LINSCOTT LAW & GREENSPAN engineers

LOCAL TRANSPORTATION ANALYSIS

TWIN OAKS FUEL STATION

San Marcos, California
January 2021

LLG Ref. 3-19-3162

Linscott, Law & Greenspan, Engineers
4542 Ruffner Street
Suite 100
San Diego, CA 92111
858.300.8800 T
858.300.8810 F
www.llgengineers.com

EXECUTIVE SUMMARY

Linscott, Law & Greenspan, Engineers (LLG) has prepared the following Local Transportation Analysis to determine and evaluate the potential effects to the local roadway system due to the proposed Twin Oaks Fuel Station project ("Project"). The Project site is located on approximately 2.5 acres at the southeast corner of the Twin Oaks Valley Road / Borden Road intersection and in the Commercial (C) Zoning District in the City of San Marcos. The Project site is currently vacant and unoccupied.

The project proposes construction of an approximately 5,462 square feet (16 fueling pumps) gas station, approximately 2,134 square feet automated car wash, and a 4,083 square feet convenience store. Access to the site is proposed on Twin Oaks Valley Road only.

The Project is calculated to generate 1,785 ADT with 72 inbound / 72 outbound trips during the AM peak hour and 81 inbound / 81 outbound trips during the PM peak hour

The intersection and segment analysis provided in this study shows that the analyzed facilities are consistent with the City of San Marcos LOS Standards. Therefore, off-site improvements to the surrounding roadways are not required.

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LOCAL TRANSPORTATION ANALYSIS

TWIN OAKS FUEL STATION

San Marcos, California
January 2021

1.0 INTRODUCTION

Linscott, Law & Greenspan, Engineers (LLG) has prepared the following Local Transportation Analysis (LTA) to determine and evaluate the potential effects to the local roadway system due to the proposed Twin Oaks Fuel Station project ("Project"). The Project site is located at the southeast corner of the Twin Oaks Valley Road / Borden Road intersection in the City of San Marcos. The Project site is currently vacant and unoccupied. The project proposes construction of an approximately 5,462 square feet (16 fueling pumps) gas station, approximately 2,134 square feet automated car wash, and a 4,083 square feet convenience store.

The following items are included in this LTA:

- Project Description
- Existing Conditions Discussion
- Analysis Approach and Methodology
- Level of Service Standards
- Trip Generation/Distribution/Assignment
- Analysis of Interim Year Scenarios
- Analysis of Horizon Year Scenarios
- Site Access and Circulation Review
- Active Transportation Review
- Conclusions

2.0 PROJECT DESCRIPTION

The Project site is located on approximately 2.5 acres at the southeast corner of the Twin Oaks Valley Road / Borden Road intersection and in the Commercial (C) Zoning District in the City of San Marcos. The Project site is currently vacant and unoccupied. The project proposes construction of an approximately 5,462 square feet (16 fueling pumps) gas station, approximately 2,134 square feet automated car wash, and a 4,083 square feet convenience store. Access to the site is proposed on Twin Oaks Valley Road only.

Figure 2–1 shows the vicinity map. ***Figure 2–2*** shows a more detailed project area map. ***Figure 2–3*** shows the Project's site plan.

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Figure 2-1

Vicinity Map

TWIN OAKS FUEL STATION

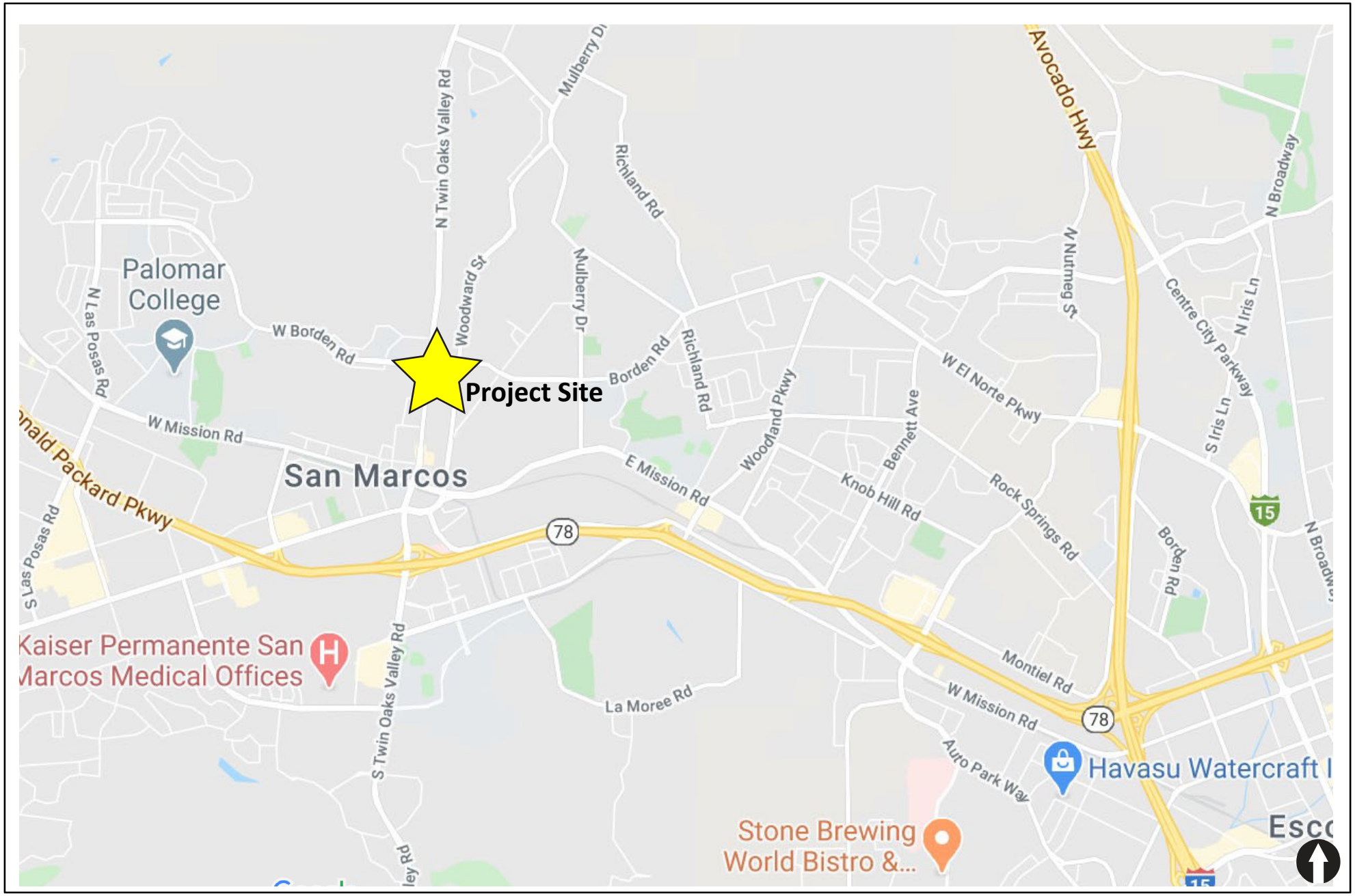

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Figure 2-2

Project Area Map

Twin Oaks Fuel Station

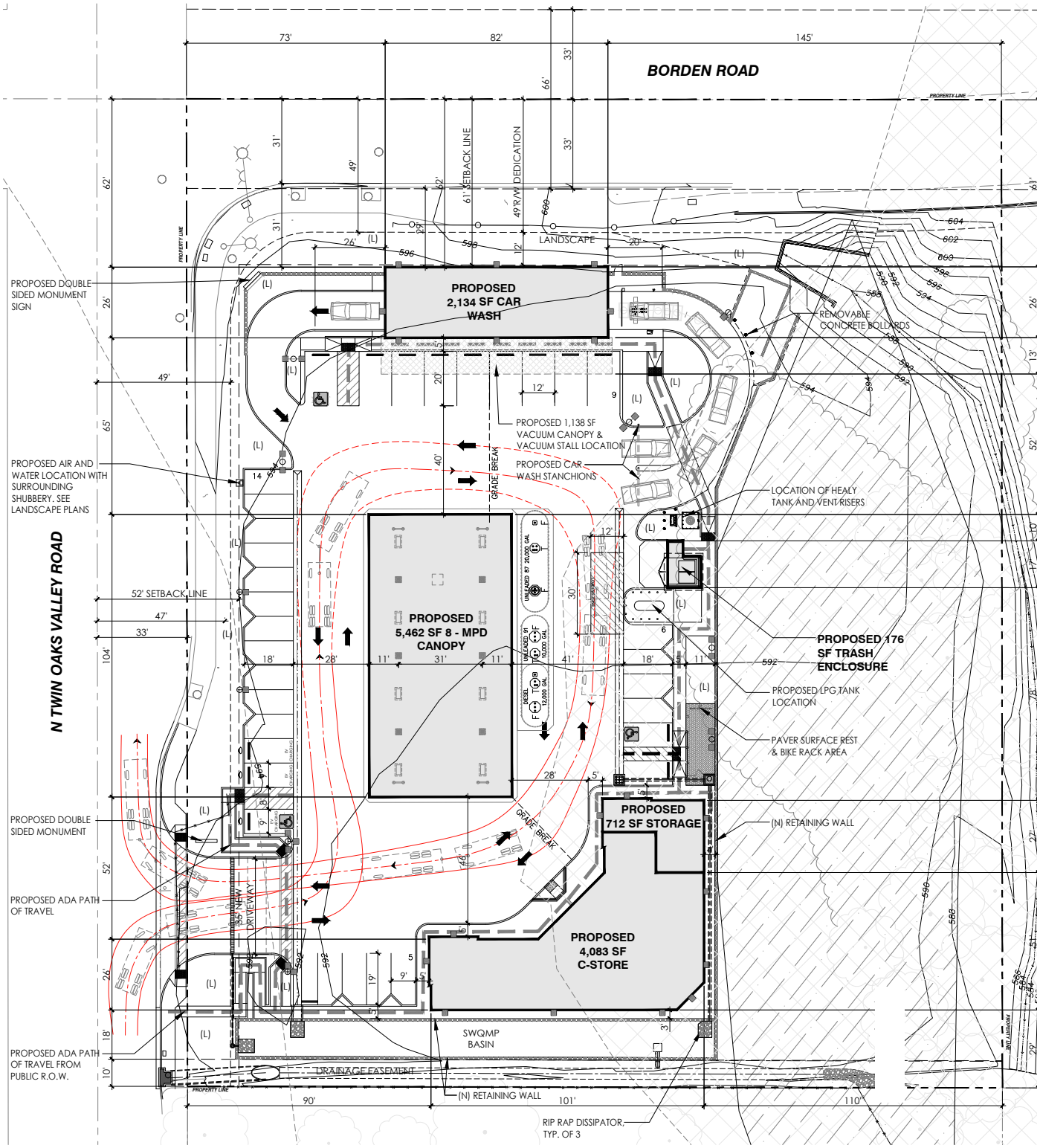

Figure 2-3

Site Plan

TWIN OAKS FUEL STATION

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3.0 EXISTING CONDITIONS

The section below discusses the existing roadway conditions in the project study area. ***Figure 3–1*** shows an existing conditions diagram, including signalized intersections and lane configurations. The study area includes the following intersections and street segments based on the anticipated distribution of the project traffic and discussions with City staff during the project scoping:

Intersections:

1. Twin Oaks Valley Road / Windy Way
2. Windy Point Drive / Borden Road
3. Twin Oaks Valley Road / Borden Road
4. Woodward Street / Borden Road
5. Twin Oaks Valley Road / Project Driveway
6. Twin Oaks Valley Road / Richmar Avenue
7. Twin Oaks Valley Road / San Marcos Boulevard

Segments:

Borden Road

- Windy Point Drive to Twin Oaks Valley Road
- Twin Oaks Valley Road to Woodward Street

Twin Oaks Valley Road

- Windy Way to Borden Road
- Borden Road to Richmar Avenue
- Richmar Avenue to San Marcos Boulevard

3.1 Existing Street Network

The principal roadways in the project study area are described briefly below. Roadway classification was determined from a review of the *City of San Marcos Mobility Element* and information gathered from field observations.

N Twin Oaks Valley Road is constructed as a 4-lane roadway between Windy Way and San Marcos Boulevard. Between Windy Way and Richmar Ave, it is constructed as a 4-lane undivided roadway with a TWLT lane. Between Richmar Avenue and San Marcos Boulevard, it is constructed as a 4-lane divided roadway. The posted speed limit is 45 mph. On-street parking is prohibited. Class II bike lanes are provided within the study area. N Twin Oaks Valley Road is classified as a 4-lane Arterial within the study area.

Borden Road is constructed as a 4-lane roadway between Windy Point Drive and Woodward Street. Between Windy Point Drive and Woodward Street, it is constructed as a 4-lane divided roadway. The posted speed limit is 35-40 mph. On-street parking is prohibited. Class II bike lanes are provided within the study area. Borden Road is classified as a 4-lane Arterial within the study area.

3.2 Existing Traffic Volumes

3.2.1 *Peak Hour Intersection Counts*

AM and PM peak hour (7:00-9:00 AM and 4:00-6:00 PM) counts at the study area intersections, including bicycle and pedestrian counts, were conducted on November 4, 2020. The existing counts were then adjusted to account for the changes in travel patterns and lower activity due to the CoVid-19 pandemic based on the following methodology.

March 2020 (pre-CoVid-19) traffic count data was obtained from the City of San Marcos at the intersections of Twin Oaks Valley Road / Borden Road and Twin Oaks Valley Road / San Marcos Boulevard. Based on a comparison of the counts, on average, the November 2020 peak hour volumes at the Twin Oaks Valley Road / Borden intersection were approximately 79% lower in the AM peak and 44% lower in the PM peak than the March 2020 volumes. Therefore, a growth rate of 79% in the AM peak and 44% in the PM peak was applied to the following November 2020 intersection counts that are located in the vicinity of the Twin Oaks Valley Road / Borden intersection to reflect a normal Year 2020 traffic volume baseline:

- Twin Oaks Valley Road / Windy Way
- Windy Point Drive / Borden Road
- Woodward Street / Borden Road
- Twin Oaks Valley Road / Project Driveway

Similarly, at the Twin Oaks Valley Road / San Marcos Boulevard intersection, the November 2020 volumes were approximately 57% lower during the AM peak hour and 28% lower during the PM peak hour as compared to the March 2020 volumes. Therefore, a growth rate of 57% was applied to the AM peak hour and a growth rate of 28 % was applied to the PM peak hour to the November 2020 peak hour intersection counts at the Twin Oaks Valley / Richmar Avenue intersection to reflect a normal Year 2020 traffic volume baseline.

The March 2020 peak hour intersection counts at the intersections of Twin Oaks Valley Road / Borden Road and Twin Oaks Valley Road / San Marcos Boulevard were used as-is in this analysis.

3.2.2 *Street Segment Counts*

Year 2019 average daily traffic volumes (ADTs) were obtained from the City of San Marcos for all of the study segments.

Figure 3–2 shows the Existing Traffic Volumes. ***Appendix A*** contains the traffic count data and the traffic count growth calculations.

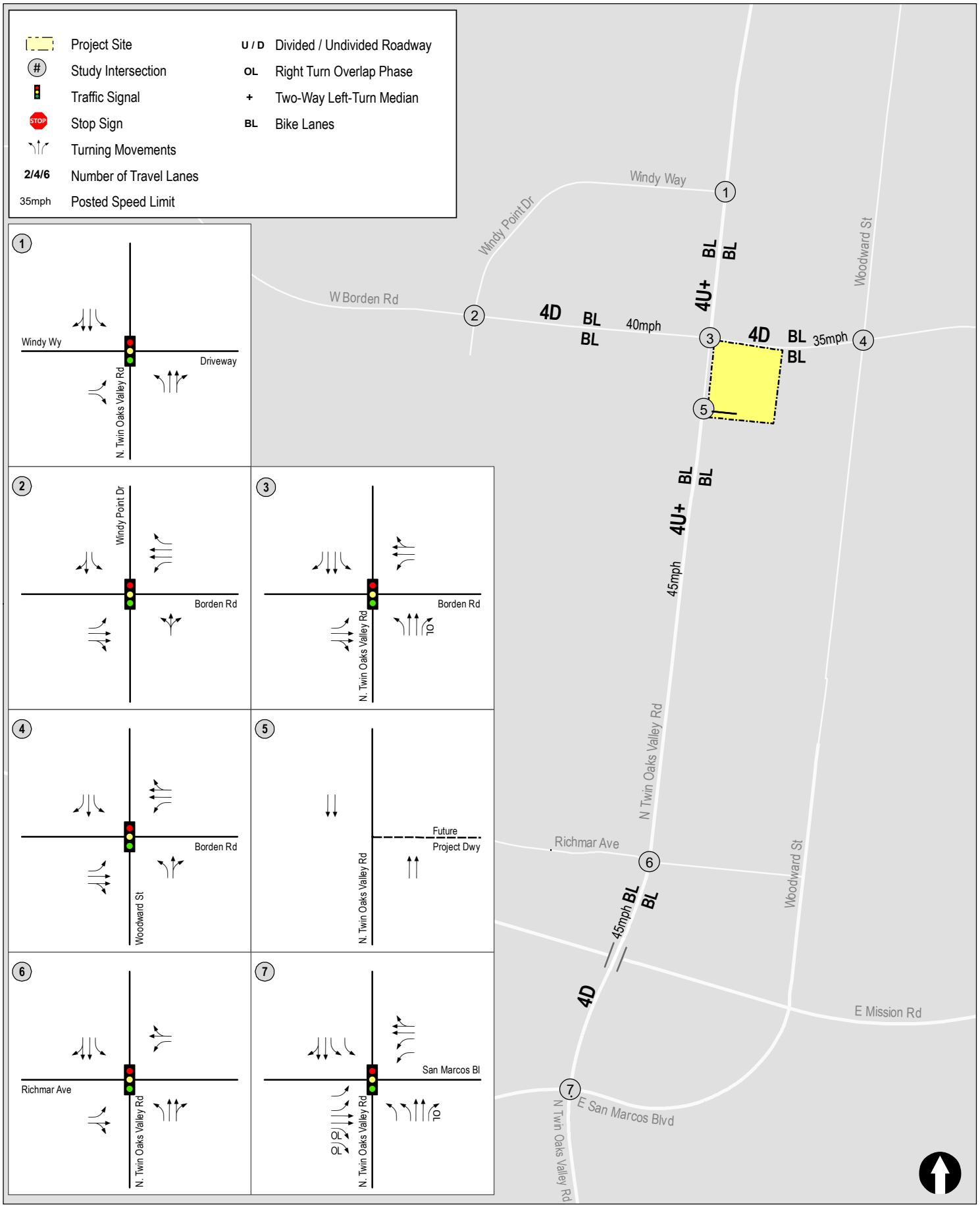

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Figure 3-1

Existing Conditions Diagram

Twin Oaks Fuel Station

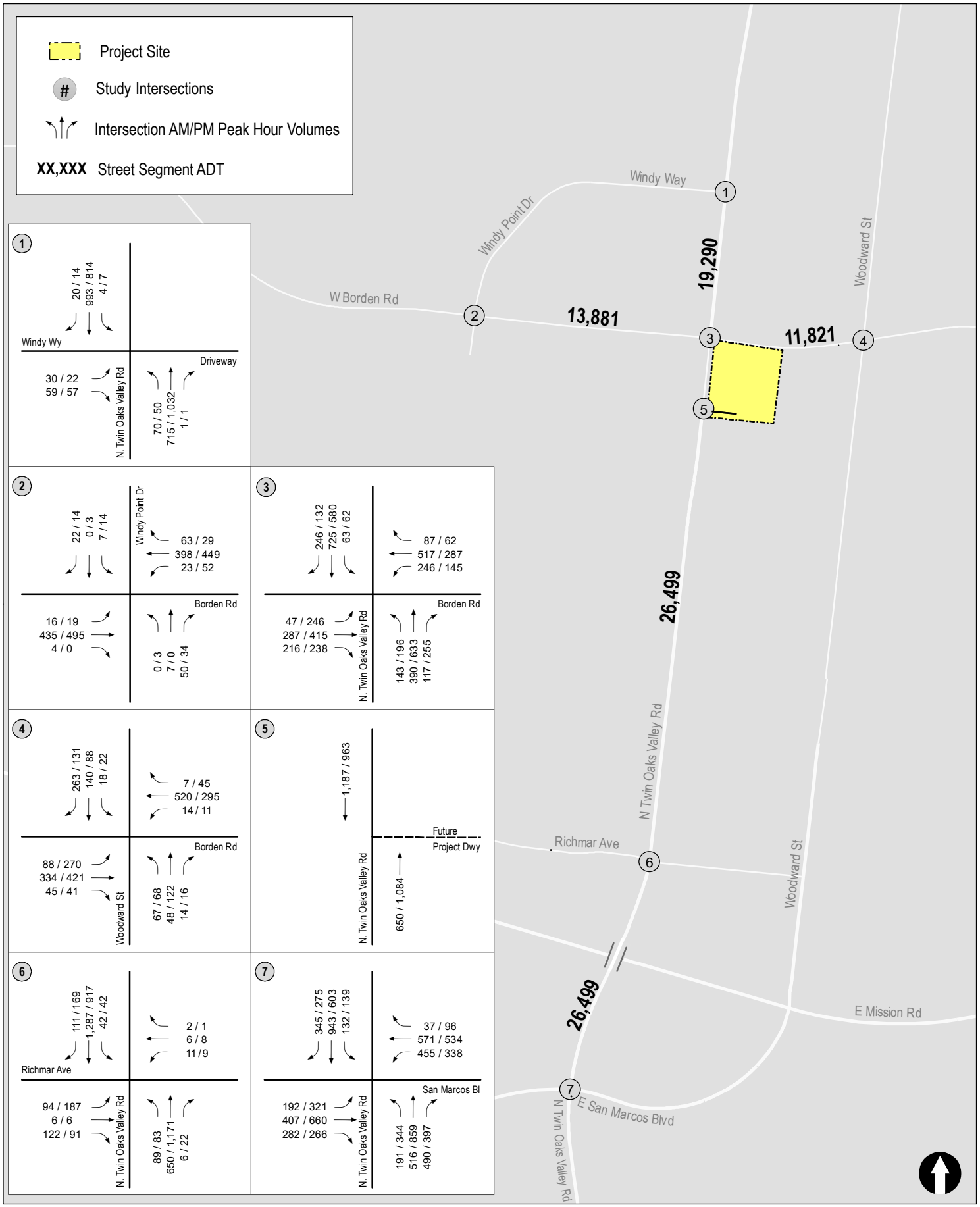

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Figure 3-2

Existing Traffic Volumes

TWIN OAKS FUEL STATION

4.0 ANALYSIS APPROACH AND METHODOLOGY

Level of service (LOS) is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. Level of service provides an index to the operational qualities of a roadway segment or an intersection. Level of service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. Level of service designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

4.1 Intersections

Signalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 19 of the *Highway Capacity Manual 6th Edition (HCM 6),* with the assistance of the *Synchro 10* computer software. The delay values (represented in seconds) were qualified with a corresponding intersection Level of Service (LOS).

Unsignalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay and Levels of Service (LOS) was determined based upon the procedures found in Chapter 20 and Chapter 21 of the *HCM 6* with the assistance of the *Synchro 10* computer software.

4.2 Street Segments

Street segment analysis is based upon the comparison of daily traffic volumes (ADTs) to the City of San Marcos's *Roadway Classification, Level of Service, and ADT Table*. This table provides segment capacities for different street classifications, based on traffic volumes and roadway characteristics. The City of San Marcos's *Roadway Classification, Level of Service, and ADT Table* is attached in ***Appendix B***.

5.0 LEVEL OF SERVICE STANDARDS

The City of San Marcos strives to maintain intersection and roadway segment operations based on LOS standards outlined in the General Plan Mobility Element. If the addition of the traffic generated from a proposed project results in any one of the following, improvements should be identified to increase performance to acceptable or pre-project conditions under each scenario:

- Triggers an intersection operating at acceptable LOS to operate at unacceptable LOS and increases the delay by more than 2.0 seconds.
- Increases the delay for a study intersection that is already operating at unacceptable LOS by more than 2.0 seconds.
- Triggers a roadway segment operating at acceptable LOS to operate at unacceptable LOS and increases the volume/capacity (V/C) ratio by more than 0.02.
- Increases the V/C ratio for a study roadway segment that is already operating at unacceptable LOS by more than 0.02.

6.0 ANALYSIS OF EXISTING CONDITIONS

6.1 Peak Hour Intersection Levels of Service

Table 6–1 summarizes the peak hour intersection operations under Existing conditions. As seen in *Table 6–1*, the study intersections are calculated to currently operate at LOS D or better with the exception of the following intersection:

- Twin Oaks Valley Road / San Marcos Boulevard (LOS F during the AM and LOS E during the PM peak hours)

Appendix C contains the Existing intersection analysis worksheets.

6.2 Daily Street Segment Levels of Service

Table 6–2 summarizes the segment operations under Existing conditions. As seen in *Table 6–2*, the study segments are calculated to currently operate at LOS C or better.

TABLE 6–1
EXISTING INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing	
			Delay[a]	LOS[b]
1. Twin Oaks Valley Road / Windy Way	Signal	AM	10.0	A
		PM	8.2	A
2. Windy Point Drive / Borden Road	Signal	AM	13.4	B
		PM	13.3	B
3. Twin Oaks Valley Road / Borden Road	Signal	AM	48.8	D
		PM	46.5	D
4. Woodward Street / Borden Road	Signal	AM	28.6	C
		PM	29.7	C
5. Twin Oaks Valley Road / Project Driveway	-[c]	AM	-	-
		PM	-	-
6. Twin Oaks Valley Road / Richmar Avenue	Signal	AM	33.4	C
		PM	34.0	C
7. Twin Oaks Valley Road / San Marcos Boulevard	Signal	AM	106.5	F
		PM	57.8	E

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Intersection does not exist under Existing conditions.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

TABLE 6–2
EXISTING STREET SEGMENT OPERATIONS

Street Segment	Classification	Capacity (LOS E) [a]	ADT [b]	LOS [c]	V/C [d]
Borden Road					
Windy Point Drive to Twin Oaks Valley Road	4-Lane Secondary Arterial	30,000	13,881	B	0.463
Twin Oaks Valley Road to Woodward Street	4-Lane Secondary Arterial	30,000	11,821	B	0.394
Twin Oaks Valley Road					
Windy Way to Borden Road	4-Lane Major Arterial	40,000	19,290	B	0.482
Borden Road to Richmar Avenue	4-Lane Major Arterial	40,000	26,499	C	0.662
Richmar Avenue to San Marcos Boulevard	4-Lane Major Arterial	40,000	26,499	C	0.662

Footnotes:

a. Capacities based on based on the City of San Marcos' Urban Street Design Criteria (see *Appendix B*).

b. Average Daily Traffic Volumes.

c. Level of Service.

d. Volume to Capacity.

7.0 CUMULATIVE PROJECTS

There are other planned projects within the vicinity which could potentially add traffic to the roadways and intersections in the study area. The cumulative project list was coordinated and obtained from City of San Marcos staff. As such, the cumulative projects listed in ***Appendix D*** were included in the traffic analysis. In order to account for other unforeseen cumulative projects and regional traffic growth, growth per the SANDAG Series 14 model from 2016 to 2025 was also applied to existing volumes in addition to the individual cumulative project traffic.

Figure 7–1 illustrates the peak hour and ADT segment volumes under the Interim Year scenario.

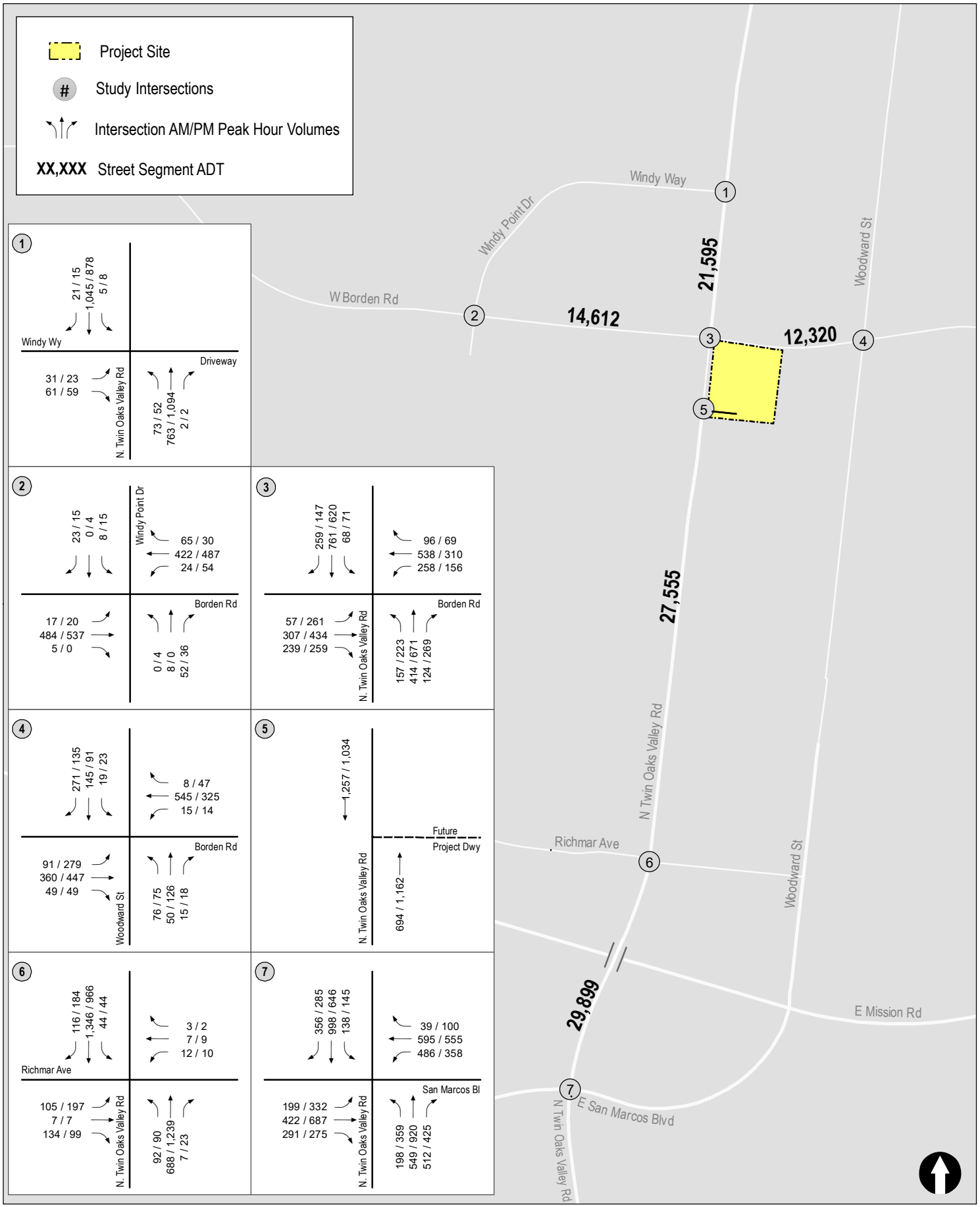

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Figure 7-1

Interim Year without Project Traffic Volumes

8.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

8.1 Trip Generation

The "gasoline (with food mart and car wash)" trip rates from SANDAG's *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002* were used to calculate the trip generation for the proposed Project.

Table 8–1 tabulates the total Project traffic generation.

As seen in *Table 8–1* the Project is calculated to generate 1,785 net new ADT with 72 inbound / 72 outbound net new trips during the AM peak hour and 81 inbound / 81 outbound net new trips during the PM peak hour.

8.2 Trip Distribution/Assignment

The traffic generated by the proposed Project was distributed and assigned based on anticipated traffic patterns to and from the site, land use setting in the vicinity of the Project site and the Project's proximity to major arterials. ***Figure 8–1*** shows the Project traffic distribution. ***Figure 8–2*** shows the Project traffic volumes. ***Figure 8–3*** shows the Interim Year + Project traffic volumes.

TABLE 8–1
PROJECT TRIP GENERATION

Land Use	Trip Rate & Credits	ADT[a]	AM Peak Hour				PM Peak Hour			
			% of ADT	In:Out Split	Volume In	Volume Out	% of ADT	In:Out Split	Volume In	Volume Out
Gasoline (with food mart and car wash) 16 vehicle fueling spaces	Trip Rate (155/vehicle fueling space) [b]	2,480	8%	50:50	100	100	9%	50:50	112	112
	Pass-By (28%)	695			28	28			31	31
	Cumulative (72%)	1,785			72	72			81	81

Footnotes:

a. Traffic volumes expressed in vehicles per day.

b. Per SANDAG, the trip rate for "gasoline with food mart and car wash" is 155/vehicle fueling space with AM splits as 8% of ADT with 50:50 (in:out). PM splits are 9% of ADT with 50:50 (in:out). The pass-by percentage per SANDAG is 28%.

General Notes:

1. Rate is based on SANDAG's *(Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002.*
2. Driveway Trips – vehicles entering and exiting Project driveway (Driveway = Cumulative + Pass-By).
3. Cumulative Trips – net new vehicles added to the street network.
4. Pass-By Trips – vehicles already on the street network diverting to the Project site.

