection Summary	
HCM 2010 Ctrl Delay	8.8
HCM 2010 LOS	A

Opening Year

Intersection	
Intersection Delay, s/veh	16.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	111	31	53	108	120	12	110	42	99	201	26
Future Vol, veh/h	12	111	31	53	108	120	12	110	42	99	201	26
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	134	37	64	130	145	14	133	51	119	242	31
Number of Lanes	0	1	1	0	1	1	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	12.4	12.8	11.8	25
HCM LOS	B	B	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	10%	0%	10%	0%	33%	0%	30%
Vol Thru, %	90%	0%	90%	0%	67%	0%	62%
Vol Right, %	0%	100%	0%	100%	0%	100%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	122	42	123	31	161	120	326
LT Vol	12	0	12	0	53	0	99
Through Vol	110	0	111	0	108	0	201
RT Vol	0	42	0	31	0	120	26
Lane Flow Rate	147	51	148	37	194	145	393
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.288	0.088	0.299	0.067	0.382	0.249	0.723
Departure Headway (Hd)	7.048	6.282	7.253	6.484	7.088	6.203	6.628
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	510	570	495	552	508	578	550
Service Time	4.792	4.026	5.001	4.232	4.831	3.946	4.628
HCM Lane V/C Ratio	0.288	0.089	0.299	0.067	0.382	0.251	0.715
HCM Control Delay	12.6	9.6	13.1	9.7	14.2	11	25
HCM Lane LOS	B	A	B	A	B	B	C
HCM 95th-tile Q	1.2	0.3	1.2	0.2	1.8	1	5.9

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	179	86	70	249	2	47	0	55	2	0	2
Future Vol, veh/h	1	179	86	70	249	2	47	0	55	2	0	2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	211	101	82	293	2	55	0	65	2	0	2
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	9.5	14.3	9.5	8.7
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	46%	1%	0%	22%	0%	50%
Vol Thru, %	0%	99%	0%	78%	0%	0%
Vol Right, %	54%	0%	100%	0%	100%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	102	180	86	319	2	4
LT Vol	47	1	0	70	0	2
Through Vol	0	179	0	249	0	0
RT Vol	55	0	86	0	2	2
Lane Flow Rate	120	212	101	375	2	5
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.177	0.306	0.127	0.548	0.003	0.007
Departure Headway (Hd)	5.316	5.21	4.502	5.254	4.439	5.569
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	671	686	791	683	801	636
Service Time	3.381	2.967	2.259	3.01	2.194	3.663
HCM Lane V/C Ratio	0.179	0.309	0.128	0.549	0.002	0.008
HCM Control Delay	9.5	10.3	7.9	14.3	7.2	8.7
HCM Lane LOS	A	B	A	B	A	A
HCM 95th-tile Q	0.6	1.3	0.4	3.3	0	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	725	70	237	816	109	256
Future Volume (veh/h)	725	70	237	816	109	256
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	740	71	242	833	111	261
Adj No. of Lanes	2	0	1	2	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2032	195	417	2203	504	450
Arrive On Green	0.62	0.62	0.62	0.62	0.28	0.28
Sat Flow, veh/h	3357	313	670	3632	1774	1583
Grp Volume(v), veh/h	401	410	242	833	111	261
Grp Sat Flow(s),veh/h/ln	1770	1808	670	1770	1774	1583
Q Serve(g_s), s	10.7	10.7	26.7	11.2	4.6	13.7
Cycle Q Clear(g_c), s	10.7	10.7	37.4	11.2	4.6	13.7
Prop In Lane		0.17	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1102	1125	417	2203	504	450
V/C Ratio(X)	0.36	0.36	0.58	0.38	0.22	0.58
Avail Cap(c_a), veh/h	1528	1561	579	3056	504	450
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.9	8.9	18.0	9.0	26.4	29.7
Incr Delay (d2), s/veh	0.2	0.2	1.3	0.1	1.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	5.3	5.1	5.5	2.4	6.6
LnGrp Delay(d),s/veh	9.1	9.1	19.3	9.1	27.4	35.0
LnGrp LOS	A	A	B	A	C	D
Approach Vol, veh/h	811			1075	372	
Approach Delay, s/veh	9.1			11.4	32.7	
Approach LOS	A			B	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		32.0		64.7				64.7
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		27.5		83.5				83.5
Max Q Clear Time (g_c+I1), s		15.7		12.7				39.4
Green Ext Time (p_c), s		1.0		24.4				20.8