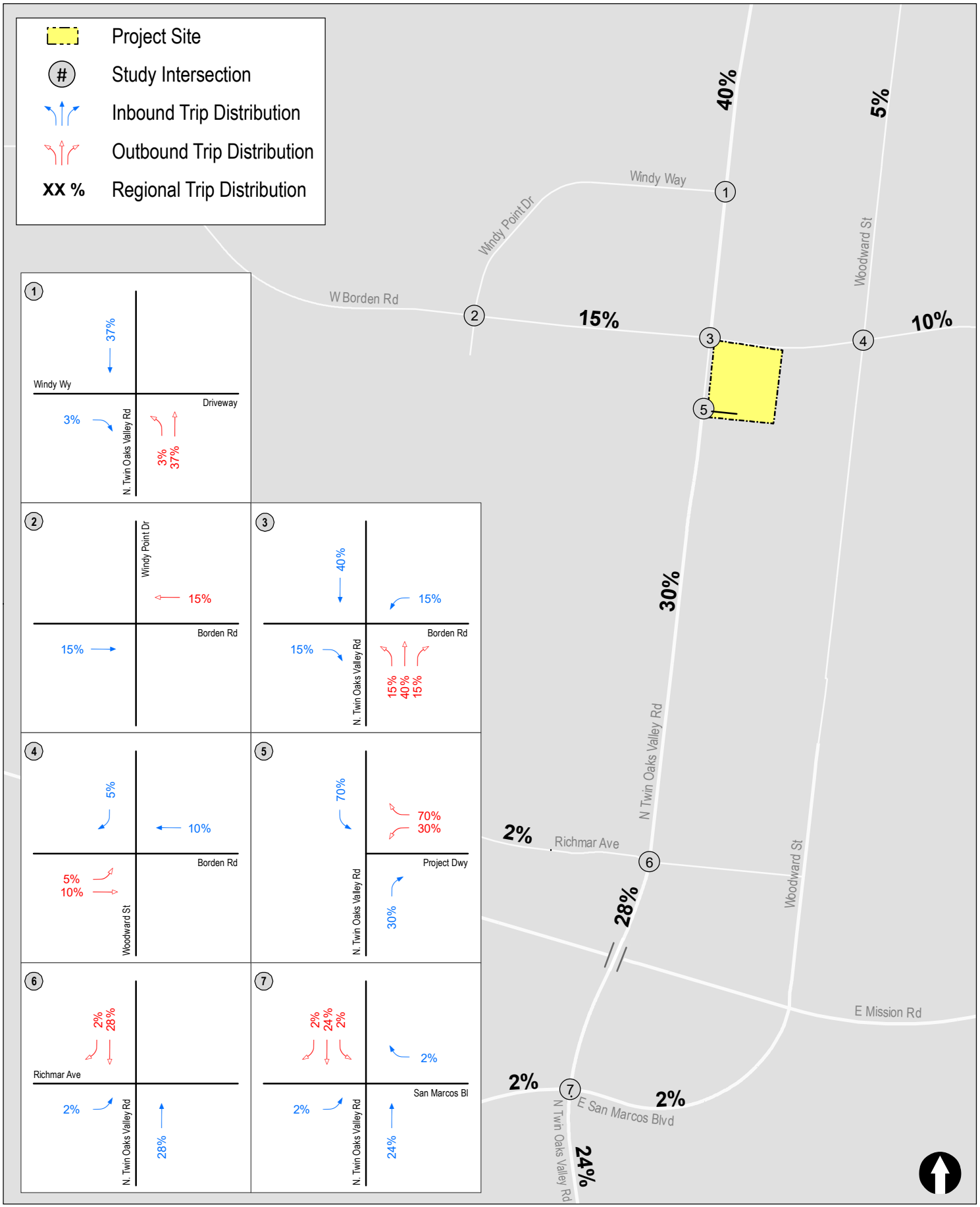

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Figure 8-1

Project Trip Distribution

TWIN OAKS FUEL STATION

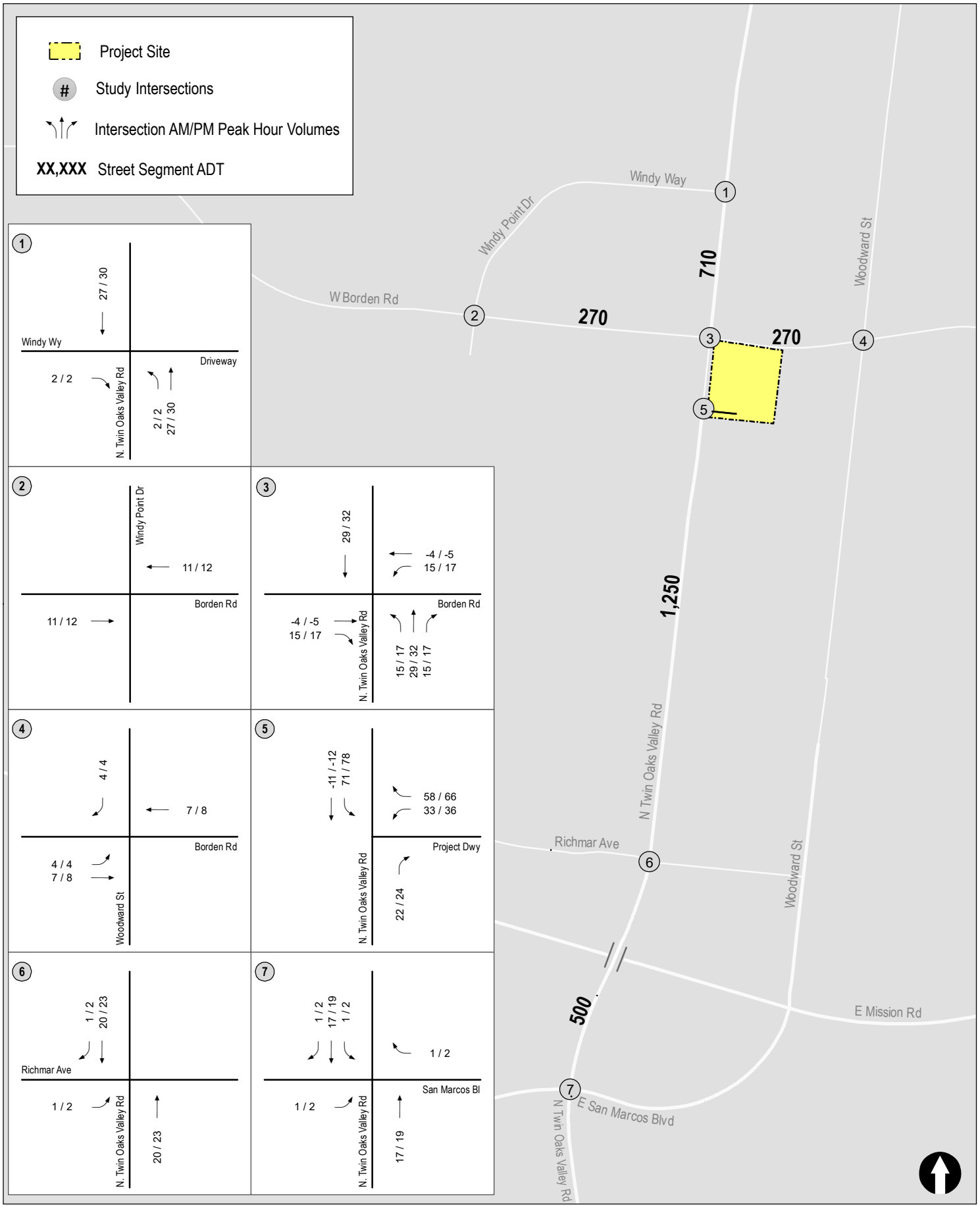

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Figure 8-2

Project Traffic Volumes

Twin Oaks Fuel Station

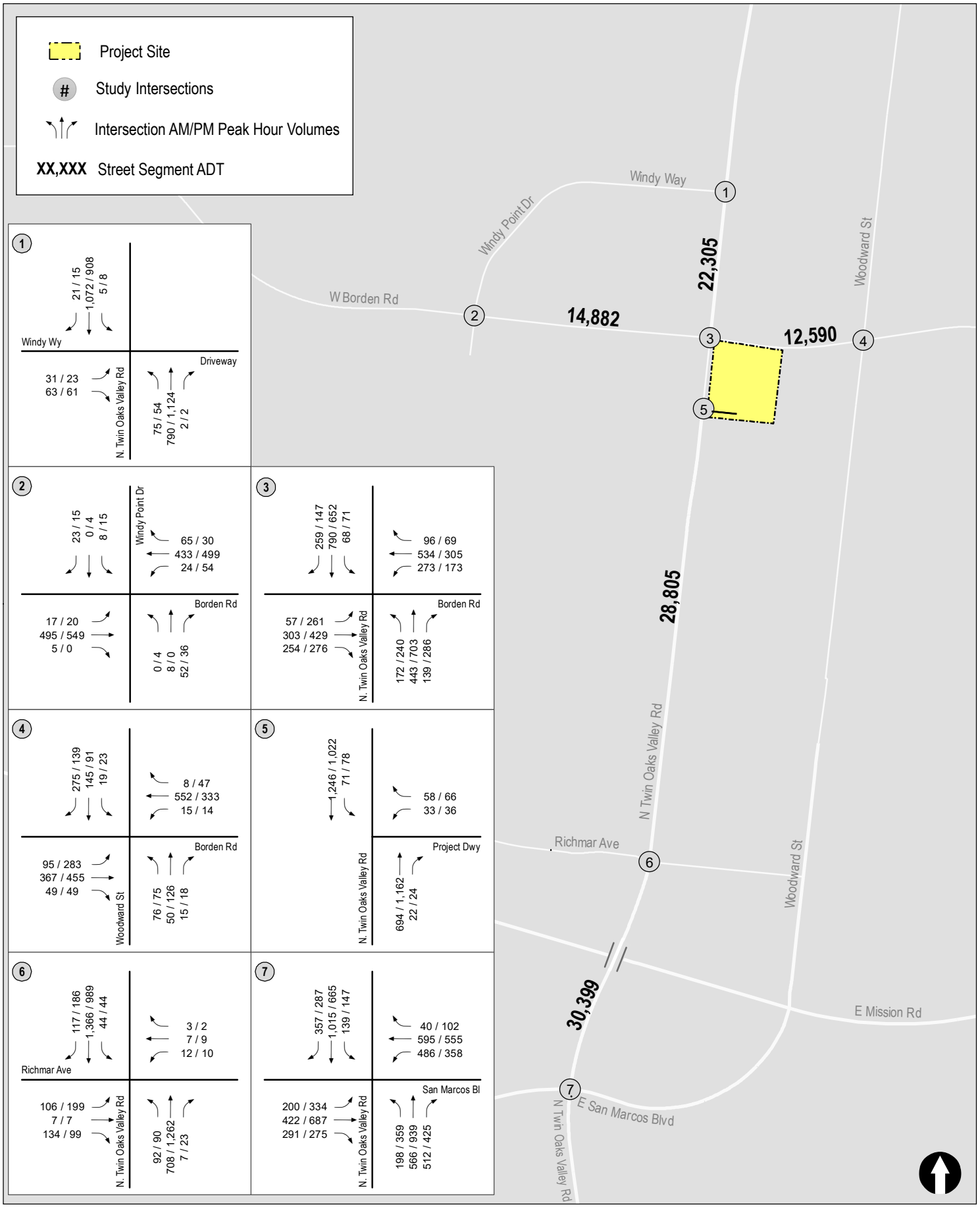

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Figure 8-3

Interim Year + Project Traffic Volumes

TWIN OAKS FUEL STATION

9.0 ANALYSIS OF INTERIM YEAR

The following section presents the analysis of study area intersections and street segments under Interim Year conditions without and with the proposed Project.

9.1 Interim Year Without Project

9.1.1 *Intersection Analysis*

Table 9–1 summarizes the intersection operations under the Interim Year without Project condition. As seen in *Table 9–1*, the study intersections are calculated to operate at LOS D or better with the exception of the following intersection:

- Twin Oaks Valley Road / San Marcos Boulevard (LOS F during the AM and LOS E during the PM peak hours)

Appendix E contains the Interim Year without Project intersection analysis calculation worksheets.

9.1.2 *Segment Operations*

Table 9–2 summarizes the segment operations under the Interim Year without Project condition. As seen in *Table 9–2*, the study segments are calculated to operate at LOS C or better.

9.2 Interim Year + Project

9.2.1 *Intersection Analysis*

Table 9–1 summarizes the intersection operations under the Interim Year + Project condition. As seen in *Table 9–1*, with the addition of Project traffic, the study intersections are calculated to continue operating at LOS D or better with the exception of the following intersection:

- Twin Oaks Valley Road / San Marcos Boulevard (LOS F during the AM and LOS E during the PM peak hours)

Based on the established Level of Service Standards outlines in *Section 5.0*, the Project is not calculated to result in substantial effects to the study intersections and therefore, no improvements are required.

Appendix F contains the Interim Year + Project intersection analysis calculation worksheets.

9.2.2 *Segment Operations*

Table 9–2 summarizes the segment operations under the Interim Year + Project condition. As seen in *Table 9–2*, with the addition of Project traffic, the study segments are calculated to continue operating at LOS D or better.

Based on the established Level of Service Standards outlines in Section 5.0, the Project is not calculated to result in substantial effects to the study segments and therefore, no improvements are required.

TABLE 9–1
INTERIM YEAR INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Interim Year Without Project		Interim Year With Project		Δ [c]	Substantial Effect?
			Delay [a]	LOS [b]	Delay	LOS		
1. Twin Oaks Valley Road / Windy Way	Signal	AM	10.2	B	10.3	B	0.1	No
		PM	8.5	A	8.6	A	0.1	No
2. Windy Point Drive / Borden Road	Signal	AM	13.6	B	13.6	B	0.0	No
		PM	13.6	B	13.6	B	0.0	No
3. Twin Oaks Valley Road / Borden Road	Signal	AM	51.7	D	54.2	D	2.5	No
		PM	49.7	D	52.1	D	2.4	No
4. Woodward Street / Borden Road	MSSC[d]	AM	29.3	C	29.6	C	0.3	No
		PM	30.5	C	30.7	C	0.2	No
5. Twin Oaks Valley Road / Project Driveway	Signal	AM	–	–	19.2	C	–	No
		PM	–	–	27.7	D	–	No
6. Twin Oaks Valley Road / Richmar Avenue	Signal	AM	38.5	D	39.2	D	0.7	No
		PM	38.0	D	39.3	D	1.3	No
7. Twin Oaks Valley Road / San Marcos Boulevard	Signal	AM	120.4	F	122.1	F	1.7	No
		PM	58.8	E	59.9	E	1.1	No

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes the increase in delay due to Project.
d. MSSC = Minor Street Stop Controlled intersection. Worst-Case movement approach delay and LOS reported. Intersection does not exist under "without Project" conditions.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

TABLE 9–2
INTERIM YEAR STREET SEGMENT OPERATIONS

Street Segment	Capacity (LOS E) [a]	Interim YearWithout Project			Interim YearWith Project			Δ[e]	Substantial Effect?
		ADT [b]	LOS [c]	V/C [d]	ADT	LOS	V/C		
Borden Road									
Windy Point Drive to Twin Oaks Valley Road	30,000	14,612	C	0.487	14,882	C	0.496	0.009	No
Twin Oaks Valley Road to Woodward Street	30,000	12,320	B	0.411	12,590	B	0.420	0.009	No
Twin Oaks Valley Road									
Windy Way to Borden Road	40,000	21,595	C	0.540	22,305	C	0.558	0.018	No
Borden Road to Richmar Avenue	40,000	27,555	C	0.689	28,805	C	0.720	0.031	No
Richmar Avenue to San Marcos Boulevard	40,000	29,899	C	0.747	30,399	D	0.760	0.013	No

Footnotes:

a. Capacities based on City of San Marcos's Roadway Classification Table
b. Average Daily Traffic Volumes.
c. Level of Service.
d. Volume to Capacity.
e. Δ denotes a project-induced increase in the Volume to Capacity (V/C) ratio.

10.0 ANALYSIS OF HORIZON YEAR SCENARIOS

10.1 Horizon Year (Year 2050) Baseline Conditions & Traffic Volumes

In order to forecast future traffic volumes for Horizon Year (Year 2050) conditions, per the City's guidelines, the SANDAG Series 14 Model was utilized. The project traffic volumes were added onto the Horizon Year (Year 2050) Baseline scenario to develop Horizon Year (Year 2050) with Project traffic volumes. For the purposes of the analysis, no roadway network improvements were assumed.

Figure 10–1 shows the Horizon Year without Project traffic volumes. ***Figure 10–2*** shows the Horizon Year + Project traffic volumes.

10.2 Horizon Year Without Project

10.2.1 *Intersection Analysis*

Table 10–1 summarizes the intersection operations under the Horizon Year without Project conditions. As seen in *Table 10–1*, the following intersections are calculated to operate at LOS E or F:

- Twin Oaks Valley Road / Borden Road (LOS E during the AM and PM peak hours)
- Twin Oaks Valley Road / Richmar Avenue (LOS E during the AM peak hour)
- Twin Oaks Valley Road / San Marcos Boulevard (LOS F during the AM and LOS E during the PM peak hours)

Appendix G contains the Horizon Year without Project intersection analyses calculation worksheets.

10.2.2 *Segment Operations*

Table 10–2 summarizes the segment operations under the Horizon Year without Project condition. As seen in *Table 10–2*, the study segments are calculated to operate at LOS D or better.

10.3 Horizon Year + Project

10.3.1 *Intersection Analysis*

Table 10–1 summarizes the intersection operations under the Horizon Year + Project condition. As seen in *Table 10–1*, with the addition of Project traffic, the following study intersections are calculated to continue to operate at LOS E or F:

- Twin Oaks Valley Road / Borden Road (LOS E during the AM and PM peak hours)
- Twin Oaks Valley Road / Richmar Avenue (LOS E during the AM peak hour)
- Twin Oaks Valley Road / San Marcos Boulevard (LOS F during the AM and LOS E during the PM peak hours)

Based on the established Level of Service Standards outlines in *Section 5.0*, the Project is not calculated to result in substantial effects to the study intersections and therefore, no improvements are required.

Appendix H contains the Horizon Year + Project intersection analyses calculation worksheets.

10.3.2 *Segment Operations*

Table 10–2 summarizes the segment operations under the Horizon Year + Project condition. As seen in *Table 10–2*, with the addition of Project traffic, the study segments are calculated to continue operating at LOS D or better.

Based on the established Level of Service Standards outlines in *Section 5.0*, the Project is not calculated to result in substantial effects to the study segments and therefore, no improvements are required.

TABLE 10–1
HORIZON YEAR INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Horizon Year		Horizon Year With Project		Δ[c]	Substantial Effect?
			Delay[a]	LOS[b]	Delay	LOS		
1. Twin Oaks Valley Road / Windy Way	Signal	AM	11.8	B	12.0	B	0.2	No
		PM	9.3	A	9.5	A	0.2	No
2. Windy Point Drive / Borden Road	Signal	AM	14.9	B	14.9	B	0.0	No
		PM	15.1	B	15.1	B	0.0	No
3. Twin Oaks Valley Road / Borden Road	Signal	AM	59.9	E	61.7	E	1.8	No
		PM	55.5	E	56.7	E	1.2	No
4. Woodward Street / Borden Road	MSSC[d]	AM	32.7	C	33.2	C	0.5	No
		PM	33.1	C	33.4	C	0.3	No
5. Twin Oaks Valley Road / Project Driveway	Signal	AM	-	-	21.4	C	–	No
		PM	-	-	32.0	D	–	No
6. Twin Oaks Valley Road / Richmar Avenue	Signal	AM	58.1	E	59.9	E	1.8	No
		PM	53.7	D	54.4	D	0.7	No
7. Twin Oaks Valley Road / San Marcos Boulevard	Signal	AM	150.9	F	152.6	F	1.7	No
		PM	71.1	E	72.5	E	1.4	No

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes the increase in delay due to Project.
d. MSSC = Minor Street Stop Controlled intersection. Worst-Case movement approach delay and LOS reported. Intersection does not exist under "without Project" conditions.

SIGNALIZED		UNSIGNALIZED	
DELAY/LOS THRESHOLDS		DELAY/LOS THRESHOLDS	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

TABLE 10–2
HORIZON YEAR STREET SEGMENT OPERATIONS

Street Segment	Capacity (LOS E) [a]	Horizon Year			Horizon Year With Project			Δ[e]	Substantial Effect?
		ADT[b]	LOS[c]	V/C[d]	ADT	LOS	V/C		
Borden Road									
Windy Point Drive to Twin Oaks Valley Road	30,000	16,020	C	0.534	16,290	C	0.543	0.009	No
Twin Oaks Valley Road to Woodward Street	30,000	12,320	B	0.411	12,590	B	0.420	0.009	No
Twin Oaks Valley Road									
Windy Way to Borden Road	40,000	24,850	C	0.621	25,560	C	0.639	0.018	No
Borden Road to Richmar Avenue	40,000	32,880	D	0.822	34,130	D	0.853	0.031	No
Richmar Avenue to San Marcos Boulevard	40,000	34,310	D	0.858	34,810	D	0.870	0.012	No

Footnotes:

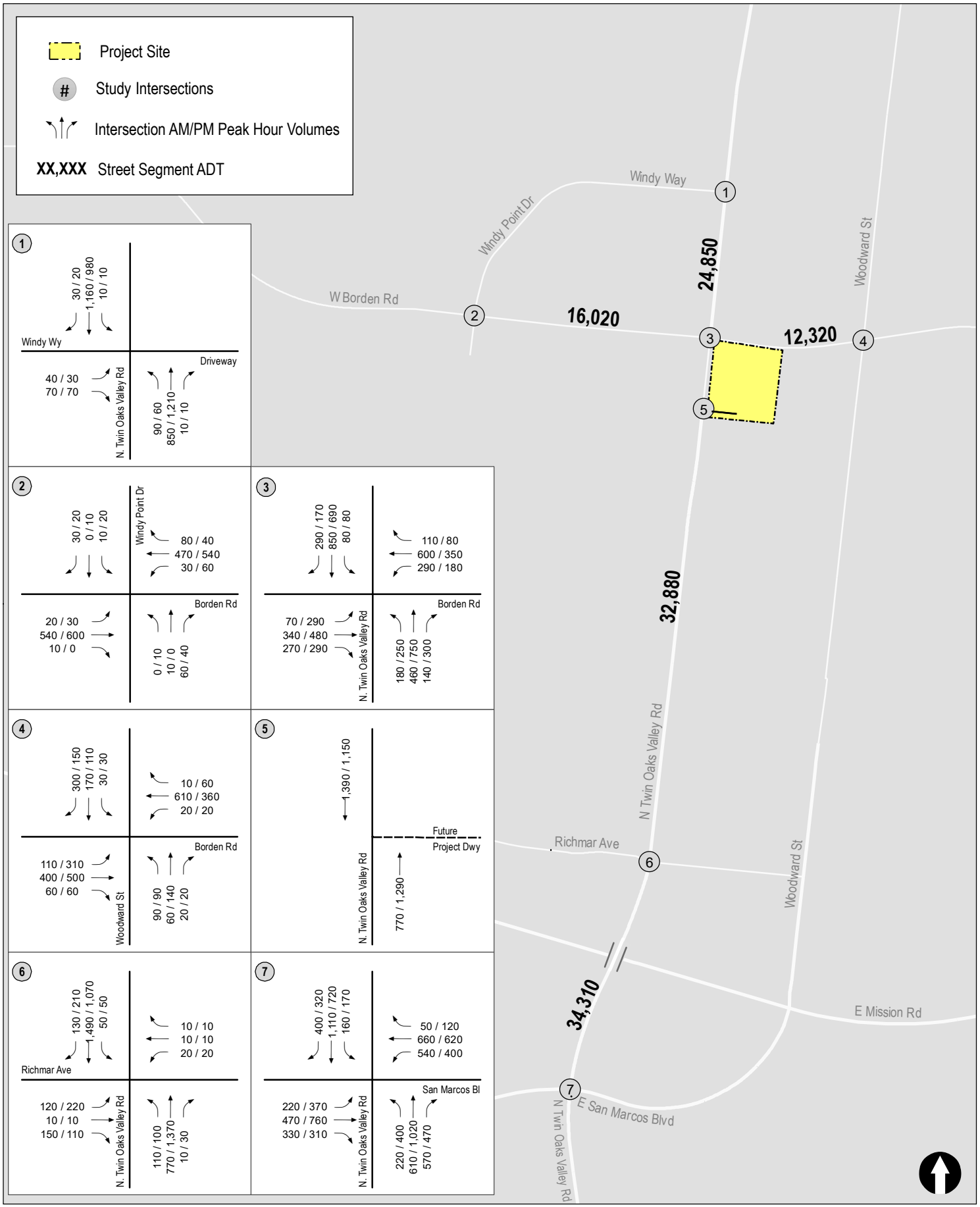
a. Capacity based on roadway classification operating at LOS E.

b. Average Daily Traffic.

c. Level of Service.

d. Volume to Capacity.

e. Δ denotes a project-induced increase in the Volume to Capacity (V/C) ratio.



LINSCOTT LAW & GREENSPAN engineers

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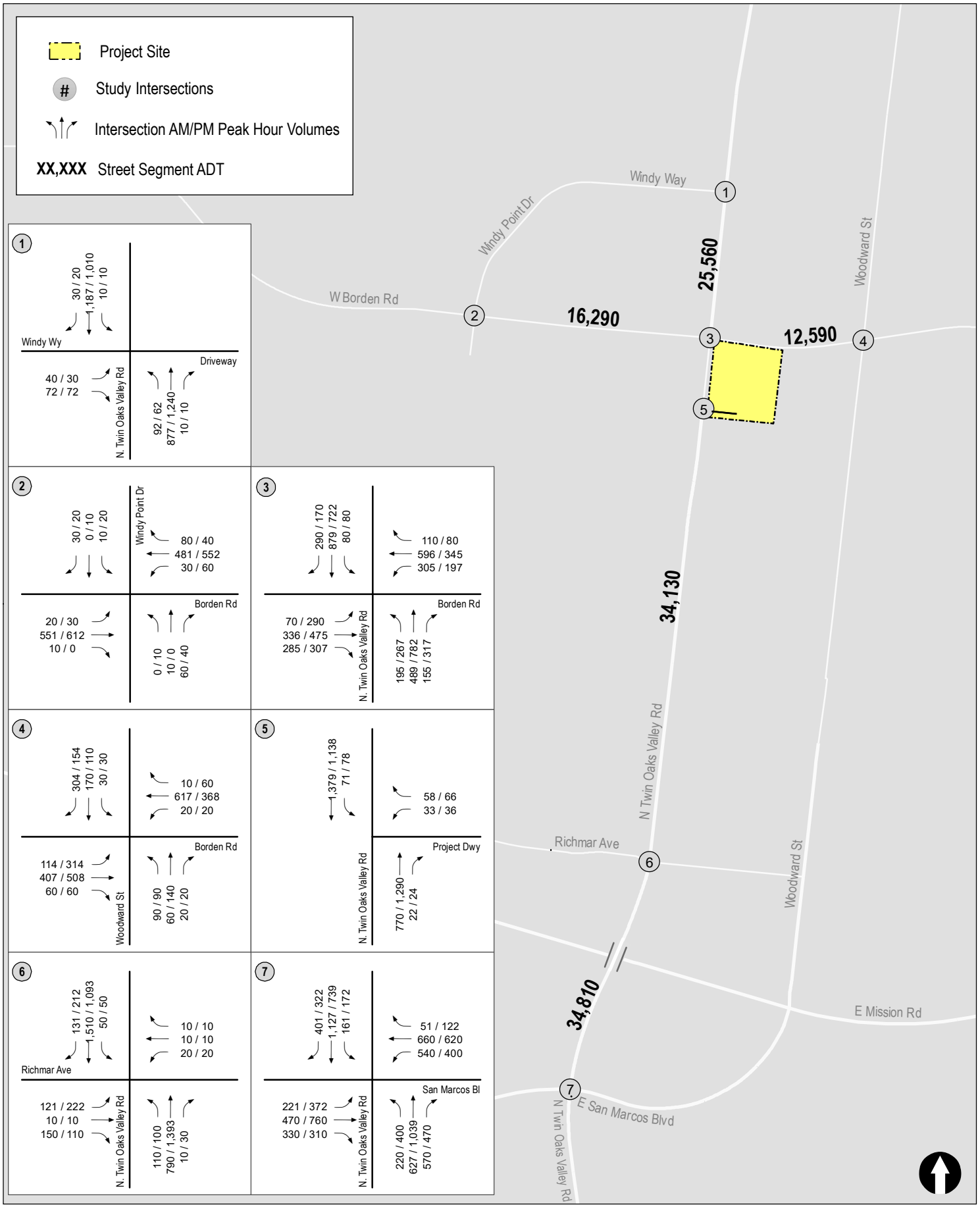
Date: 1/12/2021
Time: 11:53 AM

Figure 10-1

Horizon Year without Project Traffic Volumes



LINSCOTT LAW & GREENSPAN engineers

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Time: 11:54 AM

Figure 10-2

Horizon Year + Project Traffic Volumes

11.0 ACCESS AND OTHER ISSUES

11.1 Site Access

Access to the site is proposed via one full access driveway on Twin Oaks Valley Road. The Project driveway is calculated to operate acceptably at LOS D or better during the Interim Year and Horizon Year peak hours as shown in *Tables 9-1* and *10-1,* respectively.

11.2 Parking

The *City of San Marcos Municipal Code Title 20 Zoning Ordinance* provides guidance on the minimum off-street parking requirements for a variety of land uses. The "automotive fueling station", is the land use applicable to the Project, which requires a minimum of 1 space per 1,000 SF minus convenience store area, plus 3.3 spaces per 1,000 SF for convenience store.

The Project proposes a 5,462 square feet (16 fueling pumps) gas station, approximately 2,134 square feet automated car wash, and a 4,083 square feet convenience store, and therefore a minimum of 22 parking spaces are required [(5,462 + 2,134) / 1000 = 8 spaces + (3.3 x 4,083) / 1,000 = 14 spaces] = 22 parking spaces). The Project will provide a total of 25 parking spaces, and will therefore be in compliance with the City's minimum parking requirement.

11.3 Queuing

11.3.1 *Driveway Queuing*

Table 11–1 summarizes the calculated peak hour queues at the Twin Oaks Valley Road / Project Driveway intersection for the various analysis scenarios. As seen in *Table 11–1*, the 95th percentile inbound and outbound queues at the Project driveway are calculated to be contained within the proposed storage lengths.

The appendices containing the intersection analysis worksheets include the queueing analysis results.

TABLE 12–1
95TH PERCENTILE QUEUE RESULTS

Intersection	Critical Movement	Peak Hour	Storage Length (ft)	Queue Length (ft)	
				Interim Year + Project	Horizon Year + Project
5. Twin Oaks Valley Road / Project Driveway	WB	AM	50	22'	26'
		PM		36'	42'
	SB L	AM	70	6'	6'
		PM		10'	12'

General Notes:
1. Source: LLG Synchro Analysis

11.3.2 *On-Site Car Wash Queuing*

Per Table 20.340-1 of the *City of San Marcos Municipal Code Title 20 Zoning Ordinance*, 5 queue spaces are required for self-service car wash. The Project will provide 6 queue spaces and will therefore be in compliance with the City's minimum requirement.

12.0 ACTIVE TRANSPORTATION REVIEW

12.1 Existing Bicycle Network

Currently, Class II bike lanes are provided on the following study street segments:

- Borden Road, from Windy Point Drive to Woodward Street (both sides);
- Twin Oaks Valley Road, from Windy Way to San Marcos Boulevard (both sides).

12.2 Existing Pedestrian Conditions

Pedestrian sidewalks are generally provided throughout the study area. Pedestrian crossings are provided in all directions at the following intersections:

- Twin Oaks Valley Road / Borden Road;
- Woodward Street / Borden Road; and
- Twin Oaks Valley Road / San Marcos Boulevard.

Pedestrian crossings are prohibited at the following locations:

- Twin Oaks Valley Road / Windy Way (across the south leg);
- Windy Point Drive / Borden Road (across the east leg); and
- Twin Oaks Valley Road / Richmar Avenue (across the south leg).

12.3 Existing Transit Conditions

No transit service is provided within a half-mile of the Project site. Transit service nearest to the Project site is provided via the Route 305 Bus Route and the Sprinter. Route 305 provides bus service between the Escondido Transit Center and the Vista Transit Center, with the nearest stop to the Project site located at San Marcos Boulevard and Mission Road. The route operates every 30 minutes between the hours of 4:15AM and 11:30PM, Monday through Friday, and between 5:15AM and 11:00PM on Saturday and Sunday. The Sprinter provides light rail service between the Escondido Transit Center and the Oceanside Transit Center, with the San Marcos Civic Center station being the nearest station to the Project site. The Sprinter operates every 30 minutes between the hours of 4:00AM and 9:30PM, Sunday through Thursday, and between 4:00AM and 12:00AM on Friday and Saturday.

13.0 CONCLUSIONS

The intersection and segment analysis provided in this study shows that the analyzed facilities are consistent with the City of San Marcos LOS Standards. Therefore, additional off-site improvements to the surrounding roadways by the Project are not required.

End of Report

LINSCOTT LAW & GREENSPAN engineers

TECHNICAL APPENDICES
TWIN OAKS FUEL STATION

City of San Marcos, California
January 2021

LLG Ref. 3-19-3162

Linscott, Law & Greenspan, Engineers
4542 Ruffner Street
Suite 100
San Diego, CA 92111
858.300.8800 T
858.300.8810 F
www.llgengineers.com

APPENDICES

APPENDIX

APPENDIX A

INTERSECTION AND SEGMENT MANUAL COUNT SHEETS; TRAFFIC GROWTH CALCULATIONS

INTERSECTION	DIRECTION	Wednesday, November 4, 2020						Tuesday, March 3, 2020					
		Ram	Rpm	Tam	Tpm	Lam	Lpm	Ram	Rpm	Tam	Tpm	Lam	Lpm
1. N. Twin Oaks Valley Road / Windy Way	Sb	11	10	554	567	2	5						
	Wb	1	1	0	0	0	0						
	Nb	0	1	399	719	39	35						
	Eb	33	40	0	0	17	15						
2. Borden Road / Windy Point Drive	Sb	12	10	0	2	4	10						
	Wb	35	20	222	313	13	36						
	Nb	28	24	4	0	0	2						
	Eb	2	0	243	345	9	13						
3. Borden Road / N. Twin Oaks Valley Road	Sb	69	69	497	510	39	64	246	132	725	580	63	62
	Wb	56	51	96	114	146	121	87	62	517	287	246	145
	Nb	84	208	358	618	110	164	117	255	390	633	143	196
	Eb	149	99	70	136	47	110	216	238	287	415	47	246
4. Borden Road / Woodward Street	Sb	198	246	595	509	58	69						
	Wb	20	33	260	338	244	242						
	Nb	181	275	359	636	158	259						
	Eb	211	228	204	483	107	312						
5. N. Twin Oaks Valley Road / Project Driveway	Sb			1050	979								
	Wb												
	Nb			698	1170								
	Eb												
6. N. Twin Oaks Valley Road / Richmar Avenue	Sb	71	132	820	696	27	33						
	Wb	1	1	4	6	7	7						
	Nb	4	17	414	916	57	65						
	Eb	78	69	4	5	60	146						
7. N. Twin Oaks Valley Road / San Marcos Boulevard	Sb	201	246	595	509	58	69	265	275	724	603	101	139
	Wb	20	33	260	338	244	242	29	83	571	534	455	338
	Nb	181	275	359	646	158	259	490	397	407	740	191	344
	Eb	211	228	204	483	105	312	282	266	407	660	151	276

		AM	PM
Total Intersection Volume	Nov-20	1,721	2,264
	Mar-20	3,084	3,251
Growth Factor		**79%**	**44%**

		AM	PM
Total Intersection Volume	Nov-20	2,596	3,640
	Mar-20	4,073	4,655
Growth Factor		**57%**	**28%**

Prepared by National Data & Surveying Services

N Twin Oaks Valley Rd & W San Marcos Blvd

Peak Hour Turning Movement Count

ID: 20-04064-003
City: San Marcos

Day: Tuesday
Date: 03/03/2020

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NONE	NONE
04:15 PM - 05:15 PM	04:00 PM - 06:00 PM

N Twin Oaks Valley Rd — SOUTHBOUND

AM	265	724	101	0	587	AM
NOON	0	0	0	0	0	NOON
PM	275	603	139	0	1099	PM

W San Marcos Blvd — EASTBOUND

AM	NOON	PM		
1029	0	1153	⇦	
2	0	0	↶	0
151	0	276	↱	2
407	0	660	→	2
282	0	266	↳	2
AM	NOON	PM		

W San Marcos Blvd — WESTBOUND

PM	NOON	AM		
83	0	29	↰	0
534	0	571	←	2
338	0	455	↲	2
0	0	0	↩	0
1196	0	998	⇨	
PM	NOON	AM		

CONTROL

Signalized

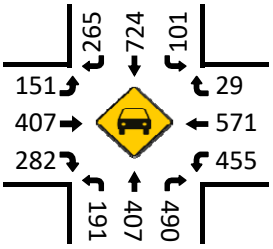
TEV	4075 AM	0 NOON	4655 PM
PHF	0.91		0.98

N Twin Oaks Valley Rd — NORTHBOUND

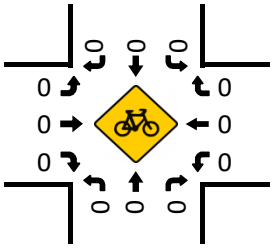
PM	1207	0	344	740	397	PM
NOON	0	0	0	0	0	NOON
AM	1461	0	191	407	490	AM

0 2 2 0 | 0 2 2 1

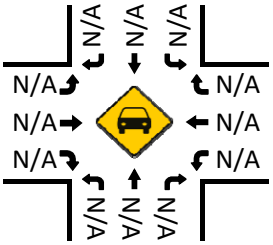
Total Vehicles (AM)



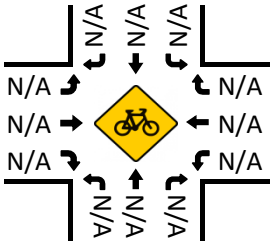
Bikes (AM)



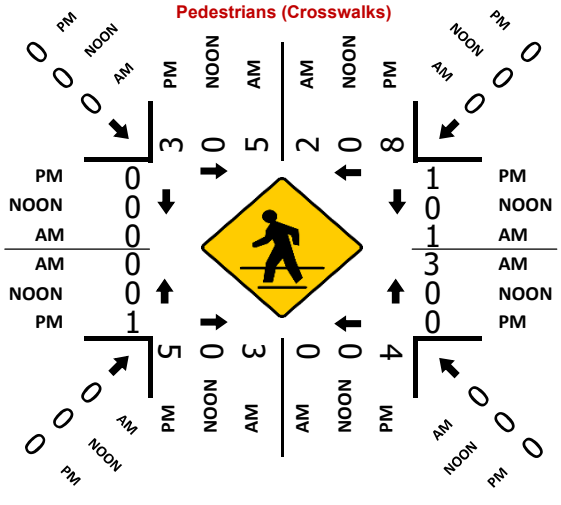
Total Vehicles (Noon)



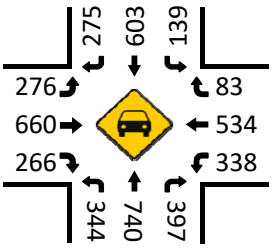
Bikes (NOON)



Pedestrians (Crosswalks)



Total Vehicles (PM)



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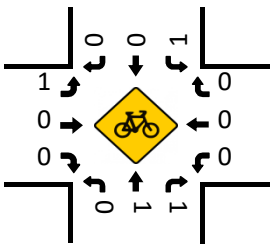


Prepared by National Data & Surveying Services

Twin Oaks Valley Rd & W Borden Rd

Peak Hour Turning Movement Count

ID: 20-04064-007
City: San Marcos

Day: Tuesday
Date: 03/03/2020

PEAK HOURS	COUNT PERIODS
07:15 AM - 08:15 AM	07:00 AM - 09:00 AM
NONE	NONE
04:30 PM - 05:30 PM	04:00 PM - 06:00 PM

Twin Oaks Valley Rd — SOUTHBOUND

	L	T	R	U	Total	
AM	246	725	63	0	524	AM
NOON	0	0	0	0	0	NOON
PM	132	580	62	0	941	PM

W Borden Rd — EASTBOUND

AM	NOON	PM	
906	0	615	⇦
0	0	0	0
47	0	246	1
287	0	415	2
216	0	238	0
AM	NOON	PM	

W Borden Rd — WESTBOUND

PM	NOON	AM	
62	0	87	0
287	0	517	2
145	0	246	1
0	0	0	0
732	0	467	⇨
PM	NOON	AM	

CONTROL

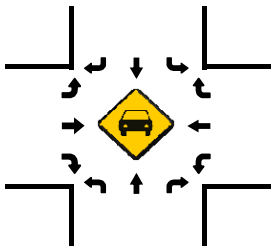
Signalized

TEV	3084 AM	0 NOON	3251 PM
PHF	0.92		0.97

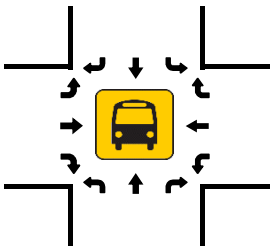
Twin Oaks Valley Rd — NORTHBOUND

	L	T	R	U	Total	
PM	963	0	196	633	255	PM
NOON	0	0	0	0	0	NOON
AM	1187	0	143	390	117	AM

Total Vehicles (AM)



Total Vehicles (AM)



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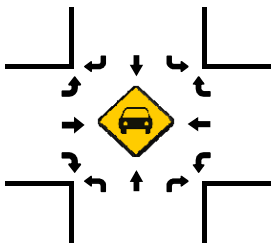
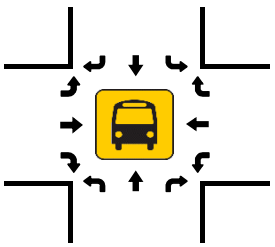
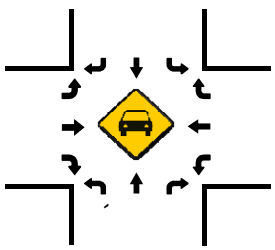


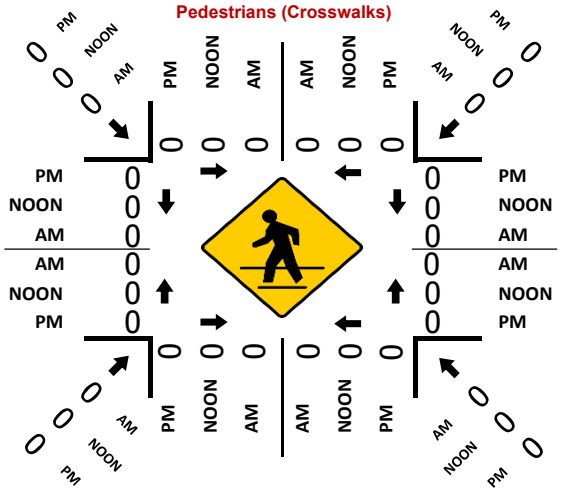
Total Vehicles (NOON)



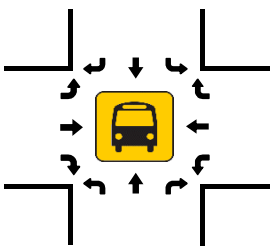
Total Vehicles (PM)



Pedestrians (Crosswalks)



Total Vehicles (PM)



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#01	File Name:	ITM-20-045-01
Intersection:	North Twin Oaks Valley Road & Windy Way	Project:	LLG Ref. 3-19-3162
Date of Count:	Wednesday, November 4, 2020		San Marcos

AM	N.Twin Oaks Valley Rd Southbound			Business Driveway Westbound			N.Twin Oaks Valley Rd Northbound			Windy Way Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	0	171	1	0	0	0	5	88	0	1	0	7	273
7:15	0	148	4	0	0	0	9	78	0	2	0	6	247
7:30	0	142	1	0	0	0	9	74	0	0	0	5	231
7:45	0	146	3	0	0	0	8	86	0	4	0	13	260
8:00	1	125	1	0	0	0	4	87	0	2	0	7	227
8:15	1	112	3	0	0	1	9	114	0	7	0	8	255
8:30	0	171	4	0	0	0	18	112	0	4	0	5	314
8:45	0	146	3	0	0	0	8	92	0	3	0	4	256
Total	2	1161	20	0	0	1	70	731	0	23	0	55	2063
Approach%	0.2	98.1	1.7	-	-	100.0	8.7	91.3	-	29.5	-	70.5	
Total%	0.1	56.3	1.0	-	-	0.0	3.4	35.4	-	1.1	-	2.7	

AM Intersection Peak Hour: **07:45 to 08:45**

Volume	2	554	11	-	-	1	39	399	-	17	-	33	1,056
Approach%	0.4	97.7	1.9	-	-	100.0	8.9	91.1	-	34.0	-	66.0	
Total%	0.2	52.5	1.0	-	-	0.1	3.7	37.8	-	1.6	-	3.1	
PHF			0.81			0.25			0.84			0.74	0.00

PM	N.Twin Oaks Valley Rd Southbound			Business Driveway Westbound			N.Twin Oaks Valley Rd Northbound			Windy Way Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	4	151	3	0	0	0	9	166	0	4	0	11	348
16:15	2	123	3	0	0	0	8	196	0	1	0	9	342
16:30	0	166	2	0	0	0	5	178	0	5	0	16	372
16:45	1	131	2	0	0	1	11	171	0	3	0	5	325
17:00	2	147	3	0	0	0	11	174	1	6	0	10	354
17:15	1	117	2	0	0	0	8	131	0	3	0	2	264
17:30	1	137	0	0	0	0	5	158	1	3	0	8	313
17:45	1	99	1	0	0	0	10	129	0	1	0	14	255
Total	12	1071	16	0	0	1	67	1303	2	26	0	75	2573
Approach%	1.1	97.5	1.5	-	-	100.0	4.9	95.0	0.1	25.7	-	74.3	
Total%	0.5	41.6	0.6	-	-	0.0	2.6	50.6	0.1	1.0	-	2.9	

PM Intersection Peak Hour: **16:15 to 17:15**

Volume	5	567	10	-	-	1	35	719	1	15	-	40	1,393
Approach%	0.9	97.4	1.7	-	-	100.0	4.6	95.2	0.1	27.3	-	72.7	
Total%	0.4	40.7	0.7	-	-	0.1	2.5	51.6	0.1	1.1	-	2.9	
PHF			0.87			0.25			0.93			0.65	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

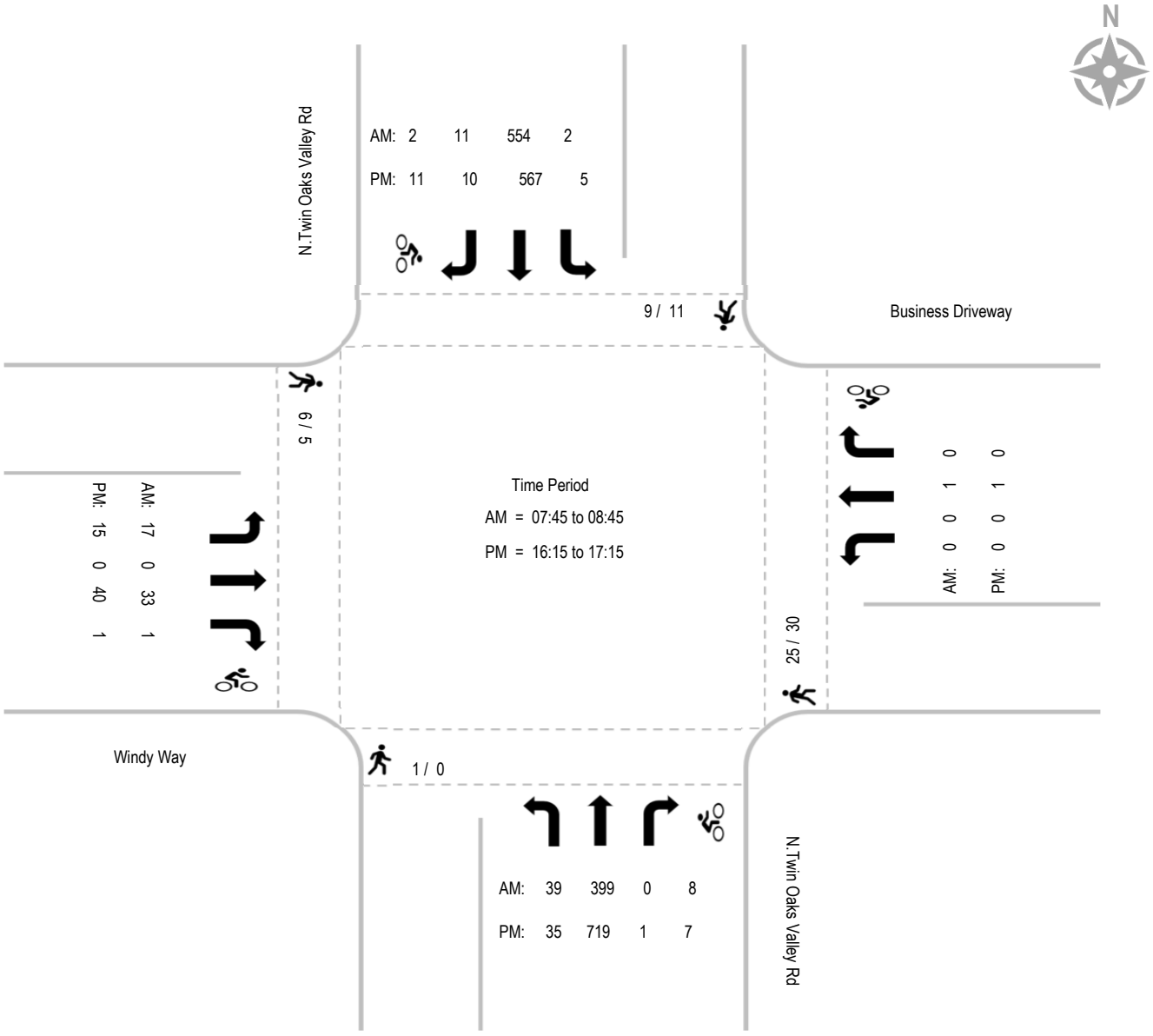
Location:	#01	File Name:	ITM-20-045-01
Intersection:	North Twin Oaks Valley Road & Windy Way	Project:	LLG Ref. 3-19-3162
Date of Count:	Wednesday, November 4, 2020		San Marcos

AM	N.Twin Oaks Valley Rd Southbound				Business Driveway Westbound				N.Twin Oaks Valley Rd Northbound				Windy Way Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	3	0	0	0	4	0	0	0	1	0	0	0	1	0	0	0	9	0
7:15	0	0	0	0	4	0	0	0	0	0	4	0	1	0	0	0	5	4
7:30	1	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	3	2
7:45	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0
8:00	0	0	0	0	1	0	0	0	0	0	2	0	1	0	0	0	2	2
8:15	2	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	4	0
8:30	0	0	0	0	7	0	0	0	0	0	2	0	0	1	0	0	7	3
8:45	2	0	0	0	5	0	0	0	0	0	0	0	2	0	0	0	9	0
Ped Total	9				25				1				6				41	
Bike Total		0	2	0		0	0	0		0	8	0		1	0	0		11

PM	N.Twin Oaks Valley Rd Southbound				Business Driveway Westbound				N.Twin Oaks Valley Rd Northbound				Windy Way Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	2	0	0	0	0	0	0	0	3	0	0	0	0	0	0	5
16:15	2	0	3	0	6	0	0	0	0	0	1	0	3	0	0	0	11	4
16:30	0	0	1	0	5	0	0	0	0	0	1	0	0	0	0	0	5	2
16:45	4	0	2	0	8	0	0	0	0	0	2	0	2	1	0	0	14	5
17:00	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	2	2
17:15	2	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	4	1
17:30	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	4	0
17:45	2	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	6	0
Ped Total	11				30				0				5				46	
Bike Total		0	9	2		0	0	0		0	7	0		1	0	0		19

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#01	File Name: ITM-20-045-01
	Intersection:	North Twin Oaks Valley Road & Windy Way	Project: LLG Ref. 3-19-3162
	Date of Count:	Wednesday, November 4, 2020	San Marcos



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#02	File Name:	ITM-20-045-02
Intersection:	Windy Way & Borden Road	Project:	LLG Ref. 3-19-3162
Date of Count:	Wednesday, November 4, 2020		San Marcos

AM	Windy Way Southbound			Borden Road Westbound			Windy Way Northbound			Borden Road Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	8	0	0	0	41	1	0	1	14	0	35	0	100
7:15	2	0	1	0	45	4	0	0	5	4	44	1	106
7:30	1	0	4	2	49	4	0	0	3	0	59	0	122
7:45	2	0	4	2	71	13	0	0	6	5	64	1	168
8:00	1	0	1	6	53	9	0	0	7	2	57	0	136
8:15	0	0	3	3	49	9	0	4	12	2	63	1	146
8:30	0	0	2	4	52	3	0	0	10	3	36	1	111
8:45	1	0	0	4	26	3	0	1	5	0	45	0	85
Total	15	0	15	21	386	46	0	6	62	16	403	4	974
Approach%	50.0	-	50.0	4.6	85.2	10.2	-	8.8	91.2	3.8	95.3	0.9	
Total%	1.5	-	1.5	2.2	39.6	4.7	-	0.6	6.4	1.6	41.4	0.4	

AM Intersection Peak Hour: **07:30 to 08:30**

Volume	4	-	12	13	222	35	-	4	28	9	243	2	572
Approach%	25.0	-	75.0	4.8	82.2	13.0	-	12.5	87.5	3.5	95.7	0.8	
Total%	0.7	-	2.1	2.3	38.8	6.1	-	0.7	4.9	1.6	42.5	0.3	
PHF			0.67			0.78			0.50			0.91	0.00

PM	Windy Way Southbound			Borden Road Westbound			Windy Way Northbound			Borden Road Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	2	0	5	9	70	1	0	0	4	1	109	1	202
16:15	1	0	2	5	59	2	0	1	3	1	69	1	144
16:30	0	0	4	7	78	3	0	0	9	1	80	1	183
16:45	0	0	4	7	74	2	0	0	6	4	82	0	179
17:00	5	1	4	11	89	4	0	0	3	6	82	0	205
17:15	5	1	1	11	74	13	2	0	9	1	87	0	204
17:30	0	0	1	7	76	1	0	0	6	2	94	0	187
17:45	1	0	1	7	73	2	0	0	6	0	56	0	146
Total	14	2	22	64	593	28	2	1	46	16	659	3	1450
Approach%	36.8	5.3	57.9	9.3	86.6	4.1	4.1	2.0	93.9	2.4	97.2	0.4	
Total%	1.0	0.1	1.5	4.4	40.9	1.9	0.1	0.1	3.2	1.1	45.4	0.2	

PM Intersection Peak Hour: **16:45 to 17:45**

Volume	10	2	10	36	313	20	2	-	24	13	345	-	775
Approach%	45.5	9.1	45.5	9.8	84.8	5.4	7.7	-	92.3	3.6	96.4	-	
Total%	1.3	0.3	1.3	4.6	40.4	2.6	0.3	-	3.1	1.7	44.5	-	
PHF			0.55			0.89			0.59			0.93	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

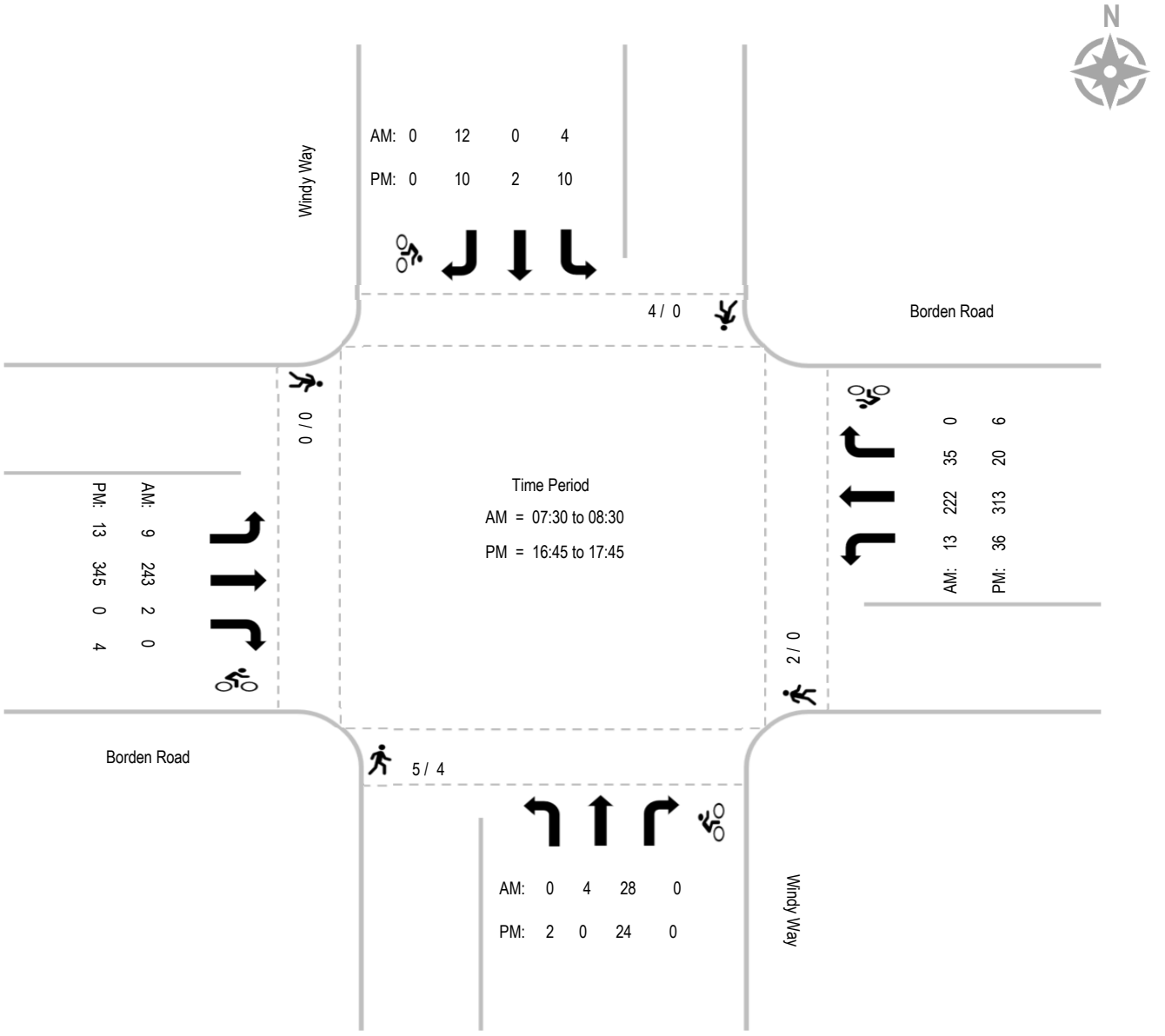
Location:	#02	File Name:	ITM-20-045-02
Intersection:	Windy Way & Borden Road	Project:	LLG Ref. 3-19-3162
Date of Count:	Wednesday, November 4, 2020		San Marcos

AM	Windy Way Southbound				Borden Road Westbound				Windy Way Northbound				Borden Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0
7:45	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0
8:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
8:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
Ped Total	4				2				5				0				11	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	Windy Way Southbound				Borden Road Westbound				Windy Way Northbound				Borden Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	2	0	1	0	0	0	0	0	0	0	1	2
16:15	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
16:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
16:45	0	0	0	0	0	0	1	0	1	0	0	0	0	2	0	0	1	3
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Ped Total	0				0				4				0				4	
Bike Total		0	0	0		0	4	2		0	0	0		2	2	0		10

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#02	File Name: ITM-20-045-02
	Intersection:	Windy Way & Borden Road	Project: LLG Ref. 3-19-3162
	Date of Count:	Wednesday, November 4, 2020	San Marcos



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#03	File Name:	ITM-20-045-03
Intersection:	North Twin Oaks Valley Road & Borden Road	Project:	LLG Ref. 3-19-3162
Date of Count:	Wednesday, November 4, 2020		San Marcos

AM	N.Twin Oaks Valley Rd Southbound			Borden Road Westbound			N.Twin Oaks Valley Rd Northbound			Borden Road Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	8	145	21	37	12	6	20	78	13	10	7	41	398
7:15	4	140	12	47	26	13	9	76	11	10	8	29	385
7:30	15	130	11	49	34	12	16	77	16	13	19	41	433
7:45	9	138	19	38	36	12	34	80	22	6	19	42	455
8:00	11	117	16	38	24	9	23	67	33	14	20	37	409
8:15	5	100	9	38	22	19	31	101	11	15	22	40	413
8:30	14	142	25	32	14	16	22	110	18	12	9	30	444
8:45	14	130	17	29	7	6	11	79	18	14	8	27	360
Total	80	1042	130	308	175	93	166	668	142	94	112	287	3297
Approach%	6.4	83.2	10.4	53.5	30.4	16.1	17.0	68.4	14.5	19.1	22.7	58.2	
Total%	2.4	31.6	3.9	9.3	5.3	2.8	5.0	20.3	4.3	2.9	3.4	8.7	

AM Intersection Peak Hour: **07:45 to 08:45**

Volume	39	497	69	146	96	56	110	358	84	47	70	149	1,721
Approach%	6.4	82.1	11.4	49.0	32.2	18.8	19.9	64.9	15.2	17.7	26.3	56.0	
Total%	2.3	28.9	4.0	8.5	5.6	3.3	6.4	20.8	4.9	2.7	4.1	8.7	
PHF			0.84			0.87			0.92			0.86	0.00

PM	N.Twin Oaks Valley Rd Southbound			Borden Road Westbound			N.Twin Oaks Valley Rd Northbound			Borden Road Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	21	137	15	24	27	25	35	146	50	26	53	30	589
16:15	13	119	16	36	23	13	27	156	49	29	35	19	535
16:30	21	141	19	29	30	15	43	158	47	33	33	25	594
16:45	15	119	13	26	28	13	42	139	49	23	28	31	526
17:00	15	131	21	30	33	10	52	165	63	25	40	24	609
17:15	8	92	17	36	42	6	41	99	48	27	43	36	495
17:30	11	117	13	28	35	8	37	122	45	36	38	29	519
17:45	15	91	11	33	32	5	34	117	41	15	25	20	439
Total	119	947	125	242	250	95	311	1102	392	214	295	214	4306
Approach%	10.0	79.5	10.5	41.2	42.6	16.2	17.2	61.1	21.7	29.6	40.8	29.6	
Total%	2.8	22.0	2.9	5.6	5.8	2.2	7.2	25.6	9.1	5.0	6.9	5.0	

PM Intersection Peak Hour: **16:15 to 17:15**

Volume	64	510	69	121	114	51	164	618	208	110	136	99	2,264
Approach%	10.0	79.3	10.7	42.3	39.9	17.8	16.6	62.4	21.0	31.9	39.4	28.7	
Total%	2.8	22.5	3.0	5.3	5.0	2.3	7.2	27.3	9.2	4.9	6.0	4.4	
PHF			0.89			0.97			0.88			0.95	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

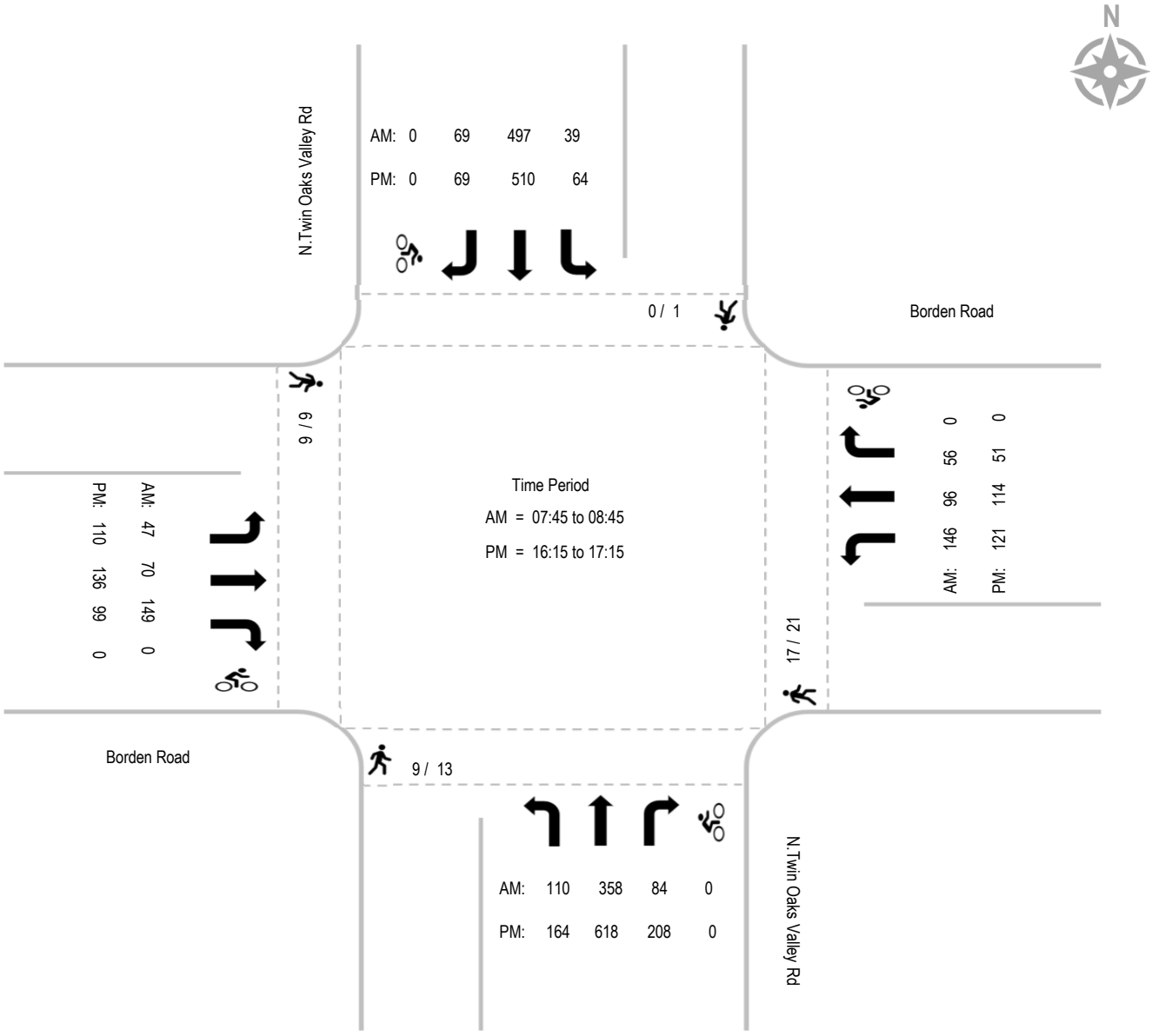
Location:	#03	File Name:	ITM-20-045-03
Intersection:	North Twin Oaks Valley Road & Borden Road	Project:	LLG Ref. 3-19-3162
Date of Count:	Wednesday, November 4, 2020		San Marcos

AM	N.Twin Oaks Valley Rd Southbound				Borden Road Westbound				N.Twin Oaks Valley Rd Northbound				Borden Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	4	0
7:15	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3	0
7:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
7:45	0	0	0	0	1	0	0	0	2	0	0	0	1	0	0	0	4	0
8:00	0	0	0	0	1	0	0	0	2	0	0	0	1	0	0	0	4	0
8:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
8:30	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5	0
8:45	0	0	0	0	4	0	0	0	4	0	0	0	2	0	0	0	10	0
Ped Total	0				17				9				6				32	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

PM	N.Twin Oaks Valley Rd Southbound				Borden Road Westbound				N.Twin Oaks Valley Rd Northbound				Borden Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0
16:15	0	0	0	0	5	0	0	0	4	0	0	0	0	0	0	0	9	0
16:30	0	0	0	0	5	0	0	0	0	0	0	0	2	0	0	0	7	0
16:45	0	0	0	0	3	0	0	0	1	0	0	0	1	0	0	0	5	0
17:00	0	0	0	0	5	0	0	0	6	0	0	0	0	0	0	0	11	0
17:15	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0
17:30	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0
17:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0
Ped Total	1				21				13				6				41	
Bike Total		0	0	0		0	0	0		0	0	0		0	0	0		0

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#03	File Name: ITM-20-045-03
	Intersection:	North Twin Oaks Valley Road & Borden Road	Project: LLG Ref. 3-19-3162
	Date of Count:	Wednesday, November 4, 2020	San Marcos



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#04 R	File Name:	ITM-20-045-04 R
Intersection:	Woodward Street & Borden Road	Project:	LLG Ref. 3-19-3162
Date of Count:	Wednesday, November 4, 2020		San Marcos

AM	Woodward Street Southbound			Borden Road Westbound			Woodward Street Northbound			Borden Road Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	2	23	18	0	30	2	5	4	3	7	17	4	115
7:15	0	16	29	4	51	0	9	7	2	5	18	1	142
7:30	6	30	33	2	52	0	5	5	2	8	32	6	181
7:45	2	19	20	2	59	3	5	8	0	10	36	5	169
8:00	2	13	23	0	45	1	8	7	4	9	35	4	151
8:15	3	12	28	2	43	3	2	9	0	9	27	1	139
8:30	8	10	23	2	35	2	5	6	4	19	16	3	133
8:45	6	13	15	1	27	0	4	4	0	14	23	3	110
Total	29	136	189	13	342	11	43	50	15	81	204	27	1140
Approach%	8.2	38.4	53.4	3.6	93.4	3.0	39.8	46.3	13.9	26.0	65.4	8.7	
Total%	2.5	11.9	16.6	1.1	30.0	1.0	3.8	4.4	1.3	7.1	17.9	2.4	

AM Intersection Peak Hour: **07:15 to 08:15**

Volume	10	78	105	8	207	4	27	27	8	32	121	16	643
Approach%	5.2	40.4	54.4	3.7	94.5	1.8	43.5	43.5	12.9	18.9	71.6	9.5	
Total%	1.6	12.1	16.3	1.2	32.2	0.6	4.2	4.2	1.2	5.0	18.8	2.5	
PHF			0.70			0.86			0.82			0.83	0.00

PM	Woodward Street Southbound			Borden Road Westbound			Woodward Street Northbound			Borden Road Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	4	19	21	2	44	4	19	23	3	27	94	7	267
16:15	2	13	14	0	44	2	8	21	2	22	63	7	198
16:30	4	14	24	0	41	9	12	22	2	36	70	7	241
16:45	3	20	11	2	42	8	12	16	6	31	58	3	212
17:00	5	10	23	4	41	6	9	21	2	50	62	8	241
17:15	3	17	21	2	53	8	8	26	1	37	50	6	232
17:30	3	16	11	3	49	7	7	19	2	34	56	7	214
17:45	6	14	24	4	48	8	11	28	2	31	44	6	226
Total	30	123	149	17	362	52	86	176	20	268	497	51	1831
Approach%	9.9	40.7	49.3	3.9	84.0	12.1	30.5	62.4	7.1	32.8	60.9	6.3	
Total%	1.6	6.7	8.1	0.9	19.8	2.8	4.7	9.6	1.1	14.6	27.1	2.8	

PM Intersection Peak Hour: **16:30 to 17:30**

Volume	15	61	79	8	177	31	41	85	11	154	240	24	926
Approach%	9.7	39.4	51.0	3.7	81.9	14.4	29.9	62.0	8.0	36.8	57.4	5.7	
Total%	1.6	6.6	8.5	0.9	19.1	3.3	4.4	9.2	1.2	16.6	25.9	2.6	
PHF			0.92			0.86			0.95			0.87	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

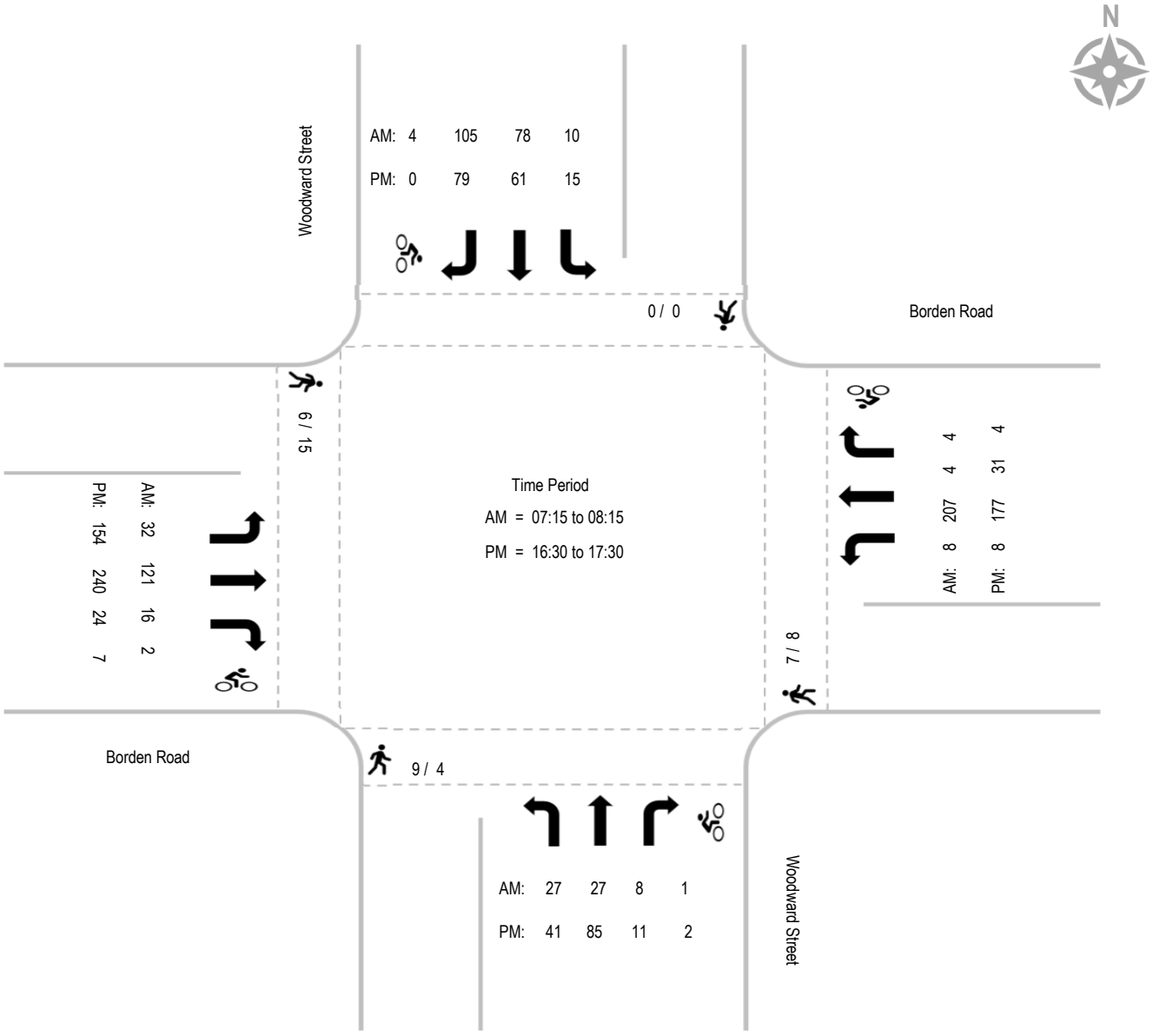
Location:	#04 R	File Name:	ITM-20-045-04 R
Intersection:	Woodward Street & Borden Road	Project:	LLG Ref. 3-19-3162
Date of Count:	Wednesday, November 4, 2020		San Marcos

AM	Woodward Street Southbound				Borden Road Westbound				Woodward Street Northbound				Borden Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	3	0
7:15	0	0	0	1	0	0	3	1	2	0	0	0	1	0	1	0	3	6
7:30	0	0	0	0	0	0	0	0	2	0	0	0	1	0	1	0	3	1
7:45	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
8:15	0	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	5	0
8:30	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0
8:45	0	0	0	0	2	0	0	0	2	0	1	0	1	0	0	0	5	1
Ped Total	0				7				9				6				22	
Bike Total		0	3	1		0	3	1		0	1	0		0	2	0		11

PM	Woodward Street Southbound				Borden Road Westbound				Woodward Street Northbound				Borden Road Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	0	0	0	0	0	0	4	0	0	0	0	0	2	0	1	0	2	5
16:15	0	0	0	0	2	0	0	0	1	0	0	0	1	0	2	0	4	2
16:30	0	0	0	0	3	0	0	0	0	1	0	0	3	0	1	0	6	2
16:45	0	0	0	0	1	0	0	0	1	0	0	0	2	0	0	0	4	0
17:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
17:15	0	0	0	0	1	0	0	0	0	0	0	0	1	0	3	0	2	3
17:30	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0
17:45	0	0	0	0	1	0	0	0	1	0	1	0	2	0	0	0	4	1
Ped Total	0				8				4				15				27	
Bike Total		0	0	0		0	4	0		1	1	0		0	7	0		13

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#04 R	File Name: ITM-20-045-04 R
	Intersection:	Woodward Street & Borden Road	Project: LLG Ref. 3-19-3162
	Date of Count:	Wednesday, November 4, 2020	San Marcos



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#05	File Name:	ITM-20-045-05
Intersection:	North Twin Oaks Valley Road & Richmar Avenue	Project:	LLG Ref. 3-19-3162
Date of Count:	Wednesday, November 4, 2020		San Marcos

AM	N.Twin Oaks Valley Rd Southbound			Richmar Avenue Westbound			N.Twin Oaks Valley Rd Northbound			Richmar Avenue Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	4	191	23	5	0	0	6	107	1	13	4	9	363
7:15	3	219	17	1	1	1	13	88	1	18	0	13	375
7:30	5	208	16	2	0	0	15	108	2	14	3	22	395
7:45	14	213	16	0	2	0	20	118	0	5	1	23	412
8:00	5	180	22	4	1	0	9	100	1	23	0	20	365
8:15	9	185	16	2	0	0	13	111	1	17	3	16	373
8:30	1	175	23	4	1	0	12	116	4	25	0	13	374
8:45	8	170	20	3	1	0	7	104	3	15	0	10	341
Total	49	1541	153	21	6	1	95	852	13	130	11	126	2998
Approach%	2.8	88.4	8.8	75.0	21.4	3.6	9.9	88.8	1.4	48.7	4.1	47.2	
Total%	1.6	51.4	5.1	0.7	0.2	0.0	3.2	28.4	0.4	4.3	0.4	4.2	

AM Intersection Peak Hour: **07:15 to 08:15**

Volume	27	820	71	7	4	1	57	414	4	60	4	78	1,547
Approach%	2.9	89.3	7.7	58.3	33.3	8.3	12.0	87.2	0.8	42.3	2.8	54.9	
Total%	1.7	53.0	4.6	0.5	0.3	0.1	3.7	26.8	0.3	3.9	0.3	5.0	
PHF			0.94			0.60			0.86			0.83	0.00

PM	N.Twin Oaks Valley Rd Southbound			Richmar Avenue Westbound			N.Twin Oaks Valley Rd Northbound			Richmar Avenue Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	10	185	35	2	0	2	20	210	2	28	1	22	517
16:15	8	143	56	0	2	1	12	225	6	47	0	14	514
16:30	8	194	26	3	0	0	19	202	3	32	1	18	506
16:45	10	196	24	2	2	0	12	225	4	35	1	23	534
17:00	7	163	26	2	2	0	22	264	4	32	3	14	539
17:15	3	164	21	1	0	0	19	173	2	33	2	13	431
17:30	5	163	18	4	2	0	16	192	2	37	2	7	448
17:45	10	175	28	4	0	0	17	174	4	28	1	11	452
Total	61	1383	234	18	8	3	137	1665	27	272	11	122	3941
Approach%	3.6	82.4	13.9	62.1	27.6	10.3	7.5	91.0	1.5	67.2	2.7	30.1	
Total%	1.5	35.1	5.9	0.5	0.2	0.1	3.5	42.2	0.7	6.9	0.3	3.1	

PM Intersection Peak Hour: **16:15 to 17:15**

Volume	33	696	132	7	6	1	65	916	17	146	5	69	2,093
Approach%	3.8	80.8	15.3	50.0	42.9	7.1	6.5	91.8	1.7	66.4	2.3	31.4	
Total%	1.6	33.3	6.3	0.3	0.3	0.0	3.1	43.8	0.8	7.0	0.2	3.3	
PHF			0.94			0.88			0.86			0.90	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

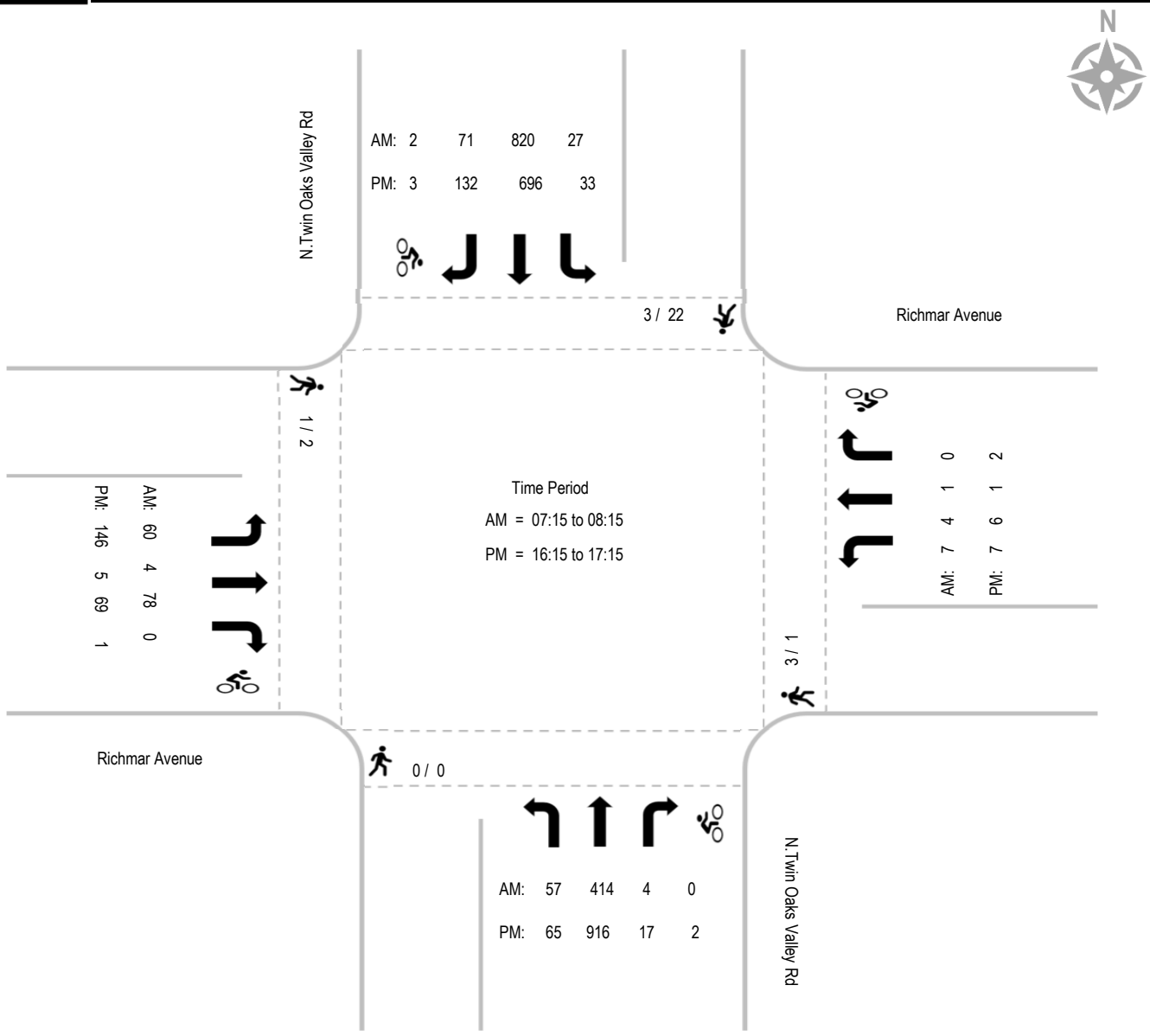
Location:	#05	File Name:	ITM-20-045-05
Intersection:	North Twin Oaks Valley Road & Richmar Avenue	Project:	LLG Ref. 3-19-3162
Date of Count:	Wednesday, November 4, 2020		San Marcos