Intersection Summary	
HCM 2010 Ctrl Delay	14.1
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	852	69	276	796	70	46	37	179	131	95	177
Future Volume (veh/h)	112	852	69	276	796	70	46	37	179	131	95	177
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	123	936	76	303	875	77	51	41	197	144	104	195
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	415	2349	191	390	2332	205	80	52	341	61	125	235
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	587	3316	269	555	3292	290	151	239	1583	1138	581	1089
Grp Volume(v), veh/h	123	500	512	303	470	482	92	0	197	144	0	299
Grp Sat Flow(s),veh/h/ln	587	1770	1815	555	1770	1812	390	0	1583	1138	0	1670
Q Serve(g_s), s	12.5	13.6	13.6	57.9	12.5	12.5	5.3	0.0	13.2	0.0	0.0	20.2
Cycle Q Clear(g_c), s	24.9	13.6	13.6	71.4	12.5	12.5	25.5	0.0	13.2	25.5	0.0	20.2
Prop In Lane	1.00		0.15	1.00		0.16	0.55		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	415	1254	1286	390	1254	1284	131	0	341	61	0	360
V/C Ratio(X)	0.30	0.40	0.40	0.78	0.38	0.38	0.70	0.00	0.58	2.37	0.00	0.83
Avail Cap(c_a), veh/h	423	1278	1311	398	1278	1308	131	0	341	61	0	360
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	7.0	7.0	21.5	6.8	6.8	50.7	0.0	41.6	59.2	0.0	44.4
Incr Delay (d2), s/veh	0.4	0.2	0.2	9.2	0.2	0.2	26.7	0.0	7.0	662.9	0.0	19.6
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	2.1	6.6	6.8	9.7	6.1	6.2	4.0	0.0	6.4	13.2	0.0	11.3
LnGrp Delay(d),s/veh	12.2	7.2	7.2	30.7	7.0	7.0	77.4	0.0	48.6	722.1	0.0	63.9
LnGrp LOS	B	A	A	C	A	A	E		D	F		E
Approach Vol, veh/h		1135			1255			289			443	
Approach Delay, s/veh		7.7			12.7			57.8			277.9	
Approach LOS		A			B			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		30.0		88.4		30.0		88.4
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		25.5		85.5		25.5		85.5
Max Q Clear Time (g_c+I1), s		27.5		26.9		27.5		73.4
Green Ext Time (p_c), s		0.0		35.1		0.0		10.4

Intersection Summary		
HCM 2010 Ctrl Delay		52.7
HCM 2010 LOS		D

Intersection	
Int Delay, s/veh	56

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	631	27	77	807	55	3	12	42	31	91	92
Future Vol, veh/h	33	631	27	77	807	55	3	12	42	31	91	92
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	99	-	-	97	-	-	-	-	-	-	-	81
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	686	29	84	877	60	3	13	46	34	99	100

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	937	0	0	715	0	0	1896	1876	701	1876	1861	907
Stage 1	-	-	-	-	-	-	772	772	-	1074	1074	-
Stage 2	-	-	-	-	-	-	1124	1104	-	802	787	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	731	-	-	885	-	-	53	72	439	55	~ 73	334
Stage 1	-	-	-	-	-	-	392	409	-	266	296	-
Stage 2	-	-	-	-	-	-	249	287	-	378	403	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	731	-	-	885	-	-	-	62	439	37	~ 63	334
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	62	-	37	~ 63	-
Stage 1	-	-	-	-	-	-	373	389	-	253	268	-
Stage 2	-	-	-	-	-	-	100	260	-	311	383	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.8		$ 491.9
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	731	-	-	885	-	-	53	334
HCM Lane V/C Ratio	-	0.049	-	-	0.095	-	-	2.502	0.299
HCM Control Delay (s)	-	10.2	-	-	9.5	-	-	$ 847.6	20.3
HCM Lane LOS	-	B	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	-	0.2	-	-	0.3	-	-	13.6	1.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	624	49	118	863	37	57	21	94	37	80	21
Future Volume (veh/h)	19	624	49	118	863	37	57	21	94	37	80	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	21	678	53	128	938	40	62	23	102	40	87	23
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	340	1240	97	494	1289	55	219	45	198	198	212	56
Arrive On Green	0.73	0.73	0.73	0.73	0.73	0.73	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	573	1706	133	722	1774	76	1278	300	1329	1261	1421	376
Grp Volume(v), veh/h	21	0	731	128	0	978	62	0	125	40	0	110
Grp Sat Flow(s),veh/h/ln	573	0	1839	722	0	1849	1278	0	1628	1261	0	1796
Q Serve(g_s), s	1.6	0.0	13.1	7.1	0.0	22.2	3.4	0.0	5.1	2.2	0.0	4.0
Cycle Q Clear(g_c), s	23.8	0.0	13.1	20.2	0.0	22.2	7.4	0.0	5.1	7.3	0.0	4.0
Prop In Lane	1.00		0.07	1.00		0.04	1.00		0.82	1.00		0.21
Lane Grp Cap(c), veh/h	340	0	1337	494	0	1344	219	0	243	198	0	268
V/C Ratio(X)	0.06	0.00	0.55	0.26	0.00	0.73	0.28	0.00	0.51	0.20	0.00	0.41
Avail Cap(c_a), veh/h	614	0	2217	839	0	2229	442	0	527	418	0	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	4.5	9.1	0.0	5.7	31.3	0.0	28.5	31.8	0.0	28.0
Incr Delay (d2), s/veh	0.1	0.0	0.4	0.3	0.0	0.8	0.7	0.0	1.7	0.5	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	6.6	1.4	0.0	11.4	1.2	0.0	2.4	0.8	0.0	2.1
LnGrp Delay(d),s/veh	12.7	0.0	4.8	9.3	0.0	6.5	32.0	0.0	30.2	32.3	0.0	29.0
LnGrp LOS	B		A	A		A	C		C	C		C
Approach Vol, veh/h		752			1106			187			150	
Approach Delay, s/veh		5.1			6.8			30.8			29.9	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		15.3		57.3		15.3		57.3
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		23.5		87.5		23.5		87.5
Max Q Clear Time (g_c+I1), s		9.4		25.8		9.3		24.2
Green Ext Time (p_c), s		1.4		26.9		1.4		27.2