AM	N.Twin Oaks Valley Rd Southbound				Richmar Avenue Westbound				N.Twin Oaks Valley Rd Northbound				Richmar Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
7:30	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
7:45	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
8:00	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
8:15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	3				3				0				1				7	
Bike Total		0	2	0		0	0	0		0	0	0		0	0	0		2

PM	N.Twin Oaks Valley Rd Southbound				Richmar Avenue Westbound				N.Twin Oaks Valley Rd Northbound				Richmar Avenue Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	4	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	4	4
16:15	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
16:30	5	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	6	0
16:45	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2
17:00	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
17:15	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	2	1
17:30	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	1
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Total	22				1				0				2				25	
Bike Total		0	2	1		0	2	0		0	2	0		1	0	0		8

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#05	File Name: ITM-20-045-05
	Intersection:	North Twin Oaks Valley Road & Richmar Avenue	Project: LLG Ref. 3-19-3162
	Date of Count:	Wednesday, November 4, 2020	San Marcos



Intersection Turning Movement - Peak Hour Vehicle Count

LINSCOTT LAW & GREENSPAN engineers

Location:	#06	File Name:	ITM-20-045-06
Intersection:	North Twin Oaks Valley Road & San Marcos Boulevard	Project:	LLG Ref. 3-19-3162
Date of Count:	Wednesday, November 4, 2020		San Marcos

AM	N.Twin Oaks Valley Rd Southbound			San Marcos Blvd Westbound			N.Twin Oaks Valley Rd Northbound			San Marcos Blvd Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
7:00	13	133	48	56	52	6	26	80	27	27	35	45	548
7:15	17	149	55	62	59	6	35	79	55	21	42	57	637
7:30	12	170	53	69	75	5	38	93	45	31	48	66	705
7:45	17	148	54	71	66	3	44	107	41	24	52	56	683
8:00	12	128	39	42	60	6	41	80	40	29	62	32	571
8:15	14	132	53	53	57	5	41	83	37	7	56	51	589
8:30	13	129	51	48	56	6	41	103	43	34	54	40	618
8:45	12	106	54	48	63	2	28	76	48	25	55	41	558
Total	110	1095	407	449	488	39	294	701	336	198	404	388	4909
Approach%	6.8	67.9	25.2	46.0	50.0	4.0	22.1	52.7	25.2	20.0	40.8	39.2	
Total%	2.2	22.3	8.3	9.1	9.9	0.8	6.0	14.3	6.8	4.0	8.2	7.9	

AM Intersection Peak Hour: **07:15 to 08:15**

Volume	58	595	201	244	260	20	158	359	181	105	204	211	2,596
Approach%	6.8	69.7	23.5	46.6	49.6	3.8	22.6	51.4	25.9	20.2	39.2	40.6	
Total%	2.2	22.9	7.7	9.4	10.0	0.8	6.1	13.8	7.0	4.0	7.9	8.1	
PHF			0.91			0.88			0.91			0.90	0.00

PM	N.Twin Oaks Valley Rd Southbound			San Marcos Blvd Westbound			N.Twin Oaks Valley Rd Northbound			San Marcos Blvd Eastbound			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
16:00	20	140	66	53	90	5	73	160	68	81	112	71	939
16:15	17	111	59	63	83	7	67	156	57	85	123	42	870
16:30	16	113	66	62	79	7	56	174	83	63	114	41	874
16:45	16	145	55	64	86	14	63	156	67	83	134	74	957
17:00	15	108	54	89	94	18	63	159	81	62	111	56	910
17:15	9	112	46	81	98	10	59	125	69	63	133	59	864
17:30	14	135	45	49	75	10	60	144	67	59	100	52	810
17:45	13	109	52	53	72	8	65	126	68	58	114	58	796
Total	120	973	443	514	677	79	506	1200	560	554	941	453	7020
Approach%	7.8	63.3	28.8	40.5	53.3	6.2	22.3	53.0	24.7	28.4	48.3	23.3	
Total%	1.7	13.9	6.3	7.3	9.6	1.1	7.2	17.1	8.0	7.9	13.4	6.5	

PM Intersection Peak Hour: **16:00 to 17:00**

Volume	69	509	246	242	338	33	259	646	275	312	483	228	3,640
Approach%	8.4	61.8	29.9	39.5	55.1	5.4	21.9	54.7	23.3	30.5	47.2	22.3	
Total%	1.9	14.0	6.8	6.6	9.3	0.9	7.1	17.7	7.6	8.6	13.3	6.3	
PHF			0.91			0.93			0.94			0.88	0.00

Intersection Turning Movement - Bicycle & Pedestrian Count

LINSCOTT LAW & GREENSPAN engineers

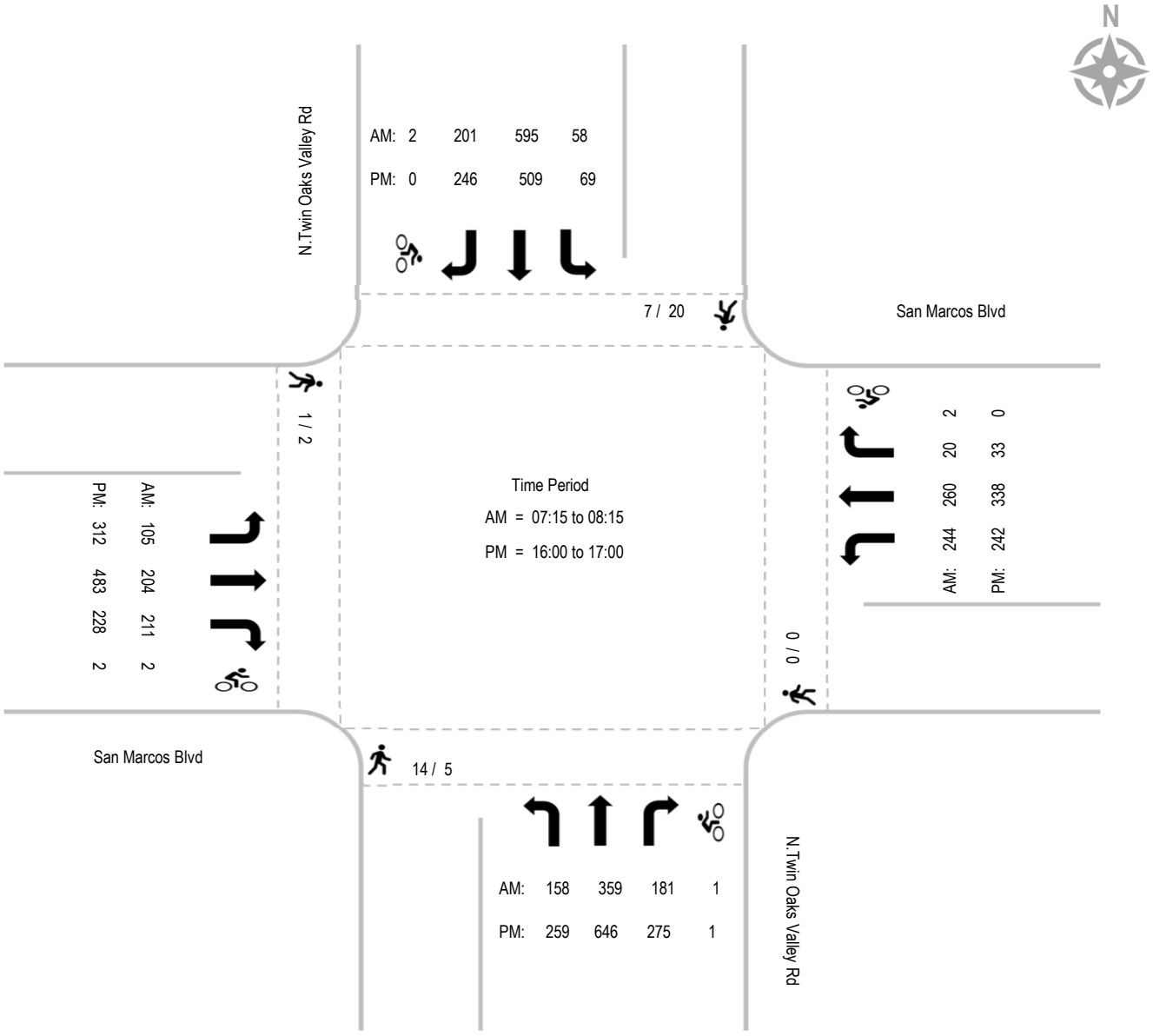
Location:	#06	File Name:	ITM-20-045-06
Intersection:	North Twin Oaks Valley Road & San Marcos Boulevard	Project:	LLG Ref. 3-19-3162
Date of Count:	Wednesday, November 4, 2020		San Marcos

AM	N.Twin Oaks Valley Rd Southbound				San Marcos Blvd Westbound				N.Twin Oaks Valley Rd Northbound				San Marcos Blvd Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
7:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
7:15	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0
7:30	0	0	1	0	0	0	0	1	6	0	0	0	0	0	0	0	6	2
7:45	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:00	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3	0
8:15	3	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	6	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	1	0	0	0	0	1	3	0	0	0	0	0	2	0	3	4
Ped Total	7				0				14				1				22	
Bike Total		0	2	0		0	0	2		0	1	0		0	2	0		7

PM	N.Twin Oaks Valley Rd Southbound				San Marcos Blvd Westbound				N.Twin Oaks Valley Rd Northbound				San Marcos Blvd Eastbound				Totals	
	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	B-Left	B-Thru	B-Right	Ped	Bicycle
16:00	2	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3	2
16:15	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
16:30	7	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	8	0
16:45	5	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	7	1
17:00	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
Ped Total	20				0				5				2				27	
Bike Total		0	0	0		0	0	0		0	1	0		0	2	0		3

Intersection Turning Movement - Peak Hour Summary

LINSCOTT LAW & GREENSPAN engineers	Location:	#06	File Name: ITM-20-045-06
	Intersection:	North Twin Oaks Valley Road & San Marcos Boulevard	Project: LLG Ref. 3-19-3162
	Date of Count:	Wednesday, November 4, 2020	San Marcos



Street	SEGMENTS		2019 ADT
	From:	To:	
ARMORLITE DR	LAS POSAS RD	BINGHAM DR	4084
AUTUMN DRIVE	KNOLL RD	PICO AVE	2001
BARHAM DR	LA MOREE RD (W)	RT 78 OFF RAMP	17071
BARHAM DR	RT 78 RAMP OFF RAMP	WOODLAND PKWY	21538
BARHAM DR	WOODLAND PKWY	RT 78 ON RAMP	16958
BARHAM DR	RT 78 ON RAMP	BENNETT CT	12217
BENNETT AVE	MISSION RD	KNOB HILL RD	6953
BENNETT AVE	KNOB HILL RD	ROCK SPRINGS RD	6602
BENT AVE	GRAND AVE	SAN MARCOS BLVD	5120
BENT AVE	SAN MARCOS BLVD	DISCOVERY ST	10305
BORDEN RD	TWIN OAKS VALLEY RD	COMET CIRCLE	13881
BORDEN RD	COMET CIRCLE	LAS POSAS RD	9490
BORDEN RD	WOODWARD ST	VINEYARD RD	8303
BORDEN RD	WOODWARD ST	TWIN OAKS VALLEY RD	11821
BORDEN RD	VINEYARD RD	MULBERRY DR	10008
BORDEN RD	MULBERRY DR	ROSE RANCH/RICHLAND	11921
BORDEN RD	ROSE RANCH/RICHLAND	WOODLAND PKWY	13978
BOUGHER RD	KNOB HILL RD	MISSION RD	2005
BOULDERIDGE DR	RANCHO SANTA FE RD	MELROSE DR	3344
CAPALINA DR	RANCHO SANTA FE RD	PACIFIC ST	4104
CENTER DR	AVENIDA RICARDO	NORDAHL RD	19962
CORONADO HILLS	LA MOREE RD	WASHINGTONIA DR	785
CRAVEN RD	TWIN OAKS VALLEY RD	SANTA BARBARA	18845
CRAVEN RD	SANTA BARBARA DR	DISCOVERY ST	18590
DEER SPRINGS RD	TWIN OAKS VALLEY RD	NORTH CITY LIMIT	22354
DESCANSO AVE/N. PACIFIC ST	LAS POSAS RD	MISSION RD	3926
DESCANSO AVE	LAS FLORES DR	RANCHO SANTA FE RD	7168
DESCANSO AVE	LAS FLORES DR	OLEANDER AVE	6582
DESCANSO AVE	RANCHO SANTA FE RD	PAWNEE ST	2174
DISCOVERY ST	SAN MARCOS BLVD	320' N/O SAN PABLO DR	13133
DISCOVERY ST	LA SOMBRA DR	VIA VERA CRUZ	12200
DISCOVERY ST	VIA VERA CRUZ	BENT AVE	13038
DOUBLE PEAK DR	SAN ELIJO RD	TUCANA DR	1769
DOUBLE PEAK DR	TUCANA DR	DOUBLE PEAK PARK	373
ELFIN FOREST RD (WB)	CALISTOGA WAY	NB SAN ELIJO RD	3588
ELFIN FOREST RD (EB)	CALISTOGA WAY	NB SAN ELIJO RD	3287

Street	SEGMENTS		2019 ADT
	From:	To:	
TWIN OAKS VALLEY RD	TWIN OAKS VALLEY RD (N)	BUENA CREEK RD	19928
TWIN OAKS VALLEY RD	TWIN OAKS VALLEY RD (N)	LA CIENEGA RD	15332
TWIN OAKS VALLEY RD	LA CIENEGA RD	BORDEN RD	19290
TWIN OAKS VALLEY RD	BORDEN RD	SAN MARCOS BLVD	26499
TWIN OAKS VALLEY RD	SAN MARCOS BLVD	SR-78 WB	41000
VIA VERA CRUZ	GRAND AVE	SAN MARCOS BLVD	9654
VINEYARD RD	MULBERRY DR	BORDEN RD	3533
VINEYARD RD	BORDEN RD	WOODWARD ST	3919
WOODLAND PKWY	BORDEN RD/EL NTE PKY	ROCK SPRINGS RD	10280
WOODLAND PKWY	ROCK SPRINGS RD	MISSION RD	14761
WOODLAND PKWY	MISSION RD	RANCHEROS DR	18473
WOODLAND PKWY	RANCHEROS DR	BARHAM DR	19380
WOODWARD ST	MISSION RD	BORDEN RD	8131
WOODWARD ST	BORDEN RD	MULBERRY DR	5675

APPENDIX B

CITY OF SAN MARCOS ROADWAY CLASSIFICATION TABLE

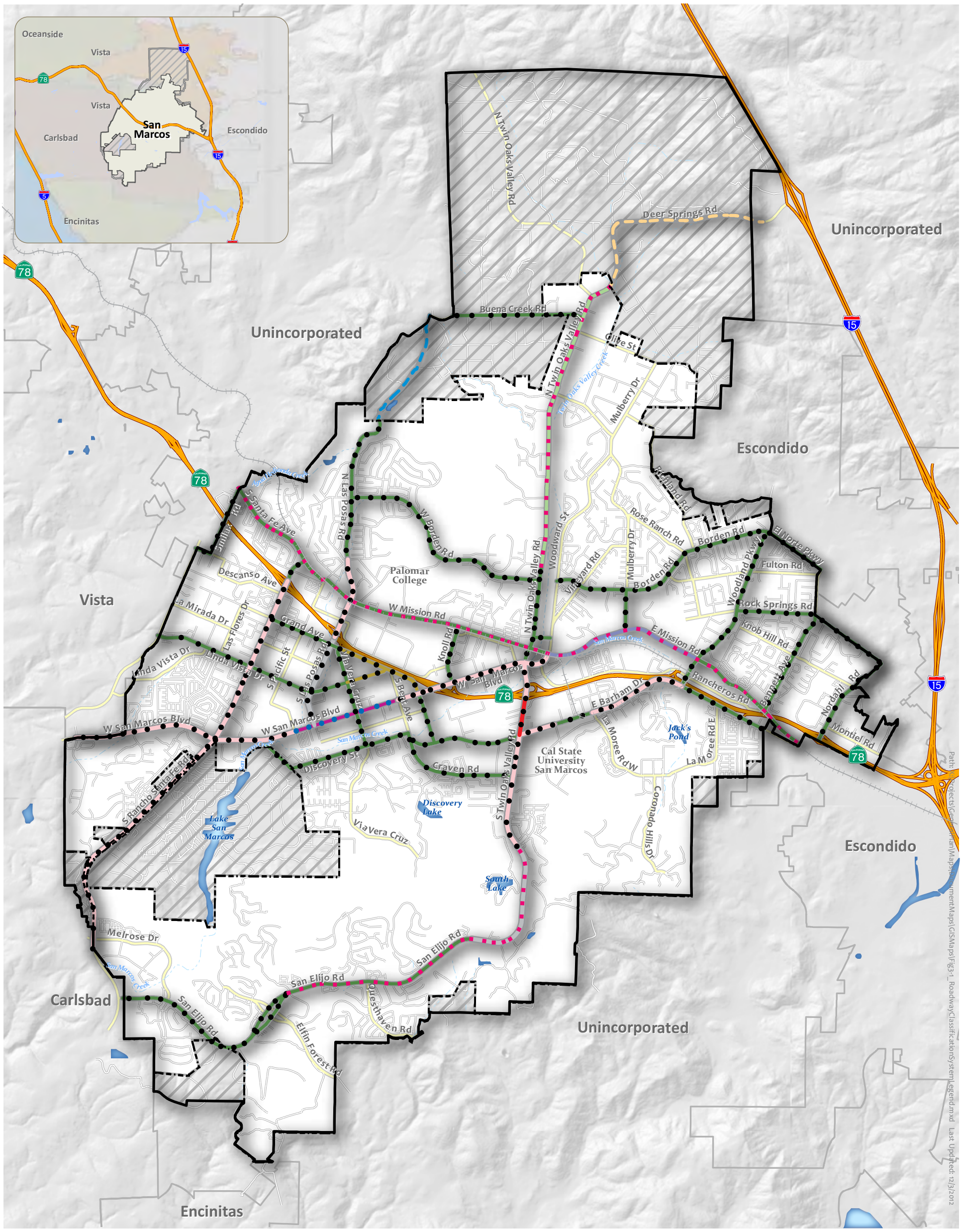
Table 3.16-2
Daily Roadway Segment Capacity

Street Typology	Typical Lane Configuration	Vehicular Level of Service				
		LOS A	LOS B	LOS C	LOS D	LOS E
Existing Roadway Classifications / Standards						
Prime Arterial	7 to 8 lanes	29,200	40,800	58,300	64,200	70,000
Prime Arterial	6 lanes	25,000	35,000	50,000	55,000	60,000
Major Arterial	5 lanes	18,000	25,000	35,000	40,000	45,000
Major Arterial	4 lanes	15,000	21,000	30,000	35,000	40,000
Secondary Arterial	5 lanes	12,500	17,500	25,000	31,300	37,500
Secondary Arterial	4 lanes	10,000	14,000	20,000	25,000	30,000
Secondary Arterial	3 lanes	7,500	10,500	15,000	18,000	22,500
Collector	2 lanes plus TWLTL	5,000	7,000	10,000	13,000	15,000
Collector	2 lanes	2,500	3,500	5,000	6,500	8,000
General Plan Complete Street Typology Standards						
Arterial	8 lanes	29,200	40,800	58,300	64,200	70,000
Arterial	6 lanes	25,000	35,000	50,000	55,000	60,000
Arterial with Class II or Class III Bike Lanes	4 lanes	15,000	21,000	30,000	35,000	40,000
Arterial with enhanced Bike facilities	4 lanes	15,000	21,000	30,000	35,000	40,000
Multi-Way Boulevard	4 lanes for through trips, two lanes for local serving trips [1]	16,800	25,200	31,500	37,800	42,000
Industrial Collector	4 lanes	10,000	14,000	20,000	25,000	30,000
Collector & Main Street	2 lanes plus TWLTL	5,000	7,000	10,000	13,000	15,000
Collector & Main Street	2 lanes [2]	2,500	3,000	5,000	6,500	8,000
Freeway	Mixed-Flow Lane [3]	-	-	1,760	1,980	2,200
Freeway	HOV Lanes [3]	-	-	1,440	1,620	1,800

Note: These are general capacities for planning purposes. Specific operational characteristics, such as signal coordination, can enhance operations significantly.

1. LOS thresholds were calculated based on V/C ratios of the daily threshold volumes for the corresponding roadway classification. Multi-way boulevard capacity assumes a similar capacity as a 4-lane arterial plus an additional 1,000 ADT capacity per lane for the local service roadway.
2. With fronting commercial or residential property
3. Per lane capacities presented.

Source: SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region, 2000.



3 MOBILITY ELEMENT

FIGURE 3-1

City of San Marcos

Roadway Classifications

0 0.25 0.5 1 Miles

San Marcos City Limits
Sphere of Influence
Planning Area
Major Hydrologic Features
Creeks
Railroad
Freeway
Highway
Major Road
Minor Road

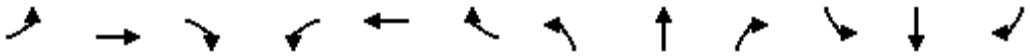
Roadway Classifications
- 2 Lanes with Right-of-Way consistent with County of San Diego's General Plan
- 4 Lanes with Right-of-Way consistent with County of San Diego's General Plan
- Arterial Enhanced
- Complete Street
- 4 Lanes (Rural)
- 4 Lanes
- 4 Lanes +
- Multi-Way Boulevard
- 6 Lanes
- 6 Lanes +

Street Typology*
- Arterial with Class II or III Bicycle Facilities and Sidewalks
- Arterial with Enhanced Bicycle/Pedestrian Facilities
- Multi-Way

* See the Street Design Manual for additional street typology assignments

SOURCES OF DATA:
City of San Marcos 12/12

APPENDIX C
EXISTING INTERSECTION ANALYSIS WORKSHEETS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	0	59	0	0	0	70	715	1	4	993	20
Future Volume (veh/h)	30	0	59	0	0	0	70	715	1	4	993	20
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	0	70				83	851	1	5	1182	24
Peak Hour Factor	0.84	0.84	0.84				0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	0	2				2	2	2	2	2	2
Cap, veh/h	119	0	106				113	2781	3	12	2515	51
Arrive On Green	0.07	0.00	0.07				0.06	0.76	0.76	0.01	0.71	0.71
Sat Flow, veh/h	1781	0	1585				1781	3642	4	1781	3558	72
Grp Volume(v), veh/h	36	0	70				83	415	437	5	590	616
Grp Sat Flow(s),veh/h/ln	1781	0	1585				1781	1777	1869	1781	1777	1854
Q Serve(g_s), s	1.9	0.0	4.3				4.5	7.2	7.2	0.3	14.5	14.5
Cycle Q Clear(g_c), s	1.9	0.0	4.3				4.5	7.2	7.2	0.3	14.5	14.5
Prop In Lane	1.00		1.00				1.00		0.00	1.00		0.04
Lane Grp Cap(c), veh/h	119	0	106				113	1357	1427	12	1256	1310
V/C Ratio(X)	0.30	0.00	0.66				0.74	0.31	0.31	0.43	0.47	0.47
Avail Cap(c_a), veh/h	413	0	367				251	1357	1427	90	1256	1310
HCM Platoon Ratio	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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	0.0	45.2				45.7	3.6	3.6	49.1	6.4	6.4
Incr Delay (d2), s/veh	1.4	0.0	6.9				3.5	0.6	0.6	9.2	1.3	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
%ile BackOfQ(50%),veh/ln	0.9	0.0	3.9				2.1	2.2	2.3	0.2	5.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.5	0.0	52.1				49.1	4.2	4.2	58.3	7.7	7.6
LnGrp LOS	D	A	D				D	A	A	E	A	A
Approach Vol, veh/h		106						935			1211	
Approach Delay, s/veh		49.9						8.2			7.8	
Approach LOS		D						A			A	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	5.6	82.0		11.6	11.3	76.4
Change Period (Y+Rc), s	5.0	6.2		5.0	5.0	6.2
Max Green Setting (Gmax), s	5.0	75.8		23.0	14.0	66.8
Max Q Clear Time (g_c+I1), s	2.3	9.2		6.3	6.5	16.5
Green Ext Time (p_c), s	0.0	17.3		0.2	0.0	26.8

Intersection Summary			
HCM 6th Ctrl Delay			10.0
HCM 6th LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	435	4	23	398	63	0	7	50	7	0	22
Future Volume (veh/h)	16	435	4	23	398	63	0	7	50	7	0	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.94	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	512	5	27	468	74	0	8	59	8	0	26
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	1859	18	62	1863	801	0	18	129	73	0	60
Arrive On Green	0.03	0.52	0.52	0.03	0.52	0.52	0.00	0.10	0.10	0.04	0.00	0.04
Sat Flow, veh/h	1781	3604	35	1781	3554	1527	0	182	1339	1781	0	1468
Grp Volume(v), veh/h	19	252	265	27	468	74	0	0	67	8	0	26
Grp Sat Flow(s),veh/h/ln	1781	1777	1862	1781	1777	1527	0	0	1521	1781	0	1468
Q Serve(g_s), s	0.8	5.9	5.9	1.1	5.3	1.8	0.0	0.0	3.1	0.3	0.0	1.3
Cycle Q Clear(g_c), s	0.8	5.9	5.9	1.1	5.3	1.8	0.0	0.0	3.1	0.3	0.0	1.3
Prop In Lane	1.00		0.02	1.00		1.00	0.00		0.88	1.00		1.00
Lane Grp Cap(c), veh/h	47	917	961	62	1863	801	0	0	147	73	0	60
V/C Ratio(X)	0.41	0.28	0.28	0.44	0.25	0.09	0.00	0.00	0.46	0.11	0.00	0.43
Avail Cap(c_a), veh/h	193	917	961	193	1863	801	0	0	681	435	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	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.3	10.1	10.1	34.9	9.6	8.8	0.0	0.0	31.5	34.0	0.0	34.5
Incr Delay (d2), s/veh	5.6	0.7	0.7	4.8	0.1	0.0	0.0	0.0	2.2	0.7	0.0	4.9
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	0.4	2.2	2.4	0.5	1.9	0.5	0.0	0.0	1.2	0.1	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.9	10.8	10.8	39.7	9.7	8.8	0.0	0.0	33.7	34.7	0.0	39.4
LnGrp LOS	D	B	B	D	A	A	A	A	C	C	A	D
Approach Vol, veh/h		536			569			67			34	
Approach Delay, s/veh		11.9			11.0			33.7			38.3	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.5	44.0		9.0	6.9	44.6		13.1
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	8.0	38.0		18.0	8.0	38.0		33.0
Max Q Clear Time (g_c+I1), s	3.1	7.9		3.3	2.8	7.3		5.1
Green Ext Time (p_c), s	0.0	3.3		0.1	0.0	3.7		0.3

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	287	216	246	517	87	143	390	117	63	725	246
Future Volume (veh/h)	47	287	216	246	517	87	143	390	117	63	725	246
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	312	235	267	562	95	155	424	127	68	788	267
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	87	590	432	291	1274	215	178	1143	754	86	992	429
Arrive On Green	0.05	0.31	0.31	0.16	0.42	0.42	0.10	0.32	0.32	0.05	0.28	0.28
Sat Flow, veh/h	1781	1931	1413	1781	3030	510	1781	3554	1541	1781	3554	1537
Grp Volume(v), veh/h	51	286	261	267	329	328	155	424	127	68	788	267
Grp Sat Flow(s),veh/h/ln	1781	1777	1567	1781	1777	1764	1781	1777	1541	1781	1777	1537
Q Serve(g_s), s	4.0	19.1	19.8	21.1	18.8	18.9	12.3	13.1	6.6	5.4	29.4	21.7
Cycle Q Clear(g_c), s	4.0	19.1	19.8	21.1	18.8	18.9	12.3	13.1	6.6	5.4	29.4	21.7
Prop In Lane	1.00		0.90	1.00		0.29	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	87	543	479	291	747	741	178	1143	754	86	992	429
V/C Ratio(X)	0.59	0.53	0.54	0.92	0.44	0.44	0.87	0.37	0.17	0.79	0.79	0.62
Avail Cap(c_a), veh/h	123	543	479	375	747	741	229	1143	754	153	992	429
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.6	41.1	41.3	58.9	29.5	29.5	63.4	37.3	20.7	67.3	47.7	45.0
Incr Delay (d2), s/veh	2.4	3.6	4.4	20.9	1.9	1.9	20.2	0.9	0.5	5.9	6.5	6.7
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	1.9	9.0	8.3	11.2	8.5	8.5	6.6	5.9	2.5	2.6	13.9	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.0	44.7	45.7	79.8	31.3	31.4	83.6	38.3	21.2	73.2	54.3	51.6
LnGrp LOS	E	D	D	E	C	C	F	D	C	E	D	D
Approach Vol, veh/h		598			924			706			1123	
Approach Delay, s/veh		47.2			45.4			45.1			54.8	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	49.8	18.9	46.0	11.8	66.2	12.8	52.1
Change Period (Y+Rc), s	* 4.9	* 6.1	4.6	* 6.1	* 4.9	* 6.1	5.9	* 6.1
Max Green Setting (Gmax), s	* 3.3	* 40	18.4	* 40	* 9.9	* 60	12.3	* 45
Max Q Clear Time (g_c+I1), s	23.1	21.8	14.3	31.4	6.0	20.9	7.4	15.1
Green Ext Time (p_c), s	0.2	3.3	0.1	4.1	0.0	4.7	0.0	3.5

Intersection Summary	
HCM 6th Ctrl Delay	48.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

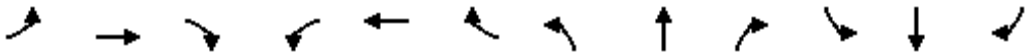
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	334	45	14	520	7	67	48	14	18	140	263
Future Volume (veh/h)	88	334	45	14	520	7	67	48	14	18	140	263
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	99	375	51	16	584	8	75	54	16	20	157	296
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	1404	189	45	1446	20	110	378	112	53	453	371
Arrive On Green	0.08	0.45	0.45	0.03	0.40	0.40	0.06	0.27	0.27	0.03	0.24	0.24
Sat Flow, veh/h	1781	3129	422	1781	3587	49	1781	1375	407	1781	1870	1533
Grp Volume(v), veh/h	99	211	215	16	289	303	75	0	70	20	157	296
Grp Sat Flow(s),veh/h/ln	1781	1777	1774	1781	1777	1859	1781	0	1782	1781	1870	1533
Q Serve(g_s), s	5.4	7.3	7.5	0.9	11.4	11.4	4.1	0.0	2.9	1.1	6.8	17.9
Cycle Q Clear(g_c), s	5.4	7.3	7.5	0.9	11.4	11.4	4.1	0.0	2.9	1.1	6.8	17.9
Prop In Lane	1.00		0.24	1.00		0.03	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	135	797	796	45	716	749	110	0	490	53	453	371
V/C Ratio(X)	0.73	0.27	0.27	0.36	0.40	0.40	0.68	0.00	0.14	0.37	0.35	0.80
Avail Cap(c_a), veh/h	260	797	796	143	716	749	231	0	694	143	630	516
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	17.0	17.0	47.2	21.0	21.0	45.3	0.0	27.0	46.9	30.9	35.1
Incr Delay (d2), s/veh	2.9	0.8	0.8	1.8	1.7	1.6	2.7	0.0	0.1	1.6	0.5	6.0
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	2.5	3.1	3.2	0.4	5.0	5.2	1.9	0.0	1.3	0.5	3.1	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	17.8	17.9	49.0	22.7	22.6	48.0	0.0	27.1	48.5	31.4	41.0
LnGrp LOS	D	B	B	D	C	C	D	A	C	D	C	D
Approach Vol, veh/h		525			608			145			473	
Approach Delay, s/veh		23.4			23.3			37.9			38.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	50.0	11.3	29.6	12.1	45.5	8.1	32.9
Change Period (Y+Rc), s	5.1	* 5.8	* 5.2	* 5.8	4.6	* 5.8	5.1	* 5.8
Max Green Setting (Gmax), s	7.9	* 44	* 13	* 33	14.4	* 38	7.9	* 38
Max Q Clear Time (g_c+I1), s	2.9	9.5	6.1	19.9	7.4	13.4	3.1	4.9
Green Ext Time (p_c), s	0.0	2.8	0.0	1.7	0.1	3.8	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	6	122	11	6	2	89	650	6	42	1287	111
Future Volume (veh/h)	94	6	122	11	6	2	89	650	6	42	1287	111
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	6	130	12	6	2	95	691	6	45	1369	118
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	6	128	145	107	36	120	1838	16	80	1608	138
Arrive On Green	0.09	0.09	0.09	0.08	0.08	0.08	0.07	0.51	0.51	0.05	0.49	0.49
Sat Flow, veh/h	1781	66	1425	1781	1315	438	1781	3609	31	1781	3300	283
Grp Volume(v), veh/h	100	0	136	12	0	8	95	340	357	45	734	753
Grp Sat Flow(s),veh/h/ln	1781	0	1491	1781	0	1754	1781	1777	1863	1781	1777	1806
Q Serve(g_s), s	4.8	0.0	8.0	0.6	0.0	0.4	4.7	10.4	10.4	2.2	32.2	32.7
Cycle Q Clear(g_c), s	4.8	0.0	8.0	0.6	0.0	0.4	4.7	10.4	10.4	2.2	32.2	32.7
Prop In Lane	1.00		0.96	1.00		0.25	1.00		0.02	1.00		0.16
Lane Grp Cap(c), veh/h	160	0	134	145	0	143	120	905	949	80	866	880
V/C Ratio(X)	0.63	0.00	1.02	0.08	0.00	0.06	0.79	0.38	0.38	0.56	0.85	0.86
Avail Cap(c_a), veh/h	160	0	134	758	0	746	120	905	949	160	866	880
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	0.0	40.6	37.9	0.0	37.8	41.0	13.3	13.3	41.7	20.0	20.1
Incr Delay (d2), s/veh	7.5	0.0	82.7	0.2	0.0	0.2	29.6	1.2	1.1	5.9	10.1	10.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	6.0	0.2	0.0	0.2	3.0	4.2	4.4	1.1	14.7	15.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.7	0.0	123.4	38.2	0.0	38.0	70.6	14.5	14.4	47.7	30.1	30.6
LnGrp LOS	D	A	F	D	A	D	E	B	B	D	C	C
Approach Vol, veh/h		236			20			792			1532	
Approach Delay, s/veh		90.9			38.1			21.2			30.8	
Approach LOS		F			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	51.8		14.1	12.0	49.8		13.4				
Change Period (Y+Rc), s	6.0	6.3		6.1	6.0	6.3		6.1				
Max Green Setting (Gmax), s	8.0	41.5		8.0	6.0	43.5		38.0				
Max Q Clear Time (g_c+I1), s	4.2	12.4		10.0	6.7	34.7		2.6				
Green Ext Time (p_c), s	0.0	4.7		0.0	0.0	6.1		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			33.4									
HCM 6th LOS			C									

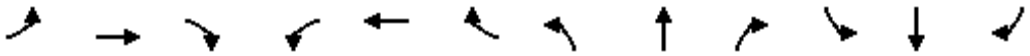
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	407	282	455	571	37	191	516	490	132	943	345
Future Volume (veh/h)	192	407	282	455	571	37	191	516	490	132	943	345
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	211	447	310	500	627	41	210	567	538	145	1036	379
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	264	1506	1347	319	1486	97	239	1182	659	212	814	293
Arrive On Green	0.08	0.42	0.42	0.09	0.44	0.44	0.07	0.33	0.33	0.06	0.32	0.32
Sat Flow, veh/h	3456	3554	2722	3456	3380	221	3456	3554	1542	3456	2537	914
Grp Volume(v), veh/h	211	447	310	500	329	339	210	567	538	145	721	694
Grp Sat Flow(s),veh/h/ln	1728	1777	1361	1728	1777	1824	1728	1777	1542	1728	1777	1675
Q Serve(g_s), s	7.8	10.8	8.5	12.0	16.6	16.6	7.8	16.5	40.1	5.3	41.7	41.7
Cycle Q Clear(g_c), s	7.8	10.8	8.5	12.0	16.6	16.6	7.8	16.5	40.1	5.3	41.7	41.7
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		0.55
Lane Grp Cap(c), veh/h	264	1506	1347	319	781	802	239	1182	659	212	570	537
V/C Ratio(X)	0.80	0.30	0.23	1.57	0.42	0.42	0.88	0.48	0.82	0.69	1.26	1.29
Avail Cap(c_a), veh/h	319	1506	1347	319	781	802	239	1182	659	271	570	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.40	0.40	0.40
Uniform Delay (d), s/veh	59.0	24.7	18.8	59.0	25.1	25.1	60.0	34.4	33.0	59.8	44.2	44.2
Incr Delay (d2), s/veh	11.2	0.5	0.4	270.1	1.7	1.6	28.7	1.4	10.7	2.0	124.8	137.3
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	3.8	4.7	2.8	17.2	7.4	7.6	4.4	7.4	16.7	2.4	37.9	37.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.3	25.2	19.2	329.1	26.7	26.7	88.7	35.8	43.8	61.8	168.9	181.4
LnGrp LOS	E	C	B	F	C	C	F	D	D	E	F	F
Approach Vol, veh/h		968			1168			1315			1560	
Approach Delay, s/veh		33.1			156.2			47.5			164.5	
Approach LOS		C			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	63.0	16.0	49.5	16.9	65.1	14.5	51.0
Change Period (Y+Rc), s	7.0	7.4	7.0	* 7.8	7.0	7.4	6.5	7.8
Max Green Setting (Gmax), s	12.0	38.6	9.0	* 42	12.0	38.6	10.2	40.5
Max Q Clear Time (g_c+I1), s	14.0	12.8	9.8	43.7	9.8	18.6	7.3	42.1
Green Ext Time (p_c), s	0.0	4.6	0.0	0.0	0.1	4.1	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	106.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	0	57	0	0	0	50	1032	1	7	814	14
Future Volume (veh/h)	22	0	57	0	0	0	50	1032	1	7	814	14
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	0	61				53	1098	1	7	866	15
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				2	2	2	2	2	2
Cap, veh/h	116	0	103				98	2760	3	16	2539	44
Arrive On Green	0.07	0.00	0.07				0.06	0.76	0.76	0.01	0.71	0.71
Sat Flow, veh/h	1781	0	1585				1781	3643	3	1781	3571	62
Grp Volume(v), veh/h	23	0	61				53	536	563	7	431	450
Grp Sat Flow(s),veh/h/ln	1781	0	1585				1781	1777	1870	1781	1777	1856
Q Serve(g_s), s	1.2	0.0	3.6				2.8	10.1	10.1	0.4	8.9	8.9
Cycle Q Clear(g_c), s	1.2	0.0	3.6				2.8	10.1	10.1	0.4	8.9	8.9
Prop In Lane	1.00		1.00				1.00		0.00	1.00		0.03
Lane Grp Cap(c), veh/h	116	0	103				98	1346	1416	16	1264	1320
V/C Ratio(X)	0.20	0.00	0.59				0.54	0.40	0.40	0.44	0.34	0.34
Avail Cap(c_a), veh/h	445	0	396				241	1346	1416	130	1264	1320
HCM Platoon Ratio	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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	0.0	43.7				44.2	4.0	4.0	47.4	5.3	5.3
Incr Delay (d2), s/veh	0.8	0.0	5.3				1.7	0.9	0.8	7.1	0.7	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
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.2				1.3	3.1	3.2	0.2	3.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	0.0	49.0				45.9	4.9	4.9	54.5	6.0	6.0
LnGrp LOS	D	A	D				D	A	A	D	A	A
Approach Vol, veh/h		84						1152			888	
Approach Delay, s/veh		47.4						6.8			6.4	
Approach LOS		D						A			A	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	5.9	79.0		11.3	10.3	74.6
Change Period (Y+Rc), s	5.0	6.2		5.0	5.0	6.2
Max Green Setting (Gmax), s	7.0	72.8		24.0	13.0	66.8
Max Q Clear Time (g_c+I1), s	2.4	12.1		5.6	4.8	10.9
Green Ext Time (p_c), s	0.0	25.3		0.2	0.0	17.6

Intersection Summary	
HCM 6th Ctrl Delay	8.2
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	495	0	52	449	29	3	0	34	14	3	14
Future Volume (veh/h)	19	495	0	52	449	29	3	0	34	14	3	14
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		0.96	1.00		0.93	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	521	0	55	473	31	3	0	36	15	3	15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	1781	0	99	1881	809	9	0	114	72	10	51
Arrive On Green	0.03	0.50	0.00	0.06	0.53	0.53	0.08	0.00	0.08	0.04	0.04	0.04
Sat Flow, veh/h	1781	3647	0	1781	3554	1528	115	0	1376	1781	254	1271
Grp Volume(v), veh/h	20	521	0	55	473	31	39	0	0	15	0	18
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1528	1491	0	0	1781	0	1525
Q Serve(g_s), s	0.8	6.2	0.0	2.2	5.2	0.7	1.8	0.0	0.0	0.6	0.0	0.8
Cycle Q Clear(g_c), s	0.8	6.2	0.0	2.2	5.2	0.7	1.8	0.0	0.0	0.6	0.0	0.8
Prop In Lane	1.00		0.00	1.00		1.00	0.08		0.92	1.00		0.83
Lane Grp Cap(c), veh/h	49	1781	0	99	1881	809	123	0	0	72	0	61
V/C Ratio(X)	0.41	0.29	0.00	0.55	0.25	0.04	0.32	0.00	0.00	0.21	0.00	0.29
Avail Cap(c_a), veh/h	198	1781	0	298	1979	851	643	0	0	446	0	382
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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.3	10.5	0.0	33.0	9.2	8.1	31.0	0.0	0.0	33.4	0.0	33.5
Incr Delay (d2), s/veh	5.4	0.4	0.0	4.8	0.1	0.0	1.5	0.0	0.0	1.4	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.3	0.0	1.0	1.8	0.2	0.7	0.0	0.0	0.3	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	10.9	0.0	37.8	9.2	8.1	32.5	0.0	0.0	34.8	0.0	36.1
LnGrp LOS	D	B	A	D	A	A	C	A	A	C	A	D
Approach Vol, veh/h		541			559			39			33	
Approach Delay, s/veh		12.0			12.0			32.5			35.5	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	42.0		8.9	7.0	44.0		11.9				
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	12.0	36.0		18.0	8.0	40.0		31.0				
Max Q Clear Time (g_c+I1), s	4.2	8.2		2.8	2.8	7.2		3.8				
Green Ext Time (p_c), s	0.0	3.8		0.1	0.0	3.6		0.2				

Intersection Summary		
HCM 6th Ctrl Delay	13.3	
HCM 6th LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	246	415	238	145	287	62	196	633	255	62	580	132
Future Volume (veh/h)	246	415	238	145	287	62	196	633	255	62	580	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	254	428	245	149	296	64	202	653	263	64	598	136
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	279	754	427	174	839	178	227	1206	678	83	952	412
Arrive On Green	0.16	0.35	0.35	0.10	0.29	0.29	0.13	0.34	0.34	0.05	0.27	0.27
Sat Flow, veh/h	1781	2163	1225	1781	2898	616	1781	3554	1542	1781	3554	1536
Grp Volume(v), veh/h	254	351	322	149	179	181	202	653	263	64	598	136
Grp Sat Flow(s),veh/h/ln	1781	1777	1610	1781	1777	1737	1781	1777	1542	1781	1777	1536
Q Serve(g_s), s	19.2	22.0	22.3	11.3	10.9	11.3	15.3	20.4	15.9	4.9	20.3	9.7
Cycle Q Clear(g_c), s	19.2	22.0	22.3	11.3	10.9	11.3	15.3	20.4	15.9	4.9	20.3	9.7
Prop In Lane	1.00		0.76	1.00		0.35	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	279	620	562	174	514	503	227	1206	678	83	952	412
V/C Ratio(X)	0.91	0.57	0.57	0.86	0.35	0.36	0.89	0.54	0.39	0.77	0.63	0.33
Avail Cap(c_a), veh/h	404	620	562	278	514	503	330	1206	678	155	952	412
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.8	36.2	36.3	60.9	38.5	38.6	58.8	36.6	26.2	64.6	44.2	40.3
Incr Delay (d2), s/veh	15.0	3.7	4.2	8.1	1.9	2.0	14.2	1.7	1.7	5.6	3.1	2.1
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	9.8	10.2	9.5	5.5	5.1	5.1	7.8	9.2	6.2	2.3	9.4	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.8	39.9	40.5	69.0	40.3	40.6	73.1	38.4	27.9	70.2	47.3	42.4
LnGrp LOS	E	D	D	E	D	D	E	D	C	E	D	D
Approach Vol, veh/h		927			509			1118			798	
Approach Delay, s/veh		48.9			48.8			42.2			48.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.3	53.9	22.1	42.8	26.4	45.8	12.3	52.6
Change Period (Y+Rc), s	* 4.9	* 6.1	4.6	* 6.1	* 4.9	* 6.1	5.9	* 6.1
Max Green Setting (Gmax), s	* 21	* 48	25.4	* 34	* 31	* 38	11.9	* 47
Max Q Clear Time (g_c+I1), s	13.3	24.3	17.3	22.3	21.2	13.3	6.9	22.4
Green Ext Time (p_c), s	0.1	4.6	0.2	3.5	0.3	2.2	0.0	5.8

Intersection Summary	
HCM 6th Ctrl Delay	46.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

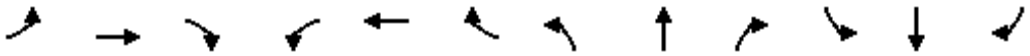
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	421	41	11	295	45	68	122	16	22	88	131
Future Volume (veh/h)	270	421	41	11	295	45	68	122	16	22	88	131
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	281	439	43	11	307	47	71	127	17	23	92	136
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	1666	162	33	1100	166	110	339	45	59	340	274
Arrive On Green	0.18	0.51	0.51	0.02	0.36	0.36	0.06	0.21	0.21	0.03	0.18	0.18
Sat Flow, veh/h	1781	3258	317	1781	3074	464	1781	1605	215	1781	1870	1509
Grp Volume(v), veh/h	281	238	244	11	176	178	71	0	144	23	92	136
Grp Sat Flow(s),veh/h/ln	1781	1777	1799	1781	1777	1762	1781	0	1820	1781	1870	1509
Q Serve(g_s), s	14.9	7.3	7.4	0.6	6.8	7.0	3.8	0.0	6.5	1.2	4.1	7.8
Cycle Q Clear(g_c), s	14.9	7.3	7.4	0.6	6.8	7.0	3.8	0.0	6.5	1.2	4.1	7.8
Prop In Lane	1.00		0.18	1.00		0.26	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	316	909	920	33	636	630	110	0	384	59	340	274
V/C Ratio(X)	0.89	0.26	0.26	0.33	0.28	0.28	0.65	0.00	0.37	0.39	0.27	0.50
Avail Cap(c_a), veh/h	437	909	920	129	636	630	192	0	659	129	606	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.8	13.3	13.3	46.8	22.1	22.2	44.3	0.0	32.6	45.7	34.0	35.5
Incr Delay (d2), s/veh	12.6	0.7	0.7	2.2	1.1	1.1	2.4	0.0	0.6	1.5	0.4	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	3.0	3.1	0.3	3.0	3.0	1.7	0.0	2.9	0.6	1.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.4	14.0	14.0	49.0	23.2	23.3	46.7	0.0	33.2	47.3	34.4	36.9
LnGrp LOS	D	B	B	D	C	C	D	A	C	D	C	D
Approach Vol, veh/h		763			365			215			251	
Approach Delay, s/veh		27.8			24.0			37.7			37.0	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	55.2	11.2	23.4	21.7	40.4	8.3	26.2
Change Period (Y+Rc), s	5.1	* 5.8	* 5.2	* 5.8	4.6	* 5.8	5.1	* 5.8
Max Green Setting (Gmax), s	7.3	* 49	* 10	* 31	23.7	* 33	7.0	* 35
Max Q Clear Time (g_c+I1), s	2.6	9.4	5.8	9.8	16.9	9.0	3.2	8.5
Green Ext Time (p_c), s	0.0	3.2	0.0	0.9	0.3	2.1	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	187	6	91	9	8	1	83	1171	22	42	917	169
Future Volume (veh/h)	187	6	91	9	8	1	83	1171	22	42	917	169
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.92	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	193	6	94	9	8	1	86	1207	23	43	945	174
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	231	12	180	226	205	26	110	1545	29	77	1235	227
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.06	0.43	0.43	0.04	0.42	0.42
Sat Flow, veh/h	1781	89	1393	1781	1612	202	1781	3564	68	1781	2974	547
Grp Volume(v), veh/h	193	0	100	9	0	9	86	602	628	43	564	555
Grp Sat Flow(s),veh/h/ln	1781	0	1481	1781	0	1814	1781	1777	1855	1781	1777	1745
Q Serve(g_s), s	9.7	0.0	5.8	0.4	0.0	0.4	4.4	26.7	26.7	2.2	25.0	25.1
Cycle Q Clear(g_c), s	9.7	0.0	5.8	0.4	0.0	0.4	4.4	26.7	26.7	2.2	25.0	25.1
Prop In Lane	1.00		0.94	1.00		0.11	1.00		0.04	1.00		0.31
Lane Grp Cap(c), veh/h	231	0	192	226	0	230	110	770	804	77	738	725
V/C Ratio(X)	0.84	0.00	0.52	0.04	0.00	0.04	0.78	0.78	0.78	0.56	0.76	0.77
Avail Cap(c_a), veh/h	258	0	214	736	0	749	116	770	804	116	738	725
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.1	0.0	37.4	35.2	0.0	35.2	42.5	22.3	22.3	43.1	23.0	23.0
Incr Delay (d2), s/veh	19.2	0.0	2.2	0.1	0.0	0.1	27.4	7.7	7.4	6.1	7.4	7.6
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	5.4	0.0	2.2	0.2	0.0	0.2	2.7	12.2	12.7	1.1	11.5	11.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.3	0.0	39.5	35.3	0.0	35.3	69.9	30.0	29.8	49.2	30.4	30.6
LnGrp LOS	E	A	D	D	A	D	E	C	C	D	C	C
Approach Vol, veh/h		293			18			1316			1162	
Approach Delay, s/veh		51.9			35.3			32.5			31.2	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	46.2		18.0	11.7	44.5		17.8				
Change Period (Y+Rc), s	6.0	6.3		6.1	6.0	6.3		6.1				
Max Green Setting (Gmax), s	6.0	38.2		13.3	6.0	38.2		38.0				
Max Q Clear Time (g_c+I1), s	4.2	28.7		11.7	6.4	27.1		2.4				
Green Ext Time (p_c), s	0.0	5.4		0.2	0.0	5.6		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		34.0	
HCM 6th LOS		C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	321	660	266	338	534	96	344	859	397	139	603	275
Future Volume (veh/h)	321	660	266	338	534	96	344	859	397	139	603	275
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	328	673	271	345	545	98	351	877	405	142	615	281
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	379	1047	1077	346	854	153	346	1149	657	211	658	300
Arrive On Green	0.11	0.29	0.29	0.10	0.29	0.29	0.10	0.32	0.32	0.06	0.28	0.28
Sat Flow, veh/h	3456	3554	2708	3456	2995	536	3456	3554	1541	3456	2344	1071
Grp Volume(v), veh/h	328	673	271	345	322	321	351	877	405	142	466	430
Grp Sat Flow(s),veh/h/ln	1728	1777	1354	1728	1777	1754	1728	1777	1541	1728	1777	1638
Q Serve(g_s), s	12.1	21.4	8.8	13.0	20.6	20.8	13.0	28.8	26.7	5.2	33.2	33.3
Cycle Q Clear(g_c), s	12.1	21.4	8.8	13.0	20.6	20.8	13.0	28.8	26.7	5.2	33.2	33.3
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		0.65
Lane Grp Cap(c), veh/h	379	1047	1077	346	507	500	346	1149	657	211	499	460
V/C Ratio(X)	0.87	0.64	0.25	1.00	0.64	0.64	1.02	0.76	0.62	0.67	0.93	0.94
Avail Cap(c_a), veh/h	399	1047	1077	346	507	500	346	1149	657	213	506	466
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.63	0.63	0.63
Uniform Delay (d), s/veh	56.9	39.9	26.5	58.5	40.6	40.7	58.5	39.5	29.3	59.7	45.6	45.6
Incr Delay (d2), s/veh	17.2	3.0	0.6	47.9	6.0	6.2	52.5	4.8	4.3	5.1	17.7	18.9
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	6.2	9.8	2.9	8.0	9.9	9.9	8.2	13.3	10.6	2.4	17.0	15.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.1	42.9	27.0	106.4	46.6	46.8	111.0	44.3	33.6	64.8	63.3	64.5
LnGrp LOS	E	D	C	F	D	D	F	D	C	E	E	E
Approach Vol, veh/h		1272			988			1633			1038	
Approach Delay, s/veh		47.6			67.6			56.0			64.0	
Approach LOS		D			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	45.7	20.0	44.3	21.3	44.5	14.5	49.8
Change Period (Y+Rc), s	7.0	7.4	7.0	* 7.8	7.0	7.4	6.5	7.8
Max Green Setting (Gmax), s	13.0	38.3	13.0	* 37	15.0	36.3	8.0	42.0
Max Q Clear Time (g_c+I1), s	15.0	23.4	15.0	35.3	14.1	22.8	7.2	30.8
Green Ext Time (p_c), s	0.0	5.1	0.0	1.0	0.1	3.4	0.0	5.7

Intersection Summary	
HCM 6th Ctrl Delay	57.8
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX D

CUMULATIVE PROJECTS LIST

SANDAG Model Growth Rate Calculations

Segment	Series 14 Year 2016	Series 14 Year 2025	Growth Rate per Year
Borden Road			
Windy Point Drive to Twin Oaks Valley Road	12,000	12,000	0.0%
Twin Oaks Valley Road to Woodward Street	8,000	8,000	0.0%
Twin Oaks Valley Road			
Windy Way to Borden Road	16,500	18,500	1.3%
Borden Road to Richmar Avenue	20,700	20,900	0.1%
Richmar Avenue to San Marcos Boulevard	22,100	25,400	1.7%
Average			***0.6%***

SAN MARCOS
DISCOVER LIFE'S POSSIBILITIES

CUMULATIVE PROJECT LIST

#	Status	Project	Location	Land Use	Intensity	Unit	Buildout Year
1	Condos Only Under	Corner @ 2 Oaks	SW corner of San Marcos Blvd & N Twin Oaks Valley Rd	Office/retail	13,499	SF	2020
				Townhouse Condominiums	118	DU	2019
2	Proposed	Block 3 Student Housing	NE Corner of Barham Drive & June Way	36 Unit Student Housing	342	BEDS	2021
3	Proposed	Kaiser Permanente	Craven Rd	206 Bed Hospital	428,500	SF	2023
4	Approved	Fenton North	Craven Rd	Office/Commercial/Residential	41	AC	
5	Proposed	Main Square	SE corner of San Marcos Blvd & McMahr Rd	Apartments*	468	DU	2021
				Commercial	44,007	SF	2021
6	Proposed	Raising Canes	105 S. Las Posas Rd.	Drive-thru Restrurant (demolition of existing 7,897 SF sit-down restaurant to accommodate new buidling)	4,185	SF	2021
7	Proposed	Woodpsrings Suites	NE corner of Grand Ave & Pacific St	Hotel	122	ROOM	2020
8	Under Construction	Brookfield Residential	S Twin Oaks Valley Rd	Single-Family Residential	346	DU	2019
9	Under Construction	Brookfield Residential	S Twin Oaks Valley Rd	Multi-family Residential	220	DU	2021
10	Approved	San Marcos Highlands Highlands	North end of N Las Posas Rd	Single-Family Residential	187	DU	2023
11	Approved	The Marc (Dahvia Village)	1045 Armorlite Drive	Multi-Family Residential	416	DU	2019
				Commercial Retail	15,000	SF	2019
				Park	1.37	AC	2019
12	Approved	El Dorado II Specific Plan	SW corner of Richmar Ave & Pleasant Wy	Apartment	72	DU	2021
				Specialty Retail	2,000	SF	2021
13	Approved	Borden Rd 22	Borden Rd	Single-Family Residential	22	DU	2021
14	Approved	Villa Serena	Richmar Ave & Marcos St	Apartments	12	DU	
15	Approved	San Elijo Hills Town Center	San Elijo Rd & Elfin Forest Rd	Attached Condominiums	12	DU	2020
				Commercial	22,900	SF	2020
16	Approved	Montiel Rd Partners	Montiel Rd	9-lot Subdivision -SFR	8	DU	2021
17	Proposed	Sandy Lane Estates	Sandy Ln	8-lot Subdivision -SFR	8	DU	2021
18	Approved	Meadowlark Canyon LLC	San Marcos Blvd	Single-Family Residential	33	DU	
19	Approved	JR Legacy II, LLC/Global Carte	Montiel Rd	Hotel	128	ROOM	2019
20	Approved	Mariposa II- Affirmed Housing	Richmar Ave & Los Olivos Dr	Apartments	60	DU	2019
21	Approved	Murai-Sab	N. Las Posas Rd	Single-Family Residential	89	DU	2021

22	Proposed	Copper Hills Specific Plan	San Elijo Rd	Commercial/Light Industrial Park	139,000	SF	
				Attached Condominiums	120	DU	
				Detached Condominiums	42	DU	
				Apartments	189	DU	
23	Proposed	Pacifica San Marcos	S. Rancho Santa Fe Rd & Creek St	Apartments	31	DU	
				Commercial	4,375	SF	2019
24	Approved	Fenton South	Future Discovery St	Single-Family Residential	220	DU	2021
25	Under Construction	Windy Pointe Phase II	Windy Pointe Dr	Office	15,000	SF	2020
				Multi-tenant Industrial	18,600	SF	2020
26	Under Construction	Fitzpatrick	Fitzpatrick Road	Apartments	78	DU	2020
				Single-Family Residential	2	DU	2020
27	Approved	Southlake Park Phase 1	Twin Oaks Valley Rd, South of Village Dr	Parking Lot, Fishing Dock	1.5	AC	
28	Approved	MacDonald Group	San Marcos Blvd (Former Sears site)	Apartments	82	UNITS	
				Commercial	5,000	SF	
29	Approved	Mission 24	Mission Rd at Avenida Chapala	MF Condominiums	24	DU	2020
30	Approved	Mission 316 West	Mission Rd at Woodward St (east side)	MF Condominiums	67	DU	2021
31	Proposed	Lanikai	Mission Rd at Woodward St (west side)	Senior Living Complex	115	UNITS	
32	Under Constrruction	Mesa Rim Climbing Gym	285 Industrial St	Recreation/Entertainment	28000	SF	2020
33	Proposed	Breakers Real Estate	SE Corner of N. Twin Oaks Valley Rd.& Richmar Ave.	Assisted Living Facility	110,317	SF	2021
34	Approved	Artis Senior Housing	San Elijo Rd at Paseo Plomo	Senior Living Complex	64	BED	
					39,951	SF	
35	Proposed	Sunrise	Barham Drive (near east City limit)	MF Condominiums	192	DU	2021
36	Proposed	Jump Ball LLC	W. San Marcos Blvd. at Bent Ave.	Drive-thru Restaurant	3,233	SF	2020
37	Approved	Lomas San Marcos	1601 San Elijo	Commercial	179,535	SF	2019
38	Proposed	Montiel Commercial	2355/2357 Montiel Rd	Office	32,971	SF	
39	Proposed	California Allstars	East side of Twin Oaks Valley Rd	Industrial Building	28,137	SF	2022
40	Proposed	Budhi Hill Buddhist Center	Poinsettia Ave. s/o Linda Vista Dr	Fellowship Hall	36,501	SF	2024
				Monk Dormitory	7,612	SF	2023
41	Proposed	Mercy Hill and Marian Center	Borden Rd	Christian Center	22,830		
42	Under Construction	West Health Pace	1706 Descanso Ave	Senior Center	20,156	SF	2019
43	Approved	Karl Strauss Brewery	Las Posas Rd & Los Vallecitos Blvd.	Tasting Room, Commercial Kitchen, Entertainment Room within existing commercial building	10,528	SF	2020
44	Approved	C3 Church	1760 Descanso Ave	Assembly Use - 825 seat	74,938	SF	2019
45	Funded	San Marcos Creek Phase 1 CIP - various numbers	Via Vera Crux Bridge, Bent Avenue Bridge, Discovery Street widening, Levee construction, Promenade, and Creek Channel Wetland Restoration.	San Marcos Creek Phase 1 Infrastructure, Discovery Street (east/west segment), Bent Avenue to Discovery Street (north/south segment)	35	AC	2021
46	Funded	CIP 88179	Smilax Road/South Santa Fe Avenue Intersection	Intersection re-alignment			2020
47	Funded	CIP 86002	San Marcos Boulevard at Discovery Street Intersection.	Intersection improvements 300' west, and 920' east, of intersection.	1220	LF	2020

48	Funded	PARK CIP	Rancho Tesoro Park Improvements - 2 acres of 41 acre park	City Park - Phase 2 Multi-Use Field and Parking Lot Improvements	2	AC	2021
49	Funded	ST006	San Marcos Boulevard Slope Stabilization Project	South side of San Marcos Boulevard, 500' east of Acacia Dr.	500	LF	2020

Notes:

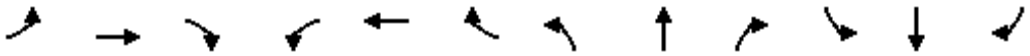
SF: SQUARE FEET; DU: DWELLING UNITS;LF: LINEAL

*Apartments include live/work units.

Other Projects to consider outside of City jurisdiction/land use authority: CSUSM Master Plan & Palomar Master Plan.

APPENDIX E

INTERIM YEAR INTERSECTION ANALYSIS WORKSHEETS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	0	61	0	0	0	73	763	2	5	1045	21
Future Volume (veh/h)	31	0	61	0	0	0	73	763	2	5	1045	21
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	0	73				87	908	2	6	1244	25
Peak Hour Factor	0.84	0.84	0.84				0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	0	2				2	2	2	2	2	2
Cap, veh/h	119	0	106				114	2773	6	14	2513	50
Arrive On Green	0.07	0.00	0.07				0.06	0.76	0.76	0.01	0.71	0.71
Sat Flow, veh/h	1781	0	1585				1781	3637	8	1781	3559	71
Grp Volume(v), veh/h	37	0	73				87	444	466	6	621	648
Grp Sat Flow(s),veh/h/ln	1781	0	1585				1781	1777	1869	1781	1777	1854
Q Serve(g_s), s	2.0	0.0	4.5				4.8	7.9	7.9	0.3	15.7	15.7
Cycle Q Clear(g_c), s	2.0	0.0	4.5				4.8	7.9	7.9	0.3	15.7	15.7
Prop In Lane	1.00		1.00				1.00		0.00	1.00		0.04
Lane Grp Cap(c), veh/h	119	0	106				114	1355	1424	14	1254	1309
V/C Ratio(X)	0.31	0.00	0.69				0.76	0.33	0.33	0.44	0.49	0.50
Avail Cap(c_a), veh/h	412	0	367				251	1355	1424	90	1254	1309
HCM Platoon Ratio	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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	0.0	45.4				45.8	3.7	3.7	49.1	6.6	6.6
Incr Delay (d2), s/veh	1.5	0.0	7.6				3.9	0.6	0.6	8.0	1.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.2				2.2	2.4	2.5	0.2	5.5	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.6	0.0	53.0				49.7	4.4	4.4	57.1	8.0	7.9
LnGrp LOS	D	A	D				D	A	A	E	A	A
Approach Vol, veh/h		110						997			1275	
Approach Delay, s/veh		50.5						8.3			8.2	
Approach LOS		D						A			A	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	5.8	82.0		11.7	11.4	76.4
Change Period (Y+Rc), s	5.0	6.2		5.0	5.0	6.2
Max Green Setting (Gmax), s	5.0	75.8		23.0	14.0	66.8
Max Q Clear Time (g_c+I1), s	2.3	9.9		6.5	6.8	17.7
Green Ext Time (p_c), s	0.0	19.2		0.2	0.0	28.3

Intersection Summary			
HCM 6th Ctrl Delay			10.2
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	484	5	24	422	65	0	8	52	8	0	23
Future Volume (veh/h)	17	484	5	24	422	65	0	8	52	8	0	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.94	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	569	6	28	496	76	0	9	61	9	0	27
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	1850	19	63	1855	797	0	19	129	76	0	62
Arrive On Green	0.03	0.51	0.51	0.04	0.52	0.52	0.00	0.10	0.10	0.04	0.00	0.04
Sat Flow, veh/h	1781	3601	38	1781	3554	1527	0	196	1328	1781	0	1468
Grp Volume(v), veh/h	20	281	294	28	496	76	0	0	70	9	0	27
Grp Sat Flow(s),veh/h/ln	1781	1777	1862	1781	1777	1527	0	0	1524	1781	0	1468
Q Serve(g_s), s	0.8	6.7	6.8	1.1	5.7	1.9	0.0	0.0	3.2	0.4	0.0	1.3
Cycle Q Clear(g_c), s	0.8	6.7	6.8	1.1	5.7	1.9	0.0	0.0	3.2	0.4	0.0	1.3
Prop In Lane	1.00		0.02	1.00		1.00	0.00		0.87	1.00		1.00
Lane Grp Cap(c), veh/h	49	913	957	63	1855	797	0	0	148	76	0	62
V/C Ratio(X)	0.41	0.31	0.31	0.44	0.27	0.10	0.00	0.00	0.47	0.12	0.00	0.43
Avail Cap(c_a), veh/h	193	913	957	193	1855	797	0	0	680	433	0	357
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.4	10.4	10.4	35.0	9.8	8.9	0.0	0.0	31.6	34.1	0.0	34.5
Incr Delay (d2), s/veh	5.5	0.9	0.8	4.8	0.1	0.1	0.0	0.0	2.3	0.7	0.0	4.7
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	0.4	2.6	2.7	0.6	2.0	0.6	0.0	0.0	1.2	0.2	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.8	11.3	11.2	39.8	9.9	8.9	0.0	0.0	33.9	34.8	0.0	39.2
LnGrp LOS	D	B	B	D	A	A	A	A	C	C	A	D
Approach Vol, veh/h		595			600			70			36	
Approach Delay, s/veh		12.2			11.2			33.9			38.1	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.6	44.0		9.1	7.0	44.6		13.2
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	8.6	38.0		18.0	8.0	38.0		33.0
Max Q Clear Time (g_c+I1), s	3.1	8.8		3.3	2.8	7.7		5.2
Green Ext Time (p_c), s	0.0	3.7		0.1	0.0	3.9		0.4

Intersection Summary	
HCM 6th Ctrl Delay	13.6
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	307	239	258	538	96	157	414	124	68	761	259
Future Volume (veh/h)	57	307	239	258	538	96	157	414	124	68	761	259
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	334	260	280	585	104	171	450	135	74	827	282
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	90	560	426	303	1247	221	194	1148	768	93	979	423
Arrive On Green	0.05	0.30	0.30	0.17	0.42	0.42	0.11	0.32	0.32	0.05	0.28	0.28
Sat Flow, veh/h	1781	1896	1441	1781	3003	532	1781	3554	1541	1781	3554	1537
Grp Volume(v), veh/h	62	313	281	280	345	344	171	450	135	74	827	282
Grp Sat Flow(s),veh/h/ln	1781	1777	1560	1781	1777	1759	1781	1777	1541	1781	1777	1537
Q Serve(g_s), s	5.0	21.8	22.5	22.4	20.4	20.6	13.7	14.2	7.0	5.9	31.8	23.6
Cycle Q Clear(g_c), s	5.0	21.8	22.5	22.4	20.4	20.6	13.7	14.2	7.0	5.9	31.8	23.6
Prop In Lane	1.00		0.92	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	90	525	461	303	738	730	194	1148	768	93	979	423
V/C Ratio(X)	0.69	0.59	0.61	0.92	0.47	0.47	0.88	0.39	0.18	0.79	0.84	0.67
Avail Cap(c_a), veh/h	122	525	461	370	738	730	226	1148	768	151	979	423
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.6	43.6	43.8	59.2	30.7	30.8	63.6	38.0	20.4	67.8	49.5	46.5
Incr Delay (d2), s/veh	4.1	4.9	5.9	23.6	2.1	2.2	25.8	1.0	0.5	5.7	8.9	8.0
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	2.4	10.4	9.5	12.1	9.3	9.3	7.6	6.4	2.7	2.9	15.3	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.7	48.5	49.7	82.7	32.9	33.0	89.4	39.0	20.9	73.5	58.4	54.6
LnGrp LOS	E	D	D	F	C	C	F	D	C	E	E	D
Approach Vol, veh/h		656			969			756			1183	
Approach Delay, s/veh		51.2			47.3			47.2			58.4	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	48.9	20.3	46.0	12.2	66.2	13.5	52.9
Change Period (Y+Rc), s	* 4.9	* 6.1	4.6	* 6.1	* 4.9	* 6.1	5.9	* 6.1
Max Green Setting (Gmax), s	* 3.6	* 40	18.4	* 40	* 9.9	* 60	12.3	* 45
Max Q Clear Time (g_c+I1), s	24.4	24.5	15.7	33.8	7.0	22.6	7.9	16.2
Green Ext Time (p_c), s	0.2	3.4	0.1	3.3	0.0	4.9	0.0	3.7

Intersection Summary	
HCM 6th Ctrl Delay	51.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	360	49	15	545	8	76	50	15	19	145	271
Future Volume (veh/h)	91	360	49	15	545	8	76	50	15	19	145	271
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	404	55	17	612	9	85	56	17	21	163	304
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	1390	188	47	1434	21	113	381	116	55	459	376
Arrive On Green	0.08	0.44	0.44	0.03	0.40	0.40	0.06	0.28	0.28	0.03	0.25	0.25
Sat Flow, veh/h	1781	3128	422	1781	3582	53	1781	1366	415	1781	1870	1533
Grp Volume(v), veh/h	102	228	231	17	303	318	85	0	73	21	163	304
Grp Sat Flow(s),veh/h/ln	1781	1777	1774	1781	1777	1858	1781	0	1780	1781	1870	1533
Q Serve(g_s), s	5.6	8.1	8.3	0.9	12.3	12.3	4.7	0.0	3.1	1.1	7.2	18.6
Cycle Q Clear(g_c), s	5.6	8.1	8.3	0.9	12.3	12.3	4.7	0.0	3.1	1.1	7.2	18.6
Prop In Lane	1.00		0.24	1.00		0.03	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	135	790	788	47	711	744	113	0	497	55	459	376
V/C Ratio(X)	0.76	0.29	0.29	0.36	0.43	0.43	0.75	0.00	0.15	0.38	0.36	0.81
Avail Cap(c_a), veh/h	258	790	788	141	711	744	229	0	687	141	624	512
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.1	17.6	17.6	47.6	21.6	21.6	45.8	0.0	27.0	47.2	31.0	35.3
Incr Delay (d2), s/veh	3.2	0.9	0.9	1.7	1.9	1.8	3.7	0.0	0.1	1.6	0.5	6.8
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	2.6	3.5	3.5	0.4	5.4	5.6	2.2	0.0	1.3	0.5	3.3	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.3	18.5	18.6	49.3	23.4	23.4	49.5	0.0	27.1	48.8	31.5	42.1
LnGrp LOS	D	B	B	D	C	C	D	A	C	D	C	D
Approach Vol, veh/h		561			638			158			488	
Approach Delay, s/veh		24.0			24.1			39.1			38.9	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	50.0	11.5	30.2	12.1	45.6	8.2	33.5
Change Period (Y+Rc), s	5.1	* 5.8	* 5.2	* 5.8	4.6	* 5.8	5.1	* 5.8
Max Green Setting (Gmax), s	7.9	* 44	* 13	* 33	14.4	* 38	7.9	* 38
Max Q Clear Time (g_c+I1), s	2.9	10.3	6.7	20.6	7.6	14.3	3.1	5.1
Green Ext Time (p_c), s	0.0	3.0	0.0	1.7	0.1	3.9	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	29.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	7	134	12	7	3	92	688	7	44	1346	116
Future Volume (veh/h)	105	7	134	12	7	3	92	688	7	44	1346	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	112	7	143	13	7	3	98	732	7	47	1432	123
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	6	127	151	103	44	119	1825	17	82	1603	137
Arrive On Green	0.09	0.09	0.09	0.08	0.08	0.08	0.07	0.51	0.51	0.05	0.49	0.49
Sat Flow, veh/h	1781	70	1422	1781	1212	520	1781	3605	34	1781	3302	282
Grp Volume(v), veh/h	112	0	150	13	0	10	98	361	378	47	766	789
Grp Sat Flow(s),veh/h/ln	1781	0	1491	1781	0	1732	1781	1777	1863	1781	1777	1807
Q Serve(g_s), s	5.5	0.0	8.0	0.6	0.0	0.5	4.9	11.3	11.3	2.3	35.0	35.7
Cycle Q Clear(g_c), s	5.5	0.0	8.0	0.6	0.0	0.5	4.9	11.3	11.3	2.3	35.0	35.7
Prop In Lane	1.00		0.95	1.00		0.30	1.00		0.02	1.00		0.16
Lane Grp Cap(c), veh/h	159	0	133	151	0	147	119	900	943	82	863	877
V/C Ratio(X)	0.70	0.00	1.13	0.09	0.00	0.07	0.82	0.40	0.40	0.57	0.89	0.90
Avail Cap(c_a), veh/h	159	0	133	755	0	734	119	900	943	159	863	877
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	0.0	40.8	37.8	0.0	37.7	41.3	13.7	13.7	41.9	20.9	21.0
Incr Delay (d2), s/veh	13.2	0.0	116.0	0.2	0.0	0.2	34.9	1.3	1.3	6.1	13.2	14.0
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	2.9	0.0	7.2	0.3	0.0	0.2	3.3	4.6	4.8	1.1	16.5	17.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.8	0.0	156.8	38.0	0.0	37.9	76.2	15.0	15.0	48.0	34.0	35.0
LnGrp LOS	D	A	F	D	A	D	E	B	B	D	C	D
Approach Vol, veh/h		262			23			837			1602	
Approach Delay, s/veh		112.4			38.0			22.2			34.9	
Approach LOS		F			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	51.7		14.1	12.0	49.8		13.7				
Change Period (Y+Rc), s	6.0	6.3		6.1	6.0	6.3		6.1				
Max Green Setting (Gmax), s	8.0	41.5		8.0	6.0	43.5		38.0				
Max Q Clear Time (g_c+I1), s	4.3	13.3		10.0	6.9	37.7		2.6				
Green Ext Time (p_c), s	0.0	5.0		0.0	0.0	4.4		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			38.5									
HCM 6th LOS			D									