Intersection Summary	
HCM 2010 Ctrl Delay	9.8
HCM 2010 LOS	A

Opening Year with Project

Intersection	
Intersection Delay, s/veh	28.5
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	146	31	56	111	126	12	110	77	168	201	26
Future Vol, veh/h	12	146	31	56	111	126	12	110	77	168	201	26
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	176	37	67	134	152	14	133	93	202	242	31
Number of Lanes	0	1	1	0	1	1	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	2	2
HCM Control Delay	15.4	14.9	12.9	52.7
HCM LOS	C	B	B	F

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	10%	0%	8%	0%	34%	0%	43%
Vol Thru, %	90%	0%	92%	0%	66%	0%	51%
Vol Right, %	0%	100%	0%	100%	0%	100%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	122	77	158	31	167	126	395
LT Vol	12	0	12	0	56	0	168
Through Vol	110	0	146	0	111	0	201
RT Vol	0	77	0	31	0	126	26
Lane Flow Rate	147	93	190	37	201	152	476
Geometry Grp	7	7	7	7	7	7	6
Degree of Util (X)	0.315	0.179	0.419	0.074	0.437	0.292	0.937
Departure Headway (Hd)	7.708	6.936	7.933	7.169	7.827	6.932	7.091
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	464	515	453	497	459	516	509
Service Time	5.486	4.714	5.711	4.947	5.6	4.705	5.152
HCM Lane V/C Ratio	0.317	0.181	0.419	0.074	0.438	0.295	0.935
HCM Control Delay	14	11.2	16.4	10.5	16.6	12.6	52.7
HCM Lane LOS	B	B	C	B	C	B	F
HCM 95th-tile Q	1.3	0.6	2	0.2	2.2	1.2	11.5

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	181	120	70	272	2	107	0	55	2	0	2
Future Vol, veh/h	1	181	120	70	272	2	107	0	55	2	0	2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	213	141	82	320	2	126	0	65	2	0	2
Number of Lanes	0	1	1	0	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	10.2	17.4	11.3	9.2
HCM LOS	B	C	B	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	66%	1%	0%	20%	0%	50%
Vol Thru, %	0%	99%	0%	80%	0%	0%
Vol Right, %	34%	0%	100%	0%	100%	50%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	162	182	120	342	2	4
LT Vol	107	1	0	70	0	2
Through Vol	0	181	0	272	0	0
RT Vol	55	0	120	0	2	2
Lane Flow Rate	191	214	141	402	2	5
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.305	0.334	0.192	0.631	0.003	0.008
Departure Headway (Hd)	5.756	5.616	4.904	5.644	4.834	6.09
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	625	642	733	640	742	587
Service Time	3.787	3.339	2.628	3.366	2.555	4.136
HCM Lane V/C Ratio	0.306	0.333	0.192	0.628	0.003	0.009
HCM Control Delay	11.3	11.1	8.8	17.5	7.6	9.2
HCM Lane LOS	B	B	A	C	A	A
HCM 95th-tile Q	1.3	1.5	0.7	4.5	0	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	725	93	283	816	111	260
Future Volume (veh/h)	725	93	283	816	111	260
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	740	95	289	833	113	265
Adj No. of Lanes	2	0	1	2	1	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2128	273	448	2386	418	373
Arrive On Green	0.67	0.67	0.67	0.67	0.24	0.24
Sat Flow, veh/h	3249	405	655	3632	1774	1583
Grp Volume(v), veh/h	415	420	289	833	113	265
Grp Sat Flow(s),veh/h/ln	1770	1791	655	1770	1774	1583
Q Serve(g_s), s	10.0	10.0	33.5	10.0	5.2	15.3
Cycle Q Clear(g_c), s	10.0	10.0	43.5	10.0	5.2	15.3
Prop In Lane		0.23	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1193	1208	448	2386	418	373
V/C Ratio(X)	0.35	0.35	0.64	0.35	0.27	0.71
Avail Cap(c_a), veh/h	1552	1571	581	3105	418	373
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.9	6.9	16.2	6.9	31.1	35.0
Incr Delay (d2), s/veh	0.2	0.2	1.6	0.1	1.6	10.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	5.0	6.2	4.9	2.7	7.8
LnGrp Delay(d),s/veh	7.1	7.1	17.7	7.0	32.7	45.9
LnGrp LOS	A	A	B	A	C	D
Approach Vol, veh/h	835			1122	378	
Approach Delay, s/veh	7.1			9.8	42.0	
Approach LOS	A			A	D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		28.0		71.7				71.7
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		23.5		87.5				87.5
Max Q Clear Time (g_c+I1), s		17.3		12.0				45.5
Green Ext Time (p_c), s		0.7		27.1				21.8