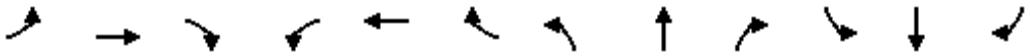
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	422	291	486	595	39	198	549	512	138	998	356
Future Volume (veh/h)	199	422	291	486	595	39	198	549	512	138	998	356
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	219	464	320	534	654	43	218	603	563	152	1097	391
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	272	1506	1347	319	1478	97	239	1182	659	212	822	287
Arrive On Green	0.08	0.42	0.42	0.09	0.44	0.44	0.07	0.33	0.33	0.06	0.32	0.32
Sat Flow, veh/h	3456	3554	2722	3456	3379	222	3456	3554	1542	3456	2561	895
Grp Volume(v), veh/h	219	464	320	534	344	353	218	603	563	152	754	734
Grp Sat Flow(s),veh/h/ln	1728	1777	1361	1728	1777	1824	1728	1777	1542	1728	1777	1679
Q Serve(g_s), s	8.1	11.2	8.8	12.0	17.5	17.6	8.1	17.7	43.0	5.6	41.7	41.7
Cycle Q Clear(g_c), s	8.1	11.2	8.8	12.0	17.5	17.6	8.1	17.7	43.0	5.6	41.7	41.7
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	272	1506	1347	319	777	798	239	1182	659	212	570	539
V/C Ratio(X)	0.80	0.31	0.24	1.67	0.44	0.44	0.91	0.51	0.85	0.72	1.32	1.36
Avail Cap(c_a), veh/h	319	1506	1347	319	777	798	239	1182	659	271	570	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Uniform Delay (d), s/veh	58.9	24.8	18.9	59.0	25.5	25.5	60.1	34.9	33.9	59.9	44.2	44.2
Incr Delay (d2), s/veh	12.2	0.5	0.4	316.7	1.8	1.8	35.3	1.6	13.3	2.2	149.7	167.1
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	4.0	4.9	2.9	19.3	7.8	8.0	4.7	8.0	18.3	2.5	41.8	42.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.1	25.3	19.3	375.7	27.3	27.3	95.4	36.4	47.2	62.1	193.8	211.3
LnGrp LOS	E	C	B	F	C	C	F	D	D	E	F	F
Approach Vol, veh/h		1003			1231			1384			1640	
Approach Delay, s/veh		33.4			178.5			50.1			189.4	
Approach LOS		C			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	63.0	16.0	49.5	17.2	64.8	14.5	51.0
Change Period (Y+Rc), s	7.0	7.4	7.0	* 7.8	7.0	7.4	6.5	7.8
Max Green Setting (Gmax), s	12.0	38.6	9.0	* 42	12.0	38.6	10.2	40.5
Max Q Clear Time (g_c+I1), s	14.0	13.2	10.1	43.7	10.1	19.6	7.6	45.0
Green Ext Time (p_c), s	0.0	4.7	0.0	0.0	0.1	4.2	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	120.4
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	0	59	0	0	0	52	1094	2	8	878	15
Future Volume (veh/h)	23	0	59	0	0	0	52	1094	2	8	878	15
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	0	63				55	1164	2	9	934	16
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				2	2	2	2	2	2
Cap, veh/h	117	0	104				100	2749	5	20	2537	43
Arrive On Green	0.07	0.00	0.07				0.06	0.76	0.76	0.01	0.71	0.71
Sat Flow, veh/h	1781	0	1585				1781	3639	6	1781	3572	61
Grp Volume(v), veh/h	24	0	63				55	568	598	9	465	485
Grp Sat Flow(s),veh/h/ln	1781	0	1585				1781	1777	1869	1781	1777	1856
Q Serve(g_s), s	1.2	0.0	3.7				2.9	11.1	11.1	0.5	9.9	9.9
Cycle Q Clear(g_c), s	1.2	0.0	3.7				2.9	11.1	11.1	0.5	9.9	9.9
Prop In Lane	1.00		1.00				1.00		0.00	1.00		0.03
Lane Grp Cap(c), veh/h	117	0	104				100	1342	1412	20	1262	1318
V/C Ratio(X)	0.21	0.00	0.61				0.55	0.42	0.42	0.45	0.37	0.37
Avail Cap(c_a), veh/h	444	0	395				240	1342	1412	129	1262	1318
HCM Platoon Ratio	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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.7	0.0	43.8				44.3	4.2	4.2	47.4	5.5	5.5
Incr Delay (d2), s/veh	0.9	0.0	5.6				1.8	1.0	0.9	5.9	0.8	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
%ile BackOfQ(50%),veh/ln	0.6	0.0	3.4				1.3	3.4	3.6	0.2	3.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	0.0	49.4				46.1	5.2	5.2	53.3	6.3	6.3
LnGrp LOS	D	A	D				D	A	A	D	A	A
Approach Vol, veh/h		87						1221			959	
Approach Delay, s/veh		47.8						7.0			6.7	
Approach LOS		D						A			A	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	6.1	79.0		11.3	10.4	74.7
Change Period (Y+Rc), s	5.0	6.2		5.0	5.0	6.2
Max Green Setting (Gmax), s	7.0	72.8		24.0	13.0	66.8
Max Q Clear Time (g_c+I1), s	2.5	13.1		5.7	4.9	11.9
Green Ext Time (p_c), s	0.0	27.6		0.2	0.0	19.6

Intersection Summary	
HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	537	0	54	487	30	4	0	36	15	4	15
Future Volume (veh/h)	20	537	0	54	487	30	4	0	36	15	4	15
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		0.96	1.00		0.93	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	565	0	57	513	32	4	0	38	16	4	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	1770	0	101	1870	804	12	0	114	76	13	52
Arrive On Green	0.03	0.50	0.00	0.06	0.53	0.53	0.08	0.00	0.08	0.04	0.04	0.04
Sat Flow, veh/h	1781	3647	0	1781	3554	1528	143	0	1354	1781	307	1229
Grp Volume(v), veh/h	21	565	0	57	513	32	42	0	0	16	0	20
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1528	1496	0	0	1781	0	1536
Q Serve(g_s), s	0.8	6.9	0.0	2.3	5.8	0.7	1.9	0.0	0.0	0.6	0.0	0.9
Cycle Q Clear(g_c), s	0.8	6.9	0.0	2.3	5.8	0.7	1.9	0.0	0.0	0.6	0.0	0.9
Prop In Lane	1.00		0.00	1.00		1.00	0.10		0.90	1.00		0.80
Lane Grp Cap(c), veh/h	51	1770	0	101	1870	804	126	0	0	76	0	66
V/C Ratio(X)	0.41	0.32	0.00	0.57	0.27	0.04	0.33	0.00	0.00	0.21	0.00	0.30
Avail Cap(c_a), veh/h	197	1770	0	296	1967	845	642	0	0	444	0	382
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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.5	10.8	0.0	33.2	9.5	8.3	31.2	0.0	0.0	33.4	0.0	33.6
Incr Delay (d2), s/veh	5.3	0.5	0.0	4.9	0.1	0.0	1.5	0.0	0.0	1.4	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.5	0.0	1.1	2.0	0.2	0.7	0.0	0.0	0.3	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.8	11.3	0.0	38.1	9.6	8.3	32.7	0.0	0.0	34.8	0.0	36.1
LnGrp LOS	D	B	A	D	A	A	C	A	A	C	A	D
Approach Vol, veh/h		586			602			42			36	
Approach Delay, s/veh		12.3			12.2			32.7			35.5	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.1	42.0		9.1	7.1	44.0		12.1
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	12.0	36.0		18.0	8.0	40.0		31.0
Max Q Clear Time (g_c+I1), s	4.3	8.9		2.9	2.8	7.8		3.9
Green Ext Time (p_c), s	0.1	4.1		0.1	0.0	3.9		0.2

Intersection Summary		
HCM 6th Ctrl Delay		13.6
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	261	434	259	156	310	69	223	671	269	71	620	147
Future Volume (veh/h)	261	434	259	156	310	69	223	671	269	71	620	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	269	447	267	161	320	71	230	692	277	73	639	152
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	730	432	185	816	178	254	1189	681	92	899	388
Arrive On Green	0.16	0.34	0.34	0.10	0.28	0.28	0.14	0.33	0.33	0.05	0.25	0.25
Sat Flow, veh/h	1781	2123	1257	1781	2882	629	1781	3554	1542	1781	3554	1534
Grp Volume(v), veh/h	269	374	340	161	195	196	230	692	277	73	639	152
Grp Sat Flow(s),veh/h/ln	1781	1777	1603	1781	1777	1734	1781	1777	1542	1781	1777	1534
Q Serve(g_s), s	20.6	24.3	24.6	12.4	12.3	12.7	17.7	22.4	17.1	5.6	22.8	11.4
Cycle Q Clear(g_c), s	20.6	24.3	24.6	12.4	12.3	12.7	17.7	22.4	17.1	5.6	22.8	11.4
Prop In Lane	1.00		0.78	1.00		0.36	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	294	611	551	185	503	491	254	1189	681	92	899	388
V/C Ratio(X)	0.92	0.61	0.62	0.87	0.39	0.40	0.90	0.58	0.41	0.79	0.71	0.39
Avail Cap(c_a), veh/h	399	611	551	274	503	491	326	1189	681	153	899	388
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.1	37.9	38.0	61.3	40.1	40.2	58.6	38.2	26.7	65.1	47.3	43.0
Incr Delay (d2), s/veh	18.1	4.5	5.1	12.7	2.3	2.4	20.8	2.1	1.8	5.6	4.7	3.0
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	10.8	11.4	10.5	6.3	5.8	5.8	9.4	10.1	6.7	2.7	10.7	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.2	42.4	43.1	74.0	42.4	42.6	79.5	40.3	28.5	70.7	52.0	46.0
LnGrp LOS	E	D	D	E	D	D	E	D	C	E	D	D
Approach Vol, veh/h		983			552			1199			864	
Approach Delay, s/veh		51.6			51.7			45.1			52.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.4	53.9	24.4	41.3	27.8	45.5	13.1	52.6
Change Period (Y+Rc), s	* 4.9	* 6.1	4.6	* 6.1	* 4.9	* 6.1	5.9	* 6.1
Max Green Setting (Gmax), s	* 21	* 48	25.4	* 34	* 31	* 38	11.9	* 47
Max Q Clear Time (g_c+I1), s	14.4	26.6	19.7	24.8	22.6	14.7	7.6	24.4
Green Ext Time (p_c), s	0.1	4.7	0.2	3.3	0.3	2.3	0.0	6.1

Intersection Summary	
HCM 6th Ctrl Delay	49.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	279	447	49	14	325	47	75	126	18	23	91	135
Future Volume (veh/h)	279	447	49	14	325	47	75	126	18	23	91	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	291	466	51	15	339	49	78	131	19	24	95	141
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	325	1627	177	43	1092	156	112	338	49	61	343	277
Arrive On Green	0.18	0.51	0.51	0.02	0.35	0.35	0.06	0.21	0.21	0.03	0.18	0.18
Sat Flow, veh/h	1781	3218	350	1781	3100	443	1781	1587	230	1781	1870	1509
Grp Volume(v), veh/h	291	256	261	15	193	195	78	0	150	24	95	141
Grp Sat Flow(s),veh/h/ln	1781	1777	1791	1781	1777	1766	1781	0	1817	1781	1870	1509
Q Serve(g_s), s	15.6	8.1	8.2	0.8	7.7	7.9	4.2	0.0	6.9	1.3	4.3	8.2
Cycle Q Clear(g_c), s	15.6	8.1	8.2	0.8	7.7	7.9	4.2	0.0	6.9	1.3	4.3	8.2
Prop In Lane	1.00		0.20	1.00		0.25	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	325	898	906	43	626	622	112	0	387	61	343	277
V/C Ratio(X)	0.89	0.29	0.29	0.35	0.31	0.31	0.69	0.00	0.39	0.39	0.28	0.51
Avail Cap(c_a), veh/h	432	898	906	128	626	622	190	0	651	128	599	484
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.0	14.0	14.0	46.9	23.0	23.1	44.9	0.0	33.0	46.2	34.3	35.9
Incr Delay (d2), s/veh	14.4	0.8	0.8	1.8	1.3	1.3	2.9	0.0	0.6	1.5	0.4	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	8.0	3.4	3.4	0.4	3.4	3.5	1.9	0.0	3.1	0.6	2.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.4	14.7	14.8	48.8	24.3	24.4	47.7	0.0	33.6	47.7	34.8	37.4
LnGrp LOS	D	B	B	D	C	C	D	A	C	D	C	D
Approach Vol, veh/h		808			403			228			260	
Approach Delay, s/veh		28.7			25.2			38.4			37.4	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	55.2	11.4	23.7	22.4	40.2	8.5	26.6
Change Period (Y+Rc), s	5.1	* 5.8	* 5.2	* 5.8	4.6	* 5.8	5.1	* 5.8
Max Green Setting (Gmax), s	7.3	* 49	* 10	* 31	23.7	* 33	7.0	* 35
Max Q Clear Time (g_c+I1), s	2.8	10.2	6.2	10.2	17.6	9.9	3.3	8.9
Green Ext Time (p_c), s	0.0	3.5	0.0	0.9	0.2	2.3	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	30.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	7	99	10	9	2	90	1239	23	44	966	184
Future Volume (veh/h)	197	7	99	10	9	2	90	1239	23	44	966	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.92	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	203	7	102	10	9	2	93	1277	24	45	996	190
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	13	187	231	189	42	115	1531	29	79	1210	230
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.06	0.43	0.43	0.04	0.41	0.41
Sat Flow, veh/h	1781	95	1391	1781	1456	324	1781	3565	67	1781	2955	563
Grp Volume(v), veh/h	203	0	109	10	0	11	93	636	665	45	598	588
Grp Sat Flow(s),veh/h/ln	1781	0	1486	1781	0	1780	1781	1777	1855	1781	1777	1741
Q Serve(g_s), s	10.4	0.0	6.4	0.5	0.0	0.5	4.8	29.7	29.7	2.3	28.0	28.1
Cycle Q Clear(g_c), s	10.4	0.0	6.4	0.5	0.0	0.5	4.8	29.7	29.7	2.3	28.0	28.1
Prop In Lane	1.00		0.94	1.00		0.18	1.00		0.04	1.00		0.32
Lane Grp Cap(c), veh/h	239	0	199	231	0	231	115	763	797	79	727	713
V/C Ratio(X)	0.85	0.00	0.55	0.04	0.00	0.05	0.81	0.83	0.83	0.57	0.82	0.83
Avail Cap(c_a), veh/h	254	0	212	725	0	725	115	763	797	115	727	713
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	0.0	37.8	35.5	0.0	35.6	43.1	23.7	23.7	43.7	24.5	24.6
Incr Delay (d2), s/veh	22.0	0.0	2.6	0.1	0.0	0.1	34.1	10.4	10.0	6.3	10.2	10.5
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	5.9	0.0	2.4	0.2	0.0	0.2	3.2	14.0	14.6	1.1	13.3	13.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.5	0.0	40.3	35.6	0.0	35.6	77.2	34.1	33.7	50.1	34.7	35.1
LnGrp LOS	E	A	D	D	A	D	E	C	C	D	C	D
Approach Vol, veh/h		312			21			1394			1231	
Approach Delay, s/veh		54.1			35.6			36.8			35.4	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	46.4		18.6	12.0	44.5		18.2				
Change Period (Y+Rc), s	6.0	6.3		6.1	6.0	6.3		6.1				
Max Green Setting (Gmax), s	6.0	38.2		13.3	6.0	38.2		38.0				
Max Q Clear Time (g_c+I1), s	4.3	31.7		12.4	6.8	30.1		2.5				
Green Ext Time (p_c), s	0.0	4.2		0.1	0.0	4.7		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			38.0									
HCM 6th LOS			D									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	332	687	275	358	555	100	359	920	425	145	646	285
Future Volume (veh/h)	332	687	275	358	555	100	359	920	425	145	646	285
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	339	701	281	365	566	102	366	939	434	148	659	291
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	388	1525	1448	319	1226	220	346	1163	651	212	675	298
Arrive On Green	0.11	0.43	0.43	0.09	0.41	0.41	0.10	0.33	0.33	0.06	0.28	0.28
Sat Flow, veh/h	3456	3554	2723	3456	2996	538	3456	3554	1541	3456	2373	1048
Grp Volume(v), veh/h	339	701	281	365	335	333	366	939	434	148	493	457
Grp Sat Flow(s),veh/h/ln	1728	1777	1361	1728	1777	1758	1728	1777	1541	1728	1777	1644
Q Serve(g_s), s	12.6	18.2	7.0	12.0	17.8	18.0	13.0	31.4	29.6	5.5	35.8	35.8
Cycle Q Clear(g_c), s	12.6	18.2	7.0	12.0	17.8	18.0	13.0	31.4	29.6	5.5	35.8	35.8
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		0.64
Lane Grp Cap(c), veh/h	388	1525	1448	319	727	719	346	1163	651	212	506	468
V/C Ratio(X)	0.87	0.46	0.19	1.14	0.46	0.46	1.06	0.81	0.67	0.70	0.98	0.98
Avail Cap(c_a), veh/h	399	1525	1448	319	727	719	346	1163	651	213	506	468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.52	0.52	0.52
Uniform Delay (d), s/veh	56.8	26.4	16.1	59.0	28.0	28.0	58.5	40.0	30.5	59.8	46.1	46.1
Incr Delay (d2), s/veh	18.4	1.0	0.3	95.4	2.1	2.1	64.9	6.1	5.4	5.2	23.1	24.2
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	6.5	7.9	2.3	9.5	8.0	8.0	8.8	14.6	11.9	2.5	18.9	17.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.2	27.4	16.4	154.4	30.1	30.1	123.4	46.1	35.8	65.0	69.1	70.2
LnGrp LOS	E	C	B	F	C	C	F	D	D	E	E	E
Approach Vol, veh/h		1321			1033			1739			1098	
Approach Delay, s/veh		37.3			74.0			59.8			69.0	
Approach LOS		D			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	63.7	20.0	44.8	21.6	61.1	14.5	50.3
Change Period (Y+Rc), s	7.0	7.4	7.0	* 7.8	7.0	7.4	6.5	7.8
Max Green Setting (Gmax), s	12.0	39.3	13.0	* 37	15.0	36.3	8.0	42.0
Max Q Clear Time (g_c+I1), s	14.6	20.2	15.0	37.8	14.6	20.0	7.5	33.4
Green Ext Time (p_c), s	0.0	6.0	0.0	0.0	0.1	3.8	0.0	5.1

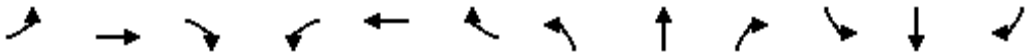
Intersection Summary	
HCM 6th Ctrl Delay	58.8
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX F

INTERIM YEAR + PROJECT INTERSECTION ANALYSIS WORKSHEETS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	0	63	0	0	0	75	790	2	5	1072	21
Future Volume (veh/h)	31	0	63	0	0	0	75	790	2	5	1072	21
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	0	75				89	940	2	6	1276	25
Peak Hour Factor	0.84	0.84	0.84				0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	0	2				2	2	2	2	2	2
Cap, veh/h	120	0	107				115	2773	6	14	2513	49
Arrive On Green	0.07	0.00	0.07				0.06	0.76	0.76	0.01	0.71	0.71
Sat Flow, veh/h	1781	0	1585				1781	3638	8	1781	3561	70
Grp Volume(v), veh/h	37	0	75				89	459	483	6	636	665
Grp Sat Flow(s),veh/h/ln	1781	0	1585				1781	1777	1869	1781	1777	1854
Q Serve(g_s), s	2.0	0.0	4.6				4.9	8.2	8.2	0.3	16.3	16.4
Cycle Q Clear(g_c), s	2.0	0.0	4.6				4.9	8.2	8.2	0.3	16.3	16.4
Prop In Lane	1.00		1.00				1.00		0.00	1.00		0.04
Lane Grp Cap(c), veh/h	120	0	107				115	1354	1424	14	1254	1308
V/C Ratio(X)	0.31	0.00	0.70				0.78	0.34	0.34	0.44	0.51	0.51
Avail Cap(c_a), veh/h	412	0	367				251	1354	1424	90	1254	1308
HCM Platoon Ratio	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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	0.0	45.4				45.8	3.8	3.8	49.1	6.7	6.7
Incr Delay (d2), s/veh	1.4	0.0	8.2				4.2	0.7	0.6	8.0	1.5	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.2				2.3	2.5	2.7	0.2	5.7	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.6	0.0	53.6				50.0	4.5	4.4	57.1	8.2	8.1
LnGrp LOS	D	A	D				D	A	A	E	A	A
Approach Vol, veh/h		112						1031			1307	
Approach Delay, s/veh		51.0						8.4			8.4	
Approach LOS		D						A			A	

Timer - Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	5.8	82.0		11.7	11.4	76.4						
Change Period (Y+Rc), s	5.0	6.2		5.0	5.0	6.2						
Max Green Setting (Gmax), s	5.0	75.8		23.0	14.0	66.8						
Max Q Clear Time (g_c+I1), s	2.3	10.2		6.6	6.9	18.4						
Green Ext Time (p_c), s	0.0	20.2		0.2	0.0	29.1						

Intersection Summary			
HCM 6th Ctrl Delay			10.3
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	495	5	24	433	65	0	8	52	8	0	23
Future Volume (veh/h)	17	495	5	24	433	65	0	8	52	8	0	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.94	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	582	6	28	509	76	0	9	61	9	0	27
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	1850	19	63	1855	797	0	19	129	76	0	62
Arrive On Green	0.03	0.51	0.51	0.04	0.52	0.52	0.00	0.10	0.10	0.04	0.00	0.04
Sat Flow, veh/h	1781	3602	37	1781	3554	1527	0	196	1328	1781	0	1468
Grp Volume(v), veh/h	20	287	301	28	509	76	0	0	70	9	0	27
Grp Sat Flow(s),veh/h/ln	1781	1777	1862	1781	1777	1527	0	0	1524	1781	0	1468
Q Serve(g_s), s	0.8	6.9	6.9	1.1	5.9	1.9	0.0	0.0	3.2	0.4	0.0	1.3
Cycle Q Clear(g_c), s	0.8	6.9	6.9	1.1	5.9	1.9	0.0	0.0	3.2	0.4	0.0	1.3
Prop In Lane	1.00		0.02	1.00		1.00	0.00		0.87	1.00		1.00
Lane Grp Cap(c), veh/h	49	913	957	63	1855	797	0	0	148	76	0	62
V/C Ratio(X)	0.41	0.31	0.31	0.44	0.27	0.10	0.00	0.00	0.47	0.12	0.00	0.43
Avail Cap(c_a), veh/h	193	913	957	193	1855	797	0	0	680	433	0	357
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.4	10.4	10.4	35.0	9.9	8.9	0.0	0.0	31.6	34.1	0.0	34.5
Incr Delay (d2), s/veh	5.5	0.9	0.9	4.8	0.1	0.1	0.0	0.0	2.3	0.7	0.0	4.7
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	0.4	2.7	2.8	0.6	2.1	0.6	0.0	0.0	1.2	0.2	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.8	11.3	11.3	39.8	9.9	8.9	0.0	0.0	33.9	34.8	0.0	39.2
LnGrp LOS	D	B	B	D	A	A	A	A	C	C	A	D
Approach Vol, veh/h		608			613			70			36	
Approach Delay, s/veh		12.3			11.2			33.9			38.1	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.6	44.0		9.1	7.0	44.6		13.2				
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	8.6	38.0		18.0	8.0	38.0		33.0				
Max Q Clear Time (g_c+I1), s	3.1	8.9		3.3	2.8	7.9		5.2				
Green Ext Time (p_c), s	0.0	3.8		0.1	0.0	4.0		0.4				

Intersection Summary		
HCM 6th Ctrl Delay		13.6
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	303	254	273	534	96	172	443	139	68	790	259
Future Volume (veh/h)	57	303	254	273	534	96	172	443	139	68	790	259
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	62	329	276	297	580	104	187	482	151	74	859	282
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	90	515	422	319	1233	220	209	1170	791	93	970	419
Arrive On Green	0.05	0.28	0.28	0.18	0.41	0.41	0.12	0.33	0.33	0.05	0.27	0.27
Sat Flow, veh/h	1781	1827	1496	1781	2999	536	1781	3554	1541	1781	3554	1536
Grp Volume(v), veh/h	62	320	285	297	343	341	187	482	151	74	859	282
Grp Sat Flow(s),veh/h/ln	1781	1777	1546	1781	1777	1758	1781	1777	1541	1781	1777	1536
Q Serve(g_s), s	5.0	23.0	23.8	24.0	20.6	20.7	15.1	15.4	7.8	6.0	33.9	23.9
Cycle Q Clear(g_c), s	5.0	23.0	23.8	24.0	20.6	20.7	15.1	15.4	7.8	6.0	33.9	23.9
Prop In Lane	1.00		0.97	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	90	501	436	319	730	723	209	1170	791	93	970	419
V/C Ratio(X)	0.69	0.64	0.65	0.93	0.47	0.47	0.89	0.41	0.19	0.80	0.89	0.67
Avail Cap(c_a), veh/h	121	501	436	367	730	723	224	1170	791	150	970	419
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.3	45.9	46.2	59.1	31.4	31.5	63.6	38.1	19.6	68.5	51.0	47.3
Incr Delay (d2), s/veh	4.6	6.1	7.4	26.5	2.2	2.2	30.7	1.1	0.5	5.7	11.7	8.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	11.1	10.1	13.2	9.4	9.3	8.7	7.0	3.0	2.9	16.7	10.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.0	52.0	53.7	85.6	33.6	33.7	94.4	39.1	20.1	74.2	62.7	55.7
LnGrp LOS	E	D	D	F	C	C	F	D	C	E	E	E
Approach Vol, veh/h		667			981			820			1215	
Approach Delay, s/veh		54.7			49.4			48.2			61.8	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	47.3	21.8	46.0	12.3	66.2	13.5	54.2
Change Period (Y+Rc), s	* 4.9	* 6.1	4.6	* 6.1	* 4.9	* 6.1	5.9	* 6.1
Max Green Setting (Gmax), s	* 6	* 40	18.4	* 40	* 9.9	* 60	12.3	* 45
Max Q Clear Time (g_c+I1), s	26.0	25.8	17.1	35.9	7.0	22.7	8.0	17.4
Green Ext Time (p_c), s	0.2	3.4	0.0	2.4	0.0	4.9	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	54.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	367	49	15	552	8	76	50	15	19	145	275
Future Volume (veh/h)	95	367	49	15	552	8	76	50	15	19	145	275
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	412	55	17	620	9	85	56	17	21	163	309
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	1390	184	47	1428	21	113	384	117	55	463	379
Arrive On Green	0.08	0.44	0.44	0.03	0.40	0.40	0.06	0.28	0.28	0.03	0.25	0.25
Sat Flow, veh/h	1781	3137	416	1781	3583	52	1781	1366	415	1781	1870	1533
Grp Volume(v), veh/h	107	232	235	17	307	322	85	0	73	21	163	309
Grp Sat Flow(s),veh/h/ln	1781	1777	1776	1781	1777	1858	1781	0	1780	1781	1870	1533
Q Serve(g_s), s	5.9	8.3	8.5	0.9	12.6	12.6	4.7	0.0	3.1	1.2	7.2	18.9
Cycle Q Clear(g_c), s	5.9	8.3	8.5	0.9	12.6	12.6	4.7	0.0	3.1	1.2	7.2	18.9
Prop In Lane	1.00		0.23	1.00		0.03	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	135	787	787	47	708	740	113	0	500	55	463	379
V/C Ratio(X)	0.79	0.29	0.30	0.36	0.43	0.43	0.75	0.00	0.15	0.38	0.35	0.81
Avail Cap(c_a), veh/h	257	787	787	141	708	740	229	0	685	141	622	510
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	17.8	17.8	47.7	21.8	21.8	45.9	0.0	26.9	47.4	30.9	35.4
Incr Delay (d2), s/veh	3.8	1.0	1.0	1.7	1.9	1.9	3.7	0.0	0.1	1.6	0.5	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	3.6	3.6	0.4	5.5	5.8	2.2	0.0	1.3	0.5	3.3	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.1	18.7	18.8	49.5	23.8	23.7	49.7	0.0	27.0	49.0	31.4	42.7
LnGrp LOS	D	B	B	D	C	C	D	A	C	D	C	D
Approach Vol, veh/h		574			646			158			493	
Approach Delay, s/veh		24.4			24.4			39.2			39.2	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.7	50.0	11.5	30.5	12.2	45.5	8.2	33.8
Change Period (Y+Rc), s	5.1	* 5.8	* 5.2	* 5.8	4.6	* 5.8	5.1	* 5.8
Max Green Setting (Gmax), s	7.9	* 44	* 13	* 33	14.4	* 38	7.9	* 38
Max Q Clear Time (g_c+I1), s	2.9	10.5	6.7	20.9	7.9	14.6	3.2	5.1
Green Ext Time (p_c), s	0.0	3.1	0.0	1.7	0.1	4.0	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	29.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	58	694	22	71	1246
Future Vol, veh/h	33	58	694	22	71	1246
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	63	754	24	77	1354

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1617	409	0	0	788	0
Stage 1	776	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	94	592	-	-	827	-
Stage 1	414	-	-	-	-	-
Stage 2	383	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	83	581	-	-	819	-
Mov Cap-2 Maneuver	208	-	-	-	-	-
Stage 1	410	-	-	-	-	-
Stage 2	344	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.2	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	352	819	-
HCM Lane V/C Ratio	-	-	0.281	0.094	-
HCM Control Delay (s)	-	-	19.2	9.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.1	0.3	-

1 vehicle length = approximately 20 feet

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	7	134	12	7	3	92	708	7	44	1366	117
Future Volume (veh/h)	106	7	134	12	7	3	92	708	7	44	1366	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	113	7	143	13	7	3	98	753	7	47	1453	124
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	6	127	151	103	44	119	1826	17	82	1604	136
Arrive On Green	0.09	0.09	0.09	0.08	0.08	0.08	0.07	0.51	0.51	0.05	0.49	0.49
Sat Flow, veh/h	1781	70	1422	1781	1212	520	1781	3606	34	1781	3304	280
Grp Volume(v), veh/h	113	0	150	13	0	10	98	371	389	47	777	800
Grp Sat Flow(s),veh/h/ln	1781	0	1491	1781	0	1732	1781	1777	1863	1781	1777	1807
Q Serve(g_s), s	5.5	0.0	8.0	0.6	0.0	0.5	4.9	11.7	11.7	2.3	35.8	36.6
Cycle Q Clear(g_c), s	5.5	0.0	8.0	0.6	0.0	0.5	4.9	11.7	11.7	2.3	35.8	36.6
Prop In Lane	1.00		0.95	1.00		0.30	1.00		0.02	1.00		0.15
Lane Grp Cap(c), veh/h	159	0	133	151	0	147	119	900	943	82	863	877
V/C Ratio(X)	0.71	0.00	1.13	0.09	0.00	0.07	0.82	0.41	0.41	0.57	0.90	0.91
Avail Cap(c_a), veh/h	159	0	133	755	0	734	119	900	943	159	863	877
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	0.0	40.8	37.8	0.0	37.7	41.3	13.8	13.8	41.9	21.1	21.3
Incr Delay (d2), s/veh	13.7	0.0	116.0	0.2	0.0	0.2	34.9	1.4	1.3	6.1	14.3	15.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	7.2	0.3	0.0	0.2	3.3	4.8	5.0	1.1	17.1	18.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.4	0.0	156.8	38.0	0.0	37.9	76.2	15.2	15.1	48.0	35.4	36.6
LnGrp LOS	D	A	F	D	A	D	E	B	B	D	D	D
Approach Vol, veh/h		263			23			858			1624	
Approach Delay, s/veh		112.4			38.0			22.1			36.4	
Approach LOS		F			D			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	51.7		14.1	12.0	49.8		13.7				
Change Period (Y+Rc), s	6.0	6.3		6.1	6.0	6.3		6.1				
Max Green Setting (Gmax), s	8.0	41.5		8.0	6.0	43.5		38.0				
Max Q Clear Time (g_c+I1), s	4.3	13.7		10.0	6.9	38.6		2.6				
Green Ext Time (p_c), s	0.0	5.2		0.0	0.0	3.8		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		39.2	
HCM 6th LOS		D	

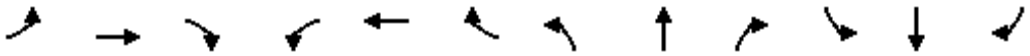
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	422	291	486	595	40	198	566	512	139	1015	357
Future Volume (veh/h)	200	422	291	486	595	40	198	566	512	139	1015	357
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	220	464	320	534	654	44	218	622	563	153	1115	392
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	280	1506	1347	319	1467	99	239	1182	659	212	825	284
Arrive On Green	0.08	0.42	0.42	0.09	0.43	0.43	0.07	0.33	0.33	0.06	0.32	0.32
Sat Flow, veh/h	3456	3554	2722	3456	3373	227	3456	3554	1542	3456	2572	885
Grp Volume(v), veh/h	220	464	320	534	344	354	218	622	563	153	763	744
Grp Sat Flow(s),veh/h/ln	1728	1777	1361	1728	1777	1823	1728	1777	1542	1728	1777	1681
Q Serve(g_s), s	8.1	11.2	8.8	12.0	17.6	17.7	8.1	18.4	43.0	5.7	41.7	41.7
Cycle Q Clear(g_c), s	8.1	11.2	8.8	12.0	17.6	17.7	8.1	18.4	43.0	5.7	41.7	41.7
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	280	1506	1347	319	773	793	239	1182	659	212	570	539
V/C Ratio(X)	0.78	0.31	0.24	1.67	0.45	0.45	0.91	0.53	0.85	0.72	1.34	1.38
Avail Cap(c_a), veh/h	478	1506	1347	319	773	793	239	1182	659	271	570	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.30	0.30	0.30
Uniform Delay (d), s/veh	58.6	24.8	18.9	59.0	25.7	25.7	60.1	35.1	33.9	59.9	44.2	44.2
Incr Delay (d2), s/veh	4.8	0.5	0.4	316.7	1.9	1.8	35.3	1.7	13.3	2.1	155.9	174.7
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	8.7	4.9	2.9	19.3	7.9	8.1	4.7	8.3	18.3	2.5	42.8	43.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.4	25.3	19.3	375.7	27.6	27.6	95.4	36.8	47.2	62.0	200.0	218.9
LnGrp LOS	E	C	B	F	C	C	F	D	D	E	F	F
Approach Vol, veh/h		1004			1232			1403			1660	
Approach Delay, s/veh		31.8			178.5			50.1			195.7	
Approach LOS		C			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	63.0	16.0	49.5	17.6	64.4	14.5	51.0
Change Period (Y+Rc), s	7.0	7.4	7.0	* 7.8	7.0	7.4	6.5	7.8
Max Green Setting (Gmax), s	12.0	38.6	9.0	* 42	18.0	32.6	10.2	40.5
Max Q Clear Time (g_c+I1), s	14.0	13.2	10.1	43.7	10.1	19.7	7.7	45.0
Green Ext Time (p_c), s	0.0	4.7	0.0	0.0	0.4	3.6	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	122.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	0	61	0	0	0	54	1124	2	8	908	15
Future Volume (veh/h)	23	0	61	0	0	0	54	1124	2	8	908	15
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	0	65				57	1196	2	9	966	16
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				2	2	2	2	2	2
Cap, veh/h	117	0	104				101	2748	5	20	2535	42
Arrive On Green	0.07	0.00	0.07				0.06	0.75	0.75	0.01	0.71	0.71
Sat Flow, veh/h	1781	0	1585				1781	3640	6	1781	3574	59
Grp Volume(v), veh/h	24	0	65				57	584	614	9	480	502
Grp Sat Flow(s),veh/h/ln	1781	0	1585				1781	1777	1869	1781	1777	1856
Q Serve(g_s), s	1.2	0.0	3.9				3.0	11.6	11.6	0.5	10.4	10.4
Cycle Q Clear(g_c), s	1.2	0.0	3.9				3.0	11.6	11.6	0.5	10.4	10.4
Prop In Lane	1.00		1.00				1.00		0.00	1.00		0.03
Lane Grp Cap(c), veh/h	117	0	104				101	1341	1411	20	1260	1317
V/C Ratio(X)	0.20	0.00	0.62				0.56	0.44	0.44	0.45	0.38	0.38
Avail Cap(c_a), veh/h	443	0	395				240	1341	1411	129	1260	1317
HCM Platoon Ratio	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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	0.0	43.9				44.3	4.3	4.3	47.4	5.6	5.6
Incr Delay (d2), s/veh	0.8	0.0	5.9				1.8	1.0	1.0	5.9	0.9	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
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.2				1.4	3.6	3.8	0.2	3.5	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	0.0	49.8				46.1	5.3	5.3	53.3	6.5	6.4
LnGrp LOS	D	A	D				D	A	A	D	A	A
Approach Vol, veh/h		89						1255			991	
Approach Delay, s/veh		48.1						7.2			6.9	
Approach LOS		D						A			A	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	6.1	79.0		11.4	10.5	74.6
Change Period (Y+Rc), s	5.0	6.2		5.0	5.0	6.2
Max Green Setting (Gmax), s	7.0	72.8		24.0	13.0	66.8
Max Q Clear Time (g_c+I1), s	2.5	13.6		5.9	5.0	12.4
Green Ext Time (p_c), s	0.0	28.7		0.2	0.0	20.5