Intersection Summary	
HCM 2010 Ctrl Delay	14.0
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	856	69	276	842	70	46	37	179	131	95	177
Future Volume (veh/h)	112	856	69	276	842	70	46	37	179	131	95	177
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	123	941	76	303	925	77	51	41	197	144	104	195
Adj No. of Lanes	1	2	0	1	2	0	0	1	1	1	1	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	395	2353	190	389	2346	195	79	51	340	61	125	234
Arrive On Green	0.71	0.71	0.71	0.71	0.71	0.71	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	560	3317	268	552	3308	275	150	238	1583	1138	581	1089
Grp Volume(v), veh/h	123	502	515	303	495	507	92	0	197	144	0	299
Grp Sat Flow(s),veh/h/ln	560	1770	1815	552	1770	1814	387	0	1583	1138	0	1670
Q Serve(g_s), s	13.5	13.7	13.7	58.6	13.4	13.4	5.2	0.0	13.2	0.0	0.0	20.3
Cycle Q Clear(g_c), s	26.9	13.7	13.7	72.2	13.4	13.4	25.5	0.0	13.2	25.5	0.0	20.3
Prop In Lane	1.00		0.15	1.00		0.15	0.55		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	395	1255	1288	389	1255	1287	130	0	340	61	0	359
V/C Ratio(X)	0.31	0.40	0.40	0.78	0.39	0.39	0.71	0.00	0.58	2.37	0.00	0.83
Avail Cap(c_a), veh/h	401	1275	1308	395	1275	1307	130	0	340	61	0	359
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.4	7.0	7.0	21.7	7.0	7.0	50.9	0.0	41.8	59.3	0.0	44.5
Incr Delay (d2), s/veh	0.4	0.2	0.2	9.5	0.2	0.2	27.4	0.0	7.0	665.6	0.0	19.8
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	2.1	6.6	6.8	9.9	6.5	6.7	4.0	0.0	6.5	13.2	0.0	11.4
LnGrp Delay(d),s/veh	12.8	7.2	7.2	31.2	7.2	7.2	78.4	0.0	48.8	724.9	0.0	64.3
LnGrp LOS	B	A	A	C	A	A	E		D	F		E
Approach Vol, veh/h		1140			1305			289			443	
Approach Delay, s/veh		7.8			12.7			58.2			279.0	
Approach LOS		A			B			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		30.0		88.7		30.0		88.7
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		25.5		85.5		25.5		85.5
Max Q Clear Time (g_c+I1), s		27.5		28.9		27.5		74.2
Green Ext Time (p_c), s		0.0		35.6		0.0		9.9

Intersection Summary		
HCM 2010 Ctrl Delay		52.2
HCM 2010 LOS		D

Intersection	
Int Delay, s/veh	94.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	644	27	77	808	55	3	37	42	31	93	93
Future Vol, veh/h	46	644	27	77	808	55	3	37	42	31	93	93
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	99	-	-	97	-	-	-	-	-	-	-	81
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	700	29	84	878	60	3	40	46	34	101	101

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	938	0	0	729	0	0	1941	1920	715	1934	1905	908
Stage 1	-	-	-	-	-	-	815	815	-	1076	1076	-
Stage 2	-	-	-	-	-	-	1126	1105	-	858	829	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	730	-	-	875	-	-	49	67	431	50	~ 69	334
Stage 1	-	-	-	-	-	-	371	391	-	266	296	-
Stage 2	-	-	-	-	-	-	249	286	-	352	385	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	730	-	-	875	-	-	-	56	431	~ 17	~ 58	334
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	56	-	~ 17	~ 58	-
Stage 1	-	-	-	-	-	-	346	364	-	248	268	-
Stage 2	-	-	-	-	-	-	98	259	-	261	359	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0.8		$ 845.2
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	730	-	-	875	-	-	36	334
HCM Lane V/C Ratio	-	0.068	-	-	0.096	-	-	3.744	0.303
HCM Control Delay (s)	-	10.3	-	-	9.5	-	-	$ 1463.8	20.4
HCM Lane LOS	-	B	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	-	0.2	-	-	0.3	-	-	15.6	1.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	624	49	118	863	75	57	46	94	41	83	22
Future Volume (veh/h)	32	624	49	118	863	75	57	46	94	41	83	22
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	35	678	53	128	938	82	62	50	102	45	90	24
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	305	1248	98	487	1236	108	218	88	179	180	227	61
Arrive On Green	0.73	0.73	0.73	0.73	0.73	0.73	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	551	1706	133	722	1689	148	1273	548	1118	1230	1418	378
Grp Volume(v), veh/h	35	0	731	128	0	1020	62	0	152	45	0	114
Grp Sat Flow(s),veh/h/ln	551	0	1839	722	0	1837	1273	0	1666	1230	0	1796
Q Serve(g_s), s	3.4	0.0	14.7	8.0	0.0	27.9	3.8	0.0	7.0	2.9	0.0	4.7
Cycle Q Clear(g_c), s	31.3	0.0	14.7	22.7	0.0	27.9	8.6	0.0	7.0	9.9	0.0	4.7
Prop In Lane	1.00		0.07	1.00		0.08	1.00		0.67	1.00		0.21
Lane Grp Cap(c), veh/h	305	0	1346	487	0	1344	218	0	267	180	0	288
V/C Ratio(X)	0.11	0.00	0.54	0.26	0.00	0.76	0.28	0.00	0.57	0.25	0.00	0.40
Avail Cap(c_a), veh/h	487	0	1954	726	0	1951	358	0	450	315	0	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(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.2	0.0	5.0	10.0	0.0	6.7	35.2	0.0	32.3	36.9	0.0	31.4
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.3	0.0	1.1	0.7	0.0	1.9	0.7	0.0	0.9
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	0.0	7.4	1.6	0.0	14.3	1.4	0.0	3.4	1.0	0.0	2.4
LnGrp Delay(d),s/veh	16.4	0.0	5.3	10.3	0.0	7.8	35.9	0.0	34.2	37.6	0.0	32.2
LnGrp LOS	B		A	B		A	D		C	D		C
Approach Vol, veh/h		766			1148			214			159	
Approach Delay, s/veh		5.8			8.1			34.7			33.8	
Approach LOS		A			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		17.9		65.4		17.9		65.4
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		22.5		88.5		22.5		88.5
Max Q Clear Time (g_c+I1), s		10.6		33.3		11.9		29.9
Green Ext Time (p_c), s		1.5		27.6		1.4		28.4

Intersection Summary	
HCM 2010 Ctrl Delay	11.6
HCM 2010 LOS	B

APPENDIX D – WARRANT ANALYSIS AND SIGNALIZATION LOS WORKSHEETS

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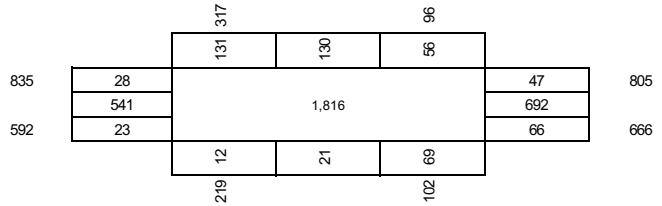
16th Street/Ocean Park Boulevard

Existing Weekday PM Peak Hour Traffic Volumes

North/South Street: 16th Street
East/West Street: Ocean Park Boulevard



		EB				WB				NB				SB			
Time		LT	Th	RT	Approach	LT	Th	RT	Approach	LT	Th	RT	Approach	LT	Th	RT	Approach
12:00 AM	0.41%	1	25	1	27	3	32	2	37	1	1	3	5	3	6	6	15
1:00 AM	0.12%	0	7	0	7	1	9	1	11	0	0	1	1	1	2	2	5
2:00 AM	0.33%	1	20	1	22	2	26	2	30	0	1	3	4	2	5	5	12
3:00 AM	0.27%	1	16	1	18	2	21	1	24	0	1	2	3	2	4	4	10
4:00 AM	0.36%	1	22	1	24	3	28	2	33	0	1	3	4	2	5	5	12
5:00 AM	1.01%	3	61	3	67	7	78	5	90	1	2	8	11	6	15	15	36
6:00 AM	3.30%	10	199	8	217	24	255	17	296	4	8	25	37	21	48	48	117
7:00 AM	7.06%	22	427	18	467	52	546	37	635	9	17	54	80	44	103	103	250
8:00 AM	5.25%	16	317	13	346	39	406	28	473	7	12	40	59	33	76	77	186
9:00 AM	3.80%	12	230	10	252	28	294	20	342	5	9	29	43	24	55	56	135
10:00 AM	4.68%	15	283	12	310	35	362	25	422	6	11	36	53	29	68	69	166
11:00 AM	5.44%	17	329	14	360	40	421	29	490	7	13	42	62	34	79	80	193
12:00 PM	7.13%	22	431	18	471	53	551	37	641	10	17	55	82	45	104	104	253
1:00 PM	6.12%	19	370	16	405	45	473	32	550	8	14	47	69	38	89	90	217
2:00 PM	6.71%	21	406	17	444	49	519	35	603	9	16	52	77	42	97	98	237
3:00 PM	8.70%	27	526	22	575	64	673	46	783	12	20	67	99	54	126	127	307
4:00 PM	8.95%	28	541	23	592	66	692	47	805	12	21	69	102	56	130	131	317
5:00 PM	8.85%	28	535	23	586	65	684	46	795	12	21	68	101	55	129	130	314
6:00 PM	6.55%	20	396	17	433	48	506	34	588	9	15	50	74	41	95	96	232
7:00 PM	5.01%	16	303	13	332	37	387	26	450	7	12	39	58	31	73	73	177
8:00 PM	3.47%	11	210	9	230	26	268	18	312	5	8	27	40	22	50	51	123
9:00 PM	3.10%	10	187	8	205	23	240	16	279	4	7	24	35	19	45	45	109
10:00 PM	2.02%	6	122	5	133	15	156	11	182	3	5	16	24	13	29	30	72
11:00 PM	1.37%	4	83	4	91	10	106	7	123	2	3	11	16	9	20	20	49
Total	**100.01%**	**311**	**6,046**	**257**	**6,614**	**737**	**7,733**	**524**	**8,994**	**133**	**235**	**771**	**1,139**	**626**	**1,453**	**1,465**	**3,544**