Intersection Summary	
HCM 6th Ctrl Delay	8.6
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	549	0	54	499	30	4	0	36	15	4	15
Future Volume (veh/h)	20	549	0	54	499	30	4	0	36	15	4	15
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		0.96	1.00		0.93	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	578	0	57	525	32	4	0	38	16	4	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	1770	0	101	1870	804	12	0	114	76	13	52
Arrive On Green	0.03	0.50	0.00	0.06	0.53	0.53	0.08	0.00	0.08	0.04	0.04	0.04
Sat Flow, veh/h	1781	3647	0	1781	3554	1528	143	0	1354	1781	307	1229
Grp Volume(v), veh/h	21	578	0	57	525	32	42	0	0	16	0	20
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1528	1496	0	0	1781	0	1536
Q Serve(g_s), s	0.8	7.0	0.0	2.3	5.9	0.7	1.9	0.0	0.0	0.6	0.0	0.9
Cycle Q Clear(g_c), s	0.8	7.0	0.0	2.3	5.9	0.7	1.9	0.0	0.0	0.6	0.0	0.9
Prop In Lane	1.00		0.00	1.00		1.00	0.10		0.90	1.00		0.80
Lane Grp Cap(c), veh/h	51	1770	0	101	1870	804	126	0	0	76	0	66
V/C Ratio(X)	0.41	0.33	0.00	0.57	0.28	0.04	0.33	0.00	0.00	0.21	0.00	0.30
Avail Cap(c_a), veh/h	197	1770	0	296	1967	845	642	0	0	444	0	382
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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.5	10.9	0.0	33.2	9.5	8.3	31.2	0.0	0.0	33.4	0.0	33.6
Incr Delay (d2), s/veh	5.3	0.5	0.0	4.9	0.1	0.0	1.5	0.0	0.0	1.4	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.6	0.0	1.1	2.1	0.2	0.7	0.0	0.0	0.3	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.8	11.4	0.0	38.1	9.6	8.3	32.7	0.0	0.0	34.8	0.0	36.1
LnGrp LOS	D	B	A	D	A	A	C	A	A	C	A	D
Approach Vol, veh/h		599			614			42			36	
Approach Delay, s/veh		12.4			12.2			32.7			35.5	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	42.0		9.1	7.1	44.0		12.1				
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	12.0	36.0		18.0	8.0	40.0		31.0				
Max Q Clear Time (g_c+I1), s	4.3	9.0		2.9	2.8	7.9		3.9				
Green Ext Time (p_c), s	0.1	4.2		0.1	0.0	4.0		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	13.6
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	261	429	276	173	305	69	240	703	286	71	652	147
Future Volume (veh/h)	261	429	276	173	305	69	240	703	286	71	652	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	269	442	285	178	314	71	247	725	295	73	672	152
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	293	697	446	202	827	184	270	1181	692	92	858	370
Arrive On Green	0.16	0.34	0.34	0.11	0.29	0.29	0.15	0.33	0.33	0.05	0.24	0.24
Sat Flow, veh/h	1781	2054	1314	1781	2871	638	1781	3554	1542	1781	3554	1532
Grp Volume(v), veh/h	269	382	345	178	192	193	247	725	295	73	672	152
Grp Sat Flow(s),veh/h/ln	1781	1777	1591	1781	1777	1732	1781	1777	1542	1781	1777	1532
Q Serve(g_s), s	20.9	25.5	25.8	13.9	12.2	12.5	19.2	24.1	18.5	5.7	24.9	11.8
Cycle Q Clear(g_c), s	20.9	25.5	25.8	13.9	12.2	12.5	19.2	24.1	18.5	5.7	24.9	11.8
Prop In Lane	1.00		0.83	1.00		0.37	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	293	603	540	202	512	499	270	1181	692	92	858	370
V/C Ratio(X)	0.92	0.63	0.64	0.88	0.38	0.39	0.91	0.61	0.43	0.79	0.78	0.41
Avail Cap(c_a), veh/h	393	603	540	271	512	499	321	1181	692	151	858	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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.9	39.1	39.3	61.5	40.0	40.2	58.8	39.4	26.8	66.0	50.0	45.0
Incr Delay (d2), s/veh	18.9	5.0	5.7	18.3	2.1	2.3	24.7	2.4	1.9	5.6	7.1	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	12.0	11.0	7.3	5.7	5.7	10.5	11.0	7.2	2.7	11.9	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.8	44.1	45.0	79.8	42.1	42.4	83.5	41.8	28.7	71.7	57.1	48.3
LnGrp LOS	E	D	D	E	D	D	F	D	C	E	E	D
Approach Vol, veh/h		996			563			1267			897	
Approach Delay, s/veh		53.2			54.1			46.9			56.8	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.9	53.9	26.0	40.1	28.1	46.7	13.2	52.9
Change Period (Y+Rc), s	* 4.9	* 6.1	4.6	* 6.1	* 4.9	* 6.1	5.9	* 6.1
Max Green Setting (Gmax), s	* 21	* 48	25.4	* 34	* 31	* 38	11.9	* 47
Max Q Clear Time (g_c+I1), s	15.9	27.8	21.2	26.9	22.9	14.5	7.7	26.1
Green Ext Time (p_c), s	0.1	4.8	0.2	2.9	0.3	2.3	0.0	6.2

Intersection Summary	
HCM 6th Ctrl Delay	52.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	283	455	49	14	333	47	75	126	18	23	91	139
Future Volume (veh/h)	283	455	49	14	333	47	75	126	18	23	91	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	295	474	51	15	347	49	78	131	19	24	95	145
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	329	1627	174	43	1086	152	112	340	49	61	346	279
Arrive On Green	0.18	0.50	0.50	0.02	0.35	0.35	0.06	0.21	0.21	0.03	0.18	0.18
Sat Flow, veh/h	1781	3224	345	1781	3111	434	1781	1587	230	1781	1870	1510
Grp Volume(v), veh/h	295	260	265	15	197	199	78	0	150	24	95	145
Grp Sat Flow(s),veh/h/ln	1781	1777	1793	1781	1777	1768	1781	0	1817	1781	1870	1510
Q Serve(g_s), s	15.8	8.3	8.4	0.8	7.9	8.1	4.2	0.0	6.9	1.3	4.3	8.5
Cycle Q Clear(g_c), s	15.8	8.3	8.4	0.8	7.9	8.1	4.2	0.0	6.9	1.3	4.3	8.5
Prop In Lane	1.00		0.19	1.00		0.25	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	329	897	905	43	620	617	112	0	390	61	346	279
V/C Ratio(X)	0.90	0.29	0.29	0.35	0.32	0.32	0.70	0.00	0.38	0.39	0.27	0.52
Avail Cap(c_a), veh/h	431	897	905	127	620	617	189	0	650	127	598	483
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.0	14.1	14.1	47.0	23.3	23.4	45.0	0.0	32.9	46.3	34.3	36.0
Incr Delay (d2), s/veh	15.0	0.8	0.8	1.8	1.3	1.4	2.9	0.0	0.6	1.5	0.4	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	8.2	3.4	3.5	0.4	3.5	3.6	1.9	0.0	3.1	0.6	2.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.0	14.9	14.9	48.9	24.7	24.8	47.8	0.0	33.5	47.8	34.7	37.5
LnGrp LOS	D	B	B	D	C	C	D	A	C	D	C	D
Approach Vol, veh/h		820			411			228			264	
Approach Delay, s/veh		29.0			25.6			38.4			37.4	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	55.2	11.4	23.9	22.7	40.0	8.5	26.8
Change Period (Y+Rc), s	5.1	* 5.8	* 5.2	* 5.8	4.6	* 5.8	5.1	* 5.8
Max Green Setting (Gmax), s	7.3	* 49	* 10	* 31	23.7	* 33	7.0	* 35
Max Q Clear Time (g_c+I1), s	2.8	10.4	6.2	10.5	17.8	10.1	3.3	8.9
Green Ext Time (p_c), s	0.0	3.5	0.0	1.0	0.2	2.4	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	30.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.6

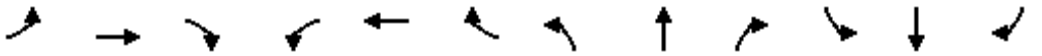
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	36	66	1162	24	78	1022
Future Vol, veh/h	36	66	1162	24	78	1022
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	68	1198	25	80	1054

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1918	632	0	0	1233	0
Stage 1	1221	-	-	-	-	-
Stage 2	697	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	59	423	-	-	561	-
Stage 1	242	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	50	415	-	-	556	-
Mov Cap-2 Maneuver	156	-	-	-	-	-
Stage 1	240	-	-	-	-	-
Stage 2	386	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.7	0	0.9
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	262	556	-
HCM Lane V/C Ratio	-	-	0.401	0.145	-
HCM Control Delay (s)	-	-	27.7	12.6	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	1.8	0.5	-

1 vehicle length = approximately 20 feet



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	199	7	99	10	9	2	90	1262	23	44	989	186
Future Volume (veh/h)	199	7	99	10	9	2	90	1262	23	44	989	186
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.92	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	205	7	102	10	9	2	93	1301	24	45	1020	192
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	241	13	188	231	189	42	114	1529	28	79	1211	227
Arrive On Green	0.14	0.14	0.14	0.13	0.13	0.13	0.06	0.43	0.43	0.04	0.41	0.41
Sat Flow, veh/h	1781	95	1391	1781	1456	324	1781	3566	66	1781	2963	556
Grp Volume(v), veh/h	205	0	109	10	0	11	93	648	677	45	611	601
Grp Sat Flow(s),veh/h/ln	1781	0	1487	1781	0	1780	1781	1777	1855	1781	1777	1742
Q Serve(g_s), s	10.5	0.0	6.4	0.5	0.0	0.5	4.8	30.6	30.7	2.3	28.9	29.1
Cycle Q Clear(g_c), s	10.5	0.0	6.4	0.5	0.0	0.5	4.8	30.6	30.7	2.3	28.9	29.1
Prop In Lane	1.00		0.94	1.00		0.18	1.00		0.04	1.00		0.32
Lane Grp Cap(c), veh/h	241	0	201	231	0	231	114	762	796	79	726	712
V/C Ratio(X)	0.85	0.00	0.54	0.04	0.00	0.05	0.81	0.85	0.85	0.57	0.84	0.84
Avail Cap(c_a), veh/h	254	0	212	724	0	724	114	762	796	114	726	712
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	0.0	37.7	35.6	0.0	35.6	43.2	24.0	24.0	43.8	24.9	24.9
Incr Delay (d2), s/veh	22.5	0.0	2.5	0.1	0.0	0.1	34.3	11.5	11.1	6.4	11.3	11.7
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	6.0	0.0	2.4	0.2	0.0	0.2	3.2	14.6	15.2	1.2	13.9	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	0.0	40.2	35.7	0.0	35.7	77.5	35.4	35.1	50.1	36.2	36.7
LnGrp LOS	E	A	D	D	A	D	E	D	D	D	D	D
Approach Vol, veh/h		314			21			1418			1257	
Approach Delay, s/veh		54.5			35.7			38.0			36.9	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.1	46.4		18.7	12.0	44.5		18.2				
Change Period (Y+Rc), s	6.0	6.3		6.1	6.0	6.3		6.1				
Max Green Setting (Gmax), s	6.0	38.2		13.3	6.0	38.2		38.0				
Max Q Clear Time (g_c+I1), s	4.3	32.7		12.5	6.8	31.1		2.5				
Green Ext Time (p_c), s	0.0	3.8		0.1	0.0	4.3		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			39.3									
HCM 6th LOS			D									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	334	687	275	358	555	102	359	939	425	147	665	287
Future Volume (veh/h)	334	687	275	358	555	102	359	939	425	147	665	287
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	341	701	281	365	566	104	366	958	434	150	679	293
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	390	1525	1448	319	1220	223	346	1163	651	212	681	294
Arrive On Green	0.11	0.43	0.43	0.09	0.41	0.41	0.10	0.33	0.33	0.06	0.28	0.28
Sat Flow, veh/h	3456	3554	2723	3456	2986	547	3456	3554	1541	3456	2392	1032
Grp Volume(v), veh/h	341	701	281	365	336	334	366	958	434	150	504	468
Grp Sat Flow(s),veh/h/ln	1728	1777	1361	1728	1777	1756	1728	1777	1541	1728	1777	1647
Q Serve(g_s), s	12.6	18.2	7.0	12.0	17.9	18.1	13.0	32.3	29.6	5.5	36.9	36.9
Cycle Q Clear(g_c), s	12.6	18.2	7.0	12.0	17.9	18.1	13.0	32.3	29.6	5.5	36.9	36.9
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		0.63
Lane Grp Cap(c), veh/h	390	1525	1448	319	726	717	346	1163	651	212	506	469
V/C Ratio(X)	0.87	0.46	0.19	1.14	0.46	0.47	1.06	0.82	0.67	0.71	1.00	1.00
Avail Cap(c_a), veh/h	399	1525	1448	319	726	717	346	1163	651	213	506	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.49	0.49	0.49
Uniform Delay (d), s/veh	56.7	26.4	16.1	59.0	28.0	28.1	58.5	40.3	30.5	59.9	46.5	46.5
Incr Delay (d2), s/veh	18.6	1.0	0.3	95.4	2.1	2.2	64.9	6.7	5.4	5.2	27.4	28.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	8.0	2.3	9.5	8.1	8.0	8.8	15.1	11.9	2.6	20.0	18.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.4	27.4	16.4	154.4	30.2	30.2	123.4	47.0	35.8	65.1	73.8	74.9
LnGrp LOS	E	C	B	F	C	C	F	D	D	E	E	E
Approach Vol, veh/h		1323			1035			1758			1122	
Approach Delay, s/veh		37.4			74.0			60.1			73.1	
Approach LOS		D			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	63.7	20.0	44.8	21.7	61.0	14.5	50.3
Change Period (Y+Rc), s	7.0	7.4	7.0	* 7.8	7.0	7.4	6.5	7.8
Max Green Setting (Gmax), s	12.0	39.3	13.0	* 37	15.0	36.3	8.0	42.0
Max Q Clear Time (g_c+I1), s	14.0	20.2	15.0	38.9	14.6	20.1	7.5	34.3
Green Ext Time (p_c), s	0.0	6.0	0.0	0.0	0.1	3.9	0.0	4.8

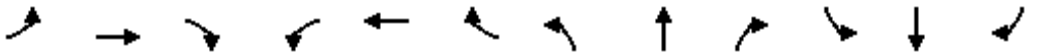
Intersection Summary	
HCM 6th Ctrl Delay	59.9
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX G

HORIZON YEAR INTERSECTION ANALYSIS WORKSHEETS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	0	70	0	0	0	90	850	10	10	1160	30
Future Volume (veh/h)	40	0	70	0	0	0	90	850	10	10	1160	30
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	0	83				107	1012	12	12	1381	36
Peak Hour Factor	0.84	0.84	0.84				0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	0	2				2	2	2	2	2	2
Cap, veh/h	129	0	114				135	2706	32	25	2443	64
Arrive On Green	0.07	0.00	0.07				0.08	0.75	0.75	0.01	0.69	0.69
Sat Flow, veh/h	1781	0	1585				1781	3595	43	1781	3534	92
Grp Volume(v), veh/h	48	0	83				107	500	524	12	694	723
Grp Sat Flow(s),veh/h/ln	1781	0	1585				1781	1777	1861	1781	1777	1849
Q Serve(g_s), s	2.6	0.0	5.2				5.9	9.8	9.8	0.7	19.9	20.0
Cycle Q Clear(g_c), s	2.6	0.0	5.2				5.9	9.8	9.8	0.7	19.9	20.0
Prop In Lane	1.00		1.00				1.00		0.02	1.00		0.05
Lane Grp Cap(c), veh/h	129	0	114				135	1338	1401	25	1228	1278
V/C Ratio(X)	0.37	0.00	0.73				0.80	0.37	0.37	0.48	0.56	0.57
Avail Cap(c_a), veh/h	407	0	362				248	1338	1401	88	1228	1278
HCM Platoon Ratio	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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	0.0	45.7				45.8	4.3	4.3	49.3	7.9	7.9
Incr Delay (d2), s/veh	1.8	0.0	8.4				4.0	0.8	0.8	5.1	1.9	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	4.7				2.8	3.1	3.2	0.3	7.2	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.3	0.0	54.1				49.8	5.1	5.0	54.4	9.7	9.7
LnGrp LOS	D	A	D				D	A	A	D	A	A
Approach Vol, veh/h		131						1131			1429	
Approach Delay, s/veh		51.3						9.3			10.1	
Approach LOS		D						A			B	

Timer - Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	6.4	82.0		12.3	12.6	75.8						
Change Period (Y+Rc), s	5.0	6.2		5.0	5.0	6.2						
Max Green Setting (Gmax), s	5.0	75.8		23.0	14.0	66.8						
Max Q Clear Time (g_c+I1), s	2.7	11.8		7.2	7.9	22.0						
Green Ext Time (p_c), s	0.0	23.0		0.3	0.1	30.7						

Intersection Summary			
HCM 6th Ctrl Delay			11.8
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	540	10	30	470	80	0	10	60	10	0	30
Future Volume (veh/h)	20	540	10	30	470	80	0	10	60	10	0	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.94	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	635	12	35	553	94	0	12	71	12	0	35
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	1788	34	74	1818	781	0	23	136	89	0	73
Arrive On Green	0.03	0.50	0.50	0.04	0.51	0.51	0.00	0.10	0.10	0.05	0.00	0.05
Sat Flow, veh/h	1781	3565	67	1781	3554	1527	0	222	1312	1781	0	1466
Grp Volume(v), veh/h	24	316	331	35	553	94	0	0	83	12	0	35
Grp Sat Flow(s),veh/h/ln	1781	1777	1855	1781	1777	1527	0	0	1534	1781	0	1466
Q Serve(g_s), s	1.0	8.2	8.2	1.5	6.8	2.4	0.0	0.0	3.9	0.5	0.0	1.8
Cycle Q Clear(g_c), s	1.0	8.2	8.2	1.5	6.8	2.4	0.0	0.0	3.9	0.5	0.0	1.8
Prop In Lane	1.00		0.04	1.00		1.00	0.00		0.86	1.00		1.00
Lane Grp Cap(c), veh/h	56	891	931	74	1818	781	0	0	159	89	0	73
V/C Ratio(X)	0.43	0.35	0.36	0.48	0.30	0.12	0.00	0.00	0.52	0.14	0.00	0.48
Avail Cap(c_a), veh/h	188	891	931	188	1818	781	0	0	668	423	0	348
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.0	11.4	11.4	35.5	10.7	9.6	0.0	0.0	32.2	34.4	0.0	35.0
Incr Delay (d2), s/veh	5.1	1.1	1.1	4.7	0.1	0.1	0.0	0.0	2.6	0.7	0.0	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.2	3.3	0.7	2.4	0.8	0.0	0.0	1.5	0.2	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.1	12.5	12.5	40.2	10.8	9.7	0.0	0.0	34.8	35.1	0.0	39.9
LnGrp LOS	D	B	B	D	B	A	A	A	C	D	A	D
Approach Vol, veh/h		671			682			83			47	
Approach Delay, s/veh		13.6			12.2			34.8			38.7	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	44.0		9.8	7.4	44.7		13.9				
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	8.0	38.0		18.0	8.0	38.0		33.0				
Max Q Clear Time (g_c+I1), s	3.5	10.2		3.8	3.0	8.8		5.9				
Green Ext Time (p_c), s	0.0	4.3		0.1	0.0	4.4		0.5				

Intersection Summary	
HCM 6th Ctrl Delay	14.9
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	340	270	290	600	110	180	460	140	80	850	290
Future Volume (veh/h)	70	340	270	290	600	110	180	460	140	80	850	290
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	370	293	315	652	120	196	500	152	87	924	315
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	95	509	397	336	1216	223	218	1149	797	107	960	415
Arrive On Green	0.05	0.27	0.27	0.19	0.41	0.41	0.12	0.32	0.32	0.06	0.27	0.27
Sat Flow, veh/h	1781	1872	1458	1781	2984	548	1781	3554	1541	1781	3554	1536
Grp Volume(v), veh/h	76	351	312	315	388	384	196	500	152	87	924	315
Grp Sat Flow(s),veh/h/ln	1781	1777	1553	1781	1777	1755	1781	1777	1541	1781	1777	1536
Q Serve(g_s), s	6.2	26.5	27.0	25.7	24.4	24.5	16.0	16.4	7.9	7.1	37.9	27.8
Cycle Q Clear(g_c), s	6.2	26.5	27.0	25.7	24.4	24.5	16.0	16.4	7.9	7.1	37.9	27.8
Prop In Lane	1.00		0.94	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	95	484	423	336	724	715	218	1149	797	107	960	415
V/C Ratio(X)	0.80	0.73	0.74	0.94	0.54	0.54	0.90	0.44	0.19	0.81	0.96	0.76
Avail Cap(c_a), veh/h	119	484	423	363	724	715	222	1149	797	148	960	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.1	48.8	49.0	59.1	33.2	33.2	64.0	39.4	19.5	68.6	53.2	49.5
Incr Delay (d2), s/veh	20.5	9.2	11.0	29.5	2.8	2.9	33.7	1.2	0.5	14.7	21.3	12.3
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	3.4	13.0	11.8	14.4	11.2	11.1	9.3	7.4	3.0	3.7	19.7	12.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.6	57.9	60.0	88.6	36.0	36.1	97.7	40.6	20.0	83.3	74.5	61.8
LnGrp LOS	F	E	E	F	D	D	F	D	C	F	E	E
Approach Vol, veh/h		739			1087			848			1326	
Approach Delay, s/veh		62.0			51.3			50.1			72.0	
Approach LOS		E			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	46.3	22.6	46.0	12.8	66.3	14.8	53.8
Change Period (Y+Rc), s	* 4.9	* 6.1	4.6	* 6.1	* 4.9	* 6.1	5.9	* 6.1
Max Green Setting (Gmax), s	* 8	* 40	18.4	* 40	* 9.9	* 60	12.3	* 45
Max Q Clear Time (g_c+I1), s	27.7	29.0	18.0	39.9	8.2	26.5	9.1	18.4
Green Ext Time (p_c), s	0.1	3.3	0.0	0.0	0.0	5.6	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	59.9
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

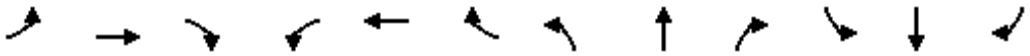
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	400	60	20	610	10	90	60	20	30	170	300
Future Volume (veh/h)	110	400	60	20	610	10	90	60	20	30	170	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	124	449	67	22	685	11	101	67	22	34	191	337
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	1317	195	56	1350	22	127	386	127	75	483	397
Arrive On Green	0.09	0.43	0.43	0.03	0.38	0.38	0.07	0.29	0.29	0.04	0.26	0.26
Sat Flow, veh/h	1781	3085	457	1781	3576	57	1781	1337	439	1781	1870	1535
Grp Volume(v), veh/h	124	257	259	22	340	356	101	0	89	34	191	337
Grp Sat Flow(s),veh/h/ln	1781	1777	1766	1781	1777	1857	1781	0	1775	1781	1870	1535
Q Serve(g_s), s	7.1	10.0	10.2	1.3	15.3	15.3	5.8	0.0	3.9	1.9	8.7	21.6
Cycle Q Clear(g_c), s	7.1	10.0	10.2	1.3	15.3	15.3	5.8	0.0	3.9	1.9	8.7	21.6
Prop In Lane	1.00		0.26	1.00		0.03	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	153	759	754	56	671	701	127	0	513	75	483	397
V/C Ratio(X)	0.81	0.34	0.34	0.39	0.51	0.51	0.79	0.00	0.17	0.45	0.40	0.85
Avail Cap(c_a), veh/h	248	759	754	136	671	701	220	0	659	136	600	492
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	19.9	19.9	49.1	24.8	24.8	47.3	0.0	27.6	48.4	31.7	36.5
Incr Delay (d2), s/veh	3.9	1.2	1.2	1.6	2.7	2.6	4.2	0.0	0.2	1.6	0.5	11.1
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	3.3	4.3	4.4	0.6	6.8	7.1	2.7	0.0	1.7	0.9	4.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.4	21.1	21.2	50.8	27.5	27.4	51.5	0.0	27.7	50.0	32.2	47.6
LnGrp LOS	D	C	C	D	C	C	D	A	C	D	C	D
Approach Vol, veh/h		640			718			190			562	
Approach Delay, s/veh		26.8			28.2			40.4			42.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	50.0	12.6	32.6	13.5	44.9	9.5	35.7
Change Period (Y+Rc), s	5.1	* 5.8	* 5.2	* 5.8	4.6	* 5.8	5.1	* 5.8
Max Green Setting (Gmax), s	7.3	* 44	* 13	* 33	14.4	* 38	7.9	* 38
Max Q Clear Time (g_c+I1), s	3.3	12.2	7.8	23.6	9.1	17.3	3.9	5.9
Green Ext Time (p_c), s	0.0	3.4	0.0	1.7	0.1	4.3	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	10	150	20	10	10	110	770	10	50	1490	130
Future Volume (veh/h)	120	10	150	20	10	10	110	770	10	50	1490	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.94	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	11	160	21	11	11	117	819	11	53	1585	138
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	8	123	181	84	84	117	1772	24	87	1572	135
Arrive On Green	0.09	0.09	0.09	0.10	0.10	0.10	0.07	0.49	0.49	0.05	0.48	0.48
Sat Flow, veh/h	1781	96	1399	1781	828	828	1781	3588	48	1781	3299	284
Grp Volume(v), veh/h	128	0	171	21	0	22	117	406	424	53	846	877
Grp Sat Flow(s),veh/h/ln	1781	0	1495	1781	0	1657	1781	1777	1859	1781	1777	1806
Q Serve(g_s), s	6.4	0.0	8.0	1.0	0.0	1.1	6.0	13.7	13.7	2.7	43.4	43.5
Cycle Q Clear(g_c), s	6.4	0.0	8.0	1.0	0.0	1.1	6.0	13.7	13.7	2.7	43.4	43.5
Prop In Lane	1.00		0.94	1.00		0.50	1.00		0.03	1.00		0.16
Lane Grp Cap(c), veh/h	156	0	131	181	0	168	117	877	918	87	847	861
V/C Ratio(X)	0.82	0.00	1.30	0.12	0.00	0.13	1.00	0.46	0.46	0.61	1.00	1.02
Avail Cap(c_a), veh/h	156	0	131	742	0	690	117	877	918	156	847	861
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	0.0	41.6	37.3	0.0	37.3	42.6	15.2	15.2	42.6	23.9	23.9
Incr Delay (d2), s/veh	28.0	0.0	181.6	0.3	0.0	0.3	82.9	1.8	1.7	6.8	30.6	35.6
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	4.0	0.0	9.5	0.4	0.0	0.5	5.3	5.7	5.9	1.3	23.9	25.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.9	0.0	223.2	37.6	0.0	37.7	125.5	16.9	16.8	49.4	54.4	59.5
LnGrp LOS	E	A	F	D	A	D	F	B	B	D	D	F
Approach Vol, veh/h		299			43			947			1776	
Approach Delay, s/veh		157.2			37.6			30.3			56.8	
Approach LOS		F			D			C			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.4	51.4		14.1	12.0	49.8		15.4				
Change Period (Y+Rc), s	6.0	6.3		6.1	6.0	6.3		6.1				
Max Green Setting (Gmax), s	8.0	41.5		8.0	6.0	43.5		38.0				
Max Q Clear Time (g_c+I1), s	4.7	15.7		10.0	8.0	45.5		3.1				
Green Ext Time (p_c), s	0.0	5.7		0.0	0.0	0.0		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		58.1	
HCM 6th LOS		E	

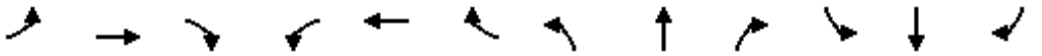
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	470	330	540	660	50	220	610	570	160	1110	400
Future Volume (veh/h)	220	470	330	540	660	50	220	610	570	160	1110	400
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	242	516	363	593	725	55	242	670	626	176	1220	440
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	294	1506	1347	319	1441	109	239	1165	651	228	822	286
Arrive On Green	0.08	0.42	0.42	0.09	0.43	0.43	0.07	0.33	0.33	0.07	0.32	0.32
Sat Flow, veh/h	3456	3554	2722	3456	3341	253	3456	3554	1541	3456	2564	892
Grp Volume(v), veh/h	242	516	363	593	385	395	242	670	626	176	832	828
Grp Sat Flow(s),veh/h/ln	1728	1777	1361	1728	1777	1817	1728	1777	1541	1728	1777	1679
Q Serve(g_s), s	9.0	12.7	10.1	12.0	20.5	20.5	9.0	20.3	42.6	6.5	41.7	41.7
Cycle Q Clear(g_c), s	9.0	12.7	10.1	12.0	20.5	20.5	9.0	20.3	42.6	6.5	41.7	41.7
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	294	1506	1347	319	766	784	239	1165	651	228	570	539
V/C Ratio(X)	0.82	0.34	0.27	1.86	0.50	0.50	1.01	0.58	0.96	0.77	1.46	1.54
Avail Cap(c_a), veh/h	319	1506	1347	319	766	784	239	1165	651	271	570	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.12	0.12	0.12
Uniform Delay (d), s/veh	58.5	25.2	19.3	59.0	26.9	26.9	60.5	36.2	36.8	59.7	44.2	44.2
Incr Delay (d2), s/veh	15.0	0.6	0.5	398.4	2.4	2.3	61.2	2.1	26.9	1.4	207.9	243.0
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	4.5	5.5	3.3	22.9	9.2	9.4	6.0	9.2	23.9	2.9	51.1	53.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.5	25.9	19.8	457.4	29.2	29.2	121.7	38.3	63.7	61.1	252.0	287.2
LnGrp LOS	E	C	B	F	C	C	F	D	E	E	F	F
Approach Vol, veh/h		1121			1373			1538			1836	
Approach Delay, s/veh		34.2			214.1			61.7			249.6	
Approach LOS		C			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	63.0	16.0	49.5	18.0	64.0	15.1	50.4
Change Period (Y+Rc), s	7.0	7.4	7.0	* 7.8	7.0	7.4	6.5	7.8
Max Green Setting (Gmax), s	12.0	38.6	9.0	* 42	12.0	38.6	10.2	40.5
Max Q Clear Time (g_c+I1), s	11.0	14.7	11.0	43.7	11.0	22.5	8.5	44.6
Green Ext Time (p_c), s	0.0	5.3	0.0	0.0	0.1	4.5	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	150.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	0	70	0	0	0	60	1210	10	10	980	20
Future Volume (veh/h)	30	0	70	0	0	0	60	1210	10	10	980	20
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	0	74				64	1287	11	11	1043	21
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				2	2	2	2	2	2
Cap, veh/h	121	0	108				106	2712	23	24	2510	51
Arrive On Green	0.07	0.00	0.07				0.06	0.75	0.75	0.01	0.71	0.71
Sat Flow, veh/h	1781	0	1585				1781	3609	31	1781	3559	72
Grp Volume(v), veh/h	32	0	74				64	633	665	11	521	543
Grp Sat Flow(s),veh/h/ln	1781	0	1585				1781	1777	1863	1781	1777	1853
Q Serve(g_s), s	1.7	0.0	4.4				3.4	13.3	13.3	0.6	11.8	11.8
Cycle Q Clear(g_c), s	1.7	0.0	4.4				3.4	13.3	13.3	0.6	11.8	11.8
Prop In Lane	1.00		1.00				1.00		0.02	1.00		0.04
Lane Grp Cap(c), veh/h	121	0	108				106	1335	1400	24	1253	1307
V/C Ratio(X)	0.26	0.00	0.69				0.61	0.47	0.47	0.47	0.42	0.42
Avail Cap(c_a), veh/h	441	0	393				239	1335	1400	129	1253	1307
HCM Platoon Ratio	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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.8	0.0	44.1				44.5	4.6	4.7	47.5	5.9	5.9
Incr Delay (d2), s/veh	1.1	0.0	7.5				2.1	1.2	1.2	5.3	1.0	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
%ile BackOfQ(50%),veh/ln	0.8	0.0	4.1				1.6	4.2	4.4	0.3	4.1	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.0	0.0	51.6				46.5	5.9	5.8	52.7	7.0	6.9
LnGrp LOS	D	A	D				D	A	A	D	A	A
Approach Vol, veh/h		106						1362			1075	
Approach Delay, s/veh		49.3						7.7			7.4	
Approach LOS		D						A			A	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	6.3	79.0		11.6	10.7	74.5
Change Period (Y+Rc), s	5.0	6.2		5.0	5.0	6.2
Max Green Setting (Gmax), s	7.0	72.8		24.0	13.0	66.8
Max Q Clear Time (g_c+I1), s	2.6	15.3		6.4	5.4	13.8
Green Ext Time (p_c), s	0.0	31.9		0.2	0.0	22.9

Intersection Summary			
HCM 6th Ctrl Delay			9.3
HCM 6th LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	600	0	60	540	40	10	0	40	20	10	20
Future Volume (veh/h)	30	600	0	60	540	40	10	0	40	20	10	20
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		0.96	1.00		0.93	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	632	0	63	568	42	11	0	42	21	11	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	1729	0	105	1799	773	29	0	109	96	29	56
Arrive On Green	0.04	0.49	0.00	0.06	0.51	0.51	0.09	0.00	0.09	0.05	0.05	0.05
Sat Flow, veh/h	1781	3647	0	1781	3554	1527	318	0	1214	1781	545	1040
Grp Volume(v), veh/h	32	632	0	63	568	42	53	0	0	21	0	32
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1527	1532	0	0	1781	0	1585
Q Serve(g_s), s	1.3	8.2	0.0	2.6	7.0	1.0	2.4	0.0	0.0	0.8	0.0	1.4
Cycle Q Clear(g_c), s	1.3	8.2	0.0	2.6	7.0	1.0	2.4	0.0	0.0	0.8	0.0	1.4
Prop In Lane	1.00		0.00	1.00		1.00	0.21		0.79	1.00		0.66
Lane Grp Cap(c), veh/h	70	1729	0	105	1799	773	138	0	0	96	0	85
V/C Ratio(X)	0.46	0.37	0.00	0.60	0.32	0.05	0.38	0.00	0.00	0.22	0.00	0.38
Avail Cap(c_a), veh/h	193	1729	0	289	1921	825	642	0	0	433	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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.8	11.9	0.0	34.0	10.7	9.3	31.7	0.0	0.0	33.5	0.0	33.8
Incr Delay (d2), s/veh	4.7	0.6	0.0	5.4	0.1	0.0	1.7	0.0	0.0	1.1	0.0	2.7
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	0.6	3.1	0.0	1.2	2.5	0.3	0.9	0.0	0.0	0.4	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	12.5	0.0	39.4	10.8	9.3	33.5	0.0	0.0	34.7	0.0	36.5
LnGrp LOS	D	B	A	D	B	A	C	A	A	C	A	D
Approach Vol, veh/h		664			673			53			53	
Approach Delay, s/veh		13.8			13.4			33.5			35.8	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.4	42.0		10.0	7.9	43.5		12.7
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	12.0	36.0		18.0	8.0	40.0		31.0
Max Q Clear Time (g_c+I1), s	4.6	10.2		3.4	3.3	9.0		4.4
Green Ext Time (p_c), s	0.1	4.6		0.1	0.0	4.4		0.2

Intersection Summary	
HCM 6th Ctrl Delay	15.1
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	480	290	180	350	80	250	750	300	80	690	170
Future Volume (veh/h)	290	480	290	180	350	80	250	750	300	80	690	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	299	495	299	186	361	82	258	773	309	82	711	175
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	322	706	425	209	778	174	281	1170	694	102	846	365
Arrive On Green	0.18	0.33	0.33	0.12	0.27	0.27	0.16	0.33	0.33	0.06	0.24	0.24
Sat Flow, veh/h	1781	2108	1268	1781	2866	642	1781	3554	1541	1781	3554	1532
Grp Volume(v), veh/h	299	417	377	186	222	221	258	773	309	82	711	175
Grp Sat Flow(s),veh/h/ln	1781	1777	1600	1781	1777	1731	1781	1777	1541	1781	1777	1532
Q Serve(g_s), s	23.6	29.1	29.3	14.7	14.8	15.2	20.4	26.6	19.8	6.5	27.2	14.0
Cycle Q Clear(g_c), s	23.6	29.1	29.3	14.7	14.8	15.2	20.4	26.6	19.8	6.5	27.2	14.0
Prop In Lane	1.00		0.79	1.00		0.37	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	322	595	536	209	482	470	281	1170	694	102	846	365
V/C Ratio(X)	0.93	0.70	0.70	0.89	0.46	0.47	0.92	0.66	0.45	0.80	0.84	0.48
Avail Cap(c_a), veh/h	388	595	536	267	482	470	317	1170	694	148	846	365
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.6	41.3	41.3	62.1	43.3	43.4	59.2	41.1	27.3	66.5	51.8	46.8
Incr Delay (d2), s/veh	23.9	6.7	7.6	21.2	3.1	3.4	27.4	2.9	2.1	11.2	9.8	4.5
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	12.8	13.9	12.7	7.9	7.0	7.0	11.3	12.2	7.8	3.3	13.3	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.5	48.0	48.9	83.3	46.4	46.8	86.6	44.0	29.4	77.7	61.6	51.3
LnGrp LOS	F	D	D	F	D	D	F	D	C	E	E	D
Approach Vol, veh/h		1093			629			1340			968	
Approach Delay, s/veh		57.5			57.5			48.8			61.1	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.7	53.9	27.1	40.1	30.7	44.9	14.1	53.1
Change Period (Y+Rc), s	* 4.9	* 6.1	4.6	* 6.1	* 4.9	* 6.1	5.9	* 6.1
Max Green Setting (Gmax), s	* 21	* 48	25.4	* 34	* 31	* 38	11.9	* 47
Max Q Clear Time (g_c+I1), s	16.7	31.3	22.4	29.2	25.6	17.2	8.5	28.6
Green Ext Time (p_c), s	0.1	4.9	0.1	2.3	0.2	2.6	0.0	6.3

Intersection Summary	
HCM 6th Ctrl Delay	55.5
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