1) Hourly distribution is taken from NCHRP Report 365; Travel Estimation Technques for Urban Planning for general purposes.

Warrants Summary

Information			
Analyst	Transpo	Intersection	16th Street/Ocean Park Blvd
Agency/Co			
Date Performed	2/2/2018	Jurisdiction	City of Santa Monica
Project ID	SMMUSD Adams Middle School	Units	U.S. Customary
		Time Period Analyzed	Existing (2018)
East/West Street	Ocean Park Blvd	North/South Street	16th Street
File Name	16th & Ocean Park.xhy	Major Street	East-West

Project Description *SMMUSD Adams Middle School*

General				Roadway Network	
Major Street Speed (mph)	0	☐	Population < 10,000	Two Major Routes	☐
Nearest Signal (ft)	650	☐	Coordinated Signal System	Weekend Count	☐
Crashes (per year)	0	☐	Adequate Trials of Alternatives	5-yr Growth Factor	0

Geometry and Traffic	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of lanes, N	1	1	0	1	1	0	0	1	0	0	1	1
Lane usage	L	TR		L	TR			LTR			LT	R
Vehicle Volume Averages (vph)	20	399	16	48	510	34	8	15	50	41	95	96
Peds (ped/h) / Gaps (gaps/h)	--	3 / 0	--	--	4 / 0	--	--	3 / 0	--	--	0 / 0	--
Delay (s/veh) / (veh-hr)	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--	--	0 / 0	--

Warrant 1: Eight-Hour Vehicular Volume	☑
1 A. Minimum Vehicular Volumes (Both major approaches --and-- higher minor approach) --or--	☑
1 B. Interruption of Continuous Traffic (Both major approaches --and-- higher minor approach) --or--	☑
1 (80%) Vehicular --and-- Interruption Volumes (Both major approaches --and-- higher minor approach)	☑
Warrant 2: Four-Hour Vehicular Volume	☑
2 A. Four-Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☑
Warrant 3: Peak Hour	☑
3 A. Peak-Hour Conditions (Minor delay --and-- minor volume --and-- total volume) --or--	☐
3 B. Peak- Hour Vehicular Volumes (Both major approaches --and-- higher minor approach)	☑
Warrant 4: Pedestrian Volume	☐
4 A. Four Hour Volumes --or--	☐
4 B. One-Hour Volumes	☐
Warrant 5: School Crossing	☐
5. Student Volumes --and--	☐
5. Gaps Same Period	☐
Warrant 6: Coordinated Signal System	☐
6. Degree of Platooning (Predominant direction or both directions)	☐
Warrant 7: Crash Experience	☐
7 A. Adequate trials of alternatives, observance and enforcement failed --and--	☐
7 B. Reported crashes susceptible to correction by signal (12-month period) --and--	☐

7 C. (80%) Volumes for Warrants 1A, 1B --or-- 4 are satisfied	☑
Warrant 8: Roadway Network	☐
8 A. Weekday Volume (Peak hour total --and-- projected warrants 1, 2 or 3) --or--	☐
8 B. Weekend Volume (Five hours total)	☐
Warrant 9: Grade Crossing	☐
9 A. Grade Crossing within 140 ft --and--	☐
9 B. Peak-Hour Vehicular Volumes	☐

 HCS7™ Warrants Version 7.2.1 Generated: 2/2/2018 2:29 PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	541	23	66	692	47	3	10	36	27	78	79
Future Volume (veh/h)	28	541	23	66	692	47	3	10	36	27	78	79
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	30	588	25	72	752	51	3	11	39	29	85	86
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	420	1119	48	547	1088	74	104	53	163	158	197	216
Arrive On Green	0.63	0.63	0.63	0.63	0.63	0.63	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	675	1774	75	806	1725	117	43	387	1198	301	1447	1583
Grp Volume(v), veh/h	30	0	613	72	0	803	53	0	0	114	0	86
Grp Sat Flow(s),veh/h/ln	675	0	1849	806	0	1842	1628	0	0	1748	0	1583
Q Serve(g_s), s	1.2	0.0	7.1	2.1	0.0	11.0	0.0	0.0	0.0	0.6	0.0	1.9
Cycle Q Clear(g_c), s	12.2	0.0	7.1	9.2	0.0	11.0	1.1	0.0	0.0	2.2	0.0	1.9
Prop In Lane	1.00		0.04	1.00		0.06	0.06		0.74	0.25		1.00
Lane Grp Cap(c), veh/h	420	0	1166	547	0	1162	320	0	0	355	0	216
V/C Ratio(X)	0.07	0.00	0.53	0.13	0.00	0.69	0.17	0.00	0.00	0.32	0.00	0.40
Avail Cap(c_a), veh/h	545	0	1509	696	0	1503	912	0	0	982	0	800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.7	0.0	3.9	6.5	0.0	4.7	14.9	0.0	0.0	15.3	0.0	15.2
Incr Delay (d2), s/veh	0.1	0.0	0.4	0.1	0.0	0.9	0.2	0.0	0.0	0.5	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	3.5	0.5	0.0	5.7	0.5	0.0	0.0	1.2	0.0	0.9
LnGrp Delay(d),s/veh	8.7	0.0	4.3	6.6	0.0	5.6	15.1	0.0	0.0	15.9	0.0	16.4
LnGrp LOS	A		A	A		A	B			B		B
Approach Vol, veh/h		643			875			53			200	
Approach Delay, s/veh		4.5			5.7			15.1			16.1	
Approach LOS		A			A			B			B	

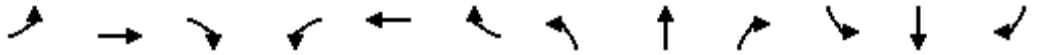
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		9.8		28.8		9.8		28.8
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		19.5		31.5		19.5		31.5
Max Q Clear Time (g_c+I1), s		3.1		14.2		4.2		13.0
Green Ext Time (p_c), s		1.1		10.2		1.0		10.6

Intersection Summary	
HCM 2010 Ctrl Delay	6.7
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	553	23	66	693	47	3	33	36	27	80	80
Future Volume (veh/h)	40	553	23	66	693	47	3	33	36	27	80	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	43	601	25	72	753	51	3	36	39	29	87	87
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	418	1124	47	537	1092	74	99	114	118	154	202	220
Arrive On Green	0.63	0.63	0.63	0.63	0.63	0.63	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	674	1776	74	796	1725	117	30	819	848	290	1454	1583
Grp Volume(v), veh/h	43	0	626	72	0	804	78	0	0	116	0	87
Grp Sat Flow(s),veh/h/ln	674	0	1850	796	0	1842	1697	0	0	1743	0	1583
Q Serve(g_s), s	1.8	0.0	7.4	2.2	0.0	11.2	0.0	0.0	0.0	0.6	0.0	2.0
Cycle Q Clear(g_c), s	13.0	0.0	7.4	9.6	0.0	11.2	1.6	0.0	0.0	2.3	0.0	2.0
Prop In Lane	1.00		0.04	1.00		0.06	0.04		0.50	0.25		1.00
Lane Grp Cap(c), veh/h	418	0	1171	537	0	1166	331	0	0	356	0	220
V/C Ratio(X)	0.10	0.00	0.53	0.13	0.00	0.69	0.24	0.00	0.00	0.33	0.00	0.40
Avail Cap(c_a), veh/h	529	0	1475	668	0	1469	926	0	0	955	0	782
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.9	0.0	4.0	6.7	0.0	4.7	15.3	0.0	0.0	15.6	0.0	15.5
Incr Delay (d2), s/veh	0.1	0.0	0.4	0.1	0.0	1.0	0.4	0.0	0.0	0.5	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	3.8	0.5	0.0	5.7	0.8	0.0	0.0	1.2	0.0	0.9
LnGrp Delay(d),s/veh	9.0	0.0	4.4	6.8	0.0	5.7	15.7	0.0	0.0	16.1	0.0	16.6
LnGrp LOS	A		A	A		A	B			B		B
Approach Vol, veh/h		669			876			78			203	
Approach Delay, s/veh		4.7			5.8			15.7			16.4	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		10.0		29.5		10.0		29.5
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		19.5		31.5		19.5		31.5
Max Q Clear Time (g_c+I1), s		3.6		15.0		4.3		13.2
Green Ext Time (p_c), s		1.2		10.0		1.2		10.7