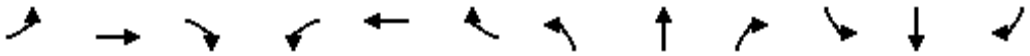
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	500	60	20	360	60	90	140	20	30	110	150
Future Volume (veh/h)	310	500	60	20	360	60	90	140	20	30	110	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.95	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	323	521	62	21	375	62	94	146	21	31	115	156
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	355	1578	187	55	1007	165	119	343	49	72	352	285
Arrive On Green	0.20	0.50	0.50	0.03	0.33	0.33	0.07	0.22	0.22	0.04	0.19	0.19
Sat Flow, veh/h	1781	3185	377	1781	3034	496	1781	1589	229	1781	1870	1511
Grp Volume(v), veh/h	323	290	293	21	218	219	94	0	167	31	115	156
Grp Sat Flow(s),veh/h/ln	1781	1777	1785	1781	1777	1753	1781	0	1817	1781	1870	1511
Q Serve(g_s), s	17.8	9.9	9.9	1.2	9.4	9.6	5.2	0.0	8.0	1.7	5.3	9.4
Cycle Q Clear(g_c), s	17.8	9.9	9.9	1.2	9.4	9.6	5.2	0.0	8.0	1.7	5.3	9.4
Prop In Lane	1.00		0.21	1.00		0.28	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	355	880	884	55	590	582	119	0	393	72	352	285
V/C Ratio(X)	0.91	0.33	0.33	0.38	0.37	0.38	0.79	0.00	0.43	0.43	0.33	0.55
Avail Cap(c_a), veh/h	421	880	884	124	590	582	185	0	634	124	584	471
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	15.3	15.3	47.7	25.5	25.6	46.1	0.0	33.9	47.0	35.2	36.8
Incr Delay (d2), s/veh	19.7	1.0	1.0	1.6	1.8	1.9	5.2	0.0	0.7	1.5	0.5	1.6
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	9.6	4.1	4.2	0.5	4.2	4.2	2.5	0.0	3.6	0.8	2.5	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.9	16.3	16.3	49.3	27.3	27.4	51.3	0.0	34.7	48.5	35.7	38.5
LnGrp LOS	E	B	B	D	C	C	D	A	C	D	D	D
Approach Vol, veh/h		906			458			261			302	
Approach Delay, s/veh		31.5			28.4			40.7			38.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	55.5	11.9	24.7	24.6	39.1	9.1	27.5
Change Period (Y+Rc), s	5.1	* 5.8	* 5.2	* 5.8	4.6	* 5.8	5.1	* 5.8
Max Green Setting (Gmax), s	7.0	* 49	* 10	* 31	23.7	* 33	7.0	* 35
Max Q Clear Time (g_c+I1), s	3.2	11.9	7.2	11.4	19.8	11.6	3.7	10.0
Green Ext Time (p_c), s	0.0	4.0	0.0	1.1	0.2	2.6	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	10	110	20	10	10	100	1370	30	50	1070	210
Future Volume (veh/h)	220	10	110	20	10	10	100	1370	30	50	1070	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.93	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	227	10	113	21	10	10	103	1412	31	52	1103	216
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	247	17	191	256	118	118	112	1473	32	84	1174	229
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.06	0.41	0.41	0.05	0.40	0.40
Sat Flow, veh/h	1781	122	1373	1781	824	824	1781	3551	78	1781	2942	573
Grp Volume(v), veh/h	227	0	123	21	0	20	103	706	737	52	664	655
Grp Sat Flow(s),veh/h/ln	1781	0	1495	1781	0	1647	1781	1777	1852	1781	1777	1738
Q Serve(g_s), s	12.0	0.0	7.4	1.0	0.0	1.0	5.5	36.9	37.1	2.7	34.3	34.8
Cycle Q Clear(g_c), s	12.0	0.0	7.4	1.0	0.0	1.0	5.5	36.9	37.1	2.7	34.3	34.8
Prop In Lane	1.00		0.92	1.00		0.50	1.00		0.04	1.00		0.33
Lane Grp Cap(c), veh/h	247	0	208	256	0	237	112	737	768	84	709	693
V/C Ratio(X)	0.92	0.00	0.59	0.08	0.00	0.08	0.92	0.96	0.96	0.62	0.94	0.94
Avail Cap(c_a), veh/h	247	0	208	707	0	654	112	737	768	112	709	693
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.7	0.0	38.7	35.5	0.0	35.5	44.6	27.2	27.2	44.8	27.6	27.8
Incr Delay (d2), s/veh	35.8	0.0	4.4	0.1	0.0	0.2	61.3	24.3	24.0	7.3	21.4	23.1
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	7.7	0.0	2.9	0.4	0.0	0.4	4.3	19.8	20.7	1.4	18.1	18.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.5	0.0	43.1	35.7	0.0	35.7	105.9	51.5	51.3	52.1	49.0	50.8
LnGrp LOS	E	A	D	D	A	D	F	D	D	D	D	D
Approach Vol, veh/h		350			41			1546			1371	
Approach Delay, s/veh		64.8			35.7			55.0			50.0	
Approach LOS		E			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.5	46.0		19.4	12.0	44.5		19.8				
Change Period (Y+Rc), s	6.0	6.3		6.1	6.0	6.3		6.1				
Max Green Setting (Gmax), s	6.0	38.2		13.3	6.0	38.2		38.0				
Max Q Clear Time (g_c+I1), s	4.7	39.1		14.0	7.5	36.8		3.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	1.1		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			53.7									
HCM 6th LOS			D									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	370	760	310	400	620	120	400	1020	470	170	720	320
Future Volume (veh/h)	370	760	310	400	620	120	400	1020	470	170	720	320
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	378	776	316	408	633	122	408	1041	480	173	735	327
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	399	1498	1426	346	1202	231	346	1162	662	213	674	300
Arrive On Green	0.12	0.42	0.42	0.10	0.41	0.41	0.10	0.33	0.33	0.06	0.28	0.28
Sat Flow, veh/h	3456	3554	2722	3456	2959	569	3456	3554	1541	3456	2367	1052
Grp Volume(v), veh/h	378	776	316	408	380	375	408	1041	480	173	552	510
Grp Sat Flow(s),veh/h/ln	1728	1777	1361	1728	1777	1751	1728	1777	1541	1728	1777	1643
Q Serve(g_s), s	14.1	21.0	8.2	13.0	21.0	21.1	13.0	36.3	33.7	6.4	37.0	37.0
Cycle Q Clear(g_c), s	14.1	21.0	8.2	13.0	21.0	21.1	13.0	36.3	33.7	6.4	37.0	37.0
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		0.64
Lane Grp Cap(c), veh/h	399	1498	1426	346	722	711	346	1162	662	213	506	467
V/C Ratio(X)	0.95	0.52	0.22	1.18	0.53	0.53	1.18	0.90	0.72	0.81	1.09	1.09
Avail Cap(c_a), veh/h	399	1498	1426	346	722	711	346	1162	662	213	506	467
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.38	0.38	0.38
Uniform Delay (d), s/veh	57.1	27.8	16.8	58.5	29.2	29.2	58.5	41.6	31.0	60.3	46.5	46.5
Incr Delay (d2), s/veh	32.0	1.3	0.4	107.1	2.7	2.8	107.1	10.8	6.8	9.0	53.3	54.5
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	7.9	9.2	2.6	10.8	9.5	9.4	10.8	17.5	13.6	3.1	23.7	22.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.1	29.1	17.2	165.6	31.9	32.0	165.6	52.5	37.8	69.2	99.8	101.0
LnGrp LOS	F	C	B	F	C	C	F	D	D	E	F	F
Approach Vol, veh/h		1470			1163			1929			1235	
Approach Delay, s/veh		42.0			78.8			72.8			96.0	
Approach LOS		D			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	62.7	20.0	44.8	22.0	60.7	14.5	50.3
Change Period (Y+Rc), s	7.0	7.4	7.0	* 7.8	7.0	7.4	6.5	7.8
Max Green Setting (Gmax), s	13.0	38.3	13.0	* 37	15.0	36.3	8.0	42.0
Max Q Clear Time (g_c+I1), s	15.0	23.0	15.0	39.0	16.1	23.1	8.4	38.3
Green Ext Time (p_c), s	0.0	6.1	0.0	0.0	0.0	4.0	0.0	2.8

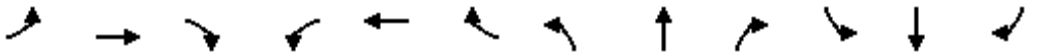
Intersection Summary	
HCM 6th Ctrl Delay	71.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX H

HORIZON YEAR + PROJECT INTERSECTION ANALYSIS WORKSHEETS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	0	72	0	0	0	92	877	10	10	1187	30
Future Volume (veh/h)	40	0	72	0	0	0	92	877	10	10	1187	30
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	0	86				110	1044	12	12	1413	36
Peak Hour Factor	0.84	0.84	0.84				0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	0	2				2	2	2	2	2	2
Cap, veh/h	132	0	118				138	2701	31	25	2432	62
Arrive On Green	0.07	0.00	0.07				0.08	0.75	0.75	0.01	0.69	0.69
Sat Flow, veh/h	1781	0	1585				1781	3596	41	1781	3536	90
Grp Volume(v), veh/h	48	0	86				110	516	540	12	709	740
Grp Sat Flow(s),veh/h/ln	1781	0	1585				1781	1777	1861	1781	1777	1849
Q Serve(g_s), s	2.6	0.0	5.4				6.1	10.3	10.3	0.7	20.9	21.0
Cycle Q Clear(g_c), s	2.6	0.0	5.4				6.1	10.3	10.3	0.7	20.9	21.0
Prop In Lane	1.00		1.00				1.00		0.02	1.00		0.05
Lane Grp Cap(c), veh/h	132	0	118				138	1335	1398	25	1222	1272
V/C Ratio(X)	0.36	0.00	0.73				0.80	0.39	0.39	0.48	0.58	0.58
Avail Cap(c_a), veh/h	406	0	361				247	1335	1398	88	1222	1272
HCM Platoon Ratio	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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.4	0.0	45.7				45.8	4.4	4.4	49.4	8.2	8.2
Incr Delay (d2), s/veh	1.7	0.0	8.4				4.0	0.8	0.8	5.1	2.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.3				2.8	3.3	3.4	0.3	7.6	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.1	0.0	54.1				49.7	5.3	5.2	54.5	10.2	10.1
LnGrp LOS	D	A	D				D	A	A	D	B	B
Approach Vol, veh/h		134						1166			1461	
Approach Delay, s/veh		51.3						9.4			10.5	
Approach LOS		D						A			B	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	6.4	82.0		12.5	12.8	75.6
Change Period (Y+Rc), s	5.0	6.2		5.0	5.0	6.2
Max Green Setting (Gmax), s	5.0	75.8		23.0	14.0	66.8
Max Q Clear Time (g_c+I1), s	2.7	12.3		7.4	8.1	23.0
Green Ext Time (p_c), s	0.0	24.2		0.3	0.1	31.0

Intersection Summary			
HCM 6th Ctrl Delay			12.0
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	551	10	30	481	80	0	10	60	10	0	30
Future Volume (veh/h)	20	551	10	30	481	80	0	10	60	10	0	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.94	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	648	12	35	566	94	0	12	71	12	0	35
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	1789	33	74	1818	781	0	23	136	89	0	73
Arrive On Green	0.03	0.50	0.50	0.04	0.51	0.51	0.00	0.10	0.10	0.05	0.00	0.05
Sat Flow, veh/h	1781	3566	66	1781	3554	1527	0	222	1312	1781	0	1466
Grp Volume(v), veh/h	24	323	337	35	566	94	0	0	83	12	0	35
Grp Sat Flow(s),veh/h/ln	1781	1777	1855	1781	1777	1527	0	0	1534	1781	0	1466
Q Serve(g_s), s	1.0	8.4	8.4	1.5	7.0	2.4	0.0	0.0	3.9	0.5	0.0	1.8
Cycle Q Clear(g_c), s	1.0	8.4	8.4	1.5	7.0	2.4	0.0	0.0	3.9	0.5	0.0	1.8
Prop In Lane	1.00		0.04	1.00		1.00	0.00		0.86	1.00		1.00
Lane Grp Cap(c), veh/h	56	891	931	74	1818	781	0	0	159	89	0	73
V/C Ratio(X)	0.43	0.36	0.36	0.48	0.31	0.12	0.00	0.00	0.52	0.14	0.00	0.48
Avail Cap(c_a), veh/h	188	891	931	188	1818	781	0	0	668	423	0	348
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	36.0	11.5	11.5	35.5	10.7	9.6	0.0	0.0	32.2	34.4	0.0	35.0
Incr Delay (d2), s/veh	5.1	1.1	1.1	4.7	0.1	0.1	0.0	0.0	2.6	0.7	0.0	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.3	3.4	0.7	2.5	0.8	0.0	0.0	1.5	0.2	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.1	12.6	12.6	40.2	10.8	9.7	0.0	0.0	34.8	35.1	0.0	39.9
LnGrp LOS	D	B	B	D	B	A	A	A	C	D	A	D
Approach Vol, veh/h		684			695			83			47	
Approach Delay, s/veh		13.6			12.2			34.8			38.7	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.1	44.0		9.8	7.4	44.7		13.9				
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	8.0	38.0		18.0	8.0	38.0		33.0				
Max Q Clear Time (g_c+I1), s	3.5	10.4		3.8	3.0	9.0		5.9				
Green Ext Time (p_c), s	0.0	4.4		0.1	0.0	4.5		0.5				

Intersection Summary	
HCM 6th Ctrl Delay	14.9
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	336	285	305	596	110	195	489	155	80	879	290
Future Volume (veh/h)	70	336	285	305	596	110	195	489	155	80	879	290
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	365	310	332	648	120	212	532	168	87	955	315
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	95	468	391	353	1204	223	198	1160	817	107	1010	437
Arrive On Green	0.05	0.26	0.26	0.20	0.40	0.40	0.11	0.33	0.33	0.06	0.28	0.28
Sat Flow, veh/h	1781	1807	1510	1781	2981	551	1781	3554	1541	1781	3554	1537
Grp Volume(v), veh/h	76	359	316	332	386	382	212	532	168	87	955	315
Grp Sat Flow(s),veh/h/ln	1781	1777	1540	1781	1777	1755	1781	1777	1541	1781	1777	1537
Q Serve(g_s), s	6.2	27.6	28.2	27.1	24.4	24.5	16.4	17.5	8.6	7.1	38.8	27.2
Cycle Q Clear(g_c), s	6.2	27.6	28.2	27.1	24.4	24.5	16.4	17.5	8.6	7.1	38.8	27.2
Prop In Lane	1.00		0.98	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	95	460	399	353	718	709	198	1160	817	107	1010	437
V/C Ratio(X)	0.80	0.78	0.79	0.94	0.54	0.54	1.07	0.46	0.21	0.81	0.95	0.72
Avail Cap(c_a), veh/h	146	460	399	388	718	709	198	1160	817	149	1010	437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.0	50.7	50.9	58.2	33.4	33.5	65.5	39.4	18.7	68.5	51.7	47.5
Incr Delay (d2), s/veh	8.1	12.3	14.9	28.4	2.9	2.9	83.8	1.3	0.6	14.6	17.9	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	3.1	13.9	12.6	15.0	11.2	11.1	12.1	7.9	3.3	3.7	19.8	11.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.1	63.0	65.8	86.6	36.3	36.4	149.3	40.7	19.3	83.1	69.6	57.4
LnGrp LOS	E	E	E	F	D	D	F	D	B	F	E	E
Approach Vol, veh/h		751			1100			912			1357	
Approach Delay, s/veh		65.6			51.5			62.0			67.6	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	44.3	21.0	48.0	12.8	65.7	14.8	54.2
Change Period (Y+Rc), s	* 4.9	* 6.1	4.6	* 6.1	* 4.9	* 6.1	5.9	* 6.1
Max Green Setting (Gmax), s	* 33	* 38	16.4	* 42	* 12	* 58	12.3	* 45
Max Q Clear Time (g_c+I1), s	29.1	30.2	18.4	40.8	8.2	26.5	9.1	19.5
Green Ext Time (p_c), s	0.2	2.7	0.0	0.8	0.0	5.5	0.0	4.4

Intersection Summary	
HCM 6th Ctrl Delay	61.7
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	407	60	20	617	10	90	60	20	30	170	304
Future Volume (veh/h)	114	407	60	20	617	10	90	60	20	30	170	304
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	128	457	67	22	693	11	101	67	22	34	191	342
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	1316	192	56	1337	21	127	389	128	75	487	400
Arrive On Green	0.09	0.43	0.43	0.03	0.37	0.37	0.07	0.29	0.29	0.04	0.26	0.26
Sat Flow, veh/h	1781	3093	450	1781	3577	57	1781	1337	439	1781	1870	1535
Grp Volume(v), veh/h	128	261	263	22	344	360	101	0	89	34	191	342
Grp Sat Flow(s),veh/h/ln	1781	1777	1767	1781	1777	1857	1781	0	1776	1781	1870	1535
Q Serve(g_s), s	7.3	10.3	10.4	1.3	15.6	15.6	5.8	0.0	3.9	1.9	8.7	22.0
Cycle Q Clear(g_c), s	7.3	10.3	10.4	1.3	15.6	15.6	5.8	0.0	3.9	1.9	8.7	22.0
Prop In Lane	1.00		0.25	1.00		0.03	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	157	756	752	56	664	694	127	0	516	75	487	400
V/C Ratio(X)	0.81	0.35	0.35	0.39	0.52	0.52	0.79	0.00	0.17	0.45	0.39	0.86
Avail Cap(c_a), veh/h	247	756	752	135	664	694	220	0	656	135	598	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	20.1	20.1	49.3	25.3	25.3	47.5	0.0	27.5	48.6	31.6	36.5
Incr Delay (d2), s/veh	5.4	1.3	1.3	1.6	2.9	2.8	4.2	0.0	0.2	1.6	0.5	11.8
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	3.5	4.4	4.5	0.6	7.0	7.3	2.7	0.0	1.7	0.9	4.0	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	21.3	21.4	50.9	28.1	28.0	51.7	0.0	27.7	50.2	32.1	48.4
LnGrp LOS	D	C	C	D	C	C	D	A	C	D	C	D
Approach Vol, veh/h		652			726			190			567	
Approach Delay, s/veh		27.4			28.8			40.4			43.0	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	50.0	12.6	32.9	13.8	44.6	9.5	36.0
Change Period (Y+Rc), s	5.1	* 5.8	* 5.2	* 5.8	4.6	* 5.8	5.1	* 5.8
Max Green Setting (Gmax), s	7.3	* 44	* 13	* 33	14.4	* 38	7.9	* 38
Max Q Clear Time (g_c+I1), s	3.3	12.4	7.8	24.0	9.3	17.6	3.9	5.9
Green Ext Time (p_c), s	0.0	3.5	0.0	1.7	0.1	4.4	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.1

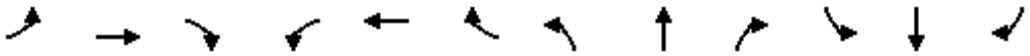
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	58	770	22	71	1379
Future Vol, veh/h	33	58	770	22	71	1379
Conflicting Peds, #/hr	10	10	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	63	837	24	77	1499

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1773	451	0	0	871	0
Stage 1	859	-	-	-	-	-
Stage 2	914	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	74	556	-	-	770	-
Stage 1	375	-	-	-	-	-
Stage 2	351	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	65	545	-	-	763	-
Mov Cap-2 Maneuver	184	-	-	-	-	-
Stage 1	371	-	-	-	-	-
Stage 2	312	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.4	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	318	763	-
HCM Lane V/C Ratio	-	-	0.311	0.101	-
HCM Control Delay (s)	-	-	21.4	10.2	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	1.3	0.3	-

1 vehicle length = approximately 20 feet



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	121	10	150	20	10	10	110	790	10	50	1510	131
Future Volume (veh/h)	121	10	150	20	10	10	110	790	10	50	1510	131
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		0.94	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	11	160	21	11	11	117	840	11	53	1606	139
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	8	123	181	84	84	117	1772	23	87	1573	135
Arrive On Green	0.09	0.09	0.09	0.10	0.10	0.10	0.07	0.49	0.49	0.05	0.48	0.48
Sat Flow, veh/h	1781	96	1399	1781	828	828	1781	3590	47	1781	3301	282
Grp Volume(v), veh/h	129	0	171	21	0	22	117	416	435	53	856	889
Grp Sat Flow(s),veh/h/ln	1781	0	1495	1781	0	1657	1781	1777	1860	1781	1777	1806
Q Serve(g_s), s	6.5	0.0	8.0	1.0	0.0	1.1	6.0	14.1	14.1	2.7	43.5	43.5
Cycle Q Clear(g_c), s	6.5	0.0	8.0	1.0	0.0	1.1	6.0	14.1	14.1	2.7	43.5	43.5
Prop In Lane	1.00		0.94	1.00		0.50	1.00		0.03	1.00		0.16
Lane Grp Cap(c), veh/h	156	0	131	181	0	168	117	877	918	87	847	861
V/C Ratio(X)	0.83	0.00	1.30	0.12	0.00	0.13	1.00	0.47	0.47	0.61	1.01	1.03
Avail Cap(c_a), veh/h	156	0	131	742	0	690	117	877	918	156	847	861
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.0	0.0	41.6	37.3	0.0	37.3	42.6	15.3	15.3	42.6	23.9	23.9
Incr Delay (d2), s/veh	29.1	0.0	181.6	0.3	0.0	0.3	82.9	1.8	1.8	6.8	33.6	39.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	9.5	0.4	0.0	0.5	5.3	5.9	6.1	1.3	24.7	26.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.0	0.0	223.2	37.6	0.0	37.7	125.5	17.1	17.0	49.4	57.5	63.3
LnGrp LOS	E	A	F	D	A	D	F	B	B	D	F	F
Approach Vol, veh/h		300			43			968			1798	
Approach Delay, s/veh		157.3			37.6			30.2			60.1	
Approach LOS		F			D			C			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.4	51.4		14.1	12.0	49.8		15.4				
Change Period (Y+Rc), s	6.0	6.3		6.1	6.0	6.3		6.1				
Max Green Setting (Gmax), s	8.0	41.5		8.0	6.0	43.5		38.0				
Max Q Clear Time (g_c+I1), s	4.7	16.1		10.0	8.0	45.5		3.1				
Green Ext Time (p_c), s	0.0	5.9		0.0	0.0	0.0		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			59.9									
HCM 6th LOS			E									

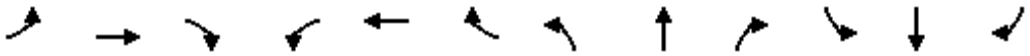
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	470	330	540	660	51	220	627	570	161	1127	401
Future Volume (veh/h)	221	470	330	540	660	51	220	627	570	161	1127	401
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	243	516	363	593	725	56	242	689	626	177	1238	441
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	304	1506	1347	319	1429	110	239	1164	651	229	826	283
Arrive On Green	0.09	0.42	0.42	0.09	0.43	0.43	0.07	0.33	0.33	0.07	0.32	0.32
Sat Flow, veh/h	3456	3554	2722	3456	3336	258	3456	3554	1541	3456	2575	883
Grp Volume(v), veh/h	243	516	363	593	386	395	242	689	626	177	840	839
Grp Sat Flow(s),veh/h/ln	1728	1777	1361	1728	1777	1817	1728	1777	1541	1728	1777	1681
Q Serve(g_s), s	9.0	12.7	10.1	12.0	20.6	20.7	9.0	21.0	42.6	6.6	41.7	41.7
Cycle Q Clear(g_c), s	9.0	12.7	10.1	12.0	20.6	20.7	9.0	21.0	42.6	6.6	41.7	41.7
Prop In Lane	1.00		1.00	1.00		0.14	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	304	1506	1347	319	761	778	239	1164	651	229	570	539
V/C Ratio(X)	0.80	0.34	0.27	1.86	0.51	0.51	1.01	0.59	0.96	0.77	1.47	1.56
Avail Cap(c_a), veh/h	478	1506	1347	319	761	778	239	1164	651	271	570	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09
Uniform Delay (d), s/veh	58.2	25.2	19.3	59.0	27.1	27.2	60.5	36.5	36.8	59.7	44.2	44.2
Incr Delay (d2), s/veh	5.1	0.6	0.5	398.4	2.4	2.4	61.2	2.2	27.0	1.1	213.9	251.1
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	4.1	5.5	3.3	22.9	9.3	9.5	6.0	9.5	23.9	2.9	52.0	54.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.3	25.9	19.8	457.4	29.6	29.5	121.7	38.7	63.8	60.8	258.0	295.3
LnGrp LOS	E	C	B	F	C	C	F	D	E	E	F	F
Approach Vol, veh/h		1122			1374			1557			1856	
Approach Delay, s/veh		32.0			214.2			61.7			256.1	
Approach LOS		C			F			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	63.0	16.0	49.5	18.4	63.6	15.1	50.4
Change Period (Y+Rc), s	7.0	7.4	7.0	* 7.8	7.0	7.4	6.5	7.8
Max Green Setting (Gmax), s	12.0	38.6	9.0	* 42	18.0	32.6	10.2	40.5
Max Q Clear Time (g_c+I1), s	11.0	14.7	11.0	43.7	11.0	22.7	8.6	44.6
Green Ext Time (p_c), s	0.0	5.3	0.0	0.0	0.5	3.5	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	152.6
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	0	72	0	0	0	62	1240	10	10	1010	20
Future Volume (veh/h)	30	0	72	0	0	0	62	1240	10	10	1010	20
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	0	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	0	77				66	1319	11	11	1074	21
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	0	2				2	2	2	2	2	2
Cap, veh/h	122	0	108				107	2712	23	24	2509	49
Arrive On Green	0.07	0.00	0.07				0.06	0.75	0.75	0.01	0.70	0.70
Sat Flow, veh/h	1781	0	1585				1781	3610	30	1781	3561	70
Grp Volume(v), veh/h	32	0	77				66	649	681	11	536	559
Grp Sat Flow(s),veh/h/ln	1781	0	1585				1781	1777	1863	1781	1777	1854
Q Serve(g_s), s	1.7	0.0	4.6				3.5	13.9	13.9	0.6	12.4	12.4
Cycle Q Clear(g_c), s	1.7	0.0	4.6				3.5	13.9	13.9	0.6	12.4	12.4
Prop In Lane	1.00		1.00				1.00		0.02	1.00		0.04
Lane Grp Cap(c), veh/h	122	0	108				107	1335	1400	24	1252	1306
V/C Ratio(X)	0.26	0.00	0.71				0.62	0.49	0.49	0.47	0.43	0.43
Avail Cap(c_a), veh/h	441	0	393				239	1335	1400	129	1252	1306
HCM Platoon Ratio	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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.8	0.0	44.2				44.5	4.7	4.7	47.5	6.1	6.1
Incr Delay (d2), s/veh	1.1	0.0	8.3				2.2	1.3	1.2	5.3	1.1	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
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.2				1.6	4.4	4.6	0.3	4.3	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.0	0.0	52.5				46.6	6.0	5.9	52.7	7.1	7.1
LnGrp LOS	D	A	D				D	A	A	D	A	A
Approach Vol, veh/h		109						1396			1106	
Approach Delay, s/veh		50.0						7.9			7.6	
Approach LOS		D						A			A	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	6.3	79.0		11.6	10.8	74.5
Change Period (Y+Rc), s	5.0	6.2		5.0	5.0	6.2
Max Green Setting (Gmax), s	7.0	72.8		24.0	13.0	66.8
Max Q Clear Time (g_c+I1), s	2.6	15.9		6.6	5.5	14.4
Green Ext Time (p_c), s	0.0	32.9		0.2	0.0	23.8

Intersection Summary	
HCM 6th Ctrl Delay	9.5
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	612	0	60	552	40	10	0	40	20	10	20
Future Volume (veh/h)	30	612	0	60	552	40	10	0	40	20	10	20
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		0.96	1.00		0.93	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	644	0	63	581	42	11	0	42	21	11	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	1729	0	105	1799	773	29	0	109	96	29	56
Arrive On Green	0.04	0.49	0.00	0.06	0.51	0.51	0.09	0.00	0.09	0.05	0.05	0.05
Sat Flow, veh/h	1781	3647	0	1781	3554	1527	318	0	1214	1781	545	1040
Grp Volume(v), veh/h	32	644	0	63	581	42	53	0	0	21	0	32
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1777	1527	1532	0	0	1781	0	1585
Q Serve(g_s), s	1.3	8.4	0.0	2.6	7.1	1.0	2.4	0.0	0.0	0.8	0.0	1.4
Cycle Q Clear(g_c), s	1.3	8.4	0.0	2.6	7.1	1.0	2.4	0.0	0.0	0.8	0.0	1.4
Prop In Lane	1.00		0.00	1.00		1.00	0.21		0.79	1.00		0.66
Lane Grp Cap(c), veh/h	70	1729	0	105	1799	773	138	0	0	96	0	85
V/C Ratio(X)	0.46	0.37	0.00	0.60	0.32	0.05	0.38	0.00	0.00	0.22	0.00	0.38
Avail Cap(c_a), veh/h	193	1729	0	289	1921	825	642	0	0	433	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	0.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.8	11.9	0.0	34.0	10.8	9.3	31.7	0.0	0.0	33.5	0.0	33.8
Incr Delay (d2), s/veh	4.7	0.6	0.0	5.4	0.1	0.0	1.7	0.0	0.0	1.1	0.0	2.7
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	0.6	3.2	0.0	1.2	2.6	0.3	0.9	0.0	0.0	0.4	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	12.5	0.0	39.4	10.9	9.3	33.5	0.0	0.0	34.7	0.0	36.5
LnGrp LOS	D	B	A	D	B	A	C	A	A	C	A	D
Approach Vol, veh/h		676			686			53			53	
Approach Delay, s/veh		13.8			13.4			33.5			35.8	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.4	42.0		10.0	7.9	43.5		12.7
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	12.0	36.0		18.0	8.0	40.0		31.0
Max Q Clear Time (g_c+I1), s	4.6	10.4		3.4	3.3	9.1		4.4
Green Ext Time (p_c), s	0.1	4.7		0.1	0.0	4.5		0.2

Intersection Summary	
HCM 6th Ctrl Delay	15.1
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	475	307	197	345	80	267	782	317	80	722	170
Future Volume (veh/h)	290	475	307	197	345	80	267	782	317	80	722	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	299	490	316	203	356	82	275	806	327	82	744	175
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	322	649	417	227	754	171	297	1199	723	102	843	363
Arrive On Green	0.18	0.32	0.32	0.13	0.26	0.26	0.17	0.34	0.34	0.06	0.24	0.24
Sat Flow, veh/h	1781	2049	1316	1781	2857	649	1781	3554	1542	1781	3554	1532
Grp Volume(v), veh/h	299	425	381	203	219	219	275	806	327	82	744	175
Grp Sat Flow(s),veh/h/ln	1781	1777	1588	1781	1777	1729	1781	1777	1542	1781	1777	1532
Q Serve(g_s), s	23.7	30.7	30.9	16.1	14.9	15.3	21.8	27.8	20.6	6.5	28.9	14.1
Cycle Q Clear(g_c), s	23.7	30.7	30.9	16.1	14.9	15.3	21.8	27.8	20.6	6.5	28.9	14.1
Prop In Lane	1.00		0.83	1.00		0.38	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	322	563	503	227	469	456	297	1199	723	102	843	363
V/C Ratio(X)	0.93	0.75	0.76	0.89	0.47	0.48	0.93	0.67	0.45	0.80	0.88	0.48
Avail Cap(c_a), veh/h	387	563	503	387	469	456	316	1199	723	148	843	363
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.8	43.9	44.0	61.5	44.3	44.5	58.8	40.7	26.0	66.7	52.7	47.1
Incr Delay (d2), s/veh	24.1	9.1	10.2	7.2	3.3	3.6	30.4	3.0	2.0	11.5	12.9	4.5
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	12.8	15.0	13.6	7.7	7.0	7.1	12.4	12.7	8.0	3.3	14.4	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.9	53.0	54.2	68.7	47.6	48.0	89.2	43.7	28.0	78.2	65.6	51.6
LnGrp LOS	F	D	D	E	D	D	F	D	C	E	E	D
Approach Vol, veh/h		1105			641			1408			1001	
Approach Delay, s/veh		61.2			54.5			48.9			64.2	
Approach LOS		E			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	51.5	28.5	40.1	30.8	43.9	14.1	54.5
Change Period (Y+Rc), s	* 4.9	* 6.1	4.6	* 6.1	* 4.9	* 6.1	5.9	* 6.1
Max Green Setting (Gmax), s	* 31	* 38	25.4	* 34	* 31	* 38	11.9	* 47
Max Q Clear Time (g_c+I1), s	19.1	32.9	23.8	30.9	25.7	17.3	8.5	29.8
Green Ext Time (p_c), s	0.2	2.4	0.1	1.6	0.2	2.6	0.0	6.4

Intersection Summary	
HCM 6th Ctrl Delay	56.7
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	314	508	60	20	368	60	90	140	20	30	110	154
Future Volume (veh/h)	314	508	60	20	368	60	90	140	20	30	110	154
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.95	1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	327	529	62	21	383	62	94	146	21	31	115	160
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	359	1581	185	55	1005	161	119	345	50	72	355	287
Arrive On Green	0.20	0.50	0.50	0.03	0.33	0.33	0.07	0.22	0.22	0.04	0.19	0.19
Sat Flow, veh/h	1781	3191	373	1781	3044	488	1781	1589	229	1781	1870	1511
Grp Volume(v), veh/h	327	294	297	21	222	223	94	0	167	31	115	160
Grp Sat Flow(s),veh/h/ln	1781	1777	1786	1781	1777	1755	1781	0	1817	1781	1870	1511
Q Serve(g_s), s	18.1	10.1	10.2	1.2	9.6	9.9	5.2	0.0	8.0	1.7	5.4	9.7
Cycle Q Clear(g_c), s	18.1	10.1	10.2	1.2	9.6	9.9	5.2	0.0	8.0	1.7	5.4	9.7
Prop In Lane	1.00		0.21	1.00		0.28	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	359	880	885	55	586	579	119	0	395	72	355	287
V/C Ratio(X)	0.91	0.33	0.34	0.38	0.38	0.39	0.79	0.00	0.42	0.43	0.32	0.56
Avail Cap(c_a), veh/h	418	880	885	124	586	579	184	0	630	124	580	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	15.4	15.4	48.0	25.9	26.0	46.4	0.0	34.0	47.3	35.3	37.1
Incr Delay (d2), s/veh	20.5	1.0	1.0	1.6	1.9	1.9	5.5	0.0	0.7	1.5	0.5	1.7
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	9.8	4.2	4.3	0.5	4.3	4.4	2.5	0.0	3.6	0.8	2.5	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.9	16.4	16.4	49.6	27.7	27.9	51.8	0.0	34.8	48.8	35.8	38.8
LnGrp LOS	E	B	B	D	C	C	D	A	C	D	D	D
Approach Vol, veh/h		918			466			261			306	
Approach Delay, s/veh		31.9			28.8			40.9			38.7	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	55.8	12.0	24.9	24.9	39.1	9.2	27.7
Change Period (Y+Rc), s	5.1	* 5.8	* 5.2	* 5.8	4.6	* 5.8	5.1	* 5.8
Max Green Setting (Gmax), s	7.0	* 49	* 10	* 31	23.7	* 33	7.0	* 35
Max Q Clear Time (g_c+I1), s	3.2	12.2	7.2	11.7	20.1	11.9	3.7	10.0
Green Ext Time (p_c), s	0.0	4.1	0.0	1.1	0.2	2.6	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	33.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	1.7

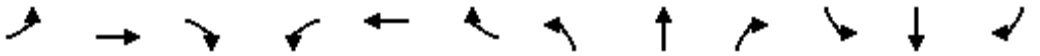
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	36	66	1290	24	78	1138
Future Vol, veh/h	36	66	1290	24	78	1138
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	68	1330	25	80	1173

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2090	678	0	0	1355	0
Stage 1	1343	-	-	-	-	-
Stage 2	747	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	45	395	-	-	504	-
Stage 1	208	-	-	-	-	-
Stage 2	429	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	38	395	-	-	504	-
Mov Cap-2 Maneuver	136	-	-	-	-	-
Stage 1	208	-	-	-	-	-
Stage 2	361	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	32	0	0.9
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	236	504	-
HCM Lane V/C Ratio	-	-	0.446	0.16	-
HCM Control Delay (s)	-	-	32	13.5	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	2.1	0.6	-

1 vehicle length = approximately 20 feet



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	10	110	20	10	10	100	1393	30	50	1093	212
Future Volume (veh/h)	222	10	110	20	10	10	100	1393	30	50	1093	212
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	10	113	21	10	10	103	1436	31	52	1127	219
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	16	180	256	118	118	112	1499	32	84	1197	231
Arrive On Green	0.13	0.13	0.13	0.14	0.14	0.14	0.06	0.42	0.42	0.05	0.41	0.41
Sat Flow, veh/h	1781	121	1369	1781	824	824	1781	3553	77	1781	2947	569
Grp Volume(v), veh/h	229	0	123	21	0	20	103	717	750	52	677	669
Grp Sat Flow(s),veh/h/ln	1781	0	1490	1781	0	1647	1781	1777	1853	1781	1777	1739
Q Serve(g_s), s	12.3	0.0	7.5	1.0	0.0	1.0	5.5	37.5	37.6	2.7	35.0	35.6
Cycle Q Clear(g_c), s	12.3	0.0	7.5	1.0	0.0	1.0	5.5	37.5	37.6	2.7	35.0	35.6
Prop In Lane	1.00		0.92	1.00		0.50	1.00		0.04	1.00		0.33
Lane Grp Cap(c), veh/h	234	0	196	256	0	237	112	750	782	84	722	707
V/C Ratio(X)	0.98	0.00	0.63	0.08	0.00	0.08	0.92	0.96	0.96	0.62	0.94	0.95
Avail Cap(c_a), veh/h	234	0	196	707	0	654	112	750	782	112	722	707
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	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	0.0	39.4	35.5	0.0	35.5	44.6	26.8	26.9	44.8	27.3	27.4
Incr Delay (d2), s/veh	52.1	0.0	6.2	0.1	0.0	0.2	61.3	23.8	23.6	7.3	21.3	23.1
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	8.7	0.0	3.0	0.4	0.0	0.4	4.3	20.0	20.8	1.4	18.4	18.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.5	0.0	45.5	35.7	0.0	35.7	105.9	50.6	50.5	52.1	48.5	50.6
LnGrp LOS	F	A	D	D	A	D	F	D	D	D	D	D
Approach Vol, veh/h		352			41			1570			1398	
Approach Delay, s/veh		76.7			35.7			54.2			49.6	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.5	46.7		18.7	12.0	45.2		19.8				
Change Period (Y+Rc), s	6.0	6.3		6.1	6.0	6.3		6.1				
Max Green Setting (Gmax), s	6.0	38.9		12.6	6.0	38.9		38.0				
Max Q Clear Time (g_c+I1), s	4.7	39.6		14.3	7.5	37.6		3.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	1.0		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		54.4	
HCM 6th LOS		D	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	372	760	310	400	620	122	400	1039	470	172	739	322
Future Volume (veh/h)	372	760	310	400	620	122	400	1039	470	172	739	322
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	380	776	316	408	633	124	408	1060	480	176	754	329
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	399	1493	1422	351	1198	234	346	1162	665	213	678	296
Arrive On Green	0.12	0.42	0.42	0.10	0.41	0.41	0.10	0.33	0.33	0.06	0.28	0.28
Sat Flow, veh/h	3456	3554	2722	3456	2950	577	3456	3554	1541	3456	2383	1039
Grp Volume(v), veh/h	380	776	316	408	381	376	408	1060	480	176	562	521
Grp Sat Flow(s),veh/h/ln	1728	1777	1361	1728	1777	1749	1728	1777	1541	1728	1777	1645
Q Serve(g_s), s	14.2	21.1	8.2	13.2	21.1	21.1	13.0	37.2	33.6	6.5	37.0	37.0
Cycle Q Clear(g_c), s	14.2	21.1	8.2	13.2	21.1	21.1	13.0	37.2	33.6	6.5	37.0	37.0
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		0.63
Lane Grp Cap(c), veh/h	399	1493	1422	351	722	711	346	1162	665	213	506	468
V/C Ratio(X)	0.95	0.52	0.22	1.16	0.53	0.53	1.18	0.91	0.72	0.83	1.11	1.11
Avail Cap(c_a), veh/h	399	1493	1422	351	722	711	346	1162	665	213	506	468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.37	0.37	0.37
Uniform Delay (d), s/veh	57.1	28.0	16.9	58.4	29.2	29.2	58.5	42.0	30.8	60.3	46.5	46.5
Incr Delay (d2), s/veh	33.1	1.3	0.4	100.1	2.8	2.8	107.1	12.3	6.7	9.7	60.8	62.2
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	8.0	9.2	2.7	10.6	9.5	9.4	10.8	18.1	13.6	3.2	24.8	23.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.2	29.3	17.3	158.5	31.9	32.0	165.6	54.3	37.5	70.1	107.3	108.7
LnGrp LOS	F	C	B	F	C	C	F	D	D	E	F	F
Approach Vol, veh/h		1472			1165			1948			1259	
Approach Delay, s/veh		42.4			76.3			73.5			102.7	
Approach LOS		D			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.2	62.5	20.0	44.8	22.0	60.7	14.5	50.3
Change Period (Y+Rc), s	7.0	7.4	7.0	* 7.8	7.0	7.4	6.5	7.8
Max Green Setting (Gmax), s	13.2	38.1	13.0	* 37	15.0	36.3	8.0	42.0
Max Q Clear Time (g_c+I1), s	15.2	23.1	15.0	39.0	16.2	23.1	8.5	39.2
Green Ext Time (p_c), s	0.0	6.0	0.0	0.0	0.0	4.0	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	72.5
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.