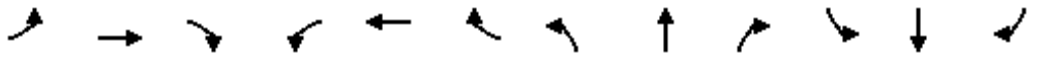
Intersection Summary	
HCM 2010 Ctrl Delay	7.0
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	631	27	77	807	55	3	12	42	31	91	92
Future Volume (veh/h)	33	631	27	77	807	55	3	12	42	31	91	92
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	36	686	29	84	877	60	3	13	46	34	99	100
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	351	1192	50	494	1159	79	85	53	166	137	197	217
Arrive On Green	0.67	0.67	0.67	0.67	0.67	0.67	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	595	1774	75	733	1724	118	32	388	1210	303	1441	1583
Grp Volume(v), veh/h	36	0	715	84	0	937	62	0	0	133	0	100
Grp Sat Flow(s),veh/h/ln	595	0	1850	733	0	1842	1630	0	0	1744	0	1583
Q Serve(g_s), s	2.0	0.0	9.7	3.3	0.0	16.0	0.0	0.0	0.0	1.3	0.0	2.7
Cycle Q Clear(g_c), s	18.0	0.0	9.7	13.0	0.0	16.0	1.6	0.0	0.0	3.3	0.0	2.7
Prop In Lane	1.00		0.04	1.00		0.06	0.05		0.74	0.26		1.00
Lane Grp Cap(c), veh/h	351	0	1243	494	0	1238	303	0	0	335	0	217
V/C Ratio(X)	0.10	0.00	0.58	0.17	0.00	0.76	0.20	0.00	0.00	0.40	0.00	0.46
Avail Cap(c_a), veh/h	412	0	1433	569	0	1427	749	0	0	804	0	656
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.2	0.0	4.1	7.6	0.0	5.2	18.2	0.0	0.0	18.9	0.0	18.7
Incr Delay (d2), s/veh	0.1	0.0	0.4	0.2	0.0	2.1	0.3	0.0	0.0	0.8	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	4.9	0.7	0.0	8.5	0.8	0.0	0.0	1.7	0.0	1.3
LnGrp Delay(d),s/veh	11.3	0.0	4.6	7.8	0.0	7.2	18.6	0.0	0.0	19.7	0.0	20.3
LnGrp LOS	B		A	A		A	B			B		C
Approach Vol, veh/h		751			1021			62			233	
Approach Delay, s/veh		4.9			7.3			18.6			19.9	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		10.9		36.2		10.9		36.2
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		19.5		36.5		19.5		36.5
Max Q Clear Time (g_c+I1), s		3.6		20.0		5.3		18.0
Green Ext Time (p_c), s		1.3		11.6		1.2		12.7

Intersection Summary	
HCM 2010 Ctrl Delay	8.2
HCM 2010 LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	644	27	77	808	55	3	37	42	31	93	93
Future Volume (veh/h)	46	644	27	77	808	55	3	37	42	31	93	93
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	50	700	29	84	878	60	3	40	46	34	101	101
Adj No. of Lanes	1	1	0	1	1	0	0	1	0	0	1	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	349	1196	50	483	1161	79	81	111	122	135	202	221
Arrive On Green	0.67	0.67	0.67	0.67	0.67	0.67	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	595	1776	74	723	1724	118	23	796	876	295	1448	1583
Grp Volume(v), veh/h	50	0	729	84	0	938	89	0	0	135	0	101
Grp Sat Flow(s),veh/h/ln	595	0	1850	723	0	1842	1695	0	0	1743	0	1583
Q Serve(g_s), s	2.9	0.0	10.2	3.4	0.0	16.3	0.0	0.0	0.0	1.1	0.0	2.8
Cycle Q Clear(g_c), s	19.2	0.0	10.2	13.6	0.0	16.3	2.3	0.0	0.0	3.3	0.0	2.8
Prop In Lane	1.00		0.04	1.00		0.06	0.03		0.52	0.25		1.00
Lane Grp Cap(c), veh/h	349	0	1245	483	0	1240	314	0	0	337	0	221
V/C Ratio(X)	0.14	0.00	0.59	0.17	0.00	0.76	0.28	0.00	0.00	0.40	0.00	0.46
Avail Cap(c_a), veh/h	400	0	1405	546	0	1399	760	0	0	785	0	643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.6	0.0	4.2	7.9	0.0	5.2	18.8	0.0	0.0	19.2	0.0	19.0
Incr Delay (d2), s/veh	0.2	0.0	0.5	0.2	0.0	2.1	0.5	0.0	0.0	0.8	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	5.2	0.7	0.0	8.6	1.1	0.0	0.0	1.7	0.0	1.3
LnGrp Delay(d),s/veh	11.8	0.0	4.7	8.1	0.0	7.4	19.3	0.0	0.0	20.0	0.0	20.5
LnGrp LOS	B		A	A		A	B			B		C
Approach Vol, veh/h		779			1022			89			236	
Approach Delay, s/veh		5.2			7.4			19.3			20.2	
Approach LOS		A			A			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		11.2		36.9		11.2		36.9
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		19.5		36.5		19.5		36.5
Max Q Clear Time (g_c+I1), s		4.3		21.2		5.3		18.3
Green Ext Time (p_c), s		1.4		11.1		1.4		12.7

Intersection Summary	
HCM 2010 Ctrl Delay	8.5
HCM 2010 LOS	